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ROYAL ASIATIC SOCIETY

NORTH CHINA BRANCH

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NEW SERIES

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A COREAN MONUMENT TO MANCHU CLEMENCY.

By W. R. CARLES.

(Read before the Society 22nd October 1888.)

The monument which is the subject of this paper, has been mentioned in most books which have treated of Corea or the rise of the Manchu dynasty, and the occasion which it commemorates is referred to at some length in the *Sheng-wu-chi*.¹

In 1619 A.D., when the Manchus were beginning to prove what formidable enemies they were of the Ming Emperor, the survivors of a Corean army of 20,000 men, who had been fighting in conjunction with the Ming forces against the Manchus in Liao Tung, surrendered with their General Kiang Hung-li to Norhachu. The greater portion of the Coreans were set free and returned to their country, Hung-li with a few others being alone detained.

On Norhachu's death, in 1627 A.D., the Coreans failed to send a mission of condolence, an omission which provoked an invasion, before which the king and his court fled helplessly to Kang-hoa, the large island-fortress at the mouth of the Han. Submission to the invading army averted harsh treatment, and the Manchus retired, leaving however a garrison at the mouth of the Yalu, on the northern frontier.

In 1637 Corea was once more subjected to a Manchu invasion, provoked on this occasion by non-observance of the

¹ A translation of the portion of the *Sheng-wu-chi* which treats of this appeared in the *Chinese Times* of September 8th, 1888. See also *Corea: Its History, Manners and Customs*; by the Rev. JOHN ROSS, pp. 285-6.

stipulations of the treaty of 1627, and more especially it would appear by the use of terms in correspondence which failed to recognise the superiority of the "Ta-ch'ing" nation. The terms of peace that were exacted by the Manchus when Corea was completely at their feet, were very lenient, and aimed chiefly at the recognition of the "Ta-ch'ing" Empire, which had been proclaimed the previous year.

Such is a brief summary of the events referred to in the inscription on the monument. The monument itself is a solid piece of stone 15 feet high, 5 feet broad and 15 inches thick, fixed on the back of a stone tortoise, itself 12 feet long and $3\frac{1}{2}$ ft. high. On the reverse of the monument is an inscription in Manchu.

The copy of the inscription which follows was made by a Corean, whose only difficulties were due to the height of the monument, the characters themselves being wonderfully clear. For the translation I am indebted to the collaboration of my friend Mr. M. F. A. FRASER, of H.B.M. Consular Service in China.

[*Translation.*]

A TABLET TO THE VALOUR AND CLEMENCY OF THE
TA T'SING EMPEROR.

In the 12th moon of the winter of the 1st year of the Ta-T'sing reign Ts'ung Teh [A.D. 1636], the Emperor K'wan Wên Yen Shêng grew incensed because we had violated the peace, and drew nigh with a warlike array, who drove their way straight towards the East, and none dared to withstand them. At that time I, your Prince, staying in Nan Han,² trembled like him who walks on spring ice, and waited for the dawn

² Nan Han, a fortress in the mountains to the South of the Han River.

nigh 50 days. In that time my soldiers in the Eastern and Southern Provinces were beaten in succession, and the army of the North and West cowered among the hills, and could not advance a step. In the city the food was all exhausted, and at this moment with the great host he took the city, as easily as the frosty wind curls up the autumn leaves, or the furnace-flames consume the feathers of the wild goose.

But the Emperor warred not only that he might destroy us, but placed first the manifestation of his goodness, and issued an edict which said: "Come, and I will preserve you; refuse and I will slay you, like Ying and Ma the Generals." Messengers carrying the Emperor's commands filled the roads in endless line. At that time I, your Prince, assembled my Generals and statesmen, and thus spake:—

"I have received the gift of friendship from the Great Country for ten years, but, misguided and blinded, I have called down the swift visitation of Heaven upon us, and the fault of me alone has brought tribulation on the myriads. Since the Emperor still cannot bear to destroy us, but has issued an Edict like this, how should I dare not to reverentially receive and obey it, so that, above, my ancestral line may be preserved, and, below, the lives of my people may be protected?"

My Ministers all agreed with and applauded these words, and with some score of horsemen I proceeded to the army and acknowledged my offence. But the Emperor treated me with high honor, and encouraged me with gracious condescension. As soon as he saw me he opened his heart to me, and conferred favors, which he even extended to the Ministers who attended me. When the ceremonies were ended, he sent me, your Prince, back to the Capital, and called in his troops in the South to go Westwards

again. He comforted the people and exhorted them to agriculture, and, scattered far and near like starlings as they had been, they all returned to their homes. Was not this a great and unexpected blessing?

Our small country had offended the superior nation long ago by its deeds of the year 己未 [1619], when Kiang Hung-li, the generalissimo, assisted the Ming dynasty. His army was defeated, and he was captured. But the Emperor T'ai Tsu Wu only detained Hung-li and a few others, and set free all the rest. Was not this the extreme of favor? But our small country was misguided and had no understanding, and in the year 丁卯 [1627] the present Emperor ordered an Eastern campaign against her. Our country's King and Ministers fled to an Island of the Sea, and sent envoys to sue for peace. The Emperor granted their prayer, and regarding us as brothers, he restored to us all our border-lands, and Hung-li was released.

Since that time, we have ever been treated with honor, and caps and umbrellas have crossed on the road. But unfortunately floating talk fanned commotion, and built up a ladder of disturbance and confusion. Our little country rebuked its high officers on the frontier; words of insubmission were employed; and the despatches came into the possession of the servants of the Emperor. The Emperor still treated us liberally, and did not at once send troops, but first issued a clear ultimatum, proclaiming to us the date of war. Carefully did he repeat his instructions again and again, as though he had taken us by the ear and commanded us face-to-face; but finally there was no escape. Thus the punishment of the King and Ministers of our small country became still more inevitable, and the Emperor with a great army surrounded Nan Han, and commanded a wing

of it first to capture the River Capital, where the King's concubines and his sons, his Ministers and Officers and their families were all made prisoner.

The Emperor forbade his Generals to molest or injure the captives, and ordered his palace-guards to watch and protect them,—truly an act of great grace! The small country's King and Ministers, with their families who had been taken prisoner, returned to their old homes. Frost and snow changed to sunny spring, arid drought turned to timely rain. The land had been lost and was restored again; the dynastic line had been severed and was continued. The Eastern Country with its thousands of *li* was all enveloped in the blessings of his favor. In the records of antiquity such a thing has rarely been seen. Oh, how grand was this!

To the South of the San Tien Ferry,³ on the upper waters of the Han, is the place where the Emperor pitched his camp. This was the site of the altar, and I, your Prince, therefore commanded the Board of Works to increase the altar and heighten it, and place a stone monument here to continue through all time, to spread the knowledge of the Emperor's prowess and good works, which will flow on as long as nature lasts. It is not only our small country which will for ages rely on him, but the Great Dynasty's benevolent fame and martial glory will bring all to his feet from the remotest regions; and all this is founded on these deeds of his. Comparisons with the greatness of sky and earth, pictures of the brightness of sun and moon, fail to figure him in a ten-thousandth degree. This reverent inscription conveys but a vague and imperfect record.

Heaven sends down the frost and it sends down the dew. It can be severe and it can be beneficent. The Emperor,

³ About 10 miles to the East of Seoul.

like Heaven, spreads terror and spreads kindness. The Emperor invaded the Eastern Country with ten myriads of men. The roar of his army was like the roar of the tiger and the leopard.

The Si-fan,⁴ K'ung-fah, and the tribes of the North, Carrying their spears, galloped in the vanguard, an imposing display of power!

The Emperor, in his vast humanity, spoke to us with gracious words; full and complete were they, severe and yet indulgent.

At first we had been misled and ignorant, and so had brought down sorrow on ourselves;

But when the Emperor clearly expressed his decree, we awoke as from sleep.

I, the King, have submitted and returned with my followers,

Not only fearing his power, but also relying on his virtues.

The Emperor honored us with magnificent kindness, with a face both happy and benign, and the spear and halberd were put aside.

⁴ The presence of the Si-fan in the Manchu army which invaded Corea, seems to me very remarkable. I have not been able to identify the K'ung-fa nor to find any reference to such a nation or country except in the following extract from the *P'ei-wên Yun-fu*.

池莊窮是蠅受晉
也子髮故蠅正書
窮之魏者朔擎
註髮野祖勾虞
窮之逐宗奴北傳
髮北之揚之史
不有無威青蠅窮
毛溟人耀根蠅髮
之地海之武本傳反
地者鄉武本傳反
天之莫論景承

What gifts did he give us? Fleet horses and light furs of sable.

The young men and women of the Capital then chanted songs and ballads.

The return of our King was the gift of the Emperor.

The Emperor removed his army, and gave life to our children.

He reunited us from our dispersion, and exhorted us to the works of agriculture.

He built up our city wall as of old, he raised again our splendid altar.

The dry bones had flesh again; spring returned to the wintry roots of grass.

The stone stands majestic at the head of the Great River.

San Han⁵ for 10,000 years will enjoy the protection of the Emperor.

Erected in the Year of Ts'ung Teh, IV, 12, 8 [1639].

Composed, by Royal Command, by Li King-shih, *Tsz-hien Ta-fu*,⁶ President of the Board of Civil Office, Literary Recorder, State Literary Composer, Chancellor of the Royal Academy.

Written, by Royal Command, by the hand of Wu Ts'ün, *Tsz-hien Ta-fu*,⁶ Governor of Seoul.

Heading in Seal Characters written, by Royal Command, by the hand of Lū Êrh-chêng, *Kia-shan Ta-fu*,⁶ Vice-President of the Board of Ceremonies, Deputy Assistant Commissioner of the Court of Judicial Enquiry.

⁵ Reference is made to the capital and its environs, including the northern and southern fortresses.

⁶ *Tsz-hien Ta-fu*, *Kai-shan Ta-fu*: Titles of honor conferred as a reward for merit or service.

November 12th, 1888.

P.S.—I am indebted to Mr. COLIN M. FORD, H.B.M. Acting Consul-General in Corea, for rubbings of the inscriptions on the monument, which have reached me within the last week. The rubbing of the Corean inscription shows the existence of the following errata in the copy which has been photo-lithographed :—

In column 5, 48 characters from the top, for						武臣	read	文武
"	"	11, 17	"	"	"	亦矣茲	"	亦還目茲
"	"	12, 17	"	"	"	陪師期	"	陪以師期
"	"	14, 58	"	"	"	宗社	"	宗祀
"	"	17, 17	"	"	"	特小邦	"	特我小邦



若得心空苦便無
有何生死有何拘
一朝脫下胎州襖
作個逍遙大丈夫
十執還原歸古里
入聖超凡最上乘
板存杭城瑪瑙經
房流通

圖心本



先儒云這是個活的物乃人身有形有氣之最密者身行一日不過百里此則頃刻千萬里身經一日不過十二時此則頃刻千萬年緣身滯於形道箇通於神也

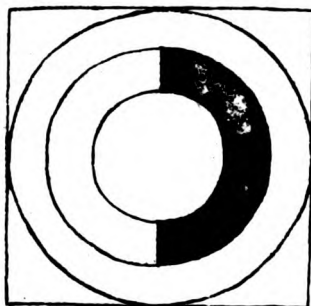
曰神明之舍
曰天君
曰方寸
曰靈臺
曰虛靈之府
曰靈藏之也

日隱蔽之地



三點星相似
橫鈎月不差
人禽分自此
禍福總由他

朱子曰惟平聲或
謂天下第一奇異
惟此一字雖人人
認得未必真認得
自古以來聖經賢
傳子言萬語總只
說此一字無有對
得此一字者



無極太極人極

心復明之圖



陷溺既久
亡失本心
滌汚刮垢
初復本心
改過遷善
漸復本心
操存舍亡
半復本心
克己去私
大復本心
閑邪存誠
甚復本心
欲淨理純

圖之蔽漸心



赤子始生
渾其本心
感欲而動
初藏本心
知誘物化
益藏本心
理欲交戰
半藏本心
情蕩愈熾
過藏本心
夜氣無存
甚藏本心
幾希盡喪
全蔽本心

A GUIDE TO TRUE VACUITY.¹

By YUEN-YANG-TSEH.²

Translated by G. E. MOULE, D.D.

Read in abstract before the Society 22nd October 1888.

This Tract is a broadsheet some 24 inches by 13. One-third of its width on the right (A) is occupied with diagrams and illustrative letter-press in small type. The other two-thirds (B) are covered with a metrical rhapsody in 55 couplets in which rhyme seems not to be aimed at, at least in any regular method.

A.

The upper and lower halves of this part of the sheet contain each two diagrams.

(a.) That to the right, upper half, represents the character *sin*, heart, under the guise of a crescent moon, shaded, horizontal, with three stars above it, white. The legend is as follows:—

¹ *Vacuity*: The unreality of all phenomena. See EITEL'S *Handbook* s.v. *Sūnya*. In our tract it has rather the subjective sense of *indifference* to the phenomena.

² *Yuen-yang*: Unimpaired, or great, masculine force. *Yuen-chên* is a Taoist synonym for 玉 (Yu), the jadesstone, the physical embodiment of the masculine or positive principle. See MAYERS, s.v. *Yuen-chên*. The words are, no doubt, the title of a famous Taoist master, whom I cannot identify. The well-known Lî Tsu had Ch'un-yang (純陽) for his title. He (Lî) is one of the four assessors of the deity Yu-hwang Shang-ti.

(above diagram) (A a ;)

Three star-points all alike ;³

Crescent (*lit.* sickle) moon exactly horizontal ;

From this are men and animals⁴ distinguished ;

Out of that spring all woe and bliss.

(below diagram)

Chutsze says : " *Now the heart has no fellow ;*"⁵ which is to say, that in all the world that which is remarkable for a constant choice of the marvellous and strange is just this word (heart). Though everybody recognizes this, it is not certain that they truly recognize it. From ancient times the aggregate of the thousand *dicta* and the myriad discourses of holy canon and sage narration speak solely of this one word. There is none that can be fellow to this one word !

The diagram to the left, upper half, is called

A DIAGRAM OF THE ORIGINAL HEART.

It consists of an oval outline having at the centre *sin* heart, written as *crescent moon and three stars all unshaded*. Above *sin*, within the oval, are in horizontal line CHARITY, RECTITUDE, PROPRIETY, KNOWLEDGE ; just below these four words is NATURE ;⁶ below which, at the left of *sin*, is 養 *ki*,

³ Construction difficult because, I think, loose and inaccurate.

⁴ *Kin* : Birds ; said here to stand for non-intelligent animals. But cf. *Job*, 35, 11.

⁵ For this *dictum* of Chu-hi, see his Works, sect. 44 性理三 on the Heart ; where it follows the words 心之理是太極心之動靜是陰陽.

⁶ "Nature" below "Heaven's ordinance" implies a reference to the Chung Yung (Fixed Mean) cap. i. "Heaven's ordinance is called Nature." "Law" (*li*) is sometimes interchanged with *nature* and (notably) with *heaven*, in Chu-hi. It has been rendered *Fate*.

apparently in the sense of GERM; while at the base of the oval is 神 (*shên*) SPIRIT OF DIVINITY.⁷

Above the oval in vertical line are⁸ HEAVEN'S ORDINANCE, below which, horizontal, are the mystic characters⁹ *Yuen, Heng, Li, Ching*: GREATNESS, FACILITY, PROSPERITY, STABILITY. Below this line is⁹ 理 (*Li*) LAW, as in the phrase "natural law." NATURE (within oval) is connected by a horizontal line to the right with 情 PASSION, having below it, horizontal, JOY, ANGER, PITY, DELIGHT. GERM is similarly linked, to the left, with THOUGHT, MEANING, PURPOSE, in vertical line.

Underneath the oval in two sets, of four vertical columns each, are titles of the heart, the word 曰 (*one*) styles (*it*) being repeated with each. (Upper set of titles) HEAVENLY PRINCE, TRUE RULER, SQUARE INCH,⁹ SPIRIT STAGE.¹⁰ (Lower set) ABODE OF SHANMING, HOARD OF SECRETS, PALACE OF MERE SPIRIT, REGION OF OCCULT AND MINUTE.

To the right and left of the Diagram are the following:—

(*Right*) An ancient scholar says: "Taou (the Way) is a living thing; 'tis that which is most subtle in the human body with its form and its matter. The body travelling all day goes not beyond a hundred *li*; but this, in one moment, goes a thousand myriads. The body, in spending a day

⁷ The reference is perhaps to the Commentator on Mencius (*Hsi Meng*, sect. vii, cap. 46, called 盡心) who says 心者人之神明, where, from what follows, *Sên-ming* seems to mean intelligence; though elsewhere (*Analects, Lun-yü*, Book x), the commentator seems to use it in the sense of animal spirits.

⁸ *Yuen Heng*, etc., the four qualities of *Kien*, the positive element. *Yü-hing* sub initio.

⁹ I cannot find the *locus classicus* of this quaint epithet.

¹⁰ The reference seems to be to Wan Wang's famous tower or stage; the subject of the Ode so called (*She King*, iii, i, 8) quoted by Mencius. My teacher, however, holds that here *Ling* has a more personal sense.

exceeds not twelve hours; but this, in one moment, a thousand myriad years. For the body is hampered by form. The Way is interpenetrated with spirit (or divinity)."

(*Left*) He says again: "This is an all-important thing; 'tis for the human body most honourable, most momentous, and quite indispensable. For when this is retained, man lives; when not retained, man dies. Perhaps though this be not retained man may still live; then it is no more than just retaining the shell and husk; in reality it is not life."

(A b.) The lower half of the right-hand division of our Tract contains, *first*, a Square enclosing three concentric circles. The band formed by the innermost circle and the next is half white, half black, to represent, perhaps, the daily and nightly aspect of the terrestrial universe; perhaps the more abstract notions of *Yin*, *Yang*, the negative and positive principles in nature. To the right, vertical, are NO LIMIT, VAST LIMIT, MAN'S LIMIT.

Whatever *Wu-kih* and *T'ae-kih* are in Chinese philosophy, here the NO LIMIT, represented by the outer white band, appears to mean the vague, colourless, nameless Origin of all; the VAST LIMIT, this power or principle acting in the mundane universe; and the MAN'S LIMIT, the same in human nature,—microcosm.

Secondly we find, below the square and circles, two sets each consisting of seven oval hearts, each heart enclosing the crescent and three stars. The set to the right commences with a white heart, whose successors are darkened by a rising tide of darkness, till the seventh is all black. This is the DIAGRAM OF HEART'S GRADUAL OBSCURATION.¹³ The set on the left begins with a black heart, whose successors are brightened by a deepening irradiation of light, till the seventh is all white. This is the DIAGRAM OF HEART'S RECOVERED ILLUMINATION. Below, in vertical columns, two to each heart, is the explanation, thus: First set:—

- 1.—Original heart of new-born infant formless (without bias).
- 2.—Original heart, through excitement and motion of desire, for the first time obscured.¹²
- 3.—Original heart, through experience of allurements and material influence, increasingly obscured.¹³
- 4.—Original heart, with principle and desire in mutual conflict,¹¹ one half obscured.¹³
- 5.—Original heart, the passions unruly, more and more inflamed, predominantly obscured.¹³
- 6.—Original heart, the breath of night¹² nowise retained, exceedingly obscured.¹³
- 7.—Original heart, (the differentiating) particle all lost, totally obscured.¹³

Second set:—

- 1.—Original heart, after prolonged immersion (in evil) utterly lost.
- 2.—Original heart, by washing away filth and scraping off dirt, beginning its recovery.
- 3.—Original heart, correcting its trespasses and going over to virtue, gradually recovering.
- 4.—Original heart, making efforts to retain (the good) letting go and losing (evil) one half recovered.¹⁴

¹¹ "Mutual conflict," cf. *Galatians*, 5, 17.

¹² "The breath of night," cf. Mencius (vi, I, viii, 2, LEGGE'S Ed.) who speaks of nightly reflection repairing the waste of innate goodness under the inroads of passion during the day.

¹³ For the word and idea "*obscured*" see *Ta-hioh*, comment. on 明德. For "particle" 幾希 see Mencius, iv, ii, 19 (Dr. LEGGE.) "That whereby man differs from birds and beasts is very little, the people throw it away, the great man retains it!"

¹⁴ Perhaps 存 and 亡 are the principles of conservation (i.e., of true nature) and perdition respectively; and we ought to render: "by clinging to conservation, and giving up perdition," i.e., what tends to self-perdition.

- 5.—Original heart, by victory over self and expulsion of individuality,¹⁵ greatly recovered.
- 6.—Original heart, by exclusion of vice and retention of sincerity, exceedingly recovered.
- 7.—Original heart, when lust is clean gone and principle unmixed, wholly recovered.¹⁶

B.

We come now to the metrical rhapsody in fifty-five couplets, two couplets in each column. I number the columns from right to left. The evidently mystical word 道 *taou* seems best rendered by the English *way*, in the sense in which it is found in the Acts of the Apostles, as a rendering of ὁ δόξ.

(I).—The Way originally was unspoken, it manifested itself.

It dwelt solely in the heart, as man meditated.

Before my parents had offspring, I¹⁷ pre-existed,

Before chaos was divided, nature¹⁸ was beforehand.

(II).—Before the three prime factors¹⁹ were established it fixed the meridian.²⁰

The south needle pierced (the meridian's extremes) the contrivance of the first master.²¹

¹⁵ The preference for self, self-assertion, contrasted with impassibility.

¹⁶ It may be better to translate both sets of phrases in another order; thus, *e.g.*, 1. "Utter loss of original heart after prolonged immersion."

7. "Complete recovery of original heart when, etc.," and so with the former set.

¹⁷ Throughout, the meaning of individuality seems connected with 我. It is not the mere first person of the pronoun.

¹⁸ "Nature" as the "ordinance of Heaven," who is therefore not the material heaven.

¹⁹ Heaven, Earth, Man.

²⁰ 子午 north and south, or midnight and noon.

²¹ Does this mean that the meridian pre-existed, though first defined by the needle when discovered?

The infinite,²³ the vast limit, is just the human limit;
The human heart, my heart, is just the heart of heaven.

(III.)—Would you cultivate the way of the Genii, cultivate
the way of humanity.²³

If you cultivate not the way of humanity, in vain you
weary the heart.

Wealth, beauty, honours, and gain are the road to Hades;
Insisting on *meum* and *tuum* is the root of sickness.

(IV.)—Covetousness, wrath, stupidity and silliness are the
Six Ways;²⁴

Joy, anger, pity, delight are the Four modes²⁵ of birth.
Perverse and crooked walking is the true Earth-
dungeon;²⁴

Anger and pride are the state of brutes.²⁴

(v.)—The Heavenly Hall, the Earth-dungeon, are developed
of the heart;

To be clad in hair and wear horns that too is the heart.
To become *genii*, or be made *buddhas*, comes round
from the heart;

Earth-dungeon,²⁴ famished ghosts, these too are the
heart.

²³ See above on the Diagram of Square and Circles.

²³ Cf. *Hia Lun* xi, 11, 未能事人焉能事鬼. "Religion is human duty."

²⁴ The "Six ways" of metempsychosis. See MAYERS, s.v. "Six Ways," and EITEL s.v. *Ġāti*. They are, 天 *Dēva*, deities, 人 *Manuṣya*, men, 業羅 *Asura*, titans, 餓鬼 *Prēta*, famished ghosts, 畜生 *Tīṛīṣaṇ*, brutes, 地獄 *Naraka*, hell.

²⁵ The *Four modes*, viz., 胎生 *Uṭeral*, 卵生 *Oval*, 溼生 *Spontaneous*, 化生 by metamorphosis, e.g., the moth from the cocoon. See EITEL, s.v. *Tbḥātūr yōni*.

²⁶ 無名 for 無名火 the nameless fire = anger. See WILLIAMS, *Dict.* s.v. 名. 噴高 said to be Buddhist for chant, also a cant phrase for pride. A Buddhist monk told me that 無名噴高 was repeating the service whilst one's thoughts strayed after worldly objects.

(VI.)—All the myriad laws spring wholly from the heart ;
The four great things, the six roots,²⁹ obey (its)
orders and act.

The Heart is ruler of this nether world ;²⁷

The Heart is the root of woe and weal among men.

(VII.)—The (true fire of the) Samādhi (three dark places),³⁰
everyone has at his tongue's end.

As to the truth about the Samādhi (three dark
places), each one is purblind ;

They wag their tongues as if they had traversed the
whole way ;

They open their mouths like those who have traversed
the way.

(VIII.)—Not to expound, in the Way, the true decorum of
the School,³¹

Is like being separated by a thousand mountains and
a road of a myriad *li* (from one's object) ;

'Tis to cast away and shatter the true lord³¹ and
master ;

'Tis to stifle nature with might and main.

(IX.)—The canonical texts of the three Religions are truly
mysteries ;³²

²⁷ *The four great*, *sc.* Buddhist Elements :—Earth, Water, Fire, Air. (MAYERS).

²⁸ *The six roots* of sensation, *sc.* sight, hearing, smelling, taste, touch and mental perception ; answering to the six entrances, and six modes of environment. See MAYERS' *Categories* of *six*.

²⁹ See WILLIAMS, *s.v.* 昧. I cannot identify the three dark places. My teacher says they are the seats of the lower passions, and are as the black furnace of the true fire. But see EITEL, *s.v.* Samādhi (三昧), which shews that the line should have been rendered :—"Samādhi (tranquility or self-control) every one has on his life." "The true fire of San-mei," is apparently "Agni samādhi." 三昧 is obviously a transliteration, and not to be construed on Chinese principles of grammar.

³⁰ Confucianism.

³¹ True lord—the heart.

³² "Mysteries," *i.e.*, with an occult meaning.

How many con over the canon, without³³ meditating it as rule.

The Virtue³⁴ of the Way clearly points to, and opens out, purity ;

The Diamond and Heart Canons³⁴ speak (of it) clearly ;

(x.)—The Great Learning and Fixed Mean³⁴ clear up true Nature ;

How many men of light and leading throw no light on the heart !³⁵

The saints of the three Religions were great in kind virtue ;

Each bequeathed canonical scrolls to save posterity.

(xI.)—When men of light read the Canon the heart opens with intelligence ;

When the erring read the Canon, on the contrary they confuse the heart.³⁶

Recite Buddha ('s name), recite the Canon ; in the heart recite Buddha.

Cultivate the person, cultivate the Way ; in the Way cultivate the heart.³⁷

(xII.)—The true heart is Buddha, Buddha is nature ;

The true heart is the Law, the Law is the Canon ;

The true heart, in short, is spirit-illuminated nature ;

The true heart, in short, is our lord and master.³⁸

³³ Cf. *Shang-lun*, ii, xv, 學而不思則罔.

³⁴ The *Tao-tê* of the Taoists, and well-known canonical texts of Buddhism and Confucianism.

³⁵ Qu. render "How many enlighten others, not (their own) hearts."

³⁶ Cf. 2 *Peter*, 3, 16.

³⁷ Qu. Do these lines mean, "In whatever religion, keep the heart with all diligence, as all in all?"

³⁸ Cf. *Taiho*, Commentary, 心者身之所主也.

- (xiii.)—Nature is the original true physiognomy ;
 It is originally the body of true vacuity, and true law.³⁹
 When there is no litter in the hall you need not
 sweep the floor ;
 When there's no dust in the place, do not take trouble.
- (xiv.)—When clothes are neat and clean, what need of
 washing ?
 With the empire at peace, what need of troops ?
 If people had no illnesses, what need would there be
 of drugs ?
 The heart if it be empty and vacant, what need has it
 of the Canonical Books ?⁴⁰
- (xv.)—Of old, the three Religions strayed not from the
 heart ;
 For the sect of the genii,⁴¹ that word was worth a
 thousand gold pieces.
 The body vacuous,⁴¹ you may overleap the brazen
 barrier.
 The heart dead, you may batter through the iron wall.
- (xvi.)—Lift the hand, make a beginning, one correct
 meditation ;⁴²

³⁹ Cf. as above on 明德 明德者人之所得乎天而虛靈
 不昧 但爲氣稟所拘人欲所蔽. In the metre the influence of
 氣 and 欲 is annihilated. Then the man is perfectly himself again and
 needs no law. Cf. 1 Timothy, 1, 9.

⁴⁰ "Sect of the genii" = Taoism.

⁴¹ "The body vacuous," *q.v.* whether by the same process as the mind,
sc. by indifference to one's "environment?" I cannot find the *locus classicus*
 for brazen barrier or iron wall. But EITEL gives *s.v.* *Tchakravala*,
 鐵圍山, the iron curtain-mountain which girds the universe.

⁴² 正念 Correct meditation or memory, one of the 八正門 which lead
 to *Nirvana*. See EITEL, *s.v.* *Marga*.

Drive back⁴³ with a shout the hundred myriad
troops of King Mara!

Dharma⁴⁴ of the eastern land was the very first of
Patriarchs;

Straight pointed he to the spirit light, the one lamp.

(xvii.)—Would you think of birth, age, illness, death and
misery,⁴⁵

Your valiant man then would become an unprofit-
able person.

Hungry, eat rice; and cold, put on clothes;

But ask not whether south or north, east or west.

(xviii.)—Would you as living after the manner of the dead,
Close the mouth, say nothing, act the part of an
idiot,

And let no grain of dust cling to you of the home-
ward road,⁴⁶

Suddenly would the myriad complications⁴⁶ cease,
and original truth be restored.

(xix.)—To generate no one thought⁴⁷ is the true escape;
At once mere ice is changed to rock crystal.⁴⁸

To generate one thought, the one thought is death;

To generate no thought is escape from the mundane
dust.

⁴³ 赫: Misprint for 嚇, to scare with the voice. *Māra* see EITEL, s.v. He is the murderer, hinderer of good, destroyer of good; the personification of lust; god of love, sin, death, arch enemy of goodness.

⁴⁴ See EITEL, s.v. *Bodhidharma*; MAYERS, s.v. Six Patriarchs. He was an Indian missionary of royal descent who, reaching China in A.D. 520 or 526, settled and died at Loyang, the Eastern Capital.

⁴⁵ Characteristics of physical unrest.

⁴⁶ The perfectionist must be indifferent to home, as well as all other mundane ties.

⁴⁷ Perhaps rather "To meditate on non-birth," i.e., on the cessation of the series of phenomenal migrations. And so below. Does 不生—無生.

⁴⁸ One of the *Sapta ratna*. See EITEL, s.v. No. 2.

(xx.)—The Way is learnt from the heart, wrought out
by man;

Why must you painfully seek it abroad?

To seek (of) others is not so good as to seek (of)
thyself;

To seek the Way is not so true as to seek the heart.⁴⁹

(xxi.)—To cultivate conduct is not so good as to cultivate
the heart;

To refine the elixir⁵⁰ is less true than to refine one's
nature.

When you have gotten heart refine to the point of
no-heart;

Empty, cavernous, vague, without light.

(xxii.)—So consequently will develop the great thousand
worlds,⁵¹

Just like the bright-born moon of the 15th day.

All Buddhas, all patriarchs, from this emerge;

All things wholly from this are evolved.

(xxiii.)—Unit can produce myriad, myriad transform to
unity;

Unity is in fact the root of the Infinite (Wu-kih).

Were not the spiritual sympathy⁵² of the Infinite
vast,

Where were heaven, earth and all things procreated?

⁴⁹ A difficult stanza, for me. Does it amount to an exhortation to reclusive meditation, rather than learning of other men or books?

⁵⁰ "Elixir" the *tan* or *Kim-tan* of alchemy, supposed to be evolved in the crucible from a mineral basis said to be cinnabar. See MAYERS, *s.v.*, who says that the Taoist philosophers, whilst studying the material alchemy, adapted its phrases to mental and moral science, distinguishing the 內丹 or mental process of sublimation from 外丹 or material elixir.

⁵¹ This appears to mean that the duly sublimated heart will be able to conceive of all the infinite contents of the universe material and intellectual. "This," in lines 3 and 4, I take to be "sublimated heart."

⁵² Rendered "Spiritual penetration." ERTEL, *s.v.* *Shidhi Vih-tita*.

(xxiv.)—Whoever can meditate this one word (heart),
He and only he can requite the kindness of the
Infinite.⁵³

On the dial is the polar-needle fixing meridian ;
The man who meditateth the right formula⁵⁴ be-
comes one of the true genii.

(xxv.)—Noble sirs, I exhort you study the Way, and leave
off coveting and craving.

In the myriad affairs the Way of no-heart is
suitable.

The condition of no-heart, and it only, sympathizes
with the Way of no-heart.

Sympathize with no-heart, then the Way, too, is
dispensed with.⁵⁵

(xxvi.)—Each heart is Buddha, Buddha is the heart of heart.⁵⁶
Each Buddha is the heart's heart, namely the heart
of Buddha.

Get to comprehend heart and Buddha, no thing
exists.

(Like) the general⁵⁷ who slaked (his troops') thirst
with the hopes of an apricot orchard.

(xxvii.)—If you win heart's vacuity, misery straightway is
no more ;

What life and death is there, what constraint ?⁵⁸

⁵³ *Wu-ki*, the Infinite, here and above, seems taken sometimes as a numerical idea, sometimes as a personal Divinity.

⁵⁴ The tendency as inevitable as that of the needle; "formula,"—the heart.

⁵⁵ See above Note 39.

⁵⁶ I cannot pretend to vouch for the correctness of my rendering of this and the following two lines.

⁵⁷ *Wu-ti*, founder of Later Wei dynasty A.D. 389-394. See MAYERS, *s.v.* 梅. The allusion seems meant to illustrate the power of subjective impressions.

⁵⁸ 梅 See Note 39.

One morning put off the dress ⁵⁹ of your nativity,
You are at once a fine gentleman of liberty and
leisure.

(xxviii.)—By daily approaches, come back to your origin,
return to your native place.

Enter sainthood, soar above the world, the most
exalted degree.

[*Colophon*.—"Type kept at the Agate Religious
Bookshop, Hang-chow, for general circula-
tion."]

⁵⁹ 胎州襖 "Vest of natal region," *cf.* 2 *Corinth.* v. 2, 3, 4, where
embodiment is spoken of as clothing.

(*Final Note*.)—The Tract, though its catchword, after Heart, is Way, can
hardly be called Taoist in a strict sense. It is Taoist, no doubt, in its
commendation of impassibility, but in that sense, Buddhist also.

To the translator it has been an interesting study as a sample of, so to
speak, applied religious eclecticism, where the materials were the three creeds
of the School, the Way, and Śākya as current in China. Without, however,
the help of an intelligent professor of one or other of the latter creeds, he
has found it impossible to satisfy himself that his translation is accurate;
in some places it is doubtless not so.

He cannot identify the author, who, however, was probably a professed
Taoist.

There are the following apparent misprints in the sheet:—Col. iv. for 經
read 徑; Col. xvi, for 赫 read 嚇; Col. xviii, for ㊦壯 read 裝; and
Col. xxviii, for 十就 prob. read 日就.

CHANGCHOW, THE CAPITAL OF FUHKIEN IN MONGOL TIMES.

By GEO. PHILLIPS, F.R.G.S., H.B.M. CONSUL, FUCHAU.

(Read before the Society 19th November 1888.)

It is doubtless fresh in the memory of many interested in the archaeology of Fuhkien, that I have always strongly advocated the identity of Changchow with the city of Zaitun in the middle ages, while, on the other hand, Colonel YULE has always urged its identity with Chinchew, on the ground that Rashiduddin in enumerating the Sings, or great provincial governments of the Empire, has the following: "FUCHÚ.— This is a city of Manzi. The Sing was formerly located at Zaitún, but afterwards established here, where it still remains. Zaitún is a great shipping-port, and the commandant there is Boháuddin Kandári." Colonel YULE proceeds to say that "PAUTHIER's Chinese extracts show us that the seat of the Sing was in 1281 at T'swanchau, but was then transferred to Fuchau. In 1282 it was removed back to T'swanchau, and in 1283 recalled to Fuchau. That is to say, what the Persian writer tells us of Fújū and Zayton, the Chinese annalists tell us of Fuchau and T'swanchau. Therefore Fuju and Zayton were respectively Fuchau and T'swanchau."¹

This statement of RASHID has puzzled me for many years, for I was sure, with the very many strong and weighty arguments that Dr. DOUGLAS and I had brought forward in favor of Changchow being Zaitun, that it admitted of rational explanation. It was not, however, till I unearthed

¹ YULE's *Marcu Polo*, 2nd Ed., Vol. 2, p. 221.

in a second-hand Chinese bookshop in this city, a copy of the *History of Fuhkien*, published in 1492, that I arrived at anything like a solution of the problem, and which would seem to upset the statement made in the *Encyclopædia Britannica*,² that Changchow had never been the capital of Fuhkien. This *History of Fuhkien* contains a quotation from *The Supplementary Record of the Three Hills*,³ a book revised in 1328, and considered by the author of the *History of Fuhkien* as a trustworthy authority, on account of its having been compiled while the Mongol dynasty was still in existence. The quotation alluded to reads as follows: "It will be seen in the annals of the Yuan dynasty, that in the fifteenth year of Chih Yuan, there was added to the Sing, at Kanchow, the post of criminal judge, and that in the seventeenth year of Chih Yuan, the seat of the Sing was removed to Chinchew, and that in the twentieth year of Chih Yuan, the post of criminal judge was altered to that of Taotai Superintendent of the Fuhkien seaboard, which, with the seat of the provincial capital, then at Chinchew, was removed to Fuchau. The post of Commissioner of Public Order of Fuhkien was abolished, and the seat of the provincial capital was again established at Changchow."⁴ Not content to rely solely on this book, I searched through an abridgement of the *Mongol Dynasty*, published in 1693, and came across the same fact in the

² *Encyclopædia Britannica*, Vol. 5, p. 673, article "Chin-chew."

³ 三山續志

吉	辛	弘	序	擇	於	復	罷	州	建	改	於	十	置	州	元	元	4
亥	治		抄	潭	立	福	行	閩	接	泉	七	提	行	十	史		
冬	四		八	州	行	建	省	海	察	州	年	刑	中	五	本		
十	年		閩	中	宜	福	併	道	司	二	徙	按	書	年	紀		
一	歲		通	書	慰	州	泉	福	年	省	司	增	轄	至			
月	次		志	省	司	州	泉	福	年	省	司	增	轄	至			

following words:—"In the twentieth year, third month, twenty-sixth day of Chih Yuan the post of Commissioner of Public Order in Fuhkien was abolished, and the seat of the provincial government was again established at Changchow,"⁵ or in other words, Changchow for the second time became the official capital of Fuhkien. None of the histories that I had by me, gave me any clue as to the time when Changchow had first been the capital, but in the *Fuhkien Gazetteer* I found that it had been so for a short time in the seventeenth year of Chih Yuan, and was so in the eighth month of that year, when it was besieged and taken by the Chinese patriot Chen Tiao-yen who had succeeded in raising the standard of rebellion in that province. It remained in his possession till the eleventh month of the same year, when it was retaken by the Mongol General Ta-li-chih.⁶ Rebellion against the Mongols would appear at this time to have been very frequent, and was to them a matter of great anxiety, for they were compelled to keep up large garrisons in Fuhkien. This fact recalls MARCO POLO's statement, who, when speaking of Fujou, a city of Fuhkien, says, "a large garrison is maintained there by the Kaan, to keep the kingdom in peace and subjection, for this city is one which is apt to revolt on very slight provocation."⁷

The following, taken from the *Fuhkien Gazetteer*, will show that at other times during the occupation of the

復十萬陳元零揮 ⁶	津司省月至四康即揮 ⁶
津一陌吊十百抄	州復福二元月照續抄
州月漳眼七二福	立建十二序四弘元
塔州擁年十建	行道六十十簡史
里行衆八八通	省宣壬午十五年錄
赤省五月至志	於慰午三年編

⁷ YULE's *Marco Polo*, Vol. 2., p. 218.

province by the Mongols, it was the seat of high civil and military authority.

Towards the close of the Mongol dynasty Changchow was for some time the seat of a Fên-sing, or Departmental Governor,⁸ whose quarters were situated in the western part of the city, most probably on the site where the present Brigadier-general has his Yamen. Changchow appears to have been first made the seat of a Fên-sing in the twenty-second year of Chih Chêng [1363]. Prior to that, in the eighth year of the same reign [1349] it was the seat of a high military officer called a Fên-yuan-shuai-fen-fu and Suen-wei-szu-fu, Commissioner of Public Order. Somewhat earlier, the military commandant had the title of Sin-chün-wan-hu-fu, i.e., the Chief of the New Camp of Ten Thousand Men. This Wan-hu-fu⁹ is most probably the Wan-shi, the chief of ten thousand soldiers mentioned by RASHID. When Changchow was retaken from the Mongols by the Generals of the coming Ming dynasty, the chief authority of the city bore the title of Departmental Governor of Fuhkien and Kiangsi. Chinchew was the seat of the Fên-sing¹⁰ in the eighteenth year of Chih-chêng, after which it was removed to Changchow. It will thus appear that owing to the disturbed state of the province, both at the beginning and towards the end of the Mongol dynasty, the seat of the provincial government was never established at one place for any great length of time.

It is perhaps worthy of remark that the last Mongol Governor of Changchow, Lo-liang, gained for himself the respect and obedience of foreigners resorting to Changchow.¹¹ I adduce this fact to shew that Changchow was a port visited

⁸ 至正二十二年漳州行中書分省 見八閩通志

⁹ 新軍萬戶府 ¹⁰ 分省

¹¹ 羅良傳海外番夷仰其化亦譯譯語合

by foreigners for trade in Mongol times. I have already shewn it had an officer appointed to collect duties from the shipping frequenting that port.¹² I only regret I have been unable to obtain a copy of a book called *Kai-yuen-szu-chih*,¹³ which gives the history of the Temples of Changchow, for from the extracts I have seen from this book, I feel pretty sure we should get at the history of the Franciscan churches, one of which was kept up by the bounty of the Emperor.

With the extracts I have now given, I think I have historically shewn that the claim of Changchow to be the mediæval Zaitun, is as strong as the historical proof brought forward by Colonel YULE in favor of Chinchew, for both our arguments are founded on the same theory, that the cities we each bring forward to be Zaitun did alternate with Fuchau as the capital city of the province.

Independent of this historical evidence, I consider that there are other claims, equally strong, to be brought forward in favor of Changchow being Zaitun, which no one as yet has been able to adduce in favor of Chinchew. I will refer only to two, viz.:—The finding of various Christian remains, such as crosses and images of the Virgin at Changchow, in the early part of the seventeenth century, indicating that city as the probable site of the Franciscan establishment; and the manufacture of damasks of velvet, as well as those of satin, (Kimkha and Atlas) mentioned by IBN BATUTA which are called from the name of the city "Zaitunia," and were considered to be superior to the stuffs of Khansá and Khanbalik.

With regard to the first of these, we learn from the history of the Franciscan missions that two churches were built in Zaitun, one in the city and the other in a forest not far from

¹² See Vol. 21, p. 42, of this Journal.

¹³ 開元寺志.

Another singular discovery relating to these missions, is one mentioned by Father VITTORIO RICCI, which would seem to point distinctly to the remains of the Franciscan church built by ANDRÉ DE PÉROUSE outside the city of Zaitun :—

Let us now turn our attention to the second statement of the manufacture of Kimkha and Atlas in the city of Zaitun. Changchow in the middle ages was the seat of a great silk manufacture, and the production of its looms, such as gauzes, satins, and velvets, were said to exceed in beauty those of Soochow and Hangchow.¹⁵ According to the *Fukhien Gazetteer*, silk goods under the name of Kinki, and porcelain, were, at the end of the Sung dynasty, ordered to be taken abroad and to be bartered against foreign wares, treasure having been

漳土古所
謂善蠶之
鄉也漳紗
漳綬漳絨
漳之物產
也而絲則
取諸浙西
本欄所織
不讓他郡
漳州府志
卷四十五
紀遺上

prohibited to leave the country.¹⁶ In this Kinki¹⁷ I think we may recognize the Kimkha of IBN BATUTA. I incline to this fact, as the characters Kinki are pronounced in the Amoy and Changchow dialects Khimkhi and Kimkhia. Anxious to learn if the manufacture of these silk goods still existed in Changchow, I communicated with the Rev. Dr. TALMAGE of Amoy, who, through the Rev. Mr. Ross of the London Mission, gave me the information that Kinki¹⁸ was formerly somewhat extensively manufactured at Changchow, although at present it was only made by one shop in that city. IBN BATUTA tells us that the King of China had sent to the Sultan, five hundred pieces of Kamkha, of which one hundred were made in the city of Zaitun. This form of present appears to have been continued by the Emperors of the Ming dynasty, for we learn that the Emperor Yunglo gave to the Envoy of the Sultan of Quilon, presents of Kinki and Shalo, that is to say, brocaded silks and gauzes.¹⁹

Since writing the above, I found in the January number of this Journal (page 111) that Dr. HIRTH suggests that the characters Kinhua,²⁰ meaning literally gold flower in the sense of silk embroidery, possibly represent the mediæval Khimka. I incline rather to my own suggestion. In the²¹ *Pei-wên-yun-fu* these characters Kien-ki are frequently met in combination, meaning a silk texture such as brocade or tapestry. Curtains made of this

¹⁶ 嘉定十二年臣僚言以金銀博買洩之遠夷
爲可惜命有司止以綿帛錦綺姿漆之屬博易

¹⁷ 錦綺. In the middle ages Nansheng, in the Ping-Ho magistracy, on the road to Ting-chow, was the seat of a porcelain manufactory, 甌
出南勝者殊勝他邑

¹⁸ 錦綺

¹⁹ 永樂五年小真蘭遣使入貢賜其王錦綺紗羅

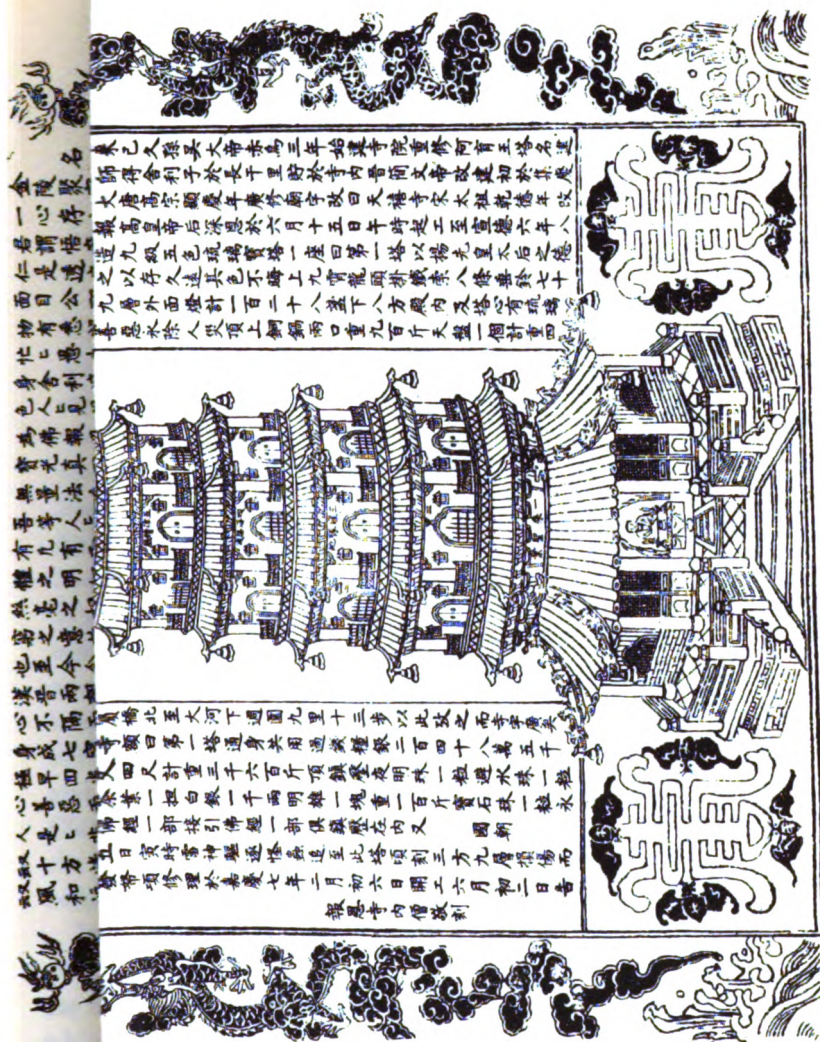
²⁰ 金花

²¹ 佩文韻府

texture are mentioned in Chinese books, as early as the commencement of the Christian era.

There are many other arguments which might be brought forward in favor of Changchow, but I will content myself with those I have mentioned. In concluding this paper, I rise from my task, with the satisfaction of having shewn that RASHID's statement regarding Zaitun being the capital of Fuhkien, admits of clear explanation, without casting doubts on his historical accuracy. I have been careful to give the Chinese text of the extracts from the books I have quoted, so that others, interested in this question, and knowing Chinese, may examine the authorities for themselves. In full justice to Colonel YULE, it must be admitted that he has no means of ascertaining any Chinese fact, except through the translations of sinologues such as KLAPROTH and PAUTHIER, MAYERS, WYLIE and BRETSCHNEIDER, who, curiously enough, never came across the historical fact I have now brought forward, and which, except for the adventitious circumstances already mentioned, would not yet have seen the light.

I trust that this paper, which has brought into prominence the city of Changchow as one of the capitals of Fuhkien in Mongol times, will be the means of further establishing its merits to be considered the site of the mediæval Zaitun.



名
東已久
師得舍利子於長干里貯於寺內晉簡文帝改建初於集慶
大
唐高宗顯慶年廣外廟宇改曰天禧寺宋太祖乾德年改
報高皇帝后深恩於六月十五日午時起工至宣德六年八
道九級五色琉璃寶塔一座曰第一塔以揚先皇太后之德
之以存久遠其色不磨上九寶龍頭掛鐵索八條垂鈴七十
九層外面堅計一百二十八蓋下八方殿內又搭空有琉璃
普恩永除人災頂上銅兩口重九百斤天盤一個計重四
忙亡愚
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也至今
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THE PORCELAIN PAGODA OF NANKING.

*Translation of the Historical portion¹ of a Pictorial sheet
engraved and published by the Buddhist High Priest
in charge of the Pao-ên Temple.*

By H. E. HOBSON.

(Read before the Society 19th November 1888.)

In the historical records it is set forth that outside the Chu-pao gate of Chin-ling [Nanking] there existed an old Buddhist monastery within whose grounds there was originally a foundation on which the pagoda of A-yo-ching was built. During the third year of Chih Wu [A.D. 240], the Emperor Sun of Wu founded a temple and repaired the A-yo-ching pagoda. He styled the temple *Chien Ching*, and during Sun-hao's raid against monastic buildings in general it became ruined and desolate. During the reign of Tai-Kang of the Chin Dynasty [A.D. 280-289] there lived a celebrated Buddhist priest named Lin Sha Wu who procured a sacred relic from Chang Kao-li (?) and placed it in the temple as then existing. The Emperor Chien Wên [A.D. 371-2] of the same dynasty altered the style *Chien Ching* to *Chang Kao*, and bestowed the original title on another temple in Chi Ching. He also removed the sacred relic from the temple to the adjacent pagoda, which he repaired and improved by adding three stories to it.

In the Tang dynasty the Emperor Kao Chung [A.D. 650-683] when directing the general renovation of temples, etc., altered the name to *Tien Wei*; and during the Sung dynasty, in Chien-teh's reign [A.D. 963-7], another change was made, it being

¹ Lower half of accompanying sheet.

now styled the *Che-tu Ching Chung*, or Temple of the Emperor Tai-tsu. The pagoda was destroyed by fire during the reign of Shun of the Yuen dynasty [A.D. 1333-1367].

During the Ming dynasty, when in the 10th year of his reign [A.D. 1412], the Emperor Yung-lo removed his court to the north, he ordered the Vice-President of the Board of Works, Huang-li-tai, to have it rebuilt of encaustic bricks, such as were employed at the Imperial palace, the structure to be of nine stories, and 329 feet $4\frac{1}{6}$ inches high. This he did by way of requiting the great favours he had received from the deceased Empress, and as a tribute to her gracious memory. The work as ordered was begun at noon of the 15th day of the 6th moon of the year above named and was completed nineteen years afterwards on the 7th day of the 8th moon of the 6th year of Hsun-têh [A.D. 1431].

The pinnacle was formed of Ting-po copper, a variety which has all the appearance of gold, and is free from tarnish and the usual deterioration caused by exposure to climatic influences. From the pinnacle eight iron chains were pendant, and from them hung 72 bells, while from the eight corners, and attached to the first story, were 80 more bells; in other words 152 bells in all. On the outside of the eight stories were 128 lamps, and inside the whole nine stories, including the octangular hall on the basement floor, were 12 lamps more. The nightly consumption of oil equalled 64 catties, and the rays of the lamps, which penetrated to the 33rd degree of heaven, served at once as a light to the people and as a charm against calamities both small and great. Crowning the pagoda was a brazen gourd weighing 900 catties, having for a base a salver of 450 catties in weight.

The boundaries of the temple-grounds were:—East, the worshipping-hall of Zu-tung-hai; North, the rice-hong and

garden of the Kuo family; West, the Lu-ping bridge; and South, the river, the enclosure measuring 9·13 *li*, from which an idea as to its extent and importance can be formed.

As rebuilt and adorned by the Emperor Yung-lo, the pagoda was expected to continue new and beautiful for ages, thus forming a monument of the Emperor's idea as to requiting the favours of heaven. The temple was styled the *Pao-ên Shih*, or 'Temple of Requited Favours,' and the pagoda the *Yi-yih-ta*, or 'The Pagoda,' and an Imperial tablet graced its main entrance. The cost of building equalled Taels 2,485,484. Encircling the pinnacle were nine iron hoops, the largest being 63 feet in circumference, the smallest 24, their united weight amounting to 3,600 catties. As charms the following articles were deposited in the pagoda: one flood-preventing carbuncle, one fire-preventing pearl, one tempest-preventing pearl, one dust-preventing pearl, one bar of gold valued at Taels 40, one picul of tea, Taels 1,000 in silver, one picul of Yung-hwang medicine, one precious stone, 1,000 strings of cash of Yung-lo's reign, two pieces of yellow satin, and four Buddhist books containing the prayers to Amida Buddha, the prayers to Sacyamone Buddha and the welcoming prayer to Buddha.

One of the emperors of the present (Ming) dynasty penned inscriptions for the pagoda, the first to the effect that 'Buddha is all-powerful,' and the second stating that 'This is the abode of the Spiritual Buddha, erected by Chih Wu,' and these were reverently deposited in the temple adjoining. On the 15th day of the 5th moon of the 5th year of Chia Ching's reign [A.D. 1526] a portion of the pagoda, extending from the pinnacle to the first story, was destroyed by the god of thunder whilst in hot pursuit of

§ *

an insect monster; the reason why the whole edifice was not destroyed being attributable to the protecting influence of Buddha added to the majestic severity of the gods.

The then governor of the province forthwith memorialized as to the damage sustained, and besought Imperial orders as to the necessary repairs, the result being that the injuries sustained were made good, the time occupied extending from the 6th day of the 2nd moon of the 7th year of Chia Ching [A.D. 1528] to the 2nd of the 6th moon of the same year, and the structure once more attained its pristine beauty.

TRANSLATION OF THE DEVOTIONAL PORTION. ²

By W. A. P. MARTIN, D.D., LL.D.

(Read on the same evening.)

This great pagoda, built on the finest site of a famous mountain, being happily preserved, and displaying a sincere reverence for the teachings of Buddha, which open our intelligence, proclamation is made as follows:—

At the south gate of Kingling (Nanking) where ³ precious things are collected; when the wind moves, the bells send forth wonderful tones,⁴ ever rejoicing in the rebuilding of Asaka's tower; the renovation of Buddha's idea, and the manifestation of imperial reverence.

² Upper half of accompanying sheet.

³ The name of a place taken in its first meaning.

⁴ Or, in the reign of Yungloh, the characters being taken in a double sense.

Do you with the whole heart repeat the praises of Amida Buddha, with reverence and understanding, asking yourself, "what in reality was I in the beginning?" This phrase, do you think you understand?

It is to know whence came the inward consciousness of one's own heart, and what it is to say, I know what I know, and whether my goodness is thorough.

Truly this is my heart's most marvellous point.⁵ Its nature what and whence? Its original aspect have you realized? This to compare with other books, is called "having the pure spirit unobscured."⁶ What this says it originally was, do you fully apprehend? To be obscured or unobscured, is not that the shadow of self-knowledge?

You must not resist and in your haste foolishly let go your heart's original. Is not this (original) really the Buddha of the West? His rainbow glories and the relics of his body have been transmitted to this eastern land, so that men may seek happiness, and know the fountain of understanding.

The relics and their rainbow light, all men can plainly see. Earlier and later dynasties may differ; but the tower and its stores firmly abide, the same through all ages. The Emperor's merit is infinite in building this most noted pagoda, to repay the grace of Buddha.

The relic's precious light is true beyond a doubt.

The first right principle is the boundless presence of Buddha's person. To know this is truly to be "unobscured."

It is what we men originally possess, and no one is without it.

⁵ The symbol of the dual powers or mundane egg, is here introduced into the text as the original of human nature.

⁶ A phrase from Chufutse's commentary on the 大學 *Takio*.

Therefore it is said, the wise differ from the common herd, in being free from error ; yet in our original perceptions, what difference is there between the good and evil ?

You must have no obstacle to your knowledge before you can understand the grace of Buddha, and his boundless renovating purpose.

Therefore this is called, "The Tower of the Temple of Gratitude," "The Tower of Buddha's Hidden Relics."

The tower is sublime in height ; through its good luck, its relics, even till now, have not lost their light.

Of old, Asoka's faith erected 84,000 pagodas ; but the princes of Han and Tsin sometimes built and sometimes destroyed.

A HYMN OF PRAISE.

1. The spiritual mountain of our ancient Buddha is neither far nor near ;
When heart is not divided from heart.
All ye who are grounded in faith,
Awake and ascend the spiritual mountain, and gain merit in this pagoda.
2. His body formed a crystal tower, containing seven precious things.
He was torn from his mother's side and sat in a lotus-flower, filling the world with fragrance.
Genii Buddhas and Bodisativas had previously awaked.
The reflection of their early light took shape in his person.
3. Of old, some are spell-bound and some awake ;
The spell-bound are hard to renew and convert.
Good and evil originate in the human heart ;
But high and low are always the work of fate.

4. If you penetrate the original of man, right and wrong are
empty names ;
If you awake to a sense of gratitude your heart is good,
And you get the full-orbed light of a better life.
5. The Buddhas of all lands are ready to save the world,
But men's hearts do not receive the light.
If only a touch of spiritual consciousness awakes,
It is like the ringing of a morning bell.
6. May harmonious winds and gentle waves propel your boat !
On the hill-tops of either shore you hear the voice of birds.
The matin-bells of the ancient cloister anticipate the morning
sun,
Which causes this crystal pagoda to gleam with auspicious
light.

TRANSLATOR'S NOTE.

This inscription is marked by an utter want of logical sequence, which is ill concealed by a style of studied obscurity. It contains not a few points in regard to which the translator is still in doubt, after making use of all the aids within his reach. In the rendering of these, he may have lost something of the meaning, but he feels a comfortable assurance that the version now offered contains at least as much sense as the original.

After writing a first draft, he consulted two learned natives—one of them an official in the Tsungli Yamen, with the degree of *tsinshé*, and a reputation for acquaintance with the Buddhist classics. Both professed their inability to fix the punctuation with any degree of certainty; and the latter pronounced the whole composition as little better than nonsense. It is not free, he

says, from gross errors in the use of characters. In the doubtful passages above referred to, both accept the punctuation proposed by me, as the only one that yields a tolerable sense. The principal points occur in a few lines, which I here append according to my own reading.

PEKING,

20th October 1888.

悟	自	妙	信	者	者	自	句	確	彌	一
本	本	●	此	何	誰	已	君	我	陀	心
來	其	一	一	我	自	自	謂	本	佛	存
面	性	點	點	仁	所	心	悟	來	慈	念
目	本	自	自	是	知	之	麼	誰	悟	南
公	何	心	心	透	日	心	是	也	心	無
醒	誰	之	之	麼	知	覺	認	此	乎	阿



NOTES AND QUERIES.

FORMATION OF HANG- CHOW BAY.

In the discussion following the reading of the paper on the Bore of the T sien-tang River, the theory was advanced that the first appearance of the Bore was due to erosion, whereby the outfall of the T sien-tang came at the apex of the funnel presented by the Hangchow Bay, while formerly the course of the river was much farther to the South. A course as far to the South as the hills will permit would leave the mouth of the river still at the apex of the cone, and fronting more directly to the open bay; so that this change alone will not account for the beginning of the Bore in history. Looking at the geological formation of the adjoining country, it is to be observed that the high land runs East and West along the North coast of Chekiang, then bends nearly at right angles near Hangchow, running thence North to the Great Lake (太湖) and around to Langshan; this was the coast-line. The present land of Kiangsu has since then been formed by alluvial deposit, and more especially the broad peninsula (on which Shanghai stands) terminated by Yangtze Cape and bounded on the North-east by the Yangtze River and on the South-east by Hangchow Bay. The former islets, present hills, near Haining, Chisan and Chapu, defined the northern shore of the bay near its head, and the violent scour of the flood and ebb keeps that shore unchanged; but farther North, at and near Yangtze Cape, we have purely alluvial conditions, and here we find one lip of the wide open mouth stretching out year by year to catch a greater breadth and therefore greater volume of the flood current. Taking the statement of Commander Moorn that the flood current impinges

on this shore from the Pacific Ocean in a direction *somewhat North of West*, and glancing at the chart, we see that the Southern shore of the bay is almost parallel to the current and can therefore deflect none of its waters; while the Northern shore is so inclined as to deflect to the South all of the current caught South of the tip of Yangtze Cape.

It may be suggested then that prior to A.D. 900 the shore from Chapu northwards was at such an angle as to deflect to the North, instead of to the South (*i.e.*, into the Yangtze instead of into the Tsien-tang), the tidal current impinging on it; that just before that date the shore reached a direction about at right angles to the tidal current; that when it advanced beyond the right-angle direction, the Bore was born; and that this point was reached between A.D. 850 and 910. It may further be suggested as probable that as Yangtze Cape advances, the Bore will increase in height and power.

M.

18th December 1888.

AN ALLEGED OLD
IMPORT OF PORCELAIN
IN EUROPE.

I have just gone through that famous collection of pottery in Dresden, and since there is hardly a writer on ceramic matters who does not, by way of introduction to the historical part of his work,¹ refer to a certain white porcelain plate, set with precious stones, and said to be exhibited in the Dresden collection and described in the official catalogue as "imported by a Crusader returning to Germany, and manufactured in the province of Fukien," my very first inquiry was naturally directed towards this curious object. I fully expected a piece of porcelain very different from what we see among the produce of King-te-chên factories; but my hopes to learn were not realised. The celebrated plate looks like an ordinary piece of white (*not* ivory white) crockery, indeed like one which may have been made at any

¹ Cf. BUSHELL, "Chinese Porcelain before the Present Dynasty," in *Journal of the Peking Oriental Society*, Vol. I, p. 74.

time during recent centuries, and which could at no time have laid any claim whatever to superiority of workmanship. When I took occasion to speak about it to the present custodian, the successor in office to Dr. GRASSER, whose name is well known to collectors of crockery as that of the author of the "Guide de l'amateur," I could not refrain from expressing my doubts. These, to my further surprise, were confirmed, since I was told that there seemed to be a mistake in the matter. I learned accidentally that the collection contained another piece, a small blue and white dish, also set with precious stones. I asked leave to compare the two pieces, and discovered that the metal in which the precious stones of either piece were mounted was exactly alike and that the pattern shown in the metal (gold, brass, or Japan copper?) mounting was identical. The second (blue and white) piece, however, contained the characters 大明嘉靖 (*ta-ming Chia-ching*) as a mark, which shows to a certainty that its origin cannot be looked for in a period earlier than the period referred to, viz, the Ming Emperor-Kia-king, whose reign extended from A.D. 1522 to 1567. The similarity in the mounting of the two pieces is so striking that one cannot help entertaining the gravest doubts as to the identity of the plain white plate now exhibited with the one imported by the Crusader, since the return to Germany from any of the Crusades known in history in so late a period as the year 1522 seems to be out of the question. If the importation into Saxony of a piece of porcelain during the 12th or 13th century is at all more than a legend, it would appear that at some time or other the genuine article has disappeared. There is, however, a possibility that the plain white piece—which, by the way, bears the character 福 (*fu*, "luck") as a mark in a square enclosure—was imported without the precious stones and that these were added in a later period, since the work is so done as to suggest the fastening of the stones *after* the burning of the vessel. But, even making such an allowance, I feel more sceptical on this than on any other piece of alleged antiquity I have seen.

F. HIRTH.

Dresden, 1st November, 1888.

PROCEEDINGS.

MINUTES of PROCEEDINGS at a GENERAL MEETING held at the Society's Library, Museum Road, Shanghai, on Monday, 22nd October, 1888, at 9 p.m.

Dr. R. A. JAMIESON occupied the Chair. There were about twenty persons present.

The formal business having been disposed of, the Hon. Sec. (Mr. H. B. Morse) read the following list of new members elected since the last meeting :—Lieut. D. A. Mills, R.E., the Rev. Chas. Spurgeon Medhurst, Messrs. Karl Schmidt, Geo. Phillips, J. C. Hall, Carl Bock, John Macgregor, J. M. T. Valdez, R. J. Abbott, and J. W. Jamieson.

The PRESIDENT then announced a paper by Mr. W. R. Carles on a Corean Monument to Manchu Valour and Clemency.

Mr. CARLES then read a short paper, introducing a translation of an inscription in Chinese on a monument which stands about 10 miles outside Seoul, the capital of Corea. The scarcity of monuments in Corea attached, he said, additional interest to this, which was erected in 1639 A.D. by Corea, to bear witness to the lenient treatment which she had received at the hands of the Manchus after different invasions which had placed her at the feet of the new power.

Apart from the record of facts given by the inscription, of which only the Chinese version had been generally known hitherto, the inscription was interesting in its recognition of the Manchu or Ta-ching Empire, which had been proclaimed in 1636 A.D., and in its allusion to Si-fan accompanying the Manchus in their invasion of Corea.

Mr. CARLES added that the importance attached by the Manchus to the recognition of their Empire, at a time when they had no hold on China proper, seemed to him to suggest that originally the Manchus

would have been content with the possession of the outlying parts of China, and that it was only the force of subsequent events which led to the extinction of the Ta Ming Empire, but for which events the two Empires of Ta Ching and Ta Ming, divided, roughly speaking, from each other by the Great Wall, might have existed together.

The PRESIDENT in thanking Mr. Carles for his paper, which would be a most valuable addition to the stores of information already accumulated in the Society's Transactions, desired to draw attention to the poetical vein which ran through the entire composition, and especially the latter portion, which had the ring of a psalm. It was interesting too to notice that the Manchu conqueror had taken advantage of his triumphant position to press civilization on the Coreans, by encouraging and enforcing the practice of agriculture. There might perhaps be two opinions as to the delicacy with which the Corean King was treated in the matter of personal humiliation. No doubt his eloquent eulogy was quite the reverse of spontaneous. He was forced to grovel and to make believe that he keenly enjoyed the process. But such things had of course to be regarded from an Oriental point of view.

Mr. CARLES mentioned that he had omitted to state that the latter part of the inscription was in fact a psalm.

The PRESIDENT next called upon Mr. Morse to read the Council's Report upon the proposed Trade and Commerce Museum.¹ They were aware that the Honorary Secretary had endeavoured to stir up the community to the importance of having a museum in which Chinese products should be brought together in a convenient form. The Report which the Hon. Sec. would read set forth at length the reasons which had moved the Council of the Society to take action, and would also tell the meeting what they had done in the matter. He need hardly say that it was a matter of great public interest, and especially to the mercantile community, that a museum should be established in which all the products of China, a great

¹ Appendix, page 49.

part of which were unknown to us, should be brought together. The development of the trade of the country in which we live is of vital importance not only to China herself but to us whose motives are not perhaps untinged by a certain refined selfishness. He thought it only right to mention that although the Hon. Sec. had appreciatively mentioned the action taken by the Council and by the late President, Mr. Geo. Jamieson, all the hard work,—and there had been a great deal of hard work,—fell upon Mr. Morse's own shoulders, and whatever success was reached in the practical shape in which the plan was laid before the public, was due almost altogether to Mr. Morse's exertions. He then invited the meeting to express its approval or disapproval of the scheme, but no discussion was elicited. The Report appears on page 49.

The PRESIDENT proceeded to give a summary of an annotated translation by the Rt. Rev. Bishop Moule of a Taoist Tract which had been published anonymously in Hangchow and widely circulated, entitled "A True Guide to Vacuity." He illustrated his summary and running commentary by several extracts, showing that the author's design was rather the edification of those who were already believers in certain religious doctrines than the conversion of unbelievers. The work was an attempt to harmonise crude metaphysical and theological conceptions with dogmatic religious teaching. In other words, the author sought to shew that there was an intellectual basis for a religion which in its inception was either practical or emotional or both. Such efforts were worthy of our interest and sympathy. They were the counterpart of what was daily going on among the seriously-minded of ourselves, seekers after truth, intolerant of any doctrine which was purely authoritative. It was much to be regretted that the bishop had restricted himself in his notes to explanations of the text. Few could be more competent than he to draw a parallel full of interest and of valuable suggestion between this rough essay and the elaborate systems of western theologians.

A discussion followed in which Mr. KINGSMILL pointed out that a somewhat similar document, printed in a Buddhist Monastery, had

been read before the Society three years ago. He thought the tracts were important, however, as showing that there was sufficient energy left in the two religions to cause them to publish such documents.

Gen. MESNY, with reference to Mr. Carles' paper, said that the Ta Ching dynasty was established long before the Ta Ming, not, however, in China, but in Manchuria, at Moukden. The Ta Ching had previously compelled the Coreans to pay them tribute instead of sending it to China, and it was upon the invitation of the Ming that they afterwards entered China, to assist the reigning dynasty in suppressing a rebellion. If his memory served him aright, there were at least three Manchu Kings who reigned over Manchuria, before the conquest of China.

Mr. KINGSMILL pointed out the fact that the Manchus were prevented from directly attacking China so long as Wu San-kwei held Shanhai kwan. When the rebel Li pounced on Peking and the last monarch of the Mings hung himself from a tree in the palace grounds, Wu, conceiving his allegiance had no longer any object, and thirsting for revenge, called on the Manchus to aid him in punishing the insurgent. Once past the barrier, the Manchu leader did not see the policy of going back, and Wu and his army too late found they had to accept the new position of affairs.

The importance of holding Shanhai kwan is still preserved as a vivid tradition by the rulers of the State.

A conversation followed on the proposed Museum. General Mesny was in favour of having it under the control of the Municipal Council, having regard to the failure of the previous museum started by the Society and Sir Walter Medhurst.

Dr. WILLIAMSON expressed his preference for an Exhibition, somewhat on the plan of that at Glasgow, and other large cities at home, a mere museum, in his opinion, being too quiet an affair to attract the attention which he desired to see displayed in the undertaking. He thought that if they could start with an exhibition it could be afterward turned into a permanent museum,

but he would like to see a good commencement made and one which would attract widespread interest.

Mr. KINGSMILL said the museum upstairs was not the one referred to by General Mesny, who had in his mind the Polytechnic, which unfortunately fell into the hands of a few self-opinionated men, and consequently was relegated to a remote corner of the settlement. He had been greatly interested in it himself at first, but on getting wind of what was going on, he quickly "made tracks" out of it. He did not approve of the idea of an Exhibition, as it would be hopeless to expect to get a guarantee of a quarter of a million in Shanghai, as was done before the great Exhibitions at home started.

The PRESIDENT, referring to General Mesny's remark, that the proposed Museum would be better administered by the Municipal Council than by the Society, said the Society had no desire to run the Museum after it was started. They merely wished to formulate a plan, and their functions would terminate after that plan was placed before a general meeting called to discuss the subject. It would be for the meeting then to say how the Museum could be best administered. The Council of the Society intended to lay their scheme before a public meeting, but whether it would be accepted or not, he did not know.

The Hon. SECRETARY said that reference to the future organisation of the Trade Museum had been intentionally omitted from the Report, as that would lie with the general committee appointed at a general meeting of the Community, and did not properly fall within the province of the Society.

A number of fossils from the neighbourhood of the Kaiping coal mines were then shewn by Mr. Kingsmill, who explained that they were very interesting, as affording a contradiction of the theory he had often seen advanced that the coal-fields of that region were of a later formation than those of America and England. The fossils unmistakably belonged to the true carbeniferous age

The meeting then adjourned.

*MINUTES of a GENERAL MEETING held at the Society's Library on
Monday, 19th November 1888, at 9 p.m.*

Dr. R. A. JAMIESON, V.-P., occupied the Chair.

The CHAIRMAN in opening the meeting stated that the bill of fare, if he might describe it as such, for the evening consisted of a paper on "Changchow, the Capital of Fuhkien in Mongol Times," by Geo. Phillips, Esq., and an account of "The Porcelain Tower at Nanking" from a Ming scroll, contributed by H. E. Hobson, Esq., with translations by the contributor and Dr. W. A. P. Martin. While coming down to the meeting, the thought had struck him that just as at banquets of gourmets the feast is preceded by little dishes, unconsidered trifles which act as appetisers while they are not of sufficient importance to be separately enumerated, so it would be a good idea if, before the serious business of each evening was commenced, members of the Society and others present were invited to mention anything that had come under their notice in their reading or otherwise, that might be interesting to the Society, but not sufficiently important to form the subject of a paper. This plan is adopted by the medical societies, and, he believed, by all the scientific societies in Germany. The Chairman calls upon the members present to mention anything of less apparent importance than the items in the order of the day; discussion follows, and facts and opinions are elicited which often greatly exceed in interest the questions set down for consideration. He thought they could not do better than follow this example, and he therefore invited those present to bring forward for consideration and extemporaneous discussion any matter within the Society's scope, which had lately interested themselves.

Mr. CARLES stated that since he read his paper at the last meeting, Her Majesty's Consul-General at Söul had met some persons who had taken a rubbing of both sides of the monument, Chinese on the one side and Manchu on the reverse, a copy of

which had been kindly forwarded to him, therefore he would be able to make any corrections necessary.

A very interesting paper on "The Porcelain Tower at Nanking" was then read by the Secretary, who stated that the scroll had been found by Mr. Hobson in a second-hand book shop in London, and was labelled "The Last Will and Testament of the Emperor of China," or something to that effect. The paper consisted of a description of the construction of the tower, and a translation of the characters on the scroll. In conclusion the Hon. Secretary stated that the description of it as just read was given upwards of 400 years ago, and he thought it would be a very useful supplement to the paper if someone could furnish a description of it 40 or 50 years ago.

Mr. FRYER thought that a work on the Province written by a former Viceroy, which he had seen, and which comprised some 30 or 40 volumes, would give the desired information. No response having been made to the Secretary's invitation, the CHAIRMAN said that as the unanimity of silence proved that there was nobody present who could give personal reminiscences of the tower as it was 30 or 40 years ago, he would call upon the Secretary to read the other paper, "Changchow, the Capital of Fuhkien in Mongol Times." This being read, the CHAIRMAN announced that, for the next meeting, a paper had been promised by Captain Moore, of H.B.M.'s Surveying vessel "Rambler," upon the Bore in the Tsing-tang River (Hang-chow Bay) which he had recently observed with great minuteness. Captain Moore was a carefully trained observer, and he was sure the paper would prove very interesting.

Mr. MORSE stated that the bore, which was well worth seeing, was to be best seen at Haining, two days' sail from here in a house-boat.

The meeting then adjourned.

APPENDIX.

REPORT OF THE COUNCIL ON THE PROPOSED TRADE AND COMMERCE MUSEUM.

The necessity for establishing at Shanghai a Museum exhibiting the resources of China was brought to the notice of the Council early in the year, and was first formally discussed at a Council meeting held in April last. The question was considered in its fourfold aspect, as it affected (*a*) strangers, (*b*) scientific men, (*c*) traders, and (*d*) the general community.

Strangers visit Shanghai in search of what is new and interesting; Europeans visit it to study the characteristic aspects of a civilisation which, older than theirs, presents so many points of divergence from all that they have been accustomed to regard as the axioms of civilisation; while Chinese flock here from all parts of the Empire to gaze with wondering eyes on the novel views shown in an orderly community of Europeans living in their midst. The European sees the people and something of their mode of life, and has means of information regarding their mode of thought; the Chinese see the members of the foreign community and something of their mode of life, and may see the working of a steam-ship, a steam-dredger or an electric light; but both European and Chinese will search in vain for any exhibition of the products of this country. The lover of zoology will indeed find a fairly complete collection of the birds and animals peculiar to China, as complete as the good-will of the community has been able to make it; and that this limited collection, appealing to an extremely limited class, is duly appreciated, may be seen from the fact that on an average about 300 to 400 visitors, Chinese and foreign, enter its doors every month, shewing that the beneficence of contributors and the untiring zeal of the several Curators have not been wasted labour. Outside the Natural History Museum, however, Shanghai offers nothing to the stranger; and the museum of natural products which the traveller finds in every capital from London to Tokio, he will not find in Shanghai, the commercial capital of China.

Scientific men have made some study of the natural resources of China, and the generation of Fortune, Hanbury and Richthofen finds worthy successors in the present day. Each writer must, however, begin *de novo*; none can safely start from the point where his predecessor left off, for his predecessor has left no permanent record of the sources of his information. A Museum of the products of the

4 *

country, now non-existent in this part of the world, would, if it existed, furnish a standard of comparison and reference. The scientist resident in western countries may, it is true, find partial collections which may or may not meet his requirements, in London, in Washington, in Berlin, in Paris and in Vienna; but at best those collections are inelastic and do not admit of being completed by constant additions; they have moreover the serious defect that the failure of one link in a long chain of research can only be remedied at the expense of months of correspondence. No such defects could exist in a Museum of Chinese products in China; the several series could always be kept complete, and as new discoveries were made, specimens exemplifying them would be added to the Museum; moreover an obscure point could be illustrated and a missing specimen supplied in the shortest possible time. For these reasons the establishment at Shanghai of a Museum of Chinese products will undoubtedly prove an inestimable gain to science.

The advantage to the merchant of the Trade Museum needs no argument; while the traveller gratifies his curiosity and the interest he takes in the country he is visiting; while the scientist avails of the Museum to prosecute his researches, and gives to the world the benefit of his labours; the trader finds in the Museum the means of directly benefitting himself. He there discovers articles hitherto buried in the internal trade of a country, which may to his own advantage be made to enter into its foreign trade; commodities produced and exported elsewhere are found to be produced also there; and, on the other hand, articles which he, as he thinks, has discovered, and which he proposes to introduce to home markets, the museum catalogue informs him are also produced elsewhere, and that under so much more favourable circumstances that his venture could only result in loss. The Museum thus fills a double function; it indicates what he may venture, and points out what to avoid. The collective wisdom of the world is seldom, under existing conditions, at fault; and the unanimity with which European nations have decided to organise trade museums, is a sufficient argument for the establishment of such a Museum at Shanghai.

The community prospers as the commerce of the place prospers. China will benefit from the increase of her foreign trade; and a further development of the trade of Shanghai will bring increased prosperity to all classes resident in Shanghai.

These reasons appeared to the Council to point to the advisability of organising a Trade and Commerce Museum at Shanghai, and the critical state of the China trade indicated the present as the time best suited for moving in the matter. The China Branch of the Royal Asiatic Society is made up of all classes of the

community, and represents, as no other body represents, the whole community. The Council therefore considered the question at two meetings held in April last, and decided as follows :—

- 1^a To move in the matter of the Trade Museum up to the point of organising ;
- 2^a To ascertain if there existed any active demand for the Museum ;
- 3^a Should such a demand be found to exist, to call a public meeting and then hand over the question to be dealt with by the community at large ;
- 4^a Should there be no such demand, to drop the matter ;
- 5^a To limit the Museum to exhibits of Chinese origin, with such incidental illustration by foreign products as might be found necessary ;
- 6^a To appoint a sub-committee to make application to the Inspector-General of Customs for his aid and support.

The sub-committee met and considered the terms of a letter to the Inspector-General of Customs, to which in due time a reply was received, to the effect that if the support looked for elsewhere proved that the Museum would be really valued by the public, he would be ready to supplement the public's doings. A letter, promising assistance, was also received from M. Goebel, Consul-General for Belgium, and appears as an Addendum to this Report. Encouraged by this and by other promises, the Council decided to proceed and to ascertain whether the Trade Museum was generally considered as a desirable institution to be established in Shanghai.

In order to raise the question and draw attention to the project, letters were written to the newspapers, one (dated 15th October) being also sent out as a circular; these letters are appended. Inquiries are now being made as to the support the projected Museum is likely to find; should it be ascertained beyond doubt that it is favourably regarded, steps will be taken to call a public meeting for full discussion of the question; should the project be coldly received, the matter will be dropped.

In the consideration of this question the Council has suffered a great loss in the departure of the President of the Society, Mr. Geo. Jamieson, who was one of the first to move in the project and felt a strong interest in it, but who was obliged to leave Shanghai soon after it was first mooted.

The Council trusts that its action in this matter will receive the approval of the Society.

H. B. MORSE,

Hon. Secretary.

Shanghai, 22nd October, 1888.

Letter from the Hon. Secretary to the Editor of the North-China Daily News.

The admirable article on Museums in your issue of the 12th instant calls attention to a want which has long been felt in Shanghai, and to the necessity for some storehouse of the commodities of this rich country, to which the scientific man and the trader may turn for information on matters affecting their several pursuits. Your article exposes this need in clear terms, and it is to be hoped that its words may go home to the minds of those most interested, —the mercantile communities of China. In speaking thus, however, you have but anticipated the intentions of the China Branch of the Royal Asiatic Society, the Council of which took into consideration some months ago this question of a Trade and Commerce Museum, first discussing the matter at a meeting held in April of this year. The intervening time has been spent in considering ways and means, and in preparing for a more vigorous handling of the project; and now that the Press is disposed to ventilate the matter, we are prepared to come before the public.

The time seems to have come when this Settlement, the mart for two-thirds of China, should be provided with such a Museum as has been considered by the Asiatic Society; a collection, suitably housed and classified, of all products, raw and manufactured, which enter or might enter into the trade of the country. Such a Museum should contain agricultural products in all stages of preparation; farming implements; specimens of minerals from all the Eighteen Provinces; models of metallurgical apparatus; samples of the thousands of substances used as medicines by the Chinese; vegetable fibres and products; textile fabrics; porcelain, metal and other wares; and numerous other things, of which not one-tenth is known to those most interested, those who are anxiously searching at their own cost and by their own unaided efforts for new articles of trade.

The Society has been assured of the most valuable co-operation in obtaining samples of raw materials; and the Museum may reasonably hope to open its doors with as extensive a collection of such samples as the valuable and interesting collections made by the Imperial Maritime Customs and sent to Vienna in 1873, to Philadelphia in 1876, and to Paris in 1878. Other specimens and models will be obtained by purchase or donation, and it is intended to make as complete an exhibit as can be obtained of the present and potential resources of China.

When funds allow of extension it is also proposed to add to the Museum a collection of foreign products suitable for Chinese

consumption; but at the outset no more can be attempted in this direction than, perhaps, to show to the Chinese what their competitors in Japan, in India and in Europe are producing in the way of teas and silks.

The work of collecting the exhibits will entail no great expense; but funds must be provided for erecting a suitable building, and for classifying, describing and cataloguing the thousands of specimens. It is unreasonable to suppose that there will be any serious difficulty in procuring funds for so useful a public purpose from such generous and public-spirited communities as those of China.

This is the age of concerted efforts in trade, as the first half of the century was that of individual enterprise; it is no longer A. B. & Co. against C. D. & Co.; it is the united merchants of the China ports against the united merchants of Japan, of Indo-China, of the Straits, of India, and of the whole world; and of late years the Trade and Commerce Museum has come to be recognised as the instrument best adapted to aid the developer of new industries and the searcher for new articles of commerce. Scarce one trading town of any importance in Europe (Great Britain excluded) is now without such a Museum, as a rule organised and supported from Government sources. Great Britain and the United States are much behind in this respect, but the same need has been felt, and individual effort, unaided by Government, has opened Trade Museums in several trade centres. Even Saigon, limited to rice for its chief staple, is having a palace built by the French Colonial Government for its exhibit of the resources of the country. What Saigon has had done for it by a paternal Government, that self-supporting and self-respecting Shanghai will do for itself, with such aid as its sister ports may give.

The Asiatic Society has no interest in this question beyond the interest which its members, as members also of the community, take in what concerns the welfare of the community. The Trade Museum primarily affects three classes, viz.:—the Chinese mercantile body, the Chinese officials, and the foreign mercantile body. They will derive the chief benefit from such an exhibit as it is now proposed to make; and if they show, by substantial support, that they want it, the Asiatic Society will provide for the task of collecting, arranging and preserving it.

H. B. MORSE,
Hon. Secretary,
C.B.R. Asiatic Society.

15th September 1888.

Letter from the Belgian Consul-General to the Hon. Secretary.

Shanghai, le 19 Septembre 1888.

MONSIEUR,

J'ai lu avec le plus vif intérêt, dans le *N.-C. Daily News* d'hier, votre lettre relative à la création d'un Musée commercial à Shanghai.

Si vous le voulez bien, je suis prêt à m'associer à l'initiative de la China Branch of the Royal Asiatic Society et non pas seulement en mon nom personnel, comme ayant participé à la création de plusieurs Musées commerciaux en Belgique, mais encore en ma qualité de représentant d'un pays dont le gouvernement avait jadis formé le projet d'instituer pour son propre compte un Musée d'échantillons à Shanghai.

Votre programme préliminaire comprenant l'exposition des articles manufacturés importés en Chine, je ne doute pas que le gouvernement belge se montre disposé à encourager une entreprise répondant ainsi, dans une certaine mesure, au but qu'il s'était lui-même proposé.

Quant aux nombreux articles que la Chine livre au commerce universel et dont les Musées commerciaux de Bruxelles, de Liège et d'Anvers ont le plus grand intérêt à posséder des collections complètes, il sera très-aisé, en prenant les choses au début, d'en former d'emblée quatre collections au lieu d'une seule.

Agréez, Monsieur, les assurances de ma considération la plus distinguée.

M. GOEBEL,

Consul-général de Belgique.

H. B. MORSE, Esq.,
Hon. Sec. C.B.R. Asiatic Society.

Letter from the Hon. Secretary to the Editor of the North-China Daily News.

Of late years the attention of the commercial nations of the world has been directed to the necessity of organising their commercial energies, and securing by this organisation that supremacy in matters of trade which, in warfare, disciplined bodies of troops exert over unorganised mobs. The first step taken in that direction was the formation of Societies of Commercial Geography; of these no less than 89 in nine countries have been formed, and a steady stream of commercial knowledge is now poured upon the world, but more especially upon those communities which have had energy and foresight to establish these Societies in their midst. The

Society of Commercial Geography, being merely a disseminator of theoretic information, was found, however, to be of little use by itself, and demanded the Commercial Museum as the graphic illustration of its precepts. Without the collections of the Museum, the information given is somewhat in the air and lacks the vividness and reality which come from having an object, and knowledge on that object, side by side. The Commercial Museum followed then soon after, and the institution has made vast strides within but few years; there are now no less than seventy-three such institutions organised in eleven countries of Europe; Germany alone having twenty-eight, and France eighteen.

In this age of steam and telegraph, individual enterprise and foresight are much less important factors in commerce than well-organised combination. If demand exceeds supply to-day in London, the demand can be met in a fortnight from America, in a month from India, in two months from China or Australia; a suddenly-discovered scarcity sends telegrams flying in all parts of the world, and no individual has more than a few days, perhaps a few hours, start over the whole commercial world. The prices of the main staples of the world's trade are settled outside China, and no effort of the China merchants can seriously affect them. Of the world's product of tea, China's great staple, China contributes less than half, and of silk not a third; while outside these chief items, China shares to but an insignificant extent in the world's commerce, her exports (tea and silk excluded) amounting in 1885 to 18 million taels, while the imports into Great Britain, France, Germany and the United States alone amounted in the same year to 8,500 million taels. We thus see how small a share China holds in determining the conditions of the world's market.

There is however one field in which the China merchant may display his enterprise and may exert a strong influence on the world's trade: this is found in the resuscitation of decayed industries and the development of new branches of trade. Practically, the other three quarters of the globe are producers of raw material for utilisation in the workshops of Europe; the fleets of the world visit the producing countries to bring away the means wherewith to pay for the products of the manufacturing countries; and it is for the producing countries to find the means of making these payments. China has heretofore paid for her imports mainly in tea and silk. We are told that China tea is losing its hold on the market, and there are ominous murmurs regarding the quality of China silk; how then are the cottons imported to be paid for? We may be certain that they must be paid for in one form or another; and if tea cannot do it, then other products must be found to answer the purpose, or not only will exports to foreign

countries fall off, but foreign imports will suffer serious curtailment also.

There is no doubt that China is one of the richest countries in the world, not rich in the sense that, for example, Great Britain is rich—the people are poor and great fortunes are rare—but rich in the products of the country, products which the world wants and for which it will pay. Here we have fertile fields, and mineral deposits declared by experts to be equal to any in the world; but how much have they been developed for foreign trade? Some few commodities, a mere gleanings of the rich harvest, now enter into foreign trade, and scarce one that has not taken immense strides; we may instance Straw Braid, of which the export through Shanghai amounted in 1867 to 945 piculs, and in 1887 to 150,953 piculs; Camels' Wool in 1867 to 825 piculs, in 1887 to 14,739 piculs; Cowhides in 1867 to 146 piculs, in 1887 to 65,437 piculs. How many articles there are, the value of which is known to but a few, which should go like these, to swell the export trade of China.

New articles of export must then be found; but how is this to be done? It is clearly impossible for each merchant himself to enter on the search over so wide a field; by his own unaided efforts he will catch but a few flying straws of the trade that passes him by; the true and only effective method is to spread out before the merchant an exhibition of the resources of China, in such shape that all information desired is readily obtained. At present there is no public collection anywhere in China to which the merchant can of right refer for information about actual or potential staples of trade. The foreign communities are as much exterior to China, so far as intimate knowledge of the resources of the Empire is concerned, as if their members were on the other side of the globe. In a certain sense they are farther removed from the means of acquiring information than is the public of London, Berlin or Washington; for in these capitals collections are to be found from which much of the knowledge now unattainable here may be gained. Yet, obviously, it is in China, and by persons already in touch with Chinese traders, that such information is needed; and that information is best to be gained from a properly-classified collection of all Chinese products. Such a collection is that now proposed by the China Branch of the Royal Asiatic Society—a collection, suitably housed and classified, of all products, raw and manufactured, which enter or might enter into the trade of the country. Such a Museum should contain agricultural products in all stages of preparation; farming implements; specimens of minerals from all the Eighteen Provinces; models of metallurgical apparatus; samples of the thousands of substances used by the Chinese as medicines; vegetable fibres and products; textile fabrics; tools and

utensils; porcelain, metal and other wares; and numerous other products of which not one-tenth is known to those most interested, those who are anxiously searching at their own cost and by their own unaided efforts for new articles of trade. Specimens and models will be obtained by purchase or donation, and it is intended to make as complete an exhibit as can be obtained of the present and potential resources of China.

The Inspector-General of Customs has been asked to give his aid and support, and in reply the Council of the C.B.R. Asiatic Society has been assured that if the support looked for elsewhere proves that the Museum will be really valued by the public, he will be ready to supplement the public's doings. Those who have seen the Customs Examiners' collections of samples and the collections of raw products sent by China to the various International Exhibitions, are in a position to judge how invaluable this aid will be.

The main purpose of the Museum will not be fulfilled without scientific classification and an adequate descriptive catalogue: this will be a work involving some labour and expense, but it is considered essential that it should be done in a thorough way. Further, some attempt will be made to illustrate the Chinese products by contrasting them with the competing products of other countries; thus by the side of China tea will be shown tea from India, Japan, Ceylon and Java; silk will be illustrated by samples from Japan, Italy and France; Straw Braid will be compared with the competing makes; and other products will be treated in a similar way.

As regards the organisation of the Museum it is proposed that the building and contents should vest in the Council for the time being of the China Branch of the Royal Asiatic Society as trustees for the general public; that a skilled custodian shall be maintained and a descriptive catalogue compiled; that the management shall be in the hands of a Committee, partly Chinese and partly foreign, on which official, mercantile and scientific representatives shall sit; and that the advantages of the Museum shall be placed gratuitously at the service of the public of all nationalities.

It is estimated that a sum of Tls. 20,000 to Tls. 25,000 will be needed for building and installation, distributed somewhat as follows:—

Cost of land, say	...	...	...	Tls. 5,000
„ erecting building	...	...	...	„ 10,000
„ specimens and installation	...	...	...	„ 7,000
„ classifying and cataloguing...	...	...	...	„ 3,000
Total				<u>Tls. 25,000</u>

The sources whence it is expected that the necessary funds will be derived are the mercantile communities at Shanghai and the ports; the ratepayers in Shanghai; the local native authorities; and the Chinese Guilds; all these being directly interested in the extension of trade with foreign countries and in the commercial prosperity of the Settlement.

The Council of the C.B.R. Asiatic Society has moved up to this point in the project sketched above, but can take no further action without the authority and support of the community. It is now for the community to declare whether they want the Trade Museum as an agent in the organisation of their commerce. If wanted, the Asiatic Society is willing, should such appear to be the general desire, to undertake the organisation and installation of the Museum, and for that purpose is anxious to obtain a general expression of opinion on the scheme. If sufficient sympathy is shown with the scheme, it is proposed to request the Chamber of Commerce to call a general public meeting for full consideration of the project in all its aspects, to decide on the desirability of organising the Museum, to appoint a general committee, and to arrange for procuring the necessary funds.

H. B. MORSE,
Hon. Secretary,
C.B.R. Asiatic Society.

15th October 1888.

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NOTE.—Weights and measures mentioned in the papers contained in this fascicule are approximately as follow :—

Tan is a measure of rice or grain, meaning two baskets such as a coolie can carry on a bamboo pole. Each basket weighs 70 or 80 catties, also called a picul or load.

Tou or **Tou** (of grain) = $\frac{1}{10}$ of a Tan.

Sheng (of grain) = $\frac{1}{10}$ of a Tou.

Picul (official) = 100 catties = 133½ lbs.

Picul (of grain) = 140 catties or more.

Mow (of land) = about $\frac{1}{3}$ of an English acre (at Shanghai taken as being 6,600 English square feet).

1,000 cash = \$1 = 8s. @ 3s. 2d.

Tael (of silver) = 4s. 2d. @ 4s. 6d. (being somewhat over once and a third the weight of a silver dollar).

TENURE OF LAND IN CHINA AND THE CONDITION OF THE RURAL POPULATION.

BY GEORGE JAMIESON,

President of the Society.

The Papers which follow have been written in response to an invitation, which was addressed by the Society to various persons, missionaries and others, whose work brought them into contact with the agricultural population. The object is sufficiently explained in the circular itself, which was in the following terms :—

The Council of the C. B. Royal Asiatic Society request the favour of a short paper from you embodying as far as possible information on the following points :—

- 1.—*What is the average size of the agricultural holdings or Farms in the part of the Country best known to you?*
- 2.—*What proportion of these holdings are owned by the Cultivators and what proportion held on Lease? Are hired hands employed and at what wages?*
- 3.—*In the case of Leases how is the Landlord paid? In silver or in kind and how much per mow? Or if in kind what proportion of the crop? What amount of land is owned by large proprietors, e.g. are there many or any who own 1,000 mow or 10,000 mow?*

- 4.—*What is the average annual production per mow—say of rice (paddy) or barley—by weight, and what is the local selling price?*
- 5.—*What is the average amount of the land tax and how is it collected? Is it paid direct to the District Yamens?*

The object is to get as wide a view as possible of the social and economical condition of the rural population, and any facts bearing on this point, outside the range of these questions, will be of great value. Information should as far as possible be at first hand, and selected instances might be given where obtainable showing the size of a particular holding, the total produce, the outlay for rent and taxes, the balance left to the cultivator, and the number of people actually maintained thereon.

The Council would be glad to receive the paper as soon as convenient. Papers sent in will be read at one of the open meetings of the Society or printed in the Journal at the discretion of the Council.

By way of introduction to those papers which describe the actual condition of the rural population as observed by the writers on the spot, the following remarks are offered on the tenure of land generally as described in the legal codes and other authorities.

GENERAL.

From time immemorial all the arable soil of China has been parcelled out among the general mass of cultivators, and is held by them direct from the State, subject only to the imposts of the Government. The only exception to this general rule is a tenure which prevails in the metropolitan province and in certain parts of Manchuria, where large tracts of land are

held by Manchu chiefs and others as mesne lords under grants from the Crown. Subject to this, all the land in China proper is held by the peasantry in minute subdivision, under Deeds issued and controlled by the local authorities.

Whether the absolute ownership of the land may more properly be described as vesting in the people or in the Crown is a question of an academic rather than of a practical nature. The answer to that would depend, as in similar cases in Oriental countries, on the degree of interference which the Government reserves to itself in dealing with the land, and the greater or less latitude it allows its subjects in the disposition of their holdings. To some extent also it would depend on the amount which the Government exacts as land tax relatively to the gross produce; if large enough to be called a fair rent or a full rent there would be little or nothing left for the cultivator to call his own, and the land would properly be said to belong to the Government, the cultivator being a mere tenant.

In China the authorities generally hold that theoretically the land belongs to the Crown, on the general principle embodied in the maxim that all under the sun belongs to the Emperor, and all the people are his servants. On the one hand, the Crown or Government is the nominal owner of all waste lands, and is the final reversioner of all arable lands which for any reason become tenantless, as from failure of heirs, or from being abandoned on account of famine, civil war and so on. Original grants of such land may be had from the local representatives of the Government by the first comer on his undertaking to bring it under cultivation and pay the usual taxes. Titles so obtained are good against all the world. On the other hand, land once in private hands may be dealt with at pleasure. It can be freely sold, mortgaged or leased without interference on the part of the Government, and the same

terms are used to express the sale and purchase of land as those expressing the sale and purchase of ordinary personal chattels. The land tax is in general moderately light, amounting on an average to $\frac{1}{20}$ or $\frac{1}{30}$ of the gross produce. It is not on the better soils anything like a full rent, and owners who do not farm their own lands can always let them at a rent which leaves something considerable over after paying the Government demands.

It may therefore be said that the private owner of land has as absolute a property in it as he can have under any government. So long as the dues are paid he may do with it as he pleases. Interference there is occasionally. The Government officials do not hesitate to annex private land when it is required for public works, and usually without compensation. But these isolated cases are probably due more to the despotic nature of the Government than to any theory that the Crown is supreme landlord and can resume its grant at will. And though the Crown or Government is deemed nominal owner of all waste lands, it never attempts to exercise any rights of private ownership over them, but stands rather as a trustee for the general public. They are on quite a different footing from the private domains of the Crown, such as the Imperial Palaces and pleasure grounds, the Imperial hunting-parks, etc., all of which are jealously guarded from trespass under severe penalties. The beds of navigable rivers to high-water mark, the public highways and all lands used for official purposes are Government property and are also carefully protected against encroachment.

Land tax is paid directly to the officers of the Government. There are no middlemen corresponding to the Zemindar class in India, or hereditary rent receivers, or farmers-general of taxes. Certain enactments appear on the statute book making it penal for "wealthy land-owners"

to make themselves responsible for the taxes of their poorer neighbours, from which I infer that at some time there must have been an attempt to introduce some system of intermediaries, but whether for good or evil the Government have managed to steer clear of it. The method pursued, as we shall presently see, is vicious enough in practice, and results in enormous loss to the Government, but the theory is sound, and it only requires to be honestly carried out to yield the best results.

TWO KINDS OF TENURE—(1) MILITARY, (2) COMMON.

I.—*Military.*

Before going on to describe the ordinary tenure, I shall first notice the exception I have referred to as applying to certain lands in the northern provinces, adjacent to the Court, which are held by grantees of the Crown on what may be called a strictly military tenure.

After the conquest of China by the present Manchu Dynasty (1644) the Conqueror made large grants of the confiscated lands in Chihli and elsewhere to his followers. The Princes of the Blood, the victorious generals, and some at least of the Banners in their corporate capacity, were thus endowed. The grants were to the first takers and their heirs without power of alienation. No rent was reserved to the Crown, and the condition, implied if not expressed, was the military service which the grantees were in any case bound to render their sovereign when required. In a few cases the old population was cleared out entirely to make room for the new-comers, that is, for the serfs, camp-followers and free peasantry, if any, who had followed in the wake of the conquering army; but in most cases the old population was left undisturbed. The new owners, whose military service probably required their presence elsewhere, do not appear in

any case to have settled down on their properties. They occupied, in fact, and still continue to occupy, so far as they exist at all, the position of mere rent-receivers, the collection of the rents and the management of the estates being delegated to agents known as *chwang t'ou*, who are recognized for that purpose as *quasi* Government officials.

The condition of the peasantry was not probably materially altered at first by these changes, except that instead of paying taxes to the Government they now paid rent to the new landlords. But apparently the rents have been raised from time to time till the cultivators have been reduced to a state of abject poverty. Their deplorable condition and the impossibility of collecting the rents have been the subject of various memorials from the Viceroy of Chihli in recent years. In one of these, published only the other day (*vide* "North China Herald," August 18, 1888), he says the rent on some of these lands is as much as Taels 0.80 per mow, which would be about 20s. an English acre,—more than five times, he says, what the land tax on the ordinary tenure lands would be, and adds that 30 or 40 per cent of it is uncollectable.

The rule against alienation has, however, been relaxed within recent years (*vide* Mr. PARKER's paper in the Journal of this Society, Vol. 22, p. 18). Manchus are now at liberty to sell their land to Chinamen, and a good deal has thus changed hands. Land so sold falls under the common tenure, so that it is probable that in no long time the distinctive form of military tenure will disappear altogether.

In passing I may notice a sort of *quasi* military tenure which still exists, in name at least, in many parts of China. The lands under this tenure are known as *tun*, or military colonies. They were granted originally to certain clans or families—disbanded soldiers—either Manchus or Chinese, in consideration of their performing certain specified duties, *e.g.*

guarding a frontier or (and more generally) furnishing annually so many boats and men for the grain transport service between the Yangtze provinces and Peking. In return for these services they had the privilege of cultivating certain areas, not indeed free of land tax altogether, but at a less rate than what the common people paid. The land was declared to be inalienable outside the families affected to the particular service, otherwise it in no respect differed from the common tenure. The grain transport service has long fallen into complete disorder, and the distinction between lands of this class and those of the ordinary tenure has practically disappeared.

II.—*The Common Tenure.*

The common tenure applies to ninety-nine hundredths of the land in China. The incidents or conditions attaching to this tenure are three:—

- 1.—Payment of Land Tax.
- 2.—Supplying of Statute labour (*Corvée*) as demanded by the authorities.
- 3.—Payment of a fee or fine on alienation.

We shall discuss each of these in order.

1.—*The Land Tax.*

At the beginning of the present dynasty a poll tax (*ting yin*) was levied on all adult males, but by a series of decrees during the reign of K'ang Hi (1662-1723) it was incorporated with the land tax, which was thenceforth and still is called by the generic name of *Ti-ting-yin*—Land and Poll Tax. About the same time the amount of the combined tax was fixed once and for all. A Decree of the year 1711 declared that the land tax should be levied in all time coming according to the Rolls of that year, and that no extra levy should

be demanded in respect to any increase of population. The effect of this Decree, which has been much discussed, would appear to be no more than this, that in respect to all those lands then under cultivation, and therefore then paying taxes, the rate should not be increased merely because the population increased. It did not amount to a pledge on the part of the Government to ask no more from each province or from each district than such province or district was then paying. It probably did pledge to the individual land-owner that his land tax once fixed should not be raised—a promise, however, that has been but imperfectly observed. For the time it was intended as a land settlement, but only affecting lands then under cultivation. No tax was payable on waste lands. It is doubtful indeed if waste lands that have never been under cultivation are capable of being privately owned at all. At all events no tax could legally be demanded on such waste. It was only as new lands were taken up and brought under cultivation that they became, as they still become, liable to be assessed for taxation according to the custom of the province. The gross amount of the land tax therefore varies with the prosperity of the country, but for any particular locality, when it has once been fixed, it cannot constitutionally be raised.

This, however, has not prevented the local officials from tacking on from time to time small extras under various designations, such as allowance for difference of scale, transport fee, collector's fee, and so on, so that although the nominal amount as stated in the title deeds remains constant, the land-owner has to pay perhaps half as much again. But on the whole the land tax is now well determined, and is less liable to interference on the part either of the Imperial or local officials than any other form of taxation in the Empire.

For the purposes of tax-collection, as indeed for all other Government purposes, the territorial unit is the *Asian* or

district, presided over by the District Magistrate, an officer appointed by the Imperial Government for a short term of years and always removable. He is at the same time tax-collector, judge, and general administrator. As tax-collector, however, he is not required to give in any accounts of his receipts. Each district is assessed in the Government Revenue books at a fixed sum. That sum the Magistrate has to furnish and no more. Whether he collects it or no, he is held liable for it to the Government. As a matter of fact, in all ordinary years every district yields a surplus more or less. This is the private perquisite of the Magistrate, subject, however, to the necessity of making the customary, but none the less imperious, presents to his official superiors, and also of defraying many of the ordinary expenses of his administration, for which no provision is made by Government.

If any serious calamity should overtake his district, such as to destroy the crops or throw land out of cultivation, the Magistrate is bound to report the facts, and a remission of the taxes, temporary or permanent, according to the circumstances, is obtained. There are numerous regulations in the statute book intended to secure that the people shall get the full benefit of any such remission. Conversely, when a district has become prosperous and new lands are brought under cultivation, the Magistrate is bound under various penalties to report the improvement so that the Government may reap the benefit. The customary procedure in either case is to send special survey officers from the Chief Revenue Office of the province, who inspect the ground and fix the remission, or the new taxes, as the case may be.

The total yield of the land tax is beyond the scope of this paper, but I have elsewhere ("Revenue of China," China Mail Office, Hongkong) attempted to form an estimate of what is returned by the various provinces, and the total

cannot be put at more than thirty to thirty-five million Taels, or about eight million pounds sterling. This estimate is confirmed by a native authority, as translated by Mr. PARKER in the Paper above referred to (*vide* Journal of this Society, Vol. XXII, p. 13.)

2.—*The Corvée or Statute Labour*

to be rendered on requisition by the authorities.

This liability is largely insisted upon in the text-books as an incident attaching to the ownership of all land, but in modern times the practice has in most provinces fallen into desuetude, and a few words will suffice under this head. The services are nowhere defined, but they may be described as the furnishing on occasion of so many carts or animals or boats for Government transport purposes, the supplying labour for digging out canals, repairing city walls and so forth. The heavy burdens which this liability and certain abuses in connection therewith entailed upon the people were brought to the attention of the Government by CHANG CHIH-TUNG some years ago when he was Governor of Shansi, and the abolition of the whole system was advocated, unsuccessfully however.

3.—*Payment of a Fee on Alienation.*

Under this head a short account will be given of—

- (a.)—Transfers of Land by Sale.
- (b.)—Transfers by Mortgage.
- (c.)—Succession and Inheritance.
- (d.)—Acquisition of Waste Lands.

(A.)—*Transfers by Sale.*

The invariable method of transferring land is by Deed-poll made by the seller and subscribed by him and the

Middlemen. It usually recites that the seller being in want of money, and having first offered the land to his kinsmen, who decline to buy, he has arranged through the Middlemen to sell it to so-and-so for such-and-such a price. It then goes on to say that the purchase-money having been paid in full, the Vendor sells out-and-out the land situated so-and-so (describing boundaries) to the Purchaser, who is thenceforth to be the sole Proprietor, and may at his discretion pull down the buildings or erect others without interference from the Vendor, etc., etc. Occasionally there are further covenants, such as in an English Deed would be termed Covenants for title and for quiet enjoyment. The names of the Vendor and Middlemen are written in full by the Copyist, but underneath each subscribes his own private mark or affixes his seal, though the latter is objectionable as likely to give rise to questions of identity. The Purchaser does not sign. The signatures of the Middlemen, who are usually friends or neighbours of the parties, are not understood as guaranteeing the Title, but they do guarantee that the seller is what he represents himself to be, and that the transaction is done in good faith. Their employment, if not absolutely necessary to make a valid sale, is at least extremely desirable, and no prudent purchaser would take a transfer unless so guaranteed. Their presence also ensures the publicity of the transaction, and is a sort of notice to all the world, which enables objections to be raised in time, if any objection there be. As many as eight or ten are sometimes employed, never less than two. They sometimes receive a small *douceur* by way of commission on the sale, or more commonly are entertained at a feast, the expenses of which are not unfrequently provided for in the Deed of Sale.

Another indispensable party to the transaction is the village Tipao or Headman, whose seal must be attached to the

Deed of Sale before it can be registered at the office of the District Magistrate, which is the next step in the transaction. The onus of registration is thrown on the Purchaser and by law the land is liable to confiscation if this is neglected. If the Deed is in order, registration is obtained as of course upon payment of a fee, which is nominally 3 per cent on the amount of the purchase-money, but which in reality amounts to between 5 and 6 per cent including the usual extras for melage, yamen fees, etc. To avoid this heavy tax it is common, perhaps universal, for the price to be understated in the Deed of Sale. Thus Tls. 3,000 being the real price the sale will purport to be made in consideration of Tls. 1,500, or the Seller will execute two Deeds, in one of which he purports to convey the ground for say Tls. 1,400, and in the other for Tls. 1,600, both in identical terms. One of these only goes to the Magistrate to be stamped, the other is retained by the Purchaser as a receipt for his money.

When the Deed is received back from the Magistrate's office it has gummed on to it what is called a "tail" or annex, being a sort of official endorsement of the transaction, setting out the names of the seller and purchaser, the Hundred and tything in which the land is situated, the amount paid as transfer fee, and the amount of annual land tax for which the new proprietor is liable. The Deed thus returned bearing the impression in red of the Magistrate's seal in several places is popularly known as a "Red Deed," and is the highest form of Title obtainable. In some places persistent evasion of registration has given a currency to unstamped Deeds known as "White Deeds," but they are always to be looked on with suspicion.

The acquisition of land by Foreigners at the open Ports is effected in the same way as that above described with this difference, that the native vendor does not "sell" the land

but leases it in perpetuity, and that registration is effected through the Consulate of the purchaser, and no fee is charged by the Chinese authorities.

(B.)—*Transfers by way of Mortgage.*

A form of transfer which in former times was much in vogue and which is still practised, is a kind of mortgage known as *tien*. The effect of it is that the land changes hands in consideration of a sum of money paid down, but the original owner is entitled at any time, on repayment of the money, to get back his land. No interest is payable on the one hand and no account of rents and profits is required on the other. The use of the land is simply exchanged for the use of the money, but, contrary to the usual terms of a mortgage, it is the land that is lent and not the money, which latter cannot be demanded back. Unless the old owner of the land comes forward to redeem, the new occupant becomes absolute owner. This right of redemption, indefinite in point of time, naturally gave rise to much inconvenience, and it was no doubt to obviate this that a law was passed in the 17th year of Kien-lung, which enacted that the right of redemption must be exercised within 30 years, unless a specified time was mentioned in the Deed itself.

This form of transfer would appear to have been the original and, perhaps in early times, the sole form. The final alienation of land, especially of old family land, though not absolutely forbidden, was considered so improbable that the presumption was always against it. The land indeed was not in theory deemed to be strictly the personal property of the occupant or owner for the time being, but rather the heritage of the family or tribe generally of which the occupant

was a member. Subject to his life-interest, they all had a more or less qualified interest in the reversion, and on his death it was bound to come to some one or other of them with further reversionary rights over. The theory, however, was not carried so far as to forbid the actual occupant from dealing with it all. If very hard pressed he might raise money on his land, but in doing so he was bound as far as possible to have regard to the family rights, either by reserving the right of redemption or by giving his kinsmen the first option of purchase. The commercial spirit of modern times has modified this theory largely in favour of free trade in land and of individual as against family ownership, but many traces of it remain, and it still influences the action of the authorities. To this is due the recital which, as I have said, is still found in modern Deeds of Sale, but which is usually a pure-fiction, namely, that the kinsmen of the seller had been first invited to buy the land and had refused. To this also is due the setting aside of Deeds of Sale, of which there are numerous instances on record, when the sale was made under pressure of circumstances and for a small consideration. For instance, during a recent famine in Shantung, certain speculators who had bought up land at a cheap rate were compelled on the return of the original owners to yield them up their old lands on a bare refund of the purchase-money, the terms of the Deeds notwithstanding. One consequence of this well-meant action was that during the subsequent and more severe famine of 1876, owners could not sell their land at all, even to save themselves from starvation. Capitalists, knowing or fearing that such sales would again be declared invalid, declined to risk their money.

Transfers of this kind require to be registered, and a fee is payable as on an out-and-out sale. The transferee becomes liable for the taxes and other duties.

A mortgage of land as security for money lent and to be repaid at a short date stands on a different footing. The property does not change hands and the transaction does not require registration, no fee being payable. The old Title Deeds must be deposited along with a Mortgage Deed or Memorandum embodying the terms of the loan, and in event of failure to redeem at the proper time, the authorities will decree a sale or foreclosure. A creditor, however, holding such a security could not realize it without the assistance of the authorities, and in event of there being other creditors it is doubtful if he could make it available at all for his own exclusive benefit. On the other hand, if the sum realized by the sale—assuming that the mortgagee has got his decree of sale—is insufficient to liquidate the debt, it is doubtful if he can sue the mortgagor for the balance. At least, if this is relied upon, it ought to be very clearly expressed in the Deed of Mortgage. The land and the money will be counted as equivalents,—if he has taken the one he cannot claim for the other. There is an inveterate tendency in Chinese law to compromise anything that has the appearance of a hard case. “Let each bear half the loss” always commends itself to the Chinese mind as a most equitable and just way of settling all differences.

(c.)—*Transfer by Succession and Inheritance.*

The universal rule all over China with regard to succession is that on a man's death all his property, real and personal, is equally divided among all his male children, whether born of the proper wife or of a concubine. If there are no male children he may adopt a son from among his agnatic relations in a certain well-defined order, or failing his doing so in his lifetime his relations, in a sort of family council,

will adopt one for him, and such adopted son will succeed to the whole. It is only on a complete failure of male heirs, natural or adopted, that daughters will succeed to the property.

This succession vests by operation of law and requires no ratification from the authorities, nor is any fine or succession duty payable. The actual division is, of course, a matter of arrangement. The parent may make it in his lifetime, or he may leave instructions for it by a sort of will (a true will, that is; an unfettered power of bequest is unknown); or the sons may agree among themselves as to their respective shares; or, lastly, they may agree to live in common and refrain from dividing at all. So long as there is a mother and unmarried sisters to be provided for, this last method is generally adopted. It is also adopted as of necessity on very small properties, for there comes a point beyond which subdivision is no longer possible. Hence comes the difficulty so often experienced of getting a transfer of small pieces of ground. On the occasion of a sale a score or more of brothers and cousins may turn up, all of whom are equally interested in the land, and the consent of all of whom is required to give a valid title. On a division the eldest son is entitled to claim an extra or double share in order to defray the cost of the family sacrifices. In wealthy families a piece of land is usually dedicated for this purpose.

(D.)—*Acquisition of Waste Lands.*

All unoccupied lands, whether originally waste or formerly cultivated but abandoned through famine, civil war or otherwise, are deemed to be public property and vest in the State. But such land may be turned into private property by the simple expedient of taking possession and bringing it

under cultivation. The first comer is at liberty to make application to the District Magistrate, and unless upon proclamation the old owners are ready to come forward and undertake the cultivation, the applicant will after a certain delay get a Title Deed which is good against all the world. No payment by way of purchase can be demanded, but the new owner must actually bring his allotment under cultivation, else he can be ousted by another who does. Mere speculators who took up lands with a view to reselling at a profit would receive no support. The land is for the benefit of the community at large, and an owner who does nothing is liable to be displaced in favour of one who will turn it to some account. Even mere squatters, who have once been allowed to get a foothold upon a piece of waste ground, are dealt with very tenderly. An owner, though he can show the best possible title, has the greatest difficulty in getting them removed.

No land tax is payable upon such newly-improved lands till after a lapse of 6 or 10 years, according as they are alluvial or hilly. After that period they are surveyed and the rate of land tax is determined, having reference to the nature of the soil and the custom prevailing in the neighbourhood. For this purpose three classes are recognized, depending on the quality of the land—best, medium, and poor—and the tax is fixed accordingly. On best rice-lands the tax averages four or five shillings per English acre, while on poor lands it goes down to sixpence or even less.

The waste and hilly ground adjoining villages appears in many cases to be subject to rights of common, which the villagers enjoy for the purpose of cutting wood and undergrowth for fuel. Pasture is of no value in Central China, where no cattle are reared, but there is a constant demand in the towns and villages for firewood, and the cutting

and bringing to market of this article affords employment, especially in winter, for a considerable section of the country-people. Generally speaking, anyone can cut wood on waste ground anywhere. There are no Imperial forests or public conservators or lords of the manor to hamper the free liberty of the subject in this respect. But certain villages have by custom appropriated to themselves the exclusive right of cutting the growth on waste lands in the neighbourhood—a right which by reason of propinquity of situation and facility of access has a certain commercial value.

New land formed by accretion of alluvial deposit is also deemed Government property. The general rule in agricultural districts is that where land has been washed away in one part and thrown up in another, the proprietor who has lost, may, so to speak, follow his land and claim to be indemnified out of the new formation to the extent of his loss; otherwise the officials may allot such new lands at their discretion, and in cases where the land is valuable they may, it seems, according to a regulation of the Board of Revenue, offer it for sale to the highest bidder. A riparian proprietor does not seem to be entitled to annex, as of course, new land which may thus have grown up attached to his own. He must at least get the new land measured and added to his Title Deed and pay the additional land tax. Similarly a proprietor whose land has been washed away may apply for a survey and get an abatement of his land tax.

Leases to Tenants.

It is impossible to say with any sort of exactness what proportion of the whole soil of China is tilled by peasant owners, but probably it cannot be put at less than one-half. The other moiety is owned in great measure by retired

officials and their families, the class known as the Literati and gentry. Except that these can boast of a certain rank in the literary aristocracy, which constitutes the noblesse of China, they are in no way distinguished from the ordinary peasantry around them. There is no class of hereditary nobles in China. The few persons on whom titles of nobility are conferred are not numerous enough to make their presence felt. Such titles are never associated with territorial possessions, and, moreover, they are invariably for a limited number of lives or even for one life only. The general rule is that hereditary rank descends to the heir in a degree below that of his immediate ancestor, so that in a few generations at most the descendants of a noble become merged in the general body of the community. *Pari passu* with this the wealth which an ancestor may have acquired becomes dispersed in an equally short time by the levelling rule above stated, which requires all a man's possessions to be equally divided at his death among his male children; or if by chance the family have held together and refrained from dividing for some generations, the numbers will, through the universal custom of early marriages, have so increased that individually they are not much better off than their neighbours.

Considerable tracts of land are owned by such families, and it is the invariable rule in these cases to lease the land to small farmers. In the central and populous parts of China these holdings are exceedingly small, often less than an English acre, seldom larger than three or four acres. The tenancies are almost always at will from year to year on parol agreement, or rather according to the usual custom of the locality. The rent is paid in kind, being a fixed proportion of the principal crop, rice or wheat, as the case may be. On the best lands it is a half, but diminishing with the pooriness of the soil. Most lands yield one or more subsidiary crops in

the course of the year besides the principal crop, but these all belong to the tenant, rent being taken only on the principal crop. It is the custom to thresh out the crop immediately on its being harvested, and the landlord's share is handed over at once to his agent, who takes good care to be on the spot to receive it. Rent is thus seldom or never in arrear, and evictions are very rare. In bad years the landlord suffers *pari passu* with the tenant. There is a curious enactment in the statute book to the effect that in case of a remission of land tax the landlord (who alone is responsible for the tax) ought to allow the tenant to benefit to the extent of $\frac{3}{10}$ of the remission; also the landlord is "exhorted" in times of agricultural distress to abate a little on his strict legal claims. In either case, however, the concession is to be left to his generosity; there is to be no legal compulsion about it, and if he wishes to insist on his strict rights he may.

The Government tax is paid, as stated, by the landlord, and there are no other taxes or rates of any sort to be paid by the tenant. The houses and all the implements of husbandry are the property of the tenant. In event of removal he would have the right to take everything with him, houses included. The latter, being invariably frame-houses with mud walls, are capable of being removed without much injury. For the most part, however, the cultivators live in small villages, or in groups of five or ten houses which are rented or owned quite independently of the landlord of the farm.

On the frontier provinces, where the soil is poorer and the population more sparse, the size of the holdings is in general much larger than in the central provinces, and the people would seem as a rule to be better off. But as population increases there seems everywhere to be a strong tendency for holdings to become reduced to the minimum size that will support a single family. The more fertile the soil the smaller

the farms and the more minute the subdivision. How marvellously fertile the soil is under favourable circumstances will be seen from the following papers, notably from the statement of Miss FIELDE—which is quite borne out by the others—that one *mow* will support one individual. On this basis a square mile is capable of supporting a population of 3,840 persons.

From REV. JOHN ROSS,
Scotch Presbyterian Mission, Manchuria.

The land measure of Manchuria is the *tien* rather than the *mow*. This measure is not of invariable extent, as it is in some places ten but usually six *mow*. And as six *mow* make a near approach to the English acre, I shall use this latter term in the following remarks.

The smallest quantity of land on which an ordinary family of six or seven people can make a living is three acres. With five, such a family can live in comfort. Farms of from ten to thirty acres are very common in Southern Manchuria, or the province of *F'engtien*, embracing Liaotung and Liaosi, but far the larger number are under ten. But in the northern portion of the same province, on the borders of Kirin and Manchuria, farms of double that size are the rule, the peasant owner being correspondingly more comfortable. It may be mentioned that witnesses, competent from varied experience to make comparison with other parts of China, state that the peasants in Manchuria are more comfortable as to housing, clothing and feeding than in any of the eighteen provinces. This may be, I think, at least partly accounted for by the fact that when any district, or even farm, in Southern Manchuria becomes congested, some of the young people, or possibly

the whole family, after selling out, hive off to the ownerless but rich plains in Northern Kirin or beyond the northern bank of the Songari.

The great majority of the farms in Manchuria are owned by the cultivators. I have never heard of a lease, the only approach to it that I know of being a mortgage, or loan of money, to the owner for a period of three or more years, the land being utilized by the lender till redeemed.

When a farm exceeds five acres, one man cannot do justice to it. If but little more, labour is hired in spring and autumn; but each five acres must have a man to work it properly. A man hired by the year lives with the farmer and receives the equivalent of from \$15 to \$20 per annum as wages. The average of these two sums is a common wage.

Land is rented from year to year, either landlord or tenant being at liberty to throw up the bargain. Land sells at about \$150 per acre. When rental is paid in money it stands at about \$7.50, or 5 per cent on the value. The more common form of rental is however in kind, varying through $\frac{1}{3}$, $\frac{2}{3}$, $\frac{3}{4}$ of the produce, according to the nature of the soil, and not improbably according to the exigencies of the parties to the agreement.

There are many proprietors of 100 acres, and not a few of 200; but, though they are to be found, proprietors of more than 500 acres are rare. A man owning 100 acres is regarded as a man of wealth. It will sometimes be found that the nominal owner of a very large property is not a man of wealth, as those dependent on the land are numerous, consisting of what we should consider many families under one patriarchal head. I know of several such families possessing several hundred acres, but as the family numbers little under two hundred individuals, living in large blocks

of houses, with a common gate and a single kitchen, it will be understood that the family is not necessarily a wealthy one. Though not wealthy, such patriarchal families are held in great esteem. When a family small in numbers owns a large farm it is usual to let the farm in small lots of from five to thirty acres on the terms mentioned above.

The chief crops of Manchuria are tall millet and pulse. Of the former an acre will produce about 3,500 lbs. The value of this product depends largely on the distance from the sea-board of the place of production. I think a fair average is about \$22 or \$23 per acre.

The land tax is within a fraction of 1s. sterling or \$0.30 per English acre, Manchus paying 6d. or 7d. It should however be noted that land is classified into three divisions,—*Upper*, *Middle* and *Lower*. The first is the standard, six *mow* of which are taxed as one acre. Twelve *mow* of the second are taxed as one acre, and eighteen of the third.

There is a Tax Receiver apart from the District Magistrate, and not nominated by him, but the Magistrate has to report to his superiors the sum collected in his district. His authority is also brought to bear upon defaulters. There are village communities who elect their Headman, who, though he does not collect the taxes, is called upon by the Magistrate to prosecute defaulters and make good any shortcoming. His duties are therefore different from the Headman in the Russian village community.

The transfer of land is perfectly free in the case of Chinese on the payment of a percentage to the Government when the official stamp is affixed to the Deed of Sale; but land gifted by the founders of the present dynasty to Manchus is entailed and cannot therefore be sold. This is not advantageous to the owner, for if he cannot cultivate he must rent out or mortgage at a third of the intrinsic value.

The owner of a Distillery or one or more Pawnshops, which are really Banks, is held in higher esteem than the land-owner, as the capital required for such a business is much larger than men care to invest in land.

9th April, 1888.

From REV. TIMOTHY RICHARD.

The statements are made in regard two places, viz. :—

1.—The prefecture of Lai-chow-fu (萊州府), in Shantung province.

2.—The country or district of Wu-ch'ing (武清縣), near Peking, in Chihli province.

The *mow* is reckoned at 240 square *pu*, or 6.6 per English acre. My authorities are two teachers from the above places respectively.

	SHANTUNG.	CHIHLI.
	Lai-chow.	Wu-ch'ing.
1.—The average size of farms ...	30 mow	80 mow
2.—Percentage cultivating their own farms... ..	60 %	70 %
3.—Percentage cultivating landlord's	40 „	30 „
4.—Percentage employing labourers	50 „	15 „
5.—Annual wages of labourers, including food	Tls. 6	Tls. 7
6.—Annual wages of labourers, not including food	„ 18	—

	SHANTUNG.	CHIHLI.
	Lai-chow.	Wu-ch'ing.
7.—Daily wages, including food ...	3 Cand.	5 Cand.
8.—Daily wages, without food ...	6 „	—
9.—Daily wages during harvest, including food	1 Mace.	1 Mace.
10.—Percentage of tenants cultivating by the year	2 %	50 %
11.—Percentage cultivating for several years	98 „	—
12.—The longest term of cultivating others' land	30 years.	For ever.
13.—The average number of years' renting	3 years.	5 years.
14.—The percentage paying rent in money	25 %	45 %
15.—Percentage paying in kind ...	75 „	55 „
16.—Rent per mow, 1st class land	Tls. 2.66	Tls. 0.60
2nd „	„ 2.00	„ 0.50
3rd „	„ 1.50	„ 0.30
17.—Percentage of grain (when rent in kind) to landlord:		
Land when, 1st class... ..	50 %	50 %
„ 2nd „	40 „	40 „
„ 3rd „	30 „	30 „
18.—The largest land-owner owns...	100,000	100,000
	mow.	mow.
19.—Percentage of land-owners having 100 mow	30 %	60 %
20.—Percentage of land-owners having, 10,000 mow	Over 10 „	10 „

	SHANTUNG.	CHIHLL.
	Lai-chow.	Wu-ch'ing.
21.—Number of persons possessing 100,000 mow	Oneortwo	Oneortwo
22.—The price of a mow of land,		
1st class... ..	Tls. 150.00	Tls. 10.00
2nd „	„ 40.00	„ 5.00
3rd „	„ 10.00	„ 3.00
23.—Annual quantity of grain produced per mow, 1st class... ..	663 catties	400 catties
2nd „	400 „	150 „
3rd „	250 „	100 „
24.—Value of grain per mow sold at home, 1st class... ..	Tls. 5.40	Tls. 3.00
2nd „	„ 3.40	„ 1.50
3rd „	„ 1.00	„ 1.00
25.—Value of 100 catties of grain, highest price, Best	Tls. 1.60	—
2nd	„ 1.30	—
3rd	„ 1.00	—
26.—Value of 100 catties of grain, lowest price, Best	Tls. 0.80	—
2nd	„ 0.60	—
3rd	„ 0.40	—
27.—Average price of 100 catties of millet... ..	Tls. 1.00	—
28.—Average price of 100 catties of maize... ..	Tls. 0.80	—
29.—Land Tax (no distinction of kind) per mow	Tls. 0.048	Tls. 0.0099

	SHANTUNG.	CHIHLI.
	Lai-chow.	Wu-ch'ing.
30.—Extra expenses in addition to land tax	13 %	5 %
31.—Salt tax, when not using Govern- ment salt, per mow	Tls. 0.048	Gov. salt.
32.—Number of mow necessary to support one individual ...	5	10

N.B.—Land around Peking is largely owned by the Princes. Such land pays no taxes to the Government. The cultivators are *serfs*, and when the once rich Manchus become poor, they fall on their *serfs* for support. Such land can also pass from hand to hand at about half the price of ordinary land.

Princes have tax collectors gathering their taxes or rents for them. But the taxes are invariably paid in person at the Yamens by the *free* subjects of the Government.

The answers are often only rough guesses; in others, the actual facts. Many questions were put in order to have them correct one another.

Peking, November 28th, 1888.

From REV. C. SPURGEON MEDHURST,
English Baptist Mission, T'zing-Chou-fu, Shantung

It will, perhaps, be most convenient if I first more minutely describe the agricultural prospects in one county, and make it the standard of comparison for the others.

For this purpose I will select I Tu Hsien (益都縣), in the Department of T'sing Cheu Fu (青州府). The position of agriculture in this county, with its population of about 250,000, about 1,000 villages and 40 market-towns, may be gauged by the proverbs current among the people: 一人一地扭筋拔力—*He who has an acre of land, must tax his sinews and exert his strength*; 一人一畝田耙耙結結過一年—*He who only owns an acre of ground, will have a hard time*. There are no very large land-proprietors in I Tu Hsien. As far as I can ascertain, there are only some eight or ten farmers in the county owning as much as five or six hundred mow, and perhaps one or two possessing a thousand mow. (In I Tu 720 kung reckon to the mow, or acre). The size of the average holding is about ten mow. There is in this county about one mow for each person. About ten per cent of the land is held on lease, the landlord always being paid in kind, the rent varying, according to circumstances, from half the harvest to a single tan of grain per mow. The annual wages of the farm-labourer is about 20,000 Cash (\$9 or \$10); if hired by the month he receives between two and three thousand Cash monthly; and if working under a daily contract, from two to three hundred Cash per diem. In either case his food is always supplied in addition to his wages.

In this county the average produce of the land per mow is, say 400 catties of grain, its price in the market averaging 60 Cash (2 or 3 cents) per catty. The land tax is about 1,000 Cash (39 cents) per mow=7s. per English acre. It is sometimes paid in grain, but is generally collected in cash by the local *tifang*, who hands in the silver to the Yamen. If the ratepayer choose to pay the tax before the end of the second moon, he may pay it at the Yamen direct without the intervention of the *tifang*, in which case he

obtains a slight reduction. Thus the owner of land receives about 23,000 Cash (\$11 or \$12) for himself per annum from each mow he possesses, after paying his land tax. This estimate however supposes that the farmer cultivates his own fields, and makes no allowance for hired labour.

In the hill districts of I Tu (say five per cent of the total acreage of the county) cotton and fruit are largely grown. From 150 to 200 catties of *mien hua*, or cotton, may be gathered from a mow of land, which sells for about 200 Cash (7 or 8 cents) per catty, the pod being likewise exchanged for bean oil, at the rate of ten ounces of the pod for one of oil. Although, however, the commercial value of an acre of cotton is greater than that of an acre of corn, the people prefer the land to grow grain; not simply because less labour is required, but because, for the most part, they do not sell but consume their own harvests. And if they cultivate cotton they must go to the market to buy the grain upon which they live.

So much for I Tu Hsien.

In the adjoining counties of Lin Ch'ü (臨朐), and Lin Chih (臨淄), the average farm consists of 50 or 60 mow. The largest proprietor owns 700 mow of land, which has to support fifty or sixty persons. The land in these two counties is slightly more productive than in I Tu (益都).

Ten per cent of the farmers of these counties cultivate tobacco, which pays them well. One mow of land will yield about 1,000 catties of the leaf, which generally sells for about six cents a catty. The land tax is similar to the tax in I Tu (益都), so that a farmer who can cultivate his fields without employing hired labour, will receive about \$60 annually from each mow he owns which grows tobacco. He has, however, to spend about \$10 per mow for manure.

In Lin Ch'ü Hsien (臨朐縣), one family in three grows the mulberry and rears the silkworm; and land put to this

use yields on the average about \$21 per mow. The yield from tobacco is, however, less certain than the sums obtainable from the silkworm, owing to the large leaf of the former being peculiarly subject to injury from hail-storms.

About seven per cent of the population in Lin Ch'ü (臨朐) own orchards. From these they obtain about half the sum per mow that those who rear the silkworm receive, and on the average each mow of orchard-land supports two persons.

Throughout the county of Lin Ch'ü (臨朐), there is only an average of six or seven fên (about two-thirds of a mow) for each person.

In Shou Kuang Hsien (壽光縣), to the N.E., the average holding is about three mow. There are a large number of farmers owning from one to two hundred mow each, which farms are for the most part partially leased or sublet, the harvests being equally divided between tenant and landlord. The largest land-owner in the county possesses over 2,000 mow. His household consists of about 30 persons. The yield of the soil, and the land tax, are both slightly in excess of I Tu (益都), but the farm-labourer's wages are about the same.

Ch'ang Shan Hsien (長山縣), in the Tsi Nan (濟南) prefecture, is a poor county, from an agricultural standpoint, and is too thickly populated to be self-supporting. A large portion of the people engage in business, and grain is dear, being imported from other places. The land is poor and costly. There are no farmers who own more than a few acres each. The land tax is Tls. 0.164 per mow=4s. 2d. per English acre, and is paid in silver direct to the Yamen.

The condition of the rural population of the neighbouring county of Chou P'ing (鄒平) is very similar. The annual tax is more than Tls. 0.20 per mow. Only about half the people are agriculturists.

To the North is Chih Ch'uan Hsien (淄川縣), where the farms are likewise all small. Not more than eight per cent of the farmers have holdings of one or two hundred acres. This county, like its neighbour Po Shan (博山), is a great coal-field, and the people invest their money largely in the mines. The land on the average yields about 300 catties of grain per mow, which fetches a slightly higher price in the market than in I Tu (益都). The land tax too is higher per mow than in I Tu (益都), although the mow is smaller. From 240 to 360 kung reckon to the mow in Chih Ch'uan (淄川).

I have selected for description those counties in which I have travelled most, and with which I am most familiar. I am sorry that I have been unable to obtain at first hand any reliable information regarding the annual produce of any particular holding, and the balance left to the cultivator and his family, after meeting all the necessary expenses. But the general facts I have given concerning the state of agriculture in the counties I have mentioned, fairly represent, so far as I am aware, the general condition and agricultural prospects of Central Shantung.

The admirable custom of equally dividing the land among the surviving sons on the father's death, accounts for the smallness of the average farm, and the very few large holdings which are to be met with.

May, 1888.

From REV. B. BAGNALL,

China Inland Mission, Ping Yang Fu, Shanai.

1.—What is the average size of holdings, etc.?—From 20 to 30 mow is the average, 50 to 100 mow is considered large.

2.—What proportion of these holdings are owned by cultivators and what proportion on lease, etc.?—There is a very small proportion who have not *some* land of their own, and the greatest number of cultivators are what might be called small farmers.

Some rent land to cultivate in addition to their own, while a few cultivate some and let some to others.

Many of the larger land-owners let out most of their land.

Hired hands are frequently employed, and receive from 20,000 to 30,000 full cash per annum.

During harvest, labourers come from other parts, and are employed to gather opium, and cut corn. This, however, is not generally encouraged by the Officials.

3.—In case of Leases, etc.?—Some pay in money and some in kind. If in money, not more than 1,000 cash per mow. If in kind, wheat from 2-4 *tou*, other crops 3-4 *tou* per mow.

The large owners about here seldom have more than 500 mow. Farther south in the province there are larger land-owners; and also north, on the Tai-Yuan plain, there are some who own 1,000 and more, but these generally have it in different places, not all in one piece.

About three years since, while travelling in the north of the province outside the barrier, I found there were land-owners who held much larger quantities and worked it by employing labourers by the job. These men seemed to me to be the poorest people I ever met, except perhaps the Si-Ch'wan boat-coolies,—I mean people who were not professional beggars.

4.—What is the average annual production, etc.?—Level land near the "Fen" river or other streams, or what is called "moist land," yields two tan per mow (a tan=160 catties). Dry land (higher) yields one to one and a half tan

per mow. The local selling price is about 3,000 cash per tan=§3 nearly.

Wheat and barley are the principal crops, but a good deal of rice is grown, where water is conveniently laid on, on the low land. Land used for rice can only yield one crop in a year, but land that grows wheat also yields a crop of beans or millet after the wheat is cut in June.

5.—What is the average amount of the land tax, and how is it collected, etc.?—The land tax is collected in cash or silver, and is brought by agriculturists to the yamens. It amounts to about 300 cash per mow.

Shansi has not yet entirely recovered itself since the great famine in 1877. There are in some districts villages containing from one to twenty families where formerly several tens resided in their own homesteads.

Central Shansi abounds with magnificent brick structures, and square towers built for protection against the T'ai-P'ing rebels, who however did not go farther north than P'ing-Yang. These are falling to decay, while the remnants of the owners' families occupy a few rooms.

Among the mountains one not unfrequently comes across the ruins of a whole hamlet.

The best parts of this region have been repeopled from Shantung and Chihli.

I would add, that while the lower orders here are unmistakably poor, yet there is a degree of comfort about the people on the whole. Shansi is also renowned for rich people. They are a travelling, trading and business-like people, and seem to have certain trades almost entirely in their own hands. In Peking, and the east and south of Chihli, nearly all the cash, grain and pawn shops are kept by Shansi firms; and as regards pawn-shops, it is the same in the northern parts of Shantung and Honan.

I ought to add in their favour that Shansi folk are the most friendly, quiet and orderly people that I have met in the country, although I have been in thirteen of the eighteen provinces.

In the central and northern part of Shansi, the poppy is most extensively cultivated, but from the experience of a recent trip in the south, I am happy to say there is a far less quantity grown, and a much less quantity used. In many parts of the province, nearly every one seems to be a smoker, and in every city, especially on the Tai-Yuan plain, one frequently meets with complete wrecks of what were once wealthy families, and the ruins of what were a few years since almost mansions.

July 2nd, 1888.

From REV. GEO. ANDREW,
Kwei Yang Fu, Kwei Chou.

What I have here written refers to a place called Ho-Kuan, some 50 li north of this city. At the present time the land tax is not being paid, owing to the officials demanding for each tan of grain, 2 tan 5 sen of rice and 112 cash (instead of the 40 to 42 cash previously paid). For this reason the farmers refuse to pay the tax.

1.—What is the average size of the agricultural holdings or Farms in the part of the country best known to me?—The farms are not reckoned by measurements of land, but by their power of production. The average production of the farms is 20 to 30 tan of grain—8 to 12 tan of rice.

2.—What proportion of these holdings is owned by the Cultivators and what proportion is held on Lease? Are

hired hands employed and at what wages?—I think most of the land is cultivated by the proprietors. Hired hands are employed by the year at 1,000 to 1,200 cash per month, and one hat, one pair of shoes, one pair of stockings, and two or three garments once a year. The hired man eats the same kind of food as his master.

3.—In the case of Leases how is the Landlord paid? In silver or in kind, and how much per mow? Or if in kind what proportion of the crop? What amount of land is owned by large proprietors, *e.g.*, are there many or any who own 1,000 mow or 10,000 mow?—In the case of leases, the Landlord is paid in kind. He receives half the produce of the land, and pays the taxes. A few families who live in this city own large farms, but they are very few, and I do not know of any proprietors of very large tracts of land in this district.

4.—What is the average annual production per mow—say of rice (paddy) or barley—by weight, and what is the local selling price?—One tan of rice weighs about 250 catties, and the selling price ranges from 2,200 cash to 2,800 cash per tan.

5.—What is the average amount of the land tax and how is it collected? Is it paid direct to the District Yaméns?—For each tan of grain, 2 *tou* 5 *shêng* of rice, and 40 to 42 cash has to be paid to the Yamén. It has to be carried by the farmer to the District Yamén.

18th December, 1888.

From REV. W. E. BURNETT,
China Inland Mission, Ning-hsia, Kansuh.

Enclosed are the answers, as accurately as I can get them, to the questions proposed in your paper of March 8th. I

trust you will find them useful. No little trouble has been taken to collect this information and to render it as correct as possible. In my preaching tours, which have taken me all over the prefecture, I have made these questions a topic of conversation sometimes, and have thus been enabled to gather the facts you request. The Ning-hsia district lies on both sides of the Yellow River, and is a tract of country entirely intersected by a perfect network of canals and dikes, in order to carry off the surplus water of the river. These dikes are kept in constant repair by the country people, who dig them out annually, and improve the banks whenever necessity calls for the action. These large canals have been opened at different times, one dating as far back as the T'ang dynasty and another from the reign of Ch'ien Lung. The irrigation of the land depends upon the water from the Yellow River. As far as I have seen this river in Kansuh and Thibet, only in Ning-hsia district is it utilised to any extent for watering the land. There is a proverbial saying to this effect, that 天下的黃河都服甯夏; and really you would think so, if travelling in the prefecture when the land has been flooded, after the ingathering of the crops. Vast portions of the country are submerged and remain so all the winter, and only get dry again by the following spring and summer. A very little rain falls, and, naturally speaking, were it not for the means provided the whole place would be a desert. But, as it is, the Ning-hsia prefecture reckons to be a portion rich in agricultural productions, although the population is sparse, and sprinkled over a wide area. There is a good deal of meadow land which affords splendid opportunities for stock breeding, and I may add that the cattle raised here are equal, if not superior, to the cattle I have seen in other parts of China.

1.—The average size of the agricultural holdings in this district is from 250 mow to 300 mow. There are, however, a few of 500 mow.

2.—About seven-tenths of these are owned by the cultivators, a small proportion being held on lease. Hired hands are employed, some throughout the whole year and others only during the harvest time. The regular hands are paid from 1,600, 1,700, 1,800 to 2,000 cash per month, including food. During harvest time extra hands are paid 170 and 180 cash per day, also with food.

3.—In the case of leases the landlord is generally paid in money, and at the rate of about 1,700 cash per mow per year. There are cases, however, where the land is let out and the landlord is paid in kind by receiving one half the crop.

The largest land-proprietors own 400 and 500 mow. There are none possessing 1,000 or 10,000 mow.

4.—The average annual production per mow is about 7 or 8 tan (斗) of rice, and 6 or 7 tan of barley. A tan of rice is equal to about 40 catties, and a tan of barley to about 35 catties. The local selling-price of good rice averages between 450 and 550 cash per tan, while wheat goes from about 400 to 500 per tan.

5.—The land tax varies in different parts, but is very high all over the district, on account of the nature of the place, it being "a land flowing with water." In the immediate neighbourhood of the fu city, the land-owner has to produce 1 tan 2 sheng of rice per mow and 1 tan 4 sheng of wheat, besides millet and grass. In other places where I have been I find the tax is much lighter, only 4 sheng of rice and 4 sheng of barley having to be produced per mow. The tax is paid direct to the District Yaméns, twice in the year.

On the whole, although the people labour under heavy imposts—*差使*, as they call it here—yet they may be said to be comfortably situated. The land produces well, and generally pays well for the labour expended. About a third is devoted to the growth of the poppy, although, from the quantity of opium annually brought to the market, it is a loss to the individual farmer to cultivate it. Grain pays well, but the price would go down again if the cultivation of the poppy ceased. The price has gone up as opium has come down. Apricots, peaches, plums and apples, also pears, are grown, but they are all dear compared with other places I have been to. Orchards were destroyed during the Mahommedan rebellion, and even at this late period they have not reached their former point of perfection. The vine also is cultivated, but to an inconsiderable extent. The winters being very severe, most of the fruit-trees suffer. The peach is particularly of note in this respect. I have walked through orchards where I have noticed numbers of peach-trees destroyed by the frosts. Vegetables of all kinds are plentiful. It has been frequently remarked that in the "year of peace," i.e., previous to the Mahommedan rebellion, the whole land presented a much better aspect than it does now. On every side traces of this terrible rupture may be met with. The land has been practically depopulated, and, of course, as a natural sequence, agriculture and every other industry have more or less suffered. Numbers of places may be mentioned, which once were flourishing cities, now mere masses of ruins, with a few people scattered amongst the broken walls, as if trying to hide themselves in the secrets of solitude and desertion.

July 10th, 1888.

From GEO. JAMIESON, Esq.,
H.B.M.'s Acting Judge, Yokohama, Japan.
President of the Society.

*Notes on the Condition of the Peasantry in Kiangsi,
made in the course of travels in 1883-4.*

The Holdings in this part of the country are invariably of small extent. Out of 15 cases inquired into the smallest was 3 mow, or half an English acre, the largest 26 mow = $4\frac{1}{3}$ acres, the average being about 8 mow.

Of the 15 cases 8 were owners of the land wholly or in part, the others farmed land as tenants paying rent. In all the cases the work was done by the members of the family, and generally there was not enough work to keep them employed all the year round. All the land was in crop at least once a year, and most of it bore two or three crops. A rice crop, the principal, was grown between June and September, and wheat between November and May, while rape beans, cabbages, and other green crops alternated with the latter on suitable soils. On the higher land, where there was not sufficient water-supply for rice, cotton was the summer crop.

In the case of leases the landlord was invariably paid in kind, the general rule being that he received one half the summer rice crop. The yield per mow of the best land in a good year would be 4 tan of paddy, that is, of unhulled rice as it comes from the threshing-floor. A tan is 2 baskets, and weighs about 140 catties, or say $1\frac{1}{2}$ cwt. The yield per mow is thus about 6 cwt., or 36 cwt. per acre, of which the landlord takes half. A tan of rice sells for about \$2; the rent, therefore, in money value would be \$4 per mow, or \$24 (£4 stg.) per acre. This, however, assumes that the land is of the

best quality, and is also favourably situated for transport. In the great majority of cases the yield would not exceed half that. The winter wheat crop, which yields from one to two tan a mow, and all the other crops, belong to the tenant.

A family of five or six persons owning 8 mow of land can manage to get along with tolerable comfort in good years, but there is nothing left over for luxuries. They can never save any money, or what little is saved disappears in those recurring events, deaths and marriages, which are always a source of extravagance. The cottages are furnished in the rudest and simplest manner. The clothing of both sexes, shoes included, is made at home by the women from strong, coarse native cloth, a suit of which, well patched and mended, will last five or six years. Their food is invariably rice, with salt fish or pickled vegetables as a relish; on great occasions a little pork is added. Beef and mutton are unheard of.

Families owning 15 or 20 mow are of course much better off, and would almost count themselves wealthy. Those with 30 or 50 mow would be decidedly so. But very few are to be met with, that is of single families, who own as much as 50 mow. Four-fifths of the whole mass of the people in this District own or cultivate individually less than 15 mow.

The land tax for the highest class of land here amounts to between 200 and 300 cash, or say \$0.25 a mow, equal to about 4s. an acre.

From E. L. OXENHAM, Esq.,
H.B.M.'s Consul, Chinkiang, Kiangsu.

1.—The agricultural holdings in the vicinity of Chinkiang average 20 mow, and may be said to range between 10 and 50 mow. Since the T'ai ping Rebellion no large proprietors

remain, only peasant holders. Towards Mooshan and the south large tracts of land remain untilled for lack of population, though distress in the north is gradually driving immigrants southwards, who are opening up slowly these tracts of soil.

In the north of Kiangsu more large proprietors exist, and a considerable proportion of the land is rented. Farmers, when leasees, do not cultivate more than 50 to 100 mow each as a rule.

2.—On the north of the Yang-tze as much as $\frac{1}{10}$, and some say $\frac{1}{20}$, of the land is rented, especially in the more southern parts of the northern portion at Hsing Hua and Tai-chow. Hired hands are employed, the supply of labour from the Yellow River districts being abundant. Seventeen strings of cash are paid as wages per month, together with food.

To the south of the River, $\frac{1}{10}$ of the land is owned and cultivated by the proprietors. Labour, especially in winter, is employed, the men coming from the north of the River and from the Yellow River districts. They get about two strings of cash per month with their food. Very often only food and lodging are given.

3.—Where rent is paid in the usual occidental fashion, which is but seldom, about two strings of cash a mow is paid per annum. The system most generally in force is, however, the metayer system, by which a certain proportion of the crop harvested goes to the landlord and a certain part to the tenant. As is usual in China, where our European hard-and-fast and rigid systems are not customary, and are unsuited to the equitable sense of the people, the proportion of the crop given varies with the season. In a very bad year nothing is given, nor any equivalent in money. In a good year, for rice, 4 *tou* (bushels) per picul of the harvested crop would go to the landlord; for wheat, 3 *tou* per picul; for beans,

peas, and peanuts 3 *tou* a picul; 10 *tou* equal one picul of lbs. 133½. Rice commutes for 1,250 cash a picul when unhusked, and for 2,870 cash a picul when husked.

As was stated above, the number of large proprietors to the south of the River is very small, and the same may be said of the country within 30 miles of the north bank of the Yang-tze. Farther north, however, large landed proprietors are more common, and peasant owners are rare. One family, named CH'EN, is said to possess 400,000 mow (66,000 acres,) and its properties extend into the provinces of Hupei and An-hui. Another person, named YANG, owns 300,000 mow, whilst owners of 40,000 to 70,000 mow are numerous. These large properties are situated in the more northerly portions of the province of Kiangsu, but at Hsing-hua and T'ai-chow there are also large proprietors owning from 10,000 to 1,000 mow. The T'ai-pings, who almost extirpated or drove out the inhabitants living near Chinkiang, and who burnt, with the Yamêns they destroyed, the land registries, did little damage in the northern prefectures of Kiangsu, and the old families retained their land. To the south of the Yang-tze the land, after 1865, was occupied by the first comer, to whom a title was given after some years' occupation, and the payment of land tax was allowed. Of course, under such circumstances, none but poor cultivators who could make a living out of the produce of their farms would take up land, and then only in small quantities.

Temples often own considerable tracts of land, bestowed on them from time to time by pious or astute Emperors. The Temple on Golden Island owns some 3,000 mow, and the various temples at Silver Island another 4,000 mow. On Huashan is a temple, where the mother of Kien Lung cultivated virtue, which owns some 5,000 acres.

4.—In a good year a mow of fertile land would produce as much as 4 piculs of paddy, and slightly less good land 3 to $3\frac{1}{2}$ piculs of paddy.

Wheat in good years gives	$1\frac{2}{10}$	picul a mow.
Beans	„ „ $1\frac{7}{10}$	„ „
Peanuts	„ „ 8	bushels „
Indigo	„ „ $1\frac{1}{2}$	picul „
Cotton	„ „ 15	catties „
Vegetables	„ „ 10	piculs a mow.
Roots	„ „ 8	„ „
Paddy is worth ...	... \$1.40	a picul.
Rice „ ...	... \$2.90	„
Wheat „ ...	... \$2.00	„
Beans „ ...	... \$2.10	„
Indigo „ ...	... \$3 to 4	„
Cotton „ ...	... \$15 cents	a catty.

5.—Land tax on good arable land is from 500 to 600 cash a mow. In the case of hill land 10 mow, for purposes of land tax, count as one mow. In towns, 1,000 cash a mow is paid. The tax is paid in direct to the District Yamén twice a year. At the first payment money is given, the crop then ready being wheat; but at the second collection, payment is always in kind, it being important to obtain rice to store it in the public granaries for public purposes. Seven *sheng*, or pints, of rice are paid per mow.

Various fees have also to be paid. At the times of payment, a printed paper is left at the house of each person by the district runner, for which 14 cash in the country, and 28 cash in towns, has to be paid. On paying the tax in to the Yamén a fee of 25 per cent on the amount paid in has to be given to the magistrate's *ménshang*.

The houses of the peasantry near Chinkiang are very poor and furnished in the rudest manner. A table, a mud stove, a chair, or some wooden benches and cradles, are the only furniture.

It is on the land the peasant proprietor lavishes all his care and labour, and the cultivation is indeed garden-like in its neatness and order. In times of distress the absence of rich resident proprietors is very noticeable. Relief can only be given by officials and volunteers, and that in an intermittent and irregular way, whilst the dismal abodes the peasantry have to live in, and with which they are content, proves how much they lose by the absence of a higher visible standard of household comfort and refinement.

15th December, 1888.

From REV. FREDK. BODEN,
Wesleyan Mission, Wusueh, Hupeh.

The following information refers only to Kwang Tai Hien (廣濟縣), in the province of Hoopoh.

1.*—Ten mow. One informant said ten mow, if paddy fields; 7 or 8 mow, if land for growing cotton, wheat, etc.

2. (a.)—In some parts of the Hien 30 per cent of these holdings are owned by the cultivators, in other parts only 10 per cent.

(b.)—Hired hands are employed. Eight to ten thousand cash per annum with board is considered good pay. As low as six thousand is paid, but this would be for inferior labour. At this season of the year (June) sixty cash

* See list of questions on pages 59 and 60.

(with three meals) a day is being paid for extra hands. 1,000 cash=\$1.

3. (a.)—In the case of paddy fields, the landlord is paid in kind. He receives about $\frac{1}{3}$ of the annual yield. At a certain village at which the writer was staying the night, the farm-folk stated that the landlord received $\frac{1}{3}$. If a field, in a good year, yields an exceptionally large crop, the cultivators get the benefit. If the year be a very bad one, the landlord receives less than the stipulated quantity, and at times it even comes to no rent at all.

The rent of all other land is paid in money :—

Good soil...	1,300-1,400	cash per mow per annum.
Medium ...	1,000	" " "
Poor ...	600-900	" " "

(b.)—There are a few people who own 300 mow, and these are regarded as large proprietors. 200 mow is considered a good deal.

4. (a.)—Annual average production per mow :—

Paddy.—Good soil, 5 bushels (=4 piculs).

Medium,, 4 "

Poor ,, 3 "

Wheat.—Good ,, 12 "

Medium,, 8 "

Poor ,, 5 or 6 "

Barley.—Good ,, 15 "

Medium,, 10 "

Poor ,, 7 or 8 "

Cotton.—Good ,, 90 catties.

Medium,, 70 "

Poor ,, 50 "

Note.—A crop of wheat or barley, and one of cotton, are got from the same field in one year.

(b.)—Local selling prices :—

<i>Rice in husk (穀)</i>	}	Good year, 8 or 900	cash per picul.
		Medium,,	1,000 ,, ,,
		Bad ,,	1,400-2,000,, ,,
<i>Wheat.—</i>		Good ,,	1,500 cash per bushel of 十斗.
		Medium,,	2,000 ,, ,, ,,
		Bad ,,	2,500-3,000,, ,, ,,
<i>Barley.—</i>		Good ,,	500-800 ,, ,, ,,
		Medium,,	800-1,100,, ,, ,,
		Bad ,,	1,200-1,400,, ,, ,,

Note.—Rice in the husk is seldom sold by weight; wheat and barley never. If wheat can be kept over the winter a higher price is realized. For instance, this year's wheat has sold for 2,100 cash per bushel, whilst last year's, sold a few months ago, fetched 3,200 cash per bushel. It is, however, only the fairly well-to-do that can afford to wait for this better price.

Cotton, in a good market, 50 cash per catty.

,,	Medium,,	40	,,	,,
,,	Poor ,,	30	,,	,,

This market is largely regulated by the number of purchasers that come. If they arrive in good numbers, high prices are maintained; if there be but few, the market is poor and low rates have to be accepted.

5.—The average land tax is about 300 cash per mow. It is paid into the Yamên. In case of floods, a list of those unable to pay is handed to the District Magistrate, who transmits it to the Provincial Governor, who in turn passes it on to the Government. If the Government remit the taxes that year, and there follow a couple of good years, the amount so remitted will have to be made up. In the case of an ordinary drought, the full tax has to be paid, but if the drought be excessively severe an abatement will be granted.

From the RT. REV. BISHOP MOULE,

Hangchow, Chékiang.

In reply to your questions on behalf of the Asiatic Society, (Circular dated 8th March), I have received the following from fairly well-informed Chinese scholars, one of them speaking for Jin ho (仁和), one of the Districts of Hangchow Fu, the other for the plain of Shaohing, both in Chekiang.

1.—Holdings vary from 4 or 5 to several hundred mow, not, in Jin ho, exceeding 1,000, though, near Shaohing, there are estates of several thousand, perhaps not 10,000.

Working farmers till at most one or two hundred mow; more in Shaohing.

2.—Hired labour is employed, but not in any large proportion. My informants thought hardly 20 per cent of field work was hired.

Wages for a skilful and good hand might come to say \$20 and board for half a year.

In the mountain districts as little as \$15 and board per annum is paid.

My informants could not strike a proportion between freehold of the cultivator and leasehold. It is common for a small owner to add a few mow on lease.

Large owners employ an Agent to let their farms.

3.—The landlord is paid always in either paddy or dressed rice; usually the latter; never in silver.

The proportion is said to be nearly, if not quite, one-half of an average crop of rice. It is, however, a fixed amount, except in bad years, when a composition may be come to, the small tenants (who usually pay more) being let off at the same rate as large holders.

All the other crops go to the tenant, *e.g.*, wheat and barley, pulse, mulberry, sesamum, etc., etc.

4.—Good land, well-tilled, will yield 3 stone (石 *shih*), of paddy. Price and measure vary greatly according to locality. But the above yield was understood to be taken at the standard weight of the 石.

5.—The land tax is commonly compounded for in silver, at \$1, more or less, per mow. It is paid at the District Granary (庫), under the control of the District Officer (Hsien).

18th April, 1888.

From REV. J. F. JOHNSON,
American Presbyterian Mission, Hangchow, Chékiang.

The agricultural holdings or farms here vary in size from 3 or 4 to 20 or 30 mow, as a general thing. The average size is probably 12 or 15 mow.

Of the cultivators, I was told that $\frac{3}{4}$, perhaps $\frac{1}{2}$, are owners of the land; the rest, leasers or renters. One able-bodied, expert workman is supposed to tend 6 mow. Hired labour is much used, and at rates like these: for a day's work, from 120 to 160 cash; for a month's, from 2,400 to 3,000 cash; boys get about 1,000 cash a month; and in every case the labourer is fed by the employer. By a mutual-help system many farmers avoid the necessity of employing hired help.

The landlord is paid $\frac{1}{3}$ of the produce as rent. In our *hien* the largest farm is about 200 mow; in our *foo* there are a few men who hold 1,000 mow or more, but perhaps none who have as much as 10,000 mow.

The average yield per mow varies with the soil and with the year. Good land will ordinarily yield 2 tan (piculs) of hulled rice; poor land, perhaps 1 tan. You may double

these figures if you speak of unhulled rice. Barley or wheat is but little grown here. The farmer gets from \$1.70 to \$2 a tan for his rice, the retail price of which is from 240 to 320 cash a *tou*.

Land tax is paid in silver in the 5th moon, at the rate of 1 tael for 7 mow; in the 11th moon in rice, at the rate of 6.08 shing a mow. And these taxes are paid at the Yaméus and granaries of the different hieus. Many of the farmers pay tax with a bad grace; they often give tax-collectors and townsmen a piece of their mind upon the slightest provocation.

People here speak of the land of the Shaohing plain as unusually productive.

Many small farmers engage in other businesses during their leisure from farm work.

One of my informants says, that the total land tax for a year varies between 400 and 1,000 cash a mow, according to the quality of the land.

There is but little arable land near us that does not yield at least two or three different crops a year.

April 14th, 1888.

From GEO. PHILLIPS, Esq.,

H.B.M. Consul, Foochow, Fuhkien.

*On the Tenure of Agricultural Land in the
Neighbourhood of Fuchau.*

In the neighbourhood of Fuchau, the average size of the agricultural holdings or farms is from 100 mow to 10 mow.

About half these are owned by the cultivator and about half held on lease.

A landlord cultivating his own land is obliged to hire labour for about five months a year, and at five different periods.

The wages paid are as follows :—

- 1°.—For preparing the ground and planting out the rice shoots for the first crop, 200 cash a day (about 18 cents).
- 2°.—Weeding and raking between the rice-plants is paid for at the rate of 80 cash or 7 cents a day. A very low class labour is employed in this work.
- 3°.—For reaping the first crop, 160 cash or 14 cents a day is paid.
- 4°.—Preparing the ground and manuring the second crop, 80 cash a day or 7 cents is paid.
- 5°.—Reaping the second crop, 120 cash or 10 cents a day is paid.

In all cases food is provided by the landlord.

The second crop is sown between the first, so that both grow together, but the second crop is, of course, sown later.

In the case of Leases, the Landlord is almost always paid in kind, he having half the produce; sometimes an arrangement is made whereby the Landlord receives his rent in silver, the value of the half crop being reckoned at the market rate of the day. Large landed proprietors are few. There is said to be only one man owning 1,000 mow. There are a few farms between 300 and 100 mow in size.

Land is now considered a very poor investment in Fuchau, hence few are willing to purchase landed property.

Taking all classes of land together, the average annual production is 8 tan a mow. A tan consists of two baskets of about 50 catties each.

The local wholesale selling price is 1,600 cash or \$1.40 per tan.

The average amount of the land tax is :

1 mace 5 can. 2 li 6 cash a mow on first-class land, or about 4s. per English acre.

1 mace 3 cand. 8 li a mow on second-class land=3s. 4d. per acre.

9 cand. 8 li a mow on third-class land=2s. 6d. per acre.

In addition to the above, rice to the value of $1\frac{8}{10}$ shing (pint) is given for each mow of first-class land.

For second-class land $1\frac{6}{10}$ shing (pint) is given.

The above taxes are collected in the spring and autumn by deputies sent to the villages by the District Magistrate. All the taxes are paid by the land-owner.

Two men usually cultivate ten mow of land, and four men are required to reap the same.

A holding of fifteen mow produced last year, 120 tan of rice.

Value of the Rice	...	...	...	...	\$160
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Outlay :—

Rent of Farm (60 tan of rice,	
-------------------------------	--

half crop)...	...	...	\$80
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Rent of Bullock for ploughing,	}	18
Labour and Seed Rice ...		

\$98	98
------	----

Balance to Farmer ...	<u>\$62</u>
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Three grown-up people and two children maintained.

It must be remembered that these tenants raise a quantity of vegetables, etc., when the rice has been reaped ; this is all their own and forms the condiment to their rice. They

seldom eat meat, only a little fish, generally salted, and are looked upon as the most pitiable of all classes. They eke out a livelihood with great difficulty.

Women and girls do a great deal of field-work in Fuchau.

In concluding this paper, I must acknowledge my indebtedness to the Rev. L. LLOYD for the valuable aid he has afforded me in furnishing much of the information contained therein.

Fuchau, 12th September, 1888.

From Miss A. M. FIELDE,
American Baptist Mission, Swatow, Kwangtung.

In response to the list of questions sent out by the Council of the C.B.R.A.S., March 8th, 1888, I have the honour to send information obtained by me from ten owners of land, living in four districts, all within fifty miles from Swatow.

In this region a very large proportion, probably nine-tenths, of the men are engaged in agriculture. The agriculturists all live in villages, isolated farm-houses being unknown. The villages are walled, are very close together, and are densely populated. The wide-spreading, flat fields, lying along the river-banks at the foot of the hills, may be made to yield, here on the Tropic of Cancer, a constant series of crops, without interval on account of winter. Their chief productions are rice, sugar-cane, sweet potatoes, pulse, garden vegetables, peanuts, indigo, sesamum, ginger, the grass-cloth plant and wheat. Rice is the staple food of the people; and in the best years the local product just supplies the local demand. Sugar is the principal export. Cane

requires less labour than any other crop, and will grow upon unwatered land which is unsuitable for rice-culture. The chief expense in tillage here, is for fertilizers, beancake from Chefoo and Newchwang being commonly used, at an outlay of from one to seven dollars, and an average of four dollars, upon every mow ($\frac{1}{3}$ of an acre approximately) of arable land. Besides this, ashes, hair and all other vegetable and animal refuse are carefully husbanded and methodically added to the soil. The first crop of rice is planted, always upon watered land, in the 3rd Chinese month, and is harvested in the 6th month; the second crop of rice is planted in the 7th month, and harvested in the 10th month; then wheat, turnips, cabbage or other vegetables are sometimes planted in the 11th month, and are harvested in the 2nd month. Only one crop of cane is cut in one year from the same field. Of potatoes, peanuts, and indigo, two crops a year may be taken from the same land. The rotation of crops is generally practised.

1.—In order to answer perfectly the inquiry as to the average size of holdings, it would be necessary to have access to the records of the District Yamens of this Department. Lacking this, I have been able to ascertain only the average size of the holdings of a few clans:—

At Be Rhu	a clan of 2,000 persons owns	1,650 mow
„ Ho Ie	„ „ 300	„ 240 „
„ Tou Lio	„ „ 800	„ 785 „
„ Nam Leng	„ „ 1,400	„ 2,300 „
„ Thah Rng	„ „ 400	„ 350 „

As the emigration of men is constant, and the smothering of female infants is common, it is probable that the land will support no more than its present population. One mow of land to each mouth is commonly declared to be the least

that will enable the cultivator to live, even with the highest cultivation of his land and the utmost frugality in the use of its products.

2.—It is thought that three farmers out of four till more or less land that belongs to another. When a father dies, his land is divided equally among his sons, a small extra portion being given to the eldest for meeting the expense of worshipping the ancestral manes. This tends to diminish in each succeeding generation the amount of land held by single individuals. There are men who individually own and till so little as one-fifth of a mow. Land may almost always be bought by those who have money, and emigrants returning from abroad often invest their money in land. No man sells land willingly, however, and the fact that land is sometimes sold proves that some families lack capable labourers.

When hired hands are employed, the usual wages are from eight to ten cents a day, with a noonday meal. At the planting and harvesting of rice, the wages are from ten to twenty cents a day with five meals, or thirty cents without food. A farmer may be employed by the year, in which case his wages are from eight to fourteen dollars, with food, clothing, head-shaving and tobacco. Few landlords hire hands except for a few days during the planting and harvesting of rice. Those who have more land than they and their sons can till, lease it to be tilled by their neighbours.

3.—When land is leased, the lessee always pays the landlord in paddy, the amount varying with the quality of the land from two to six baskets for each mow. A basket is 80 catties* in weight. The average quantity of paddy paid for each mow is 4 baskets, or 320 catties. This is about one-half the rice-crop for the year. The payment is made in

* A catty—1½ lb.

dry, threshed, unhusked rice, the straw and all else from the field going to the labourer.

In the very best years the skilful agriculturist may pay out one-third of the crop for the rental of the land; the cost of manure may be another third of his crop, and he may have the remaining third as net profit on his work. In a bad year the lessee may insist upon the landlord's taking one-half the crop in full payment for the use of the land, even when one-half the crop is much less than the amount agreed upon as annual rental.

Much land is held on inalienable leases, given by an ancient proprietor to the family of a clansman. For such leases the annual rental is usually one or two baskets of paddy for each mow.

The proprietor of twelve mow (two acres) of the best land, having a family of only five persons, may live, without work, from the product of his land.

I have heard of only one landlord who owns so much as 1,000 mow, within 50 miles from Swatow. There are few who own so much as 500 mow, and the possession of 50 mow makes a man wealthy. Those who own 20 mow rarely cultivate the whole of it themselves. A young, strong man may till six mow of land alone, when the raising of water by a pump is not required. Three strong men may till thirty mow, if the fields be continuous and favorably situated in regard to water.

4.—The average annual product of the watered land is about enough to pay the landlord, to pay for the fertilizers bought, and to leave the labourer a profit of \$5.00 per mow for his work. The quantity raised on each mow varies from 640 to 1,280 catties, according to the quality of the land, and the year. The local selling price of paddy is \$1.25 per basket of 80 catties. One basket of paddy makes $3\frac{1}{2}$ pecks of

rice, or 70 pounds; and four baskets of paddy are required each month for a family of five persons.

5.—The Government tax varies according to the location and the fertility of the field, from 15 to 30 cents per mow, the average being about 25 cents per mow. Un-watered land pays no tax. The tax is always paid in money, to a tax-gatherer sent from the District Yamên.

The value of the best rice-fields is \$100 per mow. The interest here on money lent is from 12 to 20 per cent.

The average cost of food here for an adult is \$1.50 per month. This includes sixty pounds of rice, which costs \$1.04 and the remainder is spent in fish, pickled cabbage, cheap vegetables and fruits as relishes.

Clothing is usually woven in the house, from the fibre of the grass-cloth plant (*Boehmeria nivea*) which grows here, or from cotton imported from Hankow. Five dollars spent wisely each year will keep up a comfortable and even elegant outfit of clothing for a man or a woman. The average value of the clothing for each member of a farmer's family might be reckoned at four dollars.

A room may be furnished in such a way as to make it comfortable for the farmer, for five dollars, and such a room would usually be occupied by three or four persons.

A complete outfit for farming may be bought for forty dollars. It includes:

A plough with two ploughshares.	\$2.00	} \$40.00
Two harrows... ..	2.50	
A wooden pump or water-wheel	4.00	
A threshing machine ...	2.50	
A water-buffalo	20.00	
Hoes, sickles, baskets and sundries	9.00	

Examples in Illustration.

Two brothers, aged 31 and 32 years, own $3\frac{1}{2}$ mow of watered, and $3\frac{1}{2}$ mow of unwatered land, inherited from their father. Their house, with the land upon which it stands, is worth \$50.00, their furniture \$20.00, and their farming appliances \$30.00. They live as comfortably as their neighbours, have paid up an old debt inherited from their father, and are now laying up money to invest in wives. Twenty years ago a wife could be had for thirty dollars; whereas none can now be obtained for less than one hundred dollars. Last year they got 22 baskets, or 1,760 catties, of paddy from their rice-fields, besides a winter crop of vegetables. This supported them and fed their stock. They planted sugar-cane on the unwatered land, put on \$15.00 worth of manure, and sold the cane when ready for cutting for \$40.00. The taxes on their land amounted to 80 cents.

The owner of land always pays the land tax. The lessee always furnishes everything required in tillage.

Example Second.

PONG HIA lives in a village of 300 persons, in which about 30 men are land-owners. PONG HIA owns more than any other man in his clan, having 12 mow. His family consists of 10 persons. He is 46 years old, his wife is 41, his son is 22, his son's wife is 22, his four daughters are from 10 to 17, and his two grandchildren are 3 and 8 years old. He and his son till his land, hiring help at harvest time. The women-folk weave and make the clothing for the family, rear pigs and fowls, and do all the housework. The house in which these 10 persons live is worth \$120.00, including its site; the furniture is worth \$44.00; the clothing worth about \$40.00, and the farming appliances about \$40.00.

The family lives comfortably upon the products of its land, and is reckoned affluent.

Example Third.

CHONG CHI's family consists of 13 persons—himself, his wife, his aged mother, his four sons, aged respectively 21, 18, 12 and 8 years, his widowed daughter-in-law, her son and daughter, aged respectively 21 and 19 years, his daughter, aged 15 years, his two grandchildren, aged 8 and 12 years. He owns 10 mow of land, which is tilled by his sons and grandsons. The women rear swine and fowls, and do all the housework. His house is worth \$300.00 with its site, his furniture \$100.00, his farming appliances \$32.00, and the clothing of the family about \$40.00. The manure for his land costs \$40.00 a year, and he pays just \$2.00 in taxes. The products of the 10 mow feed the family seven months of the year, and it is supported during the remaining five months by the outside earnings of himself and his sons.

May 17th, 1888.

From REV. F. T. FOUCAR,
China Inland Mission, Tali-fu, Yunnan.

Subjoined I shall endeavour to give you information as desired under the various heads of your circular-letter of March 8th. It is not, however, gathered by personal observations, as I have had little intercourse with the rural population of the district, they being Ming-chia aborigines, most of them not able to speak Chinese, and it only applies to the T'ai-ho (太和) valley, which is about 100 miles long by 8 or 10 broad.

My informant is the teacher of our Mission school here. He has been, however, at one time employed as clerk in connection with the collecting of the land taxes, and should therefore know.

1.—The average size of the farms is 10 mow ; 20 mow is the size of the very biggest.

2.—About 8 out of 10 farms are owned by the cultivators, the rest are held on lease. Hired hands are employed, the wages are 3 meals and 100 cash for male, 3 meals and 70 cash for female, labourers per day at the time of the transplanting of the rice. At other times, 3 meals and 60 cash a day is paid for male, and 1 meal and 50 cash a day for female, labourers.

3.—Rent is paid in kind at the rate of 3 *tou* (斗), of rice a year for good land, and 2 *tou* for inferior land. There are a few proprietors who own 100 or 200 mow. These got their land as a reward for service, quelling the late Mahomedan rebellion.

4.—Good land produces 20 *tou* of unhulled rice per mow, middle land 15 *tou*, and poor land 10 *tou*, the *tou* weighing about 30 catties, and worth about 300 cash.

5.—The land tax amounts to 8.4 *shǎng* (升) per mow for good, 6.4 *shǎng* for middle, and 4.4 *shǎng* for poor land, for the rice crop. The tax for other crops is paid in cash at the rate of 280 cash per mow—(the exchange for 1 tael of silver averages 1,500 cash here.) Each village has a man appointed to collect the tax and hand it to one of the 16 collectors appointed by the magistrate, but paying it direct to the District Yamén is also practised.

August 2nd, 1888.

LAND TENURE IN CHINA.

The following notes are translated, with the consent of the Author, from a valuable treatise by the Rev. PETER HOANG, "ex clero Missionis Nankinensis Presbyter," entitled "De Legali Dominio Practicæ Notiones," issued from the Mission Press at Zi-ka-wei, in 1882. Many clauses are abbreviated, only an abstract of them being given. Those clauses, however, which have a direct bearing on the subject treated in Mr. GEO. JAMIESON's paper on "Land Tenure in China," are translated in full, being indicated by quotation marks. The information appears to apply to the Province of Kiangsu, south of the Yangtze.

H. B. M.

A PRACTICAL TREATISE ON LEGAL OWNERSHIP.

By the REV. PETER HOANG.

Chap. I.—PREPARATION OF DEEDS.

1.—"Though there is no legally prescribed form for Deeds, yet the differences which exist in different localities give rise to no trouble, since the technical expressions for the conditions of the contract are everywhere the same; if one knows well the ordinary forms of one district, it will be easy for him to ascertain the special usages and customs of other districts, if any there be, and to conform to them as may be required."

2.—Large characters, thus 壹貳, etc., are always used in Deeds, and not the abbreviated forms, thus 一二, etc.

3.—**正** or **整** is added to a numeral to show that there are no fractions, thus **壹百兩正** and **貳拾畝整**.

4.—The character **零**, used in common writings to represent *zero*, thus **壹千零二十**, is not so employed in legal Deeds, where the above sum would be written **壹千貳拾**.

5.—“If one or two characters are omitted in copying a Deed, the omitted characters may be interpolated in their proper place, and a note added at the foot of the Deed enumerating the characters which have been interpolated, the note being signed by the drafter of the Deed.

6.—“It is very important that the matter of the contract should be clearly set forth, that the conditions of the agreement should be expressed without any ambiguity, and that the clauses should be expressed in legal and technical terms.

7.—“It is no less important that the boundaries of the property be clearly noted in the Deeds. If a right-of-way exists over the property of another, the right is indicated by the words **出入由某處路**, and the owner of the land over which the right-of-way exists should be invited to sign as one of the witnesses, as a precaution against his extending his holding in the future by enclosing the common way. If he refuses to sign, it is incumbent on the vendor to assert the right-of-way, based on long use and consensus of testimony, and to urge and compel him to sign in accordance with custom. If the property adjoining (*e.g.*, the eastern) boundary of the land to be sold belongs also to the vendor, this is expressed as follows **東至原業** (*east to property of the vendor*) or **東至數足** (*east as far as will make up the quantity of land now sold*). If the property adjoining (*e.g.*, the western) boundary of the land to be sold belongs also to the buyer, this is expressed as follows **西至得業** (*west to property of the buyer*). If the boundary is in the middle

of a stream, it is expressed by 半河; if in the middle of a street, by 半街 or 出街.

8.—“When the boundary is in the middle of a street, the boundary-stone is placed at the side of the street, but must be inscribed 出街界, which expression, by common usage, indicates that the boundary is not at the site of the stone, but outside, viz., in the middle of the way; if the boundary is at the site of the stone, the character 出 is omitted. The boundary-stone is placed so that the inscribed face looks on the adjoining property, unless prevented by a wall. If a stone cannot be conveniently erected, a 界灰 (*boundary-lime*) may be substituted for the *boundary-stone*; this is made by driving a longish post into the ground, then drawing it out and filling the hole with lime. When the *boundary-lime* is used, the fact is noted in the Deeds, and again in the *Property Roll*,¹ since such a mark, being covered by the earth, shows no sign of its existence. The setting of boundary-marks is done in the presence of public officials, 圖書 or 保正,² who give due warning to the neighbouring proprietors.”

9.—The right-of-way for an irrigating channel or for drainage over another's land must be expressed in the Deeds.

10.—In Sung-kiang 松江, Tsung-ming 崇明 and elsewhere, printed forms of Deeds, approved by the local officials, are sometimes used.

11.—In Hwai-an 懷安, Wu-ho 五河 and elsewhere, forms printed on stronger paper and in stricter legal phraseology are sometimes used.

12.—These forms, though printed, still require an experienced hand to fill them in.

13.—Families with large possessions frequently prepare two property rolls called 置產簿; one contains copies of all

¹ See below § 12.

² See below § 17.

Deeds with explanatory notes, and is deposited in some safe place; the other contains abstracts only of the Deeds, and is deposited with authentic documents in the archives of the family.

Chap. II.—TERMS EMPLOYED.

14.—“The vendor is styled in Deeds 賣主 or 失主 or 棄主 or 原主 or 原業主. The buyer is styled 買主 or 得主 or 業主. If the buyer (B) sells the property to a third party (C), the relation of the former vendor (A) to the ultimate buyer (C) is expressed by 上首原主, and the relation of the ultimate buyer (C) to the former vendor (A) by 現業主. An owner who hands over property in pledge, 典當, and thereby surrenders its use and income in lieu of lawful interest,² is styled 出典主, and, since he still retains ownership in the property, is also styled 業主, and, since he has lost control over the property, is styled 原主. The party who accepts property in pledge and thereby enjoys its use and income, is styled 典主 or 現業主.

15.—“The drafter of the Deed is styled 代筆, and signs his name at the foot of the Deed with the phrase 代筆. He is by custom nominated by the vendor and not by the buyer, but the latter has the right to demand that an upright and experienced man be selected. If the vendor himself draws up the Deed, he again signs at the foot with the phrase 自筆; if the vendor's son writes the Deed, he (the son) signs with the phrase 子筆.

16.—“Middlemen, who have negotiated between vendor and buyer for the conclusion of the contract, are styled 原中. Others who are invited to sign as witnesses, are styled 散中. The principal witness, who is ordinarily

² See below §§ 22, 23.

selected from the nearer relatives of the vendor's family, *e.g.*, his father, uncle or nephew, is styled 見賣.

17.—“The public officer who is charged with the preservation of order in a district, is styled 小甲, elsewhere also 地保, and is of low rank. The officer who has charge of ownership in land and the collection of the Imperial tribute, is styled 圖書, elsewhere also 經造 and 地保, and is of respectable position. In the country, one person often performs both the above functions, and is styled 保正. Attendants who, commissioned by the magistrate, reside in the district to enforce payment of tribute are styled 圖差 or 糧差. The public officer who has charge of preparing tax certificates and of inscribing the name of the owner in the public records,⁴ is styled 冊書 or 編書. The officer who has charge of the confirmation of contracts,⁵ is styled 稅承. The officer to whom is entrusted by the magistrate the whole care of collecting taxes is styled 清總 or 總書. The officer whose duty it is to measure property is styled 亭書. The officer on whom devolves the delimitation of fields, ways and streams, is styled 繪圖.”

18.—In Hwai-an 懷安, Wu-ho 五河, and elsewhere, there are official offices for preparing contracts styled 房地行 or 官牙.

Chap. III.—THE VARIOUS FORMS OF TRANSFER OF OWNERSHIP.

19.—“絕賣 or 杜絕, *irrevocable sale*, is a contract by which the vendor surrenders the right of redemption. In order that the sale may be legally recognised as irrevocable, the law prescribes that in the Deed shall be employed the phrase 絕賣永不回贖.

⁴ See below § 32.

⁵ See below § 61.

20.—“**活賣**, *revocable sale* or *return sale*, is a contract by which the vendor preserves the right of redemption. It is evident that property is sold *revocably* at a lower price than if sold *irrevocably*. The law prescribes that in Deeds under this form of contract the phrase **活賣准貼找回贖** shall be employed. The law further prescribes that there shall be expressed the number of years on the expiration of which it is agreed that redemption may take place. If the vendor does not redeem, the buyer is not thereby prevented from retaining possession beyond the stated period. The right of redemption is styled **田根**. The vendor by revocable sale is said still to retain the *root of the soil*, while the buyer in a revocable sale is said to possess only the *face of the soil*, **田面**.

21.—“If the Deeds of Sale are not clearly drawn up, and the above formulæ are omitted, so that it cannot be ascertained which form of sale, whether *revocable* or *irrevocable*, was agreed upon, the law solves the question by prescribing that if thirty years shall have elapsed from the date of the contract, it is to be adjudged an *irrevocable sale*, so that the vendor may not demand any margin of value or redeem the property; if, however, thirty years shall not have elapsed, it is to be adjudged a *revocable sale*.

22.—“**典當** (colloquially **典押** or **活典**), *pledging*, is a contract by which anyone delivers real property as security for value received, and thereby surrenders its use and income in lieu of lawful interest, until, by repaying the money, the property is redeemed. This *pledging* is similar to a *revocable sale* in that he who has delivered the property as security, preserves the right of demanding the balance of the value of the property, and of redeeming the property within the time agreed upon; it differs from a *revocable sale* in that in *pledging* the time of redemption cannot be extended beyond

ten years, on the expiration of which, if the property is not redeemed, the *pledging* must be converted into a sale by a new contract.

23.—“A *pledging*, 典當, differs from a *mortgage*, 抵押; for in *pledging*, the debtor delivers the property and pays no interest for the money due, and the creditor enjoys the property and its income in lieu of interest; in *mortgage*, however, the debtor only secures the debt on the property, does not deliver possession of it, and pays interest, while the creditor does not enjoy the property and its income, but only has an action against the property if the debt is not repaid by the debtor.

24.—“In *pledging*, the contracting parties commonly exchange Deeds; one, signed by the party delivering the property, is styled 典當正契; one, signed by the party receiving the property, is styled 典當副契.

25.—“*Subsequent receipt of the balance of value*, 加找, is a contract by which, for his real property sold by *revocable sale* or pledged in a *pledging*, the original owner receives the balance of its value from the same buyer or pledgee, without selling the property by *irrevocable sale*. Claim for this balance of value should be made at the expiration of the time agreed upon for redemption. In this second Deed, 加找契, which is signed by the receiver of the balance of value, is expressed the extension of time settled by the new agreement, on the expiration of which the property may be redeemed; in the same Deed is also inserted a clause, *redemption is allowed but no balance of value is further to be demanded*, 聽贖不找; by which clause the vendor, while preserving the right of redemption, binds himself to relinquish the property to the other party failing redemption, or to effect an *irrevocable sale*, without again claiming a balance of value. The receipt of the balance of value and the extension of the term

of redemption are inserted at the foot of the original deed of sale or of *pledging*.

26.—“If the actual proprietor of the property bought by *revocable sale* or acquired in *pledging* does not agree to the claim of the first proprietor for the balance of value, the latter may legally deliver the property to a third party for a higher price, and return to the second proprietor the money which he has received. If the second proprietor is in need of money, he may legally sell the property to another by *revocable sale*, or deliver it by *pledging*, for the same value as he had given; if he received a larger sum, the first proprietor would be compelled to give more in redemption than he had received, which is not just. The second proprietor may, however, transfer the property to a third party for a smaller sum, and this happens when no one is found willing to acquire the property at its former value; when ultimately the first proprietor redeems the property, the second proprietor receives the sum advanced by him, unless he has surrendered to the third proprietor his right to receive it by delivering to him all prior Deeds. The property being thus delivered to a third party, the onus of paying the balance of value, if the first vendor demands it, lies with this third party; but the first vendor cannot legally apply directly to the third proprietor either to claim the balance of value or to redeem the property, but should claim either right only after first notifying the second proprietor.

27.—“The redemption of property sold by *revocable sale* or transferred in *pledging*, is styled 回贖. The first proprietor cannot legally redeem the property before the stated term without the consent of the second proprietor; nor can the second proprietor, on the expiration of the stated term, refuse to the first proprietor the right of redemption. On redemption the property should be retransferred in the same state

as it was received, if, *e.g.*, the house walls are destroyed or other things broken, compensation is deducted from the price of redemption. If, however, articles are added, they are either taken away by their owner or sold at a valuation to the redeemer. Expenses incurred by the second proprietor prior to the contract, *e.g.*, fees to middlemen, are by the custom of many districts refunded by the redeemer if redemption occurs within three years from the date of the contract. On redemption the second proprietor ought to return to the first proprietor the Deeds received from the latter; if these Deeds are by chance lost, then the second proprietor signs a new Deed and hands it to the first proprietor, in which he certifies that the former Deeds have been lost and that if they are afterwards found he will make no further claim; this *certificate of lost Deeds* is styled 遺失契據. In the same way the first proprietor should deliver to the second proprietor the subsidiary Deed, 副契, if he received any; if this Deed should by chance be lost a new one should be signed certifying to the fact.

28.—“A *subsequent irrevocable sale*, 加絕, is a contract by which one party sells by *irrevocable sale* to the same second party property either sold by *revocable sale* or transferred in *pledging*, whether the balance of value be claimed or not.”

29.—Sometimes, though contrary to law, further claims are made on the buyer after an irrevocable sale. To avoid trouble, these claims are sometimes met, under the name of *alma*, under a written pledge not to make further claims.

30.—When real property is sold at once by *irrevocable sale* in Soochow it is customary to have one Deed, 杜絕契. In Sung-kiang and elsewhere, for property sold at once by *irrevocable sale*, four Deeds are prepared simultaneously, *viz.*, a Deed of *revocable sale*, 活賣契, a receipt for the balance of value, 加找契, a Deed of *subsequent irrevocable sale*, 加絕契,

and an acknowledgement of the receipt of alms, 嘆氣據 or 情借據, the total value being distributed over the four Deeds and different dates given to them.

31.—A *Deed of Gift* of real estate for benevolent purposes, 捐據, is valid, but is better replaced by a Deed of *irrevocable sale*.

Chap. IV.—REGISTRATION IN THE PUBLIC RECORDS.

32.—“過割 or 過戶, the substitution of the name of a new proprietor for that of his predecessor, is the act by which a public official at the request of the new proprietor inscribes his name, or that of a community which he represents, in the public records, adding the quantity of land, in what prefecture and district, and under what number situated, and by whom sold to him. Then the name will be inscribed in the authentic schedules or certificates of payment of taxes.”

33.—The characters of the 千字文 are used to distinguish the documents of various properties of the same owner in the same district.

34.—“A proprietor who has omitted this registration in the public records, is legally liable to a penalty, besides the confiscation of all the land, of blows with a bamboo proportioned to the quantity of land. From one to five mow inclusive the penalty is forty blows, and for each additional five mow an addition of ten blows; beyond thirty-five mow the penalty is invariably one hundred blows. The time for registration is not held to be laid down in the Statutes; but since this registration is required in order that the land may have its proper taxpayer, and since the name of the said taxpayer should be inscribed in the certificates, it is evident that registration must be effected before the date on which the first of the three payments required each year is due from the new proprietor.

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35.—“Though this registration is prescribed for all proprietors, whether acquiring the property by right of purchase or in *pledging*, still ordinarily only the proprietors who hold by an *irrevocable sale* demand it; but if a proprietor acquiring property by right of *revocable purchase* or of *pledging*, doubts the good faith and probity of the first proprietor, he usually demands registration, and afterwards, when the property is redeemed, the redeemer should demand registration anew for himself.”

36.—Church property is registered under special instructions from the Central Government.

37.—Officials charged with the collection of taxes prefer to have several properties of the same owner in the same district inscribed on one certificate, but it is better to have a separate certificate for each lot of land.

38.—The amount of fees for registration cannot be accurately stated; it depends on the value of the land, on the number of mow, and on the personal status of the owner.

Chap. V.—IMPERIAL TAXES.

39.—“漕糧 is the Imperial rice-tribute imposed on fertile lands, and the amount is proportioned to the richness of the soil. In the province of Kiangsu the rice to be paid each year for each mow is from *shih* 石 0.0009 (9 *shao* 勺) to *shih* 0.11 (1 *tou* 斗 1 *shéng* 升); but in the province of Anhui it is from *shih* 0.0021 (2 *ko* 合 1 *shao* 勺) to *shih* 0.059 (5 *shéng* 升 9 *ko* 合).”

40.—From A.D. 1368 to 1863 portions of Kiangsu were burdened with much heavier rice-tribute than stated above.

41.—To cover cost of collection, 1,052 cash are exacted for each *shih* assessed on a proprietor's lands. If the rice-tribute

is commuted for a money payment at the fixed rate, then the 1,052 cash per *shih* are added to the fixed rate.

42.—This tribute begins to be collected in the 11th moon, with an additional charge of 500 cash for delay to the 1st moon of the following year.

43.—“**地丁銀** is the Imperial tribute in silver now imposed only on lands. This tribute was formerly imposed both on lands and persons; adult men were required to pay each per annum about Taels 0.019 of silver; but in A.D. 1728, the portion to be paid by persons was added to the land tax, which thereby, the personal tax having ceased, was increased. The amount of this tax is in proportion to the fertility of the soil. In the province of Kiangsu for each mow is paid from Taels 0.01 to Taels 0.40; in the province of Anhui from Taels 0.009 to Taels 0.13. This tax is called also **白銀** or **條銀** or **忙銀**; one portion is paid in the middle of the 2nd moon, the rest in the middle of the 7th moon, the first being called **上忙銀**, the second **下忙銀**.”

44.—Land tax is payable in Ku-ping **庫平** Taels, with certain additions for cost of collection.

45.—For early payment certain remissions are made.

46.—“**董課銀** is the money tax imposed on lands which are not yet arable and produce only reeds, or which have been brought under cultivation but are not yet recognised as arable by the magistrates. Lands actually not yet arable are those which have recently been formed by alluvial deposit, as, *e.g.*, many lands on the banks of the River Yangtze where only reeds grow. Lands already brought under cultivation, but not yet recognised as arable are such as, *e.g.*, those lying in the peninsula of Hai-mên and on the island of Tsung-ming, **崇明**, and those on the banks of the River Whang-poo, **黃浦**, in Shanghai. This tax is usually collected in two instalments in the year, as in Tsung-ming

and Hai-mên; but in Shanghai it is collected in one payment from the 4th to the 8th or 9th moon; in Tsung-ming the tax on marshes, which is at the lowest rate, is also collected in one payment.

47.—“The amount of this tax due for each mow is from Taels 0.009 to Taels 0.151. The value of these Taels does not follow the value fixed by the magistrates for the land tax, 地丁銀. In this year (1882), while 2,200 cash are the fixed equivalent of the Tael for land tax, 地丁銀, the Tael for *non-arable* land tax, 蘆課銀, is fixed in Shanghai at 3,200 cash, in Tsung-ming and Hai-mên at 2,600 cash. The kind of land specified above commonly pays only this kind of tax and is exempted from the rice-tribute.

48.—“蘆課銀 is a money tax imposed on lands which formerly were legally devoted to the manufacture of salt, and have been since brought into cultivation, without authority, but with the ultimate approval of the Government. Lands of this class are styled 灶田. The amount of tax payable per mow is commonly from Taels 0.01 to Taels 0.10, and is styled 忙銀, being likewise collected in two instalments. This tax is commonly collected not by the District Magistrates but by poor mandarins charged with the supervision of the salt manufacture. Lands of this class are subjected only to this tax, and are numerous in maritime districts, such as Kin-shan 金山, Tung-chow 通州, etc.

49.—“屯田 or 軍田 are lands which in former dynasties were cultivated by families who were entrusted with the hereditary duty of guarding the city or of transporting the tribute-rice by boat up the Grand Canal, 運糧河, to Peking. These lands, since they are now cultivated without regard to the above duties, are liable to a money tax under three heads: the amount of this tax per mow is commonly, under the first head, 米銀, Taels 0.03, under the second head,

錢糧, Taels 0.14, and under the third head, 津貼銀, Taels 0.23. It is generally collected not by the local magistrate but by poor mandarins commissioned for the purpose, and is partly devoted to the tribute-rice transport service, and partly distributed among the families who formerly had the duty of providing for the transport, though they do not now perform it."

50.—Land of this sort is distributed over the districts in blocks of from two to several thousand mow.

51.—"In the years containing an intercalary month, money taxes due are increased by about one per cent, while the rice-tribute is diminished by about one thousandth."

52.—Fertile lands are required to pay taxes in both rice and money, while other lands are exempt from the rice tax.

53.—"It is thus evident that the annual taxes imposed on lands and due to the Government are subject to great variation, but generally for lands subject to both taxes about 500 to 900 cash per mow suffice, and for those subject only to one tax from 20 to 400 cash per mow."

54.—Certain properties devoted to public or charitable use are legally exempt from all taxation.

55.—Other lands have from time immemorial been subject to no taxes, such as a great part of the land within the city of Soochow.

56.—"Owners pay to the tax collectors from 10 to 100 cash per mow for cost of collection, the smaller holdings paying the larger sum per mow.

57.—"When the taxes have been paid, the magistrates issue to the owners certificates duly sealed, which are called 版串 or 執照. These certificates must be preserved, since they are proof not only of the payment of taxes but also of the ownership of the property, especially in the absence of other legal titles, or when the contract of sale has not yet been

legally *confirmed*, and the Deeds not yet sealed by the magistrate."

58.—In years of famine the payment of taxes is deferred to future years, and often by Imperial grace remitted wholly or in part.

59.—On the occasion of certain important Imperial events the taxes are remitted wholly or in part.

60.—Owners who defer payment of taxes beyond the fixed date, which is the 4th moon of the following year, are compelled to pay and suffer a legal penalty in the proportion that the amount due bears to the whole.

Chap. VI.—THE CONFIRMATION OF CONTRACTS OF SALE.

61.—“稅契 is the act by which the new proprietor pays to the Government the legal tax for a contract of sale, whether revocable or irrevocable, of his house or land recently entered into, in order that the local magistrate may furnish the Deed with his seal and label attached, called 契尾, and so confirm the contract. This label bears the seal of the provincial treasurer. The local magistrate has a supply of labels sent by the provincial treasurer, and accounts for them annually, remitting at the same time the taxes received. The owner must obtain this *confirmation* within a year after he has purchased the land or house, whether by *revocable* or by *irrevocable* sale. After one year the owner who has omitted this formality, besides being required to conform to the law, is liable to receive fifty blows irrespective of the value of the property, and to be fined half the value named in the contract.”

62.—If the value of the property does not amount to Taels 1,000, this *confirmation* is done by the immediate local magistrate, Chih-hsien, etc.; if it exceeds Taels 1,000, this

magistrate must report to, and the Deeds must be sealed by, his immediate superior.

63.—“**税銀** is the legal tax levied for this *confirmation*, being three per cent of the value, and under the name of **耗銀** a further amount is collected of five per cent of the legal tax, and besides 500 cash are required for the cost of the label attached. The silver in which this tax is paid is the same as that required for the land tax, **地丁銀**. . . . On the label **契尾** are inscribed the names of the buyer and vendor, the quantity whether of land or houses sold and the amount paid; there is also inscribed on it the amount due as legal tax for *confirmation*, but only the amount due, not the amount actually paid, though more might have been paid than was due.”

64.—“The contract of *pledging*, **典當**, does not require *confirmation* until after ten years, and then the *pledging* ought to be converted into a sale by a new agreement.

65.—“If the Deeds have only the seal of the local magistrate affixed to them, without having the label **契尾** attached, the buyers are presumed to have evaded payment of the tax, and are liable to the legal penalty provided for this evasion.

66.—“A person who redeems his property requires no *confirmation*, because in redemption no new Deed is drawn up, but only those Deeds are restored to the redeemer which he himself before delivered to the buyer. Besides, the acquisition of ownership by redemption is based on the old purchase, which is supposed to have been confirmed.

67.—“The law of *confirmation* for an *irrevocable sale* is commonly strictly observed in the city and suburbs, but in the country only when a rich buyer has bought a large property, and by the omission of the *confirmation* might give his enemies an opportunity of laying a plaint before a magistrate, and when he fears that the vendor will not keep faith.”

Chap. VII.—ALLUVIAL DEPOSITS.

68.—“New land, or land formed by alluvial deposit, is divided into two classes: *old land now re-formed*, 故土復生, and *land independently formed in the middle of a stream*, 江心突漲. *Re-formed land* is that which, once washed away by the force of the waters, has reappeared; *land independently formed* is an island which has formed in the middle of a stream or in the sea. *Re-formed land* is legally restored to its former proprietor, whether it is or is not separated from the land of which it once formed part; in the case of land, separated from its former hold, washing away from one bank of the stream, and forming on the other, as the land gradually washes away from the one bank, land forming on the other bank may be substituted for it; or when land has washed away from the bank of the stream, and then in the same stream not far from the bank an island is formed, this is recognised as actually the land washed away. In order that the old proprietor may make a legal claim to the *re-formed land*, he is required to prove that it is in the same place where he already had possession. The proof admitted, besides evident signs if any exist, is the entry in the public records, in which the proprietor immediately after the washing away of his land, took care that its situation and limits should be inscribed.

69.—“*Re-formed land* which is reclaimed without sufficient proof, and *land formed* on the bank of a stream where formerly there existed no land, besides islands *independently formed* in a stream or the sea, belong to the Government, which sells them through the magistrate to those who first offer the value fixed by law proportioned to the quality of the soil,

70.—“Land situated on the shore of the sea, or a stream, or lake, should be measured each winter, and taxes are remitted for any part of it washed away.

71.—“New land is measured every five years (in Kiangsu every ten years), and assessed for taxes according to the fertility of each lot; if any land, originally lightly taxed, in course of time becomes richer, a heavier tax is imposed on it. No one is permitted to inhabit and cultivate an island formed in the open sea far from the mainland.

72.—“When land is *re-formed* its former owners, either because they have migrated far away or because it is difficult to prove their right, commonly put in no claim to it. Hence all *formed* land deposited on the edge of a neighbouring property is commonly occupied by the neighbouring proprietor and is sold to him by the Government at the time of legal measuring. An island or land *independently formed* in the sea or in a stream is occupied and bought by influential people of the district and settled by colonisation.”

73.—In the island of Tsung-ming special disposition is made of newly-formed land.

Chap. VIII.—THE SOIL AND SURFACE OF LAND.

74.—“Land is divided into *the soil*, 田底, and *the surface*, 田面. The possessor of the *soil* is styled a *tributary*, 糧戶, being held liable for payment of taxes on the *soil*. The possessor of the *surface*, though he may have the exclusive right of leasing the soil for cultivation, is styled a *tenant*, 佃戶, the same as simple lessees of the land who have not the above right. *Registration*, 過戶, and *confirmation*, 稅契, concern only the owner of the *soil* and not the owner of the *surface*, since the latter is not called on to pay taxes.

75.—“In Sung-kiang and several other places the *soil* 田底, is called 糧田, that is, land on which taxes are paid

the *surface*, 田面, is called 租田, that is, land for which rent is paid. If the *soil* and the *surface* belong to one proprietor in Sung-kiang, it is called 租權田, elsewhere 權田.

76.—“The *soil* is commonly worth from three to six times as much as the *surface*; if they belong to different proprietors neither has the right to build a house or make a tomb on the land. He who possesses only the *soil* cannot himself cultivate the land, but is required to lease the *soil* to him who possesses the *surface*, and who has the right, unlimited in time, of leasing the *soil*, nor can he expel the lessee at his own will, except in the case where the *tenant* owes him for rent an amount equal to the value of the *surface*. When the possessor of the *surface* has contracted a debt of this kind, he is expelled from the cultivation of the land, and the *surface* becomes the property of the owner of the *soil*; then the latter may sell the *surface* to another or may lease it with the *soil*.

77.—“When the *tributary* sells his *soil* to another, besides the Deed of Sale, he commonly signs another Deed, called 會租據, which is shown to the *tenant* through the official 地保, that the *tenant* may thereby be warned of the change of ownership and may sign a new lease. Likewise when a *tenant* sells his *surface*, he is required to introduce the new *tenant* to the proprietor of the *soil*, in order that he may sign a new lease. If the owner of the *soil* doubts the good faith of the new *tenant*, he may require the former *tenant* to guarantee the rent of his successor. The *tenant* who possesses the *surface* may lease to another his right to cultivate the land; then the lessee pays rent to the proprietors of the *soil* and *surface* as may be due.

78.—“In Tsung-ming and Hai-mên the *soil* is called 承買價, and the *surface* is called 過投; there the *surface* is worth six to eight times more than the *soil*; hence the rent is small. The holder of the *surface* having almost

absolute power, may build a house or make a tomb on the land, which the owner of the *soil* may not do. When anyone buys the *surface* and the *soil* together two Deeds are commonly drawn up, one for the *surface* and one for the *soil*, that the expense of *confirmation*, 稅契, may be smaller, since the purchase of the *surface* requires no *confirmation*."

79.—The division of ownership into *soil* and *surface*, arose in Sung-kiang from the custom of giving *caution money*,⁶ by which the lessee acquires *tenant right*; and in Tsung-ming and Hai-mên from the expense of reclaiming alluvial lands.

Chap. IX.—LEASING OF LAND AND HOUSES.

80.—"When leasing land is spoken of in this treatise it only refers to land intended for cultivation; for the leasing of land for building purposes does not give much trouble, since for land of this sort only its position need be regarded; the greater the industrial use which can be made of the land from its situation, the greater its rent. Besides, the leasing of land for building rarely occurs except in the case of the European concessions. When a person who does not possess the *surface* of the land leases the land from its proprietor for cultivation, he commonly deposits in advance a sum as *caution money*, called 頂首, which should amount at least to three years' rental. This *caution money* is returned to the lessee on his relinquishing the land, unless it should be devoted to paying rent due.

81.—"The Deed signed by the lessee (whether he has, or, from his possession of the *surface*, has not, deposited *caution money*) is called 認田契 or 佃約 or 攬種票. In it all the conditions of the agreement and the amount of the *caution money*, if any was given, are enumerated. In Sung-kiang

⁶ See below § 80.

sometimes the lessor gives to the lessee a receipt for *caution money*, if deposited, called 付度.

82.—“Leases of land differ greatly both in the mode and the time of paying rent; they differ more as regards the payment of taxes. The amount of rent depends on several circumstances: first, on the amount of *caution money* paid, the greater the *caution money* the smaller the rent, since the *caution money* may be placed at interest; second, on the fertility of the soil and the excellence of its position, such as at no great distance from a stream, so that irrigation and drainage are easy; third, on the scarcity of land to be leased, i.e., the greater the number of inhabitants the greater demand for land to be cultivated, and therefore the greater its value; fourth, on how much is supplied by the lessor, i.e., whether the lessor supplies to the lessee or not dwellings, seed, manure, and the more expensive agricultural implements, such as irrigation-wheels; fifth, on the actual size of the mow, for since the measure of surface differs in different localities, a mow is larger in one place and smaller in another. Finally, it not infrequently happens that a space which is estimated to contain within its boundaries both nominally and judicially for the payment of taxes a total of say ten mow, in reality contains eleven mow or only nine. The principal cause of this uncertainty is said to have been the fraud in olden time of the vendors of these lands.

83.—“Leases are of many kinds, by reason of diversity of conditions, of which a few of the principal are as follows:—

“1.—米租 is a lease, the rent being payable in rice only husked but not cleaned; in Soochow and Sung-kiang the average amount per mow is 9 *tou* 斗; payment is required at the end of the 10th moon and is often made in money, the rice being converted at its market price.

“2.—**穀租** is a lease, the rent being payable in unhusked rice; the average amount per mow is 180 catties, and is payable in the 9th moon.

“3.—**預租** is a lease, the rent payable in money in advance, i.e., in each spring before sowing; the average amount per mow is about 2,000 cash.

“4.—**秋租** is a lease, the rent payable each year after the autumn harvest; the average amount is a little greater than if paid in advance.

“5.—**分種** is a lease by which the lessor and the lessee share the crops in kind; if the lessor has received no *caution money* from the lessee, or if he has supplied seed and manure, the lessor commonly takes six-tenths and the lessee four-tenths; otherwise the shares are equal.

“6.—**議租** is a lease by which in each year, while the autumn crops are maturing, the lessor, by a broker, and the lessee, examining first the state of the crops in each field, agree on the proportion of the crop to be paid after the harvest to the lessor; for the most part the lessor takes four-tenths, since generally for this kind of lease the lessor has received a fairly large amount of *caution money*.

“7.—**包三担** is a lease in which the lessee for every thousand paces, i.e., four mow, pays in May one *shih* 石 of wheat, in August one *shih* of Indian corn, and in November one *shih* of beans; this form is frequent in Tsung-ming.

84.—“Rent which is payable in rice is divided into two kinds, **實租**, *real rent*, and **額租**, *titular rent*, or **正租**, *principal rent*. *Real rent* is paid in full, i.e., in the quantity stipulated in the lease. *Titular* or *principal rent* should be less by about 25 per cent than the amount stipulated. In order to induce lessees to pay sooner, owners ordinarily appoint several

days, by paying before which lessees secure a remission of 7 or 5 or 3 per cent.

85.—“In years of average crops owners give a greater or less remission of rent in proportion to the crop; in the amount of remission they follow the 董事, trustees of benevolent institutions, who make remissions of rent to the lessees of the property of the institutions in proportion to the amount of the crop.

86.—“In years in which the Imperial tribute is remitted by the Emperor, the owners should legally yield three-tenths of the remission to the lessees.

87.—“The lessee who does not pay his rent is liable to a penalty of eighty blows, and payment is enforced.”

88.—In years of average harvest the net annual income from each mow of rich land is generally from 800 to 1,200 cash; but from failures to pay rent not more than eight-tenths is usually received. The interest on capital invested in land is generally not more than from three to five per cent.

89.—“In leasing a house the lessor also demands *caution money*, 頂首, which amounts to at least three months and at most a year's rent. The greater the *caution money* within the limit of one year's rent, the less the rent, the reduction being based on interest on the *caution money* calculated at ten per cent per annum. The lessee signs a lease called 賃房文契, in which are enumerated the number of rooms, all articles belonging to the house, *e.g.*, windows, doors, etc., the amount of *caution money*, and all the conditions of the agreement. If a large house is leased, a separate inventory of everything belonging to it is made, so that afterwards, when the lessee surrenders the house, all the inventoried articles may be restored. The lessee moreover signs a document called 租摺, in which the rent paid is noted as paid; rent is

payable either monthly or at the end of the year, or three times a year (on the 5th day of the 5th moon, the 15th day of the 8th moon, and the end of the year) as may have been agreed upon. For an intercalary month half the monthly rent is customarily remitted. If the lessee who has given a considerable sum as *caution money* demands a receipt, the lessor gives him a document called 召票."

90.—In Shanghai the lessee by custom pays an additional charge of one per cent on his rent, called 小租, but this custom does not hold in Soochow; elsewhere, however, it is customary to fee the rent collectors.

91.—"When the lessor ejects the lessee through no fault of the latter, it is customary to remit three months' rent and to give three months' notice; likewise when the lessee wishes to quit a house, he is required to give the lessor three months' notice."

92.—"The *caution money* is restored to the lessee on his quitting the house, unless he should be in debt for his rent, in which case it serves to acquit the debt. In case a leased house is destroyed by fire, the lessor is required by law to restore to the lessee of the burnt house none of the *caution money* received, if the fire began in this house; but if it began in a neighbouring house, the lessor restores a third. If the lessee wishes to re-lease the house when rebuilt, he must again give *caution money*; the amount of the rent must then be settled afresh."

Chap. X.—TITLE DEEDS.

93.—In A.D. 1783, *Title Deeds*, 田單, were prescribed and issued for the whole Empire. After this, when new land was formed by alluvial deposit, the proprietors received *Treasurer's certificates*, 司照, or *Magistrate's certificates*, 縣照.

When these documents are lost, the tax certificates are taken as proof of ownership.

94.—These *Title Deeds* go with the land. Judicially, he is the proprietor who holds the *Title Deeds*, unless their acquisition is proved to be illegitimate.

95.—When a proprietor sells his land to another, he delivers to the new proprietor his *Title Deeds*, the delivery being noted at the foot of the Deed of Sale. If a small portion of the land is sold, the *Title Deed* is not delivered to the buyer, but the vendor signs a *Supplementary Title Deed*, called 代單 or 劈單, and on the *Title Deed* a note, signed by witnesses, is made showing to whom, when, and what part of the land covered by the *Title Deed* has been sold. Moreover, at the foot of the Deed of Sale is written the reason why the vendor has retained the original *Title Deed* and delivered only a *Supplementary Title Deed*. If, however, the greater portion of the land be sold, the vendor should deliver up his *Title Deed*, and the buyer signs a *Supplementary Title Deed*, a note being made on the original *Title Deed*, showing by whom and what part of the land covered by the *Title Deed* has been retained.

96.—*Title Deeds* once issued are never renewed; but if lost, the magistrate will, on petition, record the fact in his office archives; sometimes, for people of position, the magistrate issues a sealed document, called 諭單, in which he confirms the owner's right and cancels the *Title Deed* if found to exist.

97.—When land is sold of which the *Title Deed* has been lost, the vendor is required to sign a *Supplementary Title Deed*, 代單, and add to the foot of the Deed of Sale a note showing when and how the loss occurred and when the magistrate was informed of the loss; at the same time the vendor delivers to the new proprietor his tax certificates for

the last few years. The buyer also claims all former documents relating to the land, the documents delivered being enumerated at the foot of the new Deed; if, however, the old documents have been lost, their loss is there noted and this clause added:—*if old documents relating to the same land exist, they are null and void.*

98.—The *Supplementary Deed* which replaces the *Title Deed* is delivered to the buyer on each change of ownership; if it is lost, a Deed supplementary to it is made out.

99.—In Tsung-ming and Hai-mên, Title Deeds of land are called 印 歸. In Tsung-ming, on account of continual changes from erosion and deposit, Title Deeds are renewed every three years; in Hai-mên they were formerly renewed every five years, but this has been abolished.

ON THE TENURE AND TRANSFER OF REAL PROPERTY IN CHINA AND THE MODE OF SUCCESSION TO LAND.

[The following pages, contributed nearly twenty years ago to the *Cycle* by a gentleman specially competent to deal with questions relating to land in China, and who had made a profound study of the subject, are here reprinted with a few unimportant changes and omissions.]

At the present time, when the entrance of China into the comity of nations has been announced in several solemn instruments, it may be interesting to consider the limits of the rights of foreigners as regards the disposition of land purchased by them, their personal capacity to transfer, the formalities connected with the title, and the extent of their dominion over their property.

1 0 *

In the first place, the right of the State to its public property or domain is absolute, and excludes that of its own subjects as well as of foreigners. This doctrine is distinctly laid down in its broadest form in that vast mine of ancient constitutional history—the *K'ing* or Classics, and, more especially, the maxims expressed in the lines—

晉天之下莫非王土

All the land in the world is the property of the Sovereign ;

率土之濱莫非王臣

All the dwellers on the land are the Sovereign's servants,

from the book of Odes, are cherished by all educated Chinese. The claim of the Emperor of China to the ownership of the soil of tidal rivers up to high-water mark is a natural deduction from this law. Theoretically, then, the Emperor is the universal landlord, and the landholders merely his tenants ; but practically land is sold in China absolutely, the title deeds being worded in the same terms as are used in deeds of sale for children, horses or other personal property.

In the next place, it must be distinctly understood that, as was stated many years ago by the law officers of the Crown, "there is no pretence for the introduction of the English law of real property in this country. It is a universal principle of law in Europe, that in all questions respecting immovable property the *lex loci rei sitæ* prevails, and we think it both right and useful that the same rule should be acted upon in the administration of justice in China." A little consideration will shew the extreme reasonableness of this requirement, as although our present laws, having been constantly altered and amended to meet the successive requirements of each age, leave little to be desired as regards the transfer of real property in England, they would be singularly out of place in this country, where the laws more

closely resemble the Civil Law than our own. The reasons given by jurists for the maintenance of this doctrine is that it is not permissible for the subjects of other states to upset the various systems of tenure ruling in the country where the land is situated, which land has certain qualities indelibly impressed upon it by the laws of that country. However, a deed or will executed according to the law of the place where it is made is valid not only as to personal, but as to real property, wherever situated: provided that the property is allowed by the *lex loci rei sitæ* to be alienated by deed or will. Of course it will be necessary to observe the particular forms required in the place where the land is situated, such as the registration of title deeds, etc.

It has been the prudent policy of all nations to prevent foreigners from purchasing land within their territories, and it is not therefore surprising that the Chinese should enforce their laws in this regard towards us, in consequence of which we purchase land under leases in perpetuity instead of holding it as our absolute property. This treatment of foreigners is, however, exceedingly liberal compared with the laws of England in like cases. In the fifth article of the Act of Settlement it is not only laid down that no person born out of the kingdoms of England, Scotland and Ireland should have any grant of lands, tenements and hereditaments from the Crown to himself or to any other or others in trust for him, but that he should not enjoy any office or place of trust, either civil or military, thus making England more exclusive than China, which had centuries before that time employed foreigners in most important trusts, of which MARCO POLO furnishes a well-known instance. So strictly has this class of laws been enforced in England that it has been held that if lands be purchased by a natural-born subject in trust for a foreigner, the Crown may claim the benefit of the purchase;

and even now, after years of government by an enlightened and liberal ministry, in a country whose subjects are ever declaiming on behalf of progress, telegraphs and railways, should a foreigner unheedingly purchase land the Crown may at any time assert a right to his estate. It is not very many years since the Government in some extravagantly liberal frame of mind passed an Act allowing foreigners, subjects of friendly states, to lease land for twenty-one years. The above remarks do not, of course, apply to persons of foreign extraction who, having taken the oath of allegiance and abjuration, have become naturalised British subjects.

As a general rule, all land in China can be sold absolutely, or mortgaged by Deed to be redeemed at a fixed period, or mortgaged by deposit of Title Deeds in similar manner to our own equitable mortgages, where the land can be redeemed at any time which may suit the mortgagor. In no business transactions is greater caution required than in purchases of this nature, frauds being so very common and so difficult to avoid that it is customary for the natives themselves to employ conveyancers, called 牙人, duly licensed by the high provincial authorities, to conduct the transactions for them. These persons, however, are not employed in this district, the duty in question being performed by that responsibility-saddled underling, the inevitable Tepao. Even in England some years ago the learned Judge LAWRENCE remarked, "I have always understood that in purchases of land the rule is caveat emptor," but Chinese law, we shall endeavour shortly to shew, has applied this maxim and its congener "*vigilantibus non dormientibus subveniunt jura*" to a degree which might be deemed severe, did we not know the gross state of ignorance and gullibility of the peasant proprietors, and the consequent necessity of strong measures to protect their interests.

The first duty of a purchaser should be to ascertain whether the land offered for sale is alienable or in mortmain, and secondly, whether the vendors are authorised to sell. In considering these questions he should bear in mind that the Chinese, like other Asiatics, are devoted to metaphysics, and that they have not consequently at any stage of their long existence as a nation developed a taste for jurisprudence, so that the main efforts of their legislators have been applied to enacting laws for the suppression of disorders and the collection and protection of the revenue, leaving what we call the civil or mercantile law, or the law of contracts, pretty much in the hands of the local authorities, who often either refer the litigants' to the Town Guilds for arbitration, or else themselves apply to the Guilds for information respecting the consequences which should, according to mercantile usage, follow particular defined predicaments of fact, or, as we should say, for the law on the subject, in order to apply those consequences to the cases brought before them. Any official of the rank of Taotai or Intendant of Circuit is competent, by and with the advice of the local Guilds, to publish regulations as far extending in their character as the Trustee Act or the Statute of Frauds. Consequently the only sources we have wherefrom to obtain a knowledge of the laws of this country are the Penal Code, the Edicts, Mandates, Decrees and Rescripts of the Emperors, Regulations published by proclamation by the provincial or local authorities, decided cases and the *responsa prudentum*, or opinions of the jurisconsults attached to the *yaméns*. From these sources we learn that ancestral temples and tombs, land belonging to a family or clan generally and set apart for providing funds for general family purposes, for instance the maintenance of a family school-master or grave-keeper, are inalienable, as also land

dedicated to charitable purposes and registered as such in the office of the local authority, which the original grantor is not permitted to sell. Any person disobeying these laws is liable to punishment, while the land will be taken from the purchaser and the purchase-money returned. Likewise land devoted to public purposes, such as Confucian temples, examination halls, yaméns, etc., mountains belonging to the Government, public roads, sea-walls, river-embankments, temples in which sacrifices are performed by officials in accordance with law, spots celebrated in antiquity, ancient monuments, streets and ways, tombs of celebrated men, etc., cannot be sold, and in case of breach of this law the vendors will be punished, the lands returned, and the money paid recovered. From the express mention made of certain classes of temples which are not saleable, it would seem that ordinary buildings of the kind can be purchased, but we incline to the opinion that they must be used for religious purposes after the transfer. Unoccupied land in any part of the empire and "new land formed by alluvion" may be cultivated by the nearest residents on payment of the regular taxes, to commence at the end of six years in paddy lands, and at the end of ten years on high lands, after the commencement of cultivation. "Land formed by alluvion" refers to islands formed in large rivers, when the first occupants of the districts may take possession of them, but with regard to the imperceptible increase of land added by alluvion, Chinese law appears to coincide with civil jurisprudence, namely, "*quod per alluvionem agro tuo flumen adjecit, jure gentium tibi adquiritur.*"

With regard to those persons who are authorised to alienate landed property, grandfathers, fathers and elder brothers can validly dispose of family land without the consent of their grandsons, sons or younger brothers, respectively; and even

the land painfully acquired by the latter through their own industry may be sold by the former in direct opposition to their wishes. The juniors cannot even validly sell their own lands, and the seniors can by legal process recover possession from purchasers. We have already remarked that the laws of China more closely resemble the Civil Law than our own, and we find a remarkable analogy in respect to the situation of the junior members of families. According to the Roman law the *filius-familias* could not have any property of his own, though sometimes the father permitted the son to have what was termed a *peculium*, that is, a certain amount of property placed under his exclusive control. Nevertheless this *peculium* remained in law the property of the father, and though the son had the disposition and management of it, yet this was solely by the father's permission. So strict was the ancient law on this point that JUSTINIAN says "igitur 'liberi nostri utriusque sexus quos in potestate habemus' 'olim quidem quidquid ad eos pervenerat (exceptis videlicet 'castrensibus peculiis) hoc parentibus suis acquirebant sine 'ulla distinctione. Et hoc ita parentium fiebat, ut esset eis 'licentia, quod per unum vel unam eorum acquisitum est, 'alii filio vel extraneo donare vel vendere vel quocumque 'modo voluerant adplicare." With regard to the 'habens in potestate' we may remark that none of the family, sons nor daughters, nor the wife who, in order to preserve the symmetry of the system, was treated by law as a daughter, were free agents, and even the children of married sons were in the power of the *pater-familias* (the 族長 *Tzu-chang* of the Chinese) as completely as the sons themselves. The "castrense *peculium*" consisted merely of what was given to a son when setting out upon military service, or acquired while that service lasted, which, from motives of state policy, he was allowed to dispose of as freely as though he had been *sui jura*.

In this country the property of traitors is at once confiscated to the Crown, but in the absence of any law to the contrary we believe that ordinary criminals when undergoing their sentences of punishment may transfer through their relatives their landed property, which is carefully protected for them by the law during their enforced sequestration. A lunatic or idiot not in actual confinement is competent to alienate land, as also a widow, but the latter must obtain the concurrence of her father-in-law before she can make a valid transfer, and this is a point which should be carefully noted by foreigners, as widows, as a class, are invariably anxious to dispose of their landed property.

The question as to what persons are authorised to alienate naturally leads us to the subject of succession, and here we may observe that all the authorities we have consulted tell us that the law will not permit a man to dispose of his property by Will to any other than his own children, however depraved or prodigal, insane or imbecile those children may be. This, however, is not so astonishing when we reflect that in England, where for divers reasons landed property has always been held in higher estimation than in any other country, the right of devising freehold lands by Will became complete and universal only on the abolition of feudal tenures after the restoration of King CHARLES II.

The first rule of succession is that landed property shall descend in infinitum to the issue of the last holder.

The second rule is that the male issue shall be admitted before the female.

The third rule is that where there are two or more of the male issue in an equal degree of consanguinity they shall inherit altogether and equally, and that in default of male issue the females shall inherit equally. This rule of course only applies to the land of the people generally, for with

regard to grants made by the Crown to the hereditary nobility, the doctrine of primogeniture or right of the eldest of the males to inherit both title and property, applies much the same as in England. Indeed this custom appears to have taken deeper root in China and England than in any other countries, for we learn from the authorities that on the continent of Europe some portion of the inheritance or some charge upon it is, in many cases at least, secured by law to the younger sons. With regard to the disposition of ordinary landed property it appears that the heirs are always at liberty to divide it as nearly as possible into equal parts, and when such division is impracticable it is the custom to pay in an amount of money from the personality sufficient to bring up the value of the smaller lots to that of the larger, and then to draw for the choice of the portions of the property thus equally divided, in the presence of a gathering of friends and neighbours. Of course the doctrine of *seniores priores* applies in this case also, and a younger brother would not be permitted to divide the landed property in case the elder brothers should elect to hold it intact.

The fourth rule is that all the lineal descendants, in infinitum, of any person deceased shall represent the last purchaser.

The fifth rule is that on the failure of lineal descendants of the purchaser the inheritance shall descend to his widow.

The sixth rule is that, there being no widow living, the inheritance shall descend to the collateral relations, being of the blood of the purchaser, subject to Rules 2, 3 and 4 above cited.

The seventh rule is that in default of the heirs above mentioned the land shall revert to the Government, and it is the duty of the headborough and villagers to report such cases to the local authorities, on pain of punishment as abettors in an attempt at concealment.

Having now endeavoured to shew what lands are alienable and what persons are able to alienate, the next question is in what mode we may make our purchases with safety. We would first draw attention to the fact that it is a well-known rule of civil jurisprudence that no man can transfer a greater right or interest in any property than he possesses himself. In the next place, the Chinese have the greatest horror of anything approaching to verbosity in their deeds and contracts, and consequently attach the utmost importance to usage and customary incidents. Now it is a rule, not only of Chinese law but also, we believe, of almost universal application, that usage may be engrafted on contracts in addition to their express written terms. Indeed, Chinese make contracts with a view to the application of local usages in like manner as an Englishman would regard the bearing of the general law in a similar position. In the latter case the Englishman would contemplate the rights annexed by the general law to the stipulations expressed in his contract, while the Chinese would look to the local usages and customary incidents to afford him similar advantages. As an exemplification of usage at Shanghai we will suppose that a foreigner fresh from home, well instructed in legal matters and carefully grounded in that most hackneyed of law maxims, "*cujus est solum, ejus est usque ad cælum*," purchases a plot of land covered with native houses for the price of Tls. 1,000. Some time afterwards when he wishes to remove the native houses and commence building on the spot, he finds to his horror that by the usage of the district he is bound to pay another sum of Tls. 1,000 before he can remove houses standing on his own property.

When it has been ascertained that the land offered for sale is alienable, and that the vendors are authorised to sell, the next step to be taken is to obtain from the vendor the old

title deeds, covering at least the fifty years last past. This is almost indispensable to obtain an indefeasible title, free of mortgages and all other incumbrances. Then the purchaser should cause the certificates of registration, 契尾, appended to the title deeds, to be carefully compared by some trustworthy Chinaman with the counterfoils kept in the district magistracy. Next he should summon the local Tepao or headborough, and proceed to the spot and announce to the neighbours his intention to purchase. Then he should in their presence put down his boundary-stones or, still better, dig a deep trench round his property, unless, of course, it should be bounded by public thoroughfares, when he would be liable in damages for any accidents which might result therefrom. Before leaving the spot he should enquire from the neighbours and Tepao whether any mortgages have been made on the land, and afterwards cause similar enquiries to be made at the magistracy registration office, where, according to the strict letter of the law, all deeds of mortgage should be registered within the space of one year, when they are termed 紅契, or indentures. When not so registered they have not the same authority, and are called 白契, or 白頭契, imperfect deeds or escrows. When the deed of transfer is being draughted, the purchaser would do well to cause the insertion of a clause clearly discharging him, his executors and assigns from any leases, mortgages, removal expenses or other incumbrances, notwithstanding any local usages or customary incidents to the contrary. Finally, he must be particularly cautious to prevent the insertion of supplementary clauses inserted in small characters between the body of the deed and the signatures of the parties on the left-hand side, the simplest plan being to fill up the vacant space with cross lines or cancelli, as is customary in the body of a cheque. Finally, to prevent the substitution

of another deed for his own, he should, with a European pen, make private marks on the Chinese paper which it would be impossible for a native to imitate.

We may now proceed to consider the subject of personal interests in real estate.

Prior to the reign of the Emperor KIEN-LUNG—the Chinese JUSTINIAN—the mode in which the Chinese disposed of their landed property seems almost incredible to us who have been brought up with strict notions of those rules which were first introduced into Western Europe on the establishment of the feudal system. The Chinese, although they have profoundly studied various branches of philosophy, seem never to have attained any marked success in the scientific development of their language, and nowhere is this failing more apparent than in documents relating to property. For instance, we learn by a decree issued in the 18th year of KIEN-LUNG, that the words 買賣 do not convey an absolute right or title to property as would the equivalent “buy and sell,” given in our dictionaries but merely mean the transfer of an interest liable to redemption. To prevent litigation, the decree ordains that in future, in order to convey lands permanently, the words 賣絕永不回贖, “absolute sale without power of redemption,” shall be plainly inserted in the deeds; that all lands conveyed within the thirty years then last past not containing this definite expression should be liable to redemption, while with a view to the prevention of litigation becoming immortal while man is mortal, it is laid down that all land conveyed more than thirty years prior to the date of the decree should be held to be irredeemable.

Again, when referring to mountain-land used for burial-places, where, in consequence of the exigencies of the doctrine of Fêngshui, many favoured spots become the subjects

of fierce litigation, Chinese law, taking into consideration the vague terms of ancient title deeds, some of which describe property as being respectively bounded by the river, the sea, the mountain and the valley, or the land of Wang on the east and of Chang on the west, lays down that the ownership shall be deemed to vest in such persons as hold the land tax receipts, and whose names appear in the registry books, and that only deeds of decidedly modern date shall be looked upon as instruments of title. The present law as to disputes respecting landed property is that where a legal conveyance has been made or, in cases of inheritance, where the heirs have signed an agreement assenting to division, or have allowed five years to elapse without demurring to such division, no suit shall be entertained by the authorities, except of course on equitable grounds. Transfers of landed property redeemable at will are still common in this country, but the laws relating to the subject are involved in those relating to pledge and hypothecation, to which we will now refer.

It is an interesting fact that in the days of antiquity the Chinese like ourselves affected the *vifgage*, or *vivum radium* rather than the mortgage properly so called, and this system, though long ago obsolete with us, still flourishes and holds its place in the affections of the people of this country, so much so that the laws respecting the pledging of land in China take little note of the modern system of mortgage or rather hypothecation. The Chinese *vifgage* is a conveyance of an estate redeemable according to the expressed wishes of the parties, either at a certain period or at will by the *vifgagor* on repayment of the amount borrowed. Pending such period the property is held by the *vifgagee*, who can either occupy it himself or sublet it, the *vifgagor* paying no interest for the money borrowed,

and the *vifgagee* no rent for the property. This somewhat resembles our own Welsh mortgages, where the rents and profits of the estate are in like manner received by the mortgagee in satisfaction of the interest of the loan. There is, however, this substantial difference, that in the Welsh mortgage there is no covenant for the repayment of the loan, and the mortgagee cannot compel either redemption or foreclosure, while in the Chinese *vifgage*, if the *gagor* fail to observe the stipulated conditions the *gagee* may cause the value of the property to be assessed by arbitrators, when he has the right of preemption on tendering to the *gagor* the difference between such assessed value and the consideration-money originally paid. Should the *gagee* be unable or unwilling to do this, the *gagor* is permitted to sell the property to whom he will on repayment of the consideration-money to the *gagee*. Also the *gagee* may under such circumstances repledge the property to a third person, to whom the original owner is forbidden to make offers as to sale or redemption without notice to the intermediate party.

Our ancient *vivum vadium* differs from the Chinese, in that instead of being redeemable either at will or at a certain fixed period on payment of principal without interest, the estate was held by the pledgee until the rents and profits should repay the sum borrowed.

The Roman *pignus* appears to have most closely resembled the Chinese *gage*, it being a system by which property was pledged as a security for money lent, the property being transferred to the creditor upon condition of its being returned to the owner when the debt was paid. There is, however, this important difference, namely, that in cases where the debt was not paid at the stipulated time, the creditor, not the debtor, was clothed with authority to sell the pledge, and re-imburse himself from the proceeds.

Various causes have concurred to make this process popular in China, one great inducement being that persons are enabled to occupy the property at once and pay for it by instalments, the first payment being the consideration-money of the pledge, the second, the so-called purchase-money, and the last, the balance required to make up the equitable value. Another reason probably is the natural dislike of Orientals to part for ever from their patrimonial estates, as is well exemplified by the case of Naboth the Jezreelite, related in the First Book of Kings.

The laws relating to *vifgages* are very similar to those relating to the absolute sale of landed property, in fact the commentators draw no distinction between these classes of contracts. The first duty of the *vifgagee* is to pay the transfer duty, failing which he will be punished in accordance with the laws against smuggling and evasion of duties generally, namely, the infliction of fifty blows with the smaller bamboo and the forfeiture of half the value of the property. The next step is to cause the new-comer's name to be entered in the registry book, the penalty for neglecting which is a graduated number of blows of the bamboo together with the total forfeiture of all the non-registered property. The commentators seem unable to agree whether the last-mentioned pains and penalties shall be visited on the pledgor or pledgee, one stating that the finger of the law points only to the pledgee, and that the pledgor can only be punished under that most satisfactory of statutes, a law which surpasses all the efforts of British legislators, and which is worthy of the consideration of the most enlightened statesmen and philosophers of the West, viz., "that whoever is guilty "of improper conduct and such as is contrary to the spirit of "the laws, though not a breach of any specific article, shall "be duly punished." The commentators conclude with the

apposite remark that in cases of collusion it is probable that both parties should be alike punished.

The reason why non-registration of the new-comer's name is so much more severely punished than the evasion of duties, is that in the former case a door is opened for fraud and extortion on the part of the pledgor, and for the evasion of the incidents appertaining to the possession of land, namely, personal service of various kinds to be rendered to the Government when required, payment of land-tax and the like on the part of the pledgee; while evasion of transfer duty merely leaves a deficit in the Government accounts.

The commentators explain that the above-mentioned forfeitures do not include 宅 human habitations, such as houses, booths, carts or boats, or their fixtures, such as corn-mills and the like, to which the incident of personal service does not apply; and as they justly remark, it would be unreasonable to confiscate a house worth Tls. 100 on account of the non-registration of the one mow of land on which it stands.

The re-pledging of lands is an offence which comes under the head of fraudulent conveyances, but the punishment is more severe, being equivalent to that imposed in cases of larceny, viz., one hundred blows of the larger bamboo, and perpetual banishment to a distance of one thousand miles. The punishment is thus increased in consequence of the evil disposition manifested by the offender in abstracting first the gagee's money and next his land also.

All land belonging to banner-men, soldiers at military stations, and persons connected with the grain transportation service, or set apart for their subsistence, is inalienable, and any native taking it in pledge is amenable to severe punishments under sundry statutes. This, however, does not interfere with the letting of land for short periods in order to prevent its being left uncultivated. The commentators mention that landed

property cannot be left in pledge for a longer period than ten years, and that in case that period is exceeded the transfer duty shall be levied and the legal punishment inflicted.

The law requires that the duties on transfers of landed property shall be paid in the same manner as the land tax at the district magistracies, but that a separate office shall be set apart for its collection. The person in actual possession must present the deed and pay duty in person, when the magistrate shall append to each deed a separate certificate of registration, and hand the deed back, as a general rule, at once to the owner, any delay, malfeasance or misfeasance on his part being punishable. We have already mentioned that these certificates are of the utmost value as a means of preventing fraud. The date of their origin is not mentioned by the commentators, but we learn that they were discontinued as long ago as the 6th year of the reign of the Emperor TUNG-CHING, and again revived in the first year of KIEN-LUNG.

The registration fee on land and house property is three per cent. on the consideration-money. Should the amount exceed Tls. 1,000 the district magistrate must within a month forward both the original deeds and the certificates of registration to his super-ordinate Prefect and Intendant of Circuit respectively for inspection, which documents they are bound to return within a period of ten days. Should they fail to do so they will be fined half a year's pay, while a delay of twenty days will be visited with the loss of a year's salary, and any further delay with a reduction of rank. These officers must endorse on the appended certificates the circumstances connected with their examination, as also the dates on which they were respectively returned.

One of the chief causes of the misunderstandings which so frequently arise between foreigners and Chinese in their

business relations, is the habit of members of both nationalities of using technical terms in preference to plain language, and in no case is this more misleading than in matters connected with landed property. Nothing is more common than to hear discussions about mortgages in reference to cases in which the property is not delivered to the creditor but remains in the possession of the debtor, while the Chinese system of hypothecation does not recognise the most essential condition of an English mortgage, namely, the right of foreclosure. In such cases the remedy of the debtor is similar to that of the visfagee, and we need only remark that the law of hypothecation of land and house property, in contradistinction to the laws respecting the pledging of goods and chattels, follows the rules laid down in the more common class of gages which we have already explained. It is said that the reason why Chinese legislators have taken so little notice of this class of transfer is that, owing to the great difficulty encountered by creditors in their endeavours to recover the sums lent, in conjunction with the wide door opened for fraud owing to the debtors not being in actual occupation of the property, and the consequent needlessness of reporting such transactions to the official registrars, the Chinese have only of late years commenced generally to avail themselves of this system.

We shall now consider the liabilities of the parties in connexion with the property whether pledged or hypothecated. Here we must first observe that the Chinese law makes a remarkable deviation from its ordinary doctrine respecting accidents, viz., that all parties shall abide by the decree of the Almighty (各聽天命) which, according to the common law as expounded by the authorities, holds good with regard to all such cases as collisions at sea, on rivers, etc., and which is usually inserted in contracts as a special clause,

somewhat similar to the proviso in our bills of lading, charter-parties and the like respecting the Act of God, and is to the effect that that which is caused by the uncontrollable hand of Nature, and is so inevitable in its character that it can by no foresight or industry of the parties interested be prevented, shall not render such parties liable for the consequences.

With regard to dilapidations or other injuries to the property generally or to any fixtures recited in the instruments of transfer, the commentators state that an assessed reduction shall be made in the consideration-money. As to fires, the authorities, as we might reasonably expect, are more explicit, and they exhibit clearly the much maligned Chinese doctrine that division is equity. The law does not seem quite clear in cases where fires originate in the pledged property itself, probably because the legislators saw no necessity for specially declaring the unwritten law existing on the subject, but in all cases where before the expiration of the period mentioned in the deeds, houses are destroyed by conflagrations not originating within the premises themselves it is laid down by a decree passed in the 12th year of the Emperor KIEN-LUNG that such premises shall be rebuilt at the joint expense of the gagor and gagee, when the term shall be extended for a further period of three years, at the end of which time the gagor shall repay the amount of consideration-money originally received by him. Should the gagor have no means wherewith to meet his half of the expense of rebuilding, the gagee shall rebuild the premises at his own expense, when the period of redemption shall be extended for the space of three years, at the end of which time the gagor will be required to repay the original consideration-money with an addition of four-tenths. In case the gagee be unable to bear his share of such expenses, the gagor shall rebuild the

premises at his sole cost, and deduct four-tenths from the consideration-money at the period of redemption. Should, however, that period have lapsed before the occurrence of the fire, the gager can redeem on payment of half of the consideration-money. But should he be unable to provide the necessary funds the gagee must himself rebuild the premises, when the term will be extended for a further period of three years, when the gager will be required to repay the consideration-money in full with an additional four-tenths. In case neither the gager nor the gagee is able to rebuild the burnt-down buildings, the site and remaining debris shall be sold, and the gager shall hand to the gagee one-third of the proceeds of the sale. In order to prevent any dispute between the parties when the premises are rebuilt, it is laid down that the extent, measurements, style of architecture, materials and ornamentation generally shall conform to those of the original buildings.

With regard to transfers of property redeemable at will, which are not at the present day, to the best of our belief, very common in this country, the commentators state that such classes of interests closely resemble gages generally, and that the above regulations respecting fires apply to them also. As to rented property, the old law was that in cases where buildings were burnt down accidentally the tenant was not required to make any compensation. By the decree of KIEN-LUNG above referred to, it is however laid down that the tenant when entering a house shall hand to the landlord a deposit of money. Should the fire originate in the tenant's house, as the landlord is put to the expense of rebuilding he will be permitted to retain the whole of the deposit-money. But should the house be burnt down by a conflagration originating elsewhere, he must return the tenant one-third of such deposit-money.

In reference to the subject of gages, seeing that human beings have ever been regarded by the law in the light of real rather than personal property, we will now turn aside to view the laws relating to the pledging and hiring of wives and daughters, or rather, taking into consideration the great power and authority in the family of the paterfamilias, we should probably be more correct in saying, of women generally.

This practice together with the more extreme one of absolute sale was common enough in Europe during the dark ages, the poor having even been absolutely obliged to sell themselves for subsistence in times of famine. As the great historian of the now celebrated city of Tours says, "*Subdi-derunt se pauperes servitio ut quantulumcunque de alimentis porrigerent.*" Indeed, so terribly did poverty and famine press upon them that, shortly before the Norman Conquest, we learn that mothers ate their children and children their parents, while human flesh was sold in the markets with little pretence of concealment.

Again, in the book of NEHEMIAH we read that the people after stating that they had mortgaged their lands to buy corn, go on to complain that they were even compelled "to bring under bondage their sons and daughters." In short, in every age and country, until times comparatively recent, personal servitude appears to have been the lot of a large, perhaps the greater, portion of mankind, and when we consider that this vast and until of late years thickly-populated Empire contains extensive districts either unproductive or subjected to alternate droughts and inundations, we need not be surprised to learn that legislators have sanctioned the pledging by poor people of their wives and daughters for the purpose of acting as domestic servants, etc. This system seems to resemble closely that of the *vifgage*

before alluded to, namely that at the making of the transfer a fixed period of redemption shall be stated in the deeds, and that at the time of redemption the original sum shall be repaid without interest. It must, however, be distinctly understood that this law does not permit the pledging or hiring of wives or daughters for the purpose of acting as the primary or secondary wives of the pledgees or hirers, for in such cases husbands are liable to the punishment of 80 blows of the larger bamboo, and fathers to 60 blows, for their respective offences. The husband is punished with 80 blows, in the first place because he is lost to shame, secondly because by forcing his wife to lose her chastity he subverts the moral obligations of their relationship, and thirdly because he sets a demoralising example to the community generally. The parents who pledge or hire their daughters are dealt with more leniently because although they force their children to lose their chastity, yet this breach of the laws of Nature is not considered by the Chinese legislators so gross as is the violation of their sacred ties by husbands and wives, which offence, as is well known, is visited in this country with very severe penalties.

It is a legal presumption that the gagee or hirer cannot possibly be ignorant of the illegal nature of the transaction he is engaged in, and therefore the law punishes him with the same number of stripes as the gagor, and the consideration-money or, as it is euphemistically called, the wedding present, is forfeited to the Government. In all such cases the victims remain unpunished, it being the merciful doctrine of Chinese law that the wives and daughters are unwilling parties, and act only under compulsion.

The crime committed by the patriarch ABRAHAM, the marrying of a wife to another man under the pretence of her being a sister, is regarded as a graver offence than mere

pledging or hiring, the commentators remarking that such conduct is not only a disgrace to the name of humanity, but is also aggravated by the heartless deception. In these cases, as the wife is necessarily a party to the fraud, she is liable to the punishment of 80 blows of the bamboo, but this may be remitted on payment of a fine, as is the usual course when dealing with women under similar circumstances. As in these cases the continuity of the important human relation of marriage is irrevocably broken, the wife is not, as a general rule, allowed either to go back to her husband or to abide with the gagee, but must return to her parents. If, however, a wife is sold on account of extreme poverty, she is allowed to remain with the purchaser, and her husband will only be dealt with under the severest measure of the law respecting unlawful conduct generally.

Should the daughter have already been betrothed she reverts to her affianced spouse should he choose to take her, but in case he decline so to do, she must go back to her parents, when she is free to marry whom she will.

We now turn to the conditions under which ecclesiastical property is held. It is a strange fact that in all ages and in all countries covetousness should be associated with old age, so that just at the time when man must inevitably part with all his possessions in this world, he seems to cling most tenaciously to them. In the words of CONFUCIUS, "In youth, "when the physical powers are not settled, the superior man "guards against lust; when he is strong, and the physical "powers are full of vigour, he guards against combativeness; "when he is old and the animal powers are decaying, he "guards against covetousness." Still more strange is it that when men have lastingly resigned all interest in the pomps and vanities of this wicked world, and have voluntarily cut themselves off from all the ordinary pursuits of life and the hope

of posterity, they seem to be exceptionally liable to this vice.

After the fall of the Roman Empire, the laws of which did not permit tenure of land in mortmain, the history of Western Europe abounds with accounts of the struggles of Churchmen to acquire possession of landed property. Not only did they receive vast grants by the voluntary munificence of princes, but whole estates were thrown into the common stock by persons entering monasteries, large properties were given away by men when starting on military expeditions or in the terror of expected dissolution, while in the general ignorance of writing the clergy occasionally committed the pious fraud of forging charters, culminating in England with the astounding doctrine "that as spiritual men "were of better conscience than laymen, and had more "knowledge of what things would conduce to the benefit of "the souls of the deceased," the Church should enjoy the right of administering the estates of persons dying intestate, and of disposing of them "in pios usus," while such delinquents as deprived the Church of this right by making wills were vicariously punished through their representatives, who were forced to prove the genuineness of such documents to the satisfaction of the much-injured Ordinary. To such an extent did this system prevail that in the thirteenth century the property of the Church was estimated at nearly one-half of England, and at a still larger ratio in other countries.

From the similarity existing between Buddhism and Catholicism in so far as regards the celibacy of the clergy and the vast influence possessed by both over the minds of men through their professed power of benefiting the souls of believers after death, we should naturally suppose that the latter would likewise have held vast landed estates in this country; nevertheless we have been informed by

Chinese that there is no mention in the whole range of their history of any successful attempts in this direction. However this may be, it is pretty certain that at the present day the collegiate and glebe land does not suffice for the maintenance of the ecclesiastics, many of whom are forced to obtain a livelihood by systematic begging.

It may be urged that the metaphysical character of the Buddhist religion is so thoroughly absorbing as to take away all desire for worldly possessions; and this view is somewhat supported by the history of Buddhism in former days in India, where, as we learn from European writers, devotees, in their heartfelt wish to rid themselves of their frail tenements of flesh, and to enter Nirvâna, held all carnal desire for power or property in supreme contempt. Unfortunately, the course Buddhism has since taken in Thibet and Tartary completely upsets this hypothesis, the former country being governed, at least nominally, by a hierarchy, while in Tartary the power, possessions and overruling and insolent bearing of the Lamas towards the other inhabitants are utterly inconceivable by those who have not actually been eye-witnesses.

Again, in Ceylon, a writer mentions that whenever he saw high farming in the interior, it almost invariably proved on inquiry that the land belonged to some monastery, while Lieut.-Col. COLEBROOKE, in his official report for the year 1831, says that a large portion of the cultivated land in the province of Kandy belonged to religious communities. Possibly, however, this may be accounted for by the superior intelligence of the latter, whereby the clergy, as in ancient times in England, might have far excelled the laity in both the science and art of farming, and thus land might have been profitably cultivated by the one, which would have remained worthless in the hands of the

other. That their present uninfluential position does not wholly arise from a general want of ambition, resulting from the indolent nature of the lives they lead, is proved by the fact that they have over and over again interfered with the administration of affairs in this country, more especially during the Ming dynasty, when their intrigues occasioned much trouble to the Empire.

One great reason for this want of success is probably the comparative isolation in which members of the various Buddhist monasteries live. So far as we know, although they make use of the term "orders" yet they certainly have not at the present day any powerful, far-extending organization to enable them to combine against the contemptuous opposition of the Confucianists; indeed the chief link which binds the various communities together seems to be merely the use and study of the same religious books and the practice of a common ritual.

In their attempts to establish a hierarchy they have also miserably failed, as they are obliged to apply to the temporal arm, namely to the Board of Ceremonies, for a simple license or certificate of priesthood. As far as we know, the nearest approach at the present time to the powers wielded by our ancient bishops and mitred abbots is in the hands of the 司綱僧, who, although by title a kuan, or Government official, scarcely ranks with the magistrate of the district in which he resides. He has exclusive jurisdiction as regards petty offences, but his duties would seem mainly to consist in bringing the misdemeanours of his subordinate priests to the knowledge of the local authorities. By these officials he is selected from the higher grade of priests and recommended to the Board of Ceremonies, from which he holds his appointment, and in case he fails to discover and report on any grave crimes, or even such offences as the illegal taking of

probationers or novices by the priests under his control, he is liable to degradation and punishment.

The crushing hand laid on the Buddhist religion by the Confucianists through the Government has often been a subject of comment. It is curious that they do not base their objections upon the high ground formerly taken by certain European moralists in reference to religious orders, viz., "that they withdraw men of pure conduct and conscientious principles from the exercise of social duties, and thus "leave the common mass of human vice unmixed," neither do they, like our own stern moralist, King JOHN, profess to be shocked at their vices—*propter vitæ suæ turpitudinem*—nor is the slightest alarm excited by their ambition, or jealousy by their wealth. They are simply looked upon as barren fig-trees uselessly cumbering the ground. In consequence of this view the law of mortmain is of the most stringent character. It is laid down curtly that priests cannot sell ecclesiastical property, because it does not belong to them personally, while the statute decrees that no religious houses of any nature or kind shall be built, nor any additions made to buildings already existing, without express permission to that effect being obtained from the Emperor by formal application through the high provincial authorities, under the penalty of 100 blows, offenders being in addition unfrocked and sentenced to military banishment, while offending nuns are confiscated to Government and sold as slaves; the reason given being that this set of people neither toil nor spin, pay no taxes, render no personal service to the Government, while they lead a life of uselessness, prey upon the property of the people, and by their celibacy tend to diminish the sum of the population. This rule, of course, only applies to the larger religious buildings, it being unnecessary to apply for permission to erect those small shrines which are considered

as necessary a complement to every hamlet as are clothes to the human body. Following up the idea that priests try to shirk the duty of "rendering unto Cæsar the things "which are Cæsar's," the law decrees that all candidates for priesthood must have at least two brothers living to carry on the ordinary family duties, and in case there be any mistake not only are the priests themselves divested of their sacred character and put in the cangue, but the heads of their families, the local hierarchs and the abbots of the monasteries they have entered, are likewise implicated. Moreover, there are divers regulations obliging priests to visit their parents, sacrifice to their ancestors, mourn for their relations, and wear certain kinds of vestments, while so strict is the supervision exercised that the members of the lower orders are only allowed one novice, and then only when the master is upwards of forty years of age; while all wandering priests, and such as grow their hair for purposes of mendicancy, under pretence of fulfilling vows, are sent back to their places of settlement and unfrocked. In short, the laws in this regard are very vexatious, and sometimes conflict with and contradict their own theories. For instance, severe punishment is decreed in case priests attempt to marry, although their celibacy is made a ground of complaint, as we have already mentioned.

Turning finally to the question of succession, we are met by the facts that in China the worship of ancestors forms by far the most important element in the religious observances countenanced by the Government, and that as this duty centres upon the head of the family, the laws respecting inheritance of birthright are very stringent and minute. In order to arrive at a clear comprehension of this subject, we must bear in mind that notwithstanding the opinions of European writers or the teachings of Chinese philosophers

to the contrary, the State officially recognises, and, to the best of our belief, has always recognised, the doctrine of the immortality of man. Were it otherwise, the high respect shewn to ancestors, the costly coffins, elaborate funerals, the extensive and often picturesque grave-yards, and the three years of enforced mourning for deceased parents, with its concomitant drawbacks, would be absolutely devoid of meaning.

In support of this view we will call the attention of the reader to passages in the *Shoo-king*, or Classic of Constitutional History, where the Emperor PWAN-KÄNG states in his protest, "I think of the toils of my predecessors, who are "now the spiritual sovereigns, for your ancestors," and again, "Were I to err in my government and remain long "here, my High Sovereign, the founder of our House, would "send down great punishment for my crime and say, 'Why "do you oppress my people?' If you, the myriads of the "people, do not attend to the perpetuation of your lives and "cherish one mind with me, the one man, in my plans, my "predecessors will send down on you great punishment for "your crime and say, 'Why do you not agree with Our "'young grandson, but so go on to forfeit your virtue?' "

In the *Peking Gazette*s of the present day this doctrine would seem to be frequently alluded to by Government officials in their memorials, where they commonly remark that in questions under discussion the Emperor will be guided by the instructions he has received from his ancestors. On the other hand this is explained away by some learned Chinese as merely relating to the instructions handed down by such ancestors while alive, and, owing to the fondness of Chinese for elliptical phrases, together with the notable absence of strict rules of grammar in our ordinary European sense of the term, the precise meaning to be

conveyed is often difficult to ascertain with anything like exactitude. The *Gazettes* frequently contain applications from the local authorities to the Throne for permission to erect temples or other monuments to the honour of tutelary deities who by their active exertions have saved cities from capture by the robels, and the most philosophical of Chinese are obliged to confess that the deities here spoken of are believed to exist in a spiritual form, and that they are the spirits of dead men who were very virtuous in their lives. Again, we learn from the Hangchow tablet that the great deity Tien-how is the spirit of a human being whose name, family and lineage are known at the present day. Moreover, the extreme horror entertained even by the common people in regard to the practice of dissection is a notable proof of the deep hold this doctrine has upon their minds; indeed the idea of annihilation after death seems incomprehensible to them. We have been told that it is by no means an uncommon occurrence for dutiful sons to run out to the graves of their deceased mothers during violent thunderstorms, in order to assuage their fears by saying that they are come thither to protect them. Not very long ago, the Viceroy LI HUNG-CHANG brought before the notice of the Emperor the admirable conduct of a young lady in committing suicide for the purpose of waiting upon the spirit of her deceased father in the nether world. Here also the learned explain that this was done merely with a political object, that the girl's idea that her father still lived in a world of spirits was preposterous, but that notwithstanding, her conduct displayed such a high tone of filial piety as to be worthy of all commendation. LI HUNG-CHANG's language, however, will bear no such forced interpretation. While he says that "she followed her father under the earth without a moment's hesitation," he gives as his reason for applying for a

monument his desire not only to hold her up to the world as an exemplar but also "to soothe and comfort the spirits "in darkness."

From the above it would seem that not alone are the dead supposed to exercise a great influence over the living, but the living in their turn are required to ameliorate the condition of the dead. So far from this idea being peculiar to the State religion, it is also shared by the Buddhists, who on stated occasions sing with much pomp and solemnity a kind of mass or requiem for the repose of the dead; while the Buddhas themselves are merely the spirits of dead men.

The commentators, in their remarks on the succession to the birthright, state that this subject must not be confounded with primogeniture, which affects the hereditary nobility only; and they further point out that the whole of the nation is brought under the property laws, viz., "the belted "gentry, scholars, army and freemen generally." On our part, we must also desire the reader to distinguish between the succession to the birthright and the right to enter upon possession of the landed property of an ancestor generally.

The first rule laid down by the law is that the son of the bondwoman shall not be heir before the son of the freewoman—in the language of the commentators 以貴不以長, "blood before age"—so that no matter how much younger the sons of the wife may be, they shall succeed before the sons of the concubines; while with regard to the claims of the former amongst themselves, the rule is 以長不以賢, "age before merit," and therefore the first-born shall succeed, although, like Esau, he may happen to have a younger brother endued with more estimable qualities. In case the first-born dies and leaves issue, his eldest son shall succeed, in preference to the brother by the whole or the half blood, or the children of the concubines, in infinitum. In case of failure of male

issue by the principal wife after she has attained fifty years, the eldest son of the concubine shall be appointed to the succession. Should there be no male issue either by wives or concubines, a male, must be chosen of the nearest degree of consanguinity to continue the succession, but the commentators expressly state that as it is not a question of the hereditary nobility, the law allows the parties the liberty of choosing out of those of equal degree, beginning with the nephews, any one they may fancy either for his moral worth, intellectual ability or general amiability, in case they cannot agree with the first in rotation. The rule in this case is 禮順人情, "the ceremonial accommodates itself to human affections."



PROCEEDINGS

*MINUTES of a GENERAL MEETING held at the Society's Library
on Friday, 22nd February, 1889.*

Dr. R. A. JAMIESON, Senior Vice-President, occupied the Chair. There were about thirty persons present.

The CHAIRMAN in opening the proceedings announced that the following new members had been elected by the Council :—Monsieur A. Bottu, Mr. G. McIntosh, Dr. R. S. Ivy ; and continuing, said that strenuous efforts had been made to interest the Community in the proposed Trade and Commerce Museum for Shanghai. Success, however, had not attended these efforts, and it now became his duty to read the Council's final Report on the subject, which would inform the meeting as to the reasons which had caused them for the present to abandon further action in the matter. He then read the Report as follows :—

Second Report of the Council on the

PROPOSED TRADE AND COMMERCE MUSEUM.

The enquiry as to the support which the proposed Museum was likely to meet, referred to in the Council's first Report, was duly made. The answers received from the foreign community of all nationalities were generally satisfactory, and it may be taken as demonstrated that the establishment of a Trade Museum at Shanghai would be welcomed by the foreign merchants, and that the Museum would have their strong support. Enquiry among the Chinese merchants did not elicit nearly so unanimous an expression of approval ; but the Council are confident that further explanations of the utility of such a collection of the exportable products of their own country, would speedily remove the doubts existing in the minds of the few who entertain them, and would

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bring the Chinese mercantile body into line with their foreign competitors, or colleagues, in supporting the institution.

The advent of the famine, which is devastating some neighbouring parts of the Empire, and especially the districts subject to the officials to whom the Museum must look primarily for aid, has prevented the Council from attempting to obtain the official support without which it would be useless to start in organising such a public institution as the proposed Trade Museum. Without such support assured, it has been deemed useless to solicit the aid of the representative bodies—the two Municipal Councils and the Chamber of Commerce; and consequently no further steps have been taken.

In view of the apparent inutility of seeking official support, and in consequence of the demands which the famine relief will probably make on the purse of the community, the Council have reluctantly come to the decision that it would be inadvisable to press the project for a Trade Museum, and that it must be abandoned for this year at least.

The Council, in taking up the scheme, acted for the Society as being generally representative of all classes of the community. They venture to express the hope that, when the project is revived, they will find themselves allied with some more distinctly mercantile body representing the class chiefly to be benefited—the mercantile community.

H. B. MORSE.

Hon. Secretary.

22nd February, 1889.

The **HON. SECRETARY** then announced that a circular, similar to that for 1889 on "Currency, Weights and Measures," would be sent out in 1890 on the subject of "Inland Communications, Roads, Canals, Bridges, Post, etc." He stated this beforehand, because he thought it advisable that people should have ample time for preparing notes on the subject.

The CHAIRMAN said he had a melancholy duty to perform, in announcing that the Council were about to lose the valuable services of their much-esteemed Honorary Secretary, but he was happy to state that Mr. Morse, although the Council lost his services, was not about to sever his connection with the Society. His duties called him away from Shanghai, and the Council feared that they would find it hard to get as able a successor to discharge the duties of Secretary, which Mr. Morse had fulfilled in a manner which left nothing to be desired. People outside the Council could hardly realise the amount of routine work which the post of Secretary brought with it, and this work had during Mr. Morse's term of office been largely supplemented by voluminous correspondence and Report drafting in connexion with the Trade and Commerce Museum scheme. He (the Chairman) proposed a hearty vote of thanks to Mr. Morse for the great amount of work he had done for the Society, and for the unflagging interest which had animated him in performing his duties as Secretary.

Mr. P. J. HUGHES seconded the proposition, and cordially endorsed everything the Chairman had said about the valuable services which Mr. Morse had rendered to the Society, concluding amidst applause by wishing him every success in his new post.

The proposition was carried by acclamation, and Mr. Morse in returning thanks, mentioned the great assistance he had always received from the members of the Society generally, especially in the providing of matter for the Journal. He urged that all interested in the work of the Society should put into the form of a paper or of a note for the "Notes and Queries" anything that struck them as new and valuable.

The chief business of the evening was the reading of a paper by Mr. Geo. Jamieson (President), on "Tenure of Land in China and the Condition of the Rural Population."

The CHAIRMAN in introducing the subject mentioned the efforts which Mr. Giles had made some years ago to reanimate the Society by establishing symposiums. The Council had since then succeeded in getting together a great deal of information on various subjects which up to that time could only be found scattered

through the columns of newspapers and periodicals. Much had been done in the same direction during Dr. Hirth's presidency, and now, as the fruit of Mr. Jamieson's activity, an exceedingly interesting and valuable set of papers upon the subject of land tenure in China had been got together, the contributions coming from North, South, East and West, and forming a collection of great importance, but too bulky to be laid before the meeting. As at once an introduction and a supplement to this collection, their President had written a paper, which, without being a summary of all the facts, was specially valuable as the contribution of an expert on a subject which they all regarded with great interest. It was the Council's intention to print this series of papers in a fascicule which will moreover contain (1) a translation, made by their indefatigable Secretary, of the more important sections of a work on the local rules governing land tenure. This work, entitled *De Legali Dominio Practicæ Notiones*, was published in Latin in 1882 by the Rev. PETER HOANG, a Chinese member of the Jesuit Society. Following this would (2) be found a reprint of a series of articles contributed about 20 years ago to the *Cycle* on this same subject, by an English barrister who had devoted a great deal of attention to all the questions involved, who was exceedingly well versed in Chinese and Chinese law, and whose name, if he were at liberty to mention it, would guarantee the accuracy of the statements contained in the articles. All these would together form a manual on the subject, containing everything known about the transfer of land and the terms upon which it is held in China; and he need hardly say that it was most desirable that foreigners should be made aware of every available fact on a subject of such great and growing importance.

The Hon. SECRETARY then read a paper on "Land Tenure in China," by the President of the Society, Mr. Geo. Jamieson. (*The Paper is printed in this fascicule, pp. 59-79.*)

The CHAIRMAN having invited discussion—

Mr. CARLES said that the paper from their learned President, was one which went over all the ground of land tenure in China.

It was very remarkable how little had been hitherto written by foreigners on the subject. An important but incomplete series of papers had been written by the late Mr. T. T. Meadows in the *Chinese Repository*, part of which had been re-embodied in the *Cycle*, in which he believed that in addition to the papers by the English barrister, referred to by the Chairman, there were others of an equally interesting nature. But unfortunately the index to the *Cycle* was very deficient, and it was therefore extremely difficult to find them. There were two or three points in the President's paper to which he should like to refer, as they bore upon the question of land tenure in and around Shanghai. When this part of the country was ravaged by the Taipings, most of the people fled from their homes for refuge elsewhere, and when they returned, the authorities took measures to assist them in securing possession of their lands. The original title deeds had in most instances been destroyed, and the authorities had to issue new papers to the people upon their return. The title deeds issued by them were what are called *tientan* or *fangtan*; they mentioned the *pau* in which the land lay, and the subdivision, called *tu*. They were also numbered and lettered. When people purchased property, it was desirable that they should compare these particulars with the documents they received. From what he had seen, the custom of attaching "tails," to deeds seemed to have fallen into desuetude, and he met very few cases where deeds had been accompanied by these "tails" when supported by *fangtan*.

Turning to the other side of the subject, the sale of property by Chinese to one another, he said there were two terms used, one which corresponded to an absolute sale, the other to a sale, but not absolute. When the word *chüeh* is not inserted in the document, he believed the lessor considers that he has a right to claim something from the other party should the land rise greatly in value. But when the land is absolutely or irrevocably sold, the lessor has no further right in the property. One very remarkable point in connection with these deeds was that the signatures were not generally written by the persons whom one would expect to write

them. For they were almost always written by the person who drafted the document, and this was perhaps why so many persons were required when any dealings took place on a Chinese deed. The witnesses generally put their mark, while the draughtsman wrote the names. For this reason the draughtsman was looked upon in a court of law as in part responsible for the deed. He was not a simple copyist, but attached the names, and in cases of loss might be called upon to pay some sum to the person claiming. Mr. Jamieson had referred to the subject of *corrée*. In the north of China, at least, he (Mr. Carles) thought that this did not attach to land only. It was principally carters and such who suffered most severely from this cause, and they had no land of their own. Sometimes indeed a small sum was paid by the Government for the use of their carts and boats, but it did not always reach their hands.

All persons who had travelled on the Yangtze had seen the large tracts covered with reeds. He had no knowledge as to how these lands were owned, and he would be very glad of some information on the point. The reeds seemed to belong to the villagers, but he did not think they paid any taxes on the land, and he imagined that the property was arranged more by mutual consent between the villagers than by any other means.

Mr. MORSE gave the meeting a number of very interesting passages on the subject, which he translated from the treatise by the Rev. Peter Hoang, entitled *De Legali Dominio Practicæ Notiones*, published at Zicawei. One of the passages threw some light upon the reed-covered land referred to by Mr. Carles, which is liable to taxation, under a special tax on lands not yet brought under cultivation, from which liability it would appear that reed-lands might be subject to private ownership. Around Shanghai the land tax was payable once a year on such reed-lands. Referring to the question of middlemen in land transactions, according to the authority quoted it appeared that the vendor could compel the attendance of the middleman, who was interested (say as owner of land over which a right-of-way existed) as a witness to the deed; while there was generally a relative of the vendor who witnessed

the signing of the deed, and was called an eye-witness. Another point of interest touched upon was as to the intervention of the Tepao in such transactions, and which it appeared was not always necessary. In connection with the "tails," or labels attached to deeds, the Rev. Mr. Hoang said that these "tails" were supplied to the Magistrate by the Provincial Treasurer, by whom they were sealed, and to whom the Magistrate had to account for their disposal every year. Mr. Morse also read a passage bearing on the different kinds of sale, revocable and irrevocable, and of mortgage (one similar to the European form, another in which the property was delivered for the use and benefit of the mortgagee). A very curious form of ownership was mentioned in the work, where the author spoke of land, one of the proprietors of which owned the soil and the other the surface. The owner of the soil is held liable for the taxes, etc., and in some places the value of the soil is estimated at three times the value of the surface, while in other parts of the country the valuation is reversed, and there are very curious rights of both owners as to the building of houses and laying of coffins mentioned in connection with this dually owned land. In some places the owner of the soil is obliged to lease his part to the proprietor of the surface, who cannot be evicted for nonpayment of rent unless the arrears amount to the rent value of the soil. In Tsungming and Haimên, the author said that the surface was worth six times as much as the soil, and the owner of the surface there had almost an absolute right to build a house on the land, which the other proprietor had not.

Mr. KINGSMILL gave some interesting particulars of the curious methods adopted along the Yangtze for the assessment of rent on leased lands, which is settled upon the basis of the harvest yield each year. This constantly varying, and the apportioning being rendered still more difficult by land being split up into small holdings, the proprietors before harvest time assessed the land and settled the average yield, and the rents were then paid either in kind or in the market rate of the various cereals grown on the land. Everyone who travelled through the country was acquainted with

this, and if he asked the people about their rents he would get the answer *shi fên hao*, ten parts good, or equal to the average; and sometimes, even the proportion would be a *shi erh fên hao*, an exceptionally large crop, or a *chi fên* or *pa fên hao*, below the average. As far as his experience went, there did not seem to be any private ownership of the grounds along the river covered with reeds, until the land was brought into cultivation. It seemed to be all Government land, and the people only got the right to cut reeds, he believed, by paying so much. The land appeared to be farmed from the Government, but no land tax could be demanded until it was reclaimed and brought into a state of cultivation; but this statement applied especially to formations by alluvial deposit.

Mr. G. J. MORRISON said he would suggest that the authors of the statements about the amount of produce, etc., should be written to a second time and asked for the precise nature and value of the measures they gave. He thought that very little was known about the produce of land in China, and he also knew by experience how difficult it was for an ordinary traveller to find out anything about the subject on account of the variations in the value of the measures used. In some places it might be that a picul meant twice as much as in others, and unless these measures were given very exactly in the papers, the Society might only be the means of circulating misleading information. He therefore suggested that the Council should ask the people who furnished the papers to give also statement of the weights mentioned in English avoirdupois, and what they meant by a picul; by this means they would be able to secure, he thought, much valuable information.

The CHAIRMAN said that Mr. Morrison's suggestion was a very valuable and practical one, and mentioned that in one particular case where the Council had some doubt about the value of the currency and measures used, they communicated with the author and found that he was correct. The Council were now seeking information upon the general question, a circular at present in circulation asking for contributions from a multitude of missionaries and others upon this very point.

Mr. JAS. BUCHANAN asked whether anyone could give him any information about a statement made in the *Daily News* some years ago, namely, that all lands held by foreigners here were registered in the Chehsien's yamên though all registers of land appeared to have been made in the Taotai's yamên. Was it a fact that each sale was registered in the Chehsien's yamên by the Chinese, who, looking upon foreigners as mere wayfarers, did not regard the transaction as a sale but only as a lease? He had heard that for a certain payment this registration in the Chehsien's yamên could be cancelled.

Mr. CARLES mentioned that in two instances he knew of the lease of land held by a foreigner being cancelled for nonpayment of taxes; in one case the land did not revert to its original owner, in the other case he was uncertain what took place.

Mr. HUGHES said there was no doubt a double registration, one in the Taotai's and the other in the Chehsien's yamên, where there was always a record of the original ownership.

The CHAIRMAN gave notice that the next paper would be on "Chinese Chess."

A vote of thanks to Mr. Jamieson for his valuable paper, and another to the Chairman, brought the meeting to a close.



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1889.

THE BORE OF THE TSIEN-TANG KIANG (HANG-CHAU BAY).

BY COMMANDER MOORE, R.N.,
H.M.S. "Rambler."

I have been requested by the Council of the China Branch of the Royal Asiatic Society to prepare a paper on the Bore of the Tsién-tang kiang, and propose to divide my account into two parts, (1) the details of the observations of those floods which were seen, giving the times of arrival at a certain spot, heights, speed and general appearance, (2) the origin and reason of the phenomenon, and general conclusions to be deduced from the observations.

The Lords Commissioners of the Admiralty having decided to discontinue the survey on the coast of China, it became my duty to find out before the end of this, the final season, something about this Bore, as an appropriate termination to a series of tidal observations along the sea-board.

The Hang-chau Gulf is a place which has always excited my curiosity. Leading into the heart of a great silk country, it is unvisited by ships, and apparently is as much shunned by seamen as if it were a portion of the inhospitable Polar Sea. What was the mystery which made it so inaccessible? Was it mere rumour which gave it such a bad name, or was there in reality a serious impediment to navigation, which set a seal upon this artery of the interior? The published information regarding the Eagle or Bore was

of the most meagre description, and did not of itself convey any reason why, with ordinary precaution, trade should not be carried on by sea with Hang-chau. Strong tides had been met with by our men-of-war which visited the locality on one or two occasions during the last 50 years, but nothing which should present an insuperable barrier to commerce. In this paper it will be my endeavour to show why the Tsien-tang is blocked, through the existence of a phenomenon which, though known in many other parts of the world, is elsewhere so rare in its occurrence and so comparatively feeble in its action as to place no serious obstacle in the way of trade.

The miles used in the following statements are geographical miles, or sea knots of 2,020 yards. Ten geographical miles are equal to eleven and a-half land or statute miles. The times are the *mean* or "clock" times of the places of observation.

The "Rambler" was moored on the 19th September 1888 off an island at the south-west extremity of Chapu Bay, which will in future be known as "Rambler Island." This is the furthestmost limit in the Gulf for the safe navigation of ships. The accompanying tracing of a portion of the Admiralty chart will show the position of the island and the other stations to which it will be necessary for me to allude. A tide-pole was erected, and a careful series of observations were made of the rise and fall of the water throughout three days and nights, commencing at full moon. While this was going on, there were also records being kept at West Volcano Island, which it will be seen is situated in the mouth of the Hang-chau Gulf, 45 miles east of Rambler Island. A fortnight before, a series of simultaneous observations had been taken at West Volcano Island and Chang-tau. It was thus possible to trace the progress

of the tidal wave from the ocean to the estuary of the Tsien-tang.

On the 20th September some of the officers and myself started with the first of the flood-tide in two steam-cutters and a sailing-cutter, to observe the Bore, which I had every reason to believe originated inside the mouth of the river 30 miles distant. We proceeded without accident over the shallow flats for three hours, but then struck the ground, and soon found that there was a tide of great strength running, which placed the boats in rather an awkward situation. The measurement of the rate of the stream was 10 to 11 miles an hour, and the water rose 9 feet in half-an-hour. This was our first experience of the Bore and after-rush. Fortunately, we had lost our way, owing to the erroneous position of the river given in the existing chart, and instead of meeting with the main Bore, we had inadvertently dropped into the south branch of it, which is never so high, and which on this occasion came in without a front cascade. Being in complete ignorance of the time and place where the Bore originated, we had started an hour too soon. At 9.30 a.m., an hour after we left the ship, a sudden rise of water took place on the tide-pole at Rambler Island. We felt the rush about 11.30, being at the time 10 miles south-east of the entrance to the Tsien-tang.

That afternoon, with some difficulty, we found the river, and ran the boats ashore, two hours after high-water, on the south bank opposite Haining, laying out and burying the anchors, and taking every precaution to secure the boats against the arrival of the next flood. As the strength of the rush of water following the Bore cannot be better exemplified than in what happened to two of the boats on this night, I will describe in detail their position and how they were anchored.

They grounded at half-tide, when the water was near its mean level, that is to say, 9 feet 9 inches above low-water.¹ The keels of the boats therefore were 7 to 8 feet above low-water, and about half-way between the shore and the water, at low tide. They must have been at least half-a-mile from the nearest part of the Bore, because the foreshore consists of a gradual slope of sand for a distance of 1.3 mile. The steam-cutter, the deeper boat of the two, was anchored with 33 fathoms of stout chain and a 60-lb. anchor, buried and backed up by 4 iron weights each weighing half a hundred-weight; there was also a 2-cwt. bag of coal on the bight of the chain $1\frac{1}{2}$ fathom from the anchor.

The sailing-cutter had a 60-lb. anchor buried in the sand, with 30 fathoms grapnel taut, and two 2-cwt. bags of coal secured to the grapnel near the anchor.

It was a calm, still night, with a little rain hanging about. The murmur of the Bore in the distance was heard at 11.29; the cascade could be seen at 11.55, and it passed us with a loud roar at 12.20, well over on the north bank of the river. All that could be seen was a steep slope of white water, overfalling and pouring over itself as it advanced, the river filling up to the level of the flood as the Bore went by. At 12.25 the overflow over the flats from the Bore struck the two boats, which were aground in the position I have mentioned, and floated them at once. The steam-cutter brought up with a severe jerk, and at once commenced to drive to the westward, the sailing-cutter following soon after. The boats dragged in company for a

¹ We arrive at this conclusion thus: Another steam-cutter, which obtained a sounding of 9 feet near high-water that night, was aground, but not dry by one foot, when these two boats ran on to the sands. The water, therefore, had not fallen more than 9 feet when they took the ground. The spring rise and fall is 19 ft. 6 in.

distance of 3 miles in 25 minutes, the steam-cutter during the whole of that time going full speed ahead.²

During the rush in the morning it was found that the sailing-cutter, owing to her smaller draught, rode over the stream much easier than the steam-cutters, and held better to her anchor. It was the same now, but the steam-power of the deeper boat kept them together.

The strength of this current must have been at least 10 miles an hour. The reason of this violent rush following the Bore, will be seen by the diagram and appendices annexed, which I will explain at a later stage. The height of this Bore was 10 to 11 feet.

The other steam-cutter also got into difficulties during this night; but as her experiences do not add to the illustration of the strength of the stream, it is unnecessary to relate them in detail.

I should mention that the sudden rise of water at Rambler Island, which occurred at every flood, commenced this night at 9.30. There was therefore an interval of nearly 3 hours between the times of the Bore showing itself at Rambler Island and at Haining.

On the following day, the 21st September, about 9.45 a.m., an overfall was seen by Lieut. BALFOUR on board the "Rambler," approaching the ship from the offing, 4 or 5 miles distant to the north-east. It reached the ship at 10.15, the waves being sufficiently high, when breaking against the broadside, to throw water into the mizen chains and spray on to the poop, and then disappeared to the westward past

² When the anchors were weighed, it was found that the flukes which had been in the sand, and a great part of the chains, were burnished bright like polished silver. The coal in the bags, with the exception of $\frac{1}{4}$ cwt. in one bag, was all washed out, and the bags were filled with sand tightly packed.

Rambler Island. At 10 the water commenced to rise suddenly at the island from 9 feet 4 inches below mean level to 4 feet 7 inches above mean level at 11 o'clock.

From a boat beached at high-water on the south bank of the entrance of the Tsien-tang kiang, the Bore was seen approaching along the sea-wall between Haining and Chisan at 12.24. It had the appearance given in *Fig. 1*.

Shortly after it was first seen, the white light on the sea-wall shot suddenly out to the right, to nearly twice its length, the left extreme of the whole line remaining the highest. I have no doubt that this elongation was the junction of the south-east branch of the flood. The weather was calm, and there was a good deal of mirage. The appearance on a closer approach was that of a long, crested wave, breaking in places, in others only about to break, the top of the flood curving towards us and drawing back, hurried on by the great speed of the Bore.

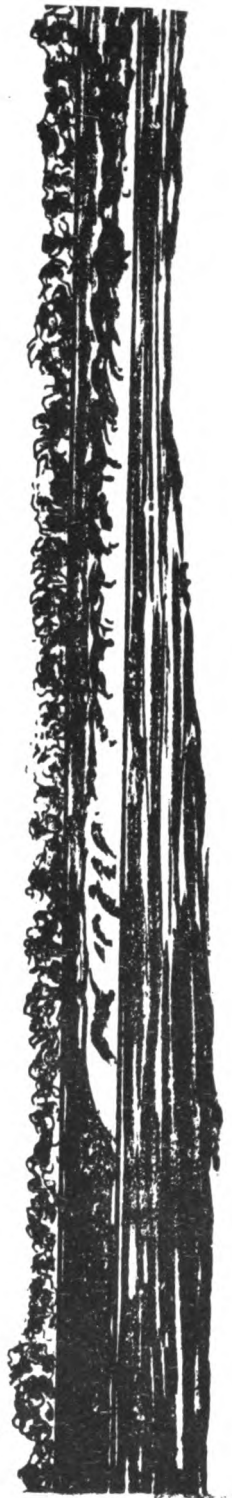
At 12.47 the Bore passed the Haining Pagoda. Front part a white cascade of foaming water. The south side of the Bore consisted of a long line of breakers and wall of water, tapering from the front to the smooth following water half a mile behind, the breakers discharging outwards towards the south bank of the river. There was broken water on the top of the Bore for a long distance behind the crest, in which no ordinary boat would have lived, and conspicuous above the disturbed water a second roller or miniature Bore occasionally rose up, and after moving onwards with the rest for a time, would leap up as if struck by some unseen force, and disappear in a cloud of spray. Height of Bore 9 feet, but the broken water behind it could not have been less than 13 or 14 feet above the level of the river in front. The Chinese standing by said this was not a high Bore, as the weather was calm. Nine junks came

13★

Fig. 1.



Fig. 2.



up behind the disturbed water, with sails set, but regardless of wind (of which, indeed, there was none), and entered the river at great speed.

A feature of this Bore worth noticing was the deliberation of the curved side in breaking. At the mouth of the river this is only seen from the south bank. All the front, over to the north shore, is a continuous cascade. It is the outer discharge on to the very gradual sand-slope, which shows as deliberate breakers, and in any sense as a wall. It looked, at times, as if the great speed checked the curve just as it was about to make its arch over on to the sand.

At 1.38 the water had risen 15 feet (approximately). It was high-water between 3 and 3.30. The stream was then making out strong along the south bank.

At 10 p.m. on 21st September, the water rose at Rambler Island from 10 feet 7 inches below mean level to 4 feet 9 inches above mean level at 11.30. The Bore passed the pagoda at Haining at 12.52. It was high-water about 3.30 a.m., and the stream was then running out along the south bank of the river. We were too far away, on this occasion, to make any reliable observations of the height or appearance of the Bore.

The water rose suddenly at Rambler Island at 10 a.m. on the 22nd September from 11 feet 8 inches below mean level to 3 feet above mean level, which it reached at 11.30. Three officers observed this Bore from the south bank of the Tsién-tang. It passed the pagoda at Haining at 1.10 p.m., travelling at a speed of 12.7 miles an hour, and its height was found to be 10 to 11 feet. It had the appearance given in *Fig. 2*.

No second wave or line of cascade was seen on this or any other day. As on the 21st, the south side of the Bore formed a line of breakers and water attempting to break,

tapering in height from the crest of the cascade in front to the smooth, shining flood following. Disturbance on the back of the flood, but not so marked as on the previous day. The river filled up very quickly to the level of the Bore after the cascade had passed. High-water at 4 p.m.; and the stream at once commenced to set out. On the south bank the outgoing stream commenced at 2.45.

It became necessary now for the boats to return to the "Rambler." One of our steam-cutters was seriously damaged. The difficulty of navigating the river and securing the boats at a sufficient height to protect them from the Bore and after-rush, together with the fact that springs were past, and the consideration that we were unacquainted with the return route and had to feel our way, decided me to postpone the completion of my observations until I could visit the river by canals from Shanghai. Three of the officers engaged a junk, and proceeded to Haining and Hang-chau, and were able to observe the Bores of the 23rd September.

We took shelter in the boats on the night of the 22nd in a bay 12 miles east of Haining, under the conspicuous headland of Chi-san. Between 9 and 11 p.m. we heard the roar of continual overfalls outside, but did not see the Bore. The water, where our boats were grounded, rose and fell in the most singular manner as much as 3 feet several times without any surface disturbance, showing the conflict in progress between the outgoing stream and the flood. The water rose on the tide-pole at Rambler Island from 9 feet 4 inches below mean level at 10.30 p.m. to 5 feet 11 inches above mean level at midnight. Lieut. PUREY-CUST, who was at Haining, noted that the Bore passed the pagoda at 1.20 a.m. (approximate), and that it was 8 to 10 feet high. He observed that at 8.20 the water had fallen to 5 feet above

its lowest, having dropped 13 feet 4 inches in 4 hours. The river was at its lowest level immediately before the Bore arrived, and the stream was running out. There was only one cascade. At 2 a.m. the water had risen 15 feet. The junk, in which he and two other officers had secured their passage, then proceeded to Hang-chau, and accomplished a distance of 24 miles in 4 hours, with scarcely any wind to assist the force of the flood-stream.

On Sunday, 23rd September, there was a sudden rise of water at Rambler Island from 11 feet 10 inches below mean level at 10.30 a.m. to 5 feet 9 inches above mean level at 12.30. The Bore passed the Ferry at the city of Hang-chau—which is 53 miles distant from Rambler Island—at 4 p.m. (approximate). Dr. BASSETT-SMITH, who watched it, states that the distance he was from the cascade was too great to enable him to form a correct estimate of its height, but the larger junks appeared to ride over it, and, judging by the after rise of the water, he considers that it could not have been more than 4 or 5 feet.

Abreast the city of Hang-chau, the deep channel of the T sien-tang is near the south or right bank, and consequently an observer on the north bank, from which the slope is very gradual, would have the same view of “lagging” which we had from the south bank at the mouth of the river on the 21st and 22nd September. Dr. SMITH first saw the Bore about 3.30 p.m., coming up the river as a straight line of foam. As the highest part progressed along the south bank, the flood discharged itself towards him in a long line of breakers, tapering from the crest of the Bore to the smooth, shining water behind where the river was filling up. A junk was seen sailing up to the vanishing end of these breakers. When close-to, she lowered her sail and rode gently over the surf, then proceeded on her course down the

river. A quarter of an hour after the front of the Bore had passed, the flood was felt at the Ferry in the form of chow water. Between the time the front of the Bore passed and the arrival of this chow water, the tide rose quietly $1\frac{1}{2}$ foot; when the chow came, it rose suddenly 2 feet more; and during the succeeding hour it rose only 1 foot. The entire range of tide (3 days after full moon) was probably not more than 5 to 6 feet. It happened to be examination time at Hang-chau, and thousands of students and others flocked down to the water's edge, to witness the phenomenon.

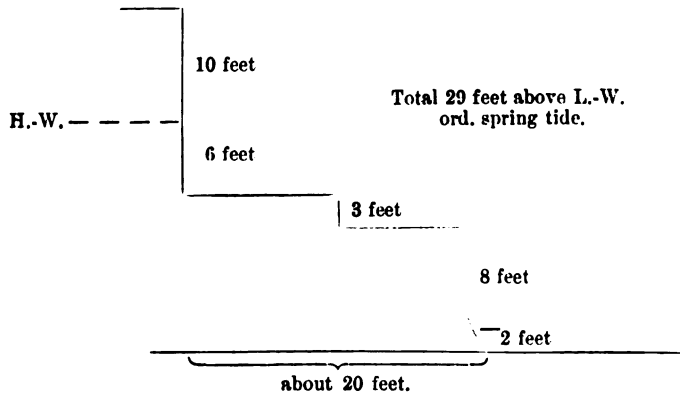
Subsequent observations made with care by Mr. GEORGE MOULE establish the fact that the range of spring tide at Hang-chau does not exceed 6 feet. I am obliged to disagree with Dr. MACGOWAN, who informed the Society, some years ago, that he had watched the progress of a Bore in this locality which he estimated at 30 feet high; and that the cascade was higher off the city than at the mouth of the river. A Bore cannot be higher than high-water spring tide, and there is no reason to suppose the range of spring tide to have altered materially during the last hundred years. At the mouth of the river the range of spring tide is 19 to 20 feet, and the cascade is generally three times as high as it is off the city of Hang-chau. Dr. MACGOWAN's erroneous description of the Tsien-tang Bore will be found in Professor MAURY's famous work—*Physical Geography of the Sea*. During the few days of her stay in the Hang-chau Gulf, the cables of the "Rambler," were much strained and damaged by the violent ebb-stream, which was found to run at its greatest velocity between the second and third hour after high-water. The reason of this is apparent when the tables of differences of level and the diagram of simultaneous levels are consulted. To these I will allude presently. We had some difficulty in saving one cable, for

when weighing anchor on the 24th September, a north-east wind sprang up with the flood-tide, and a severe overfall surrounded the ship with waves as high as the gunwale. This lasted two hours. We fortunately got away with only the loss of all the pauls and bars of the capstan.

Several questions connected with the Bore still remained unanswered, and it was necessary to take observations for latitude and longitude at Hang-chau and Haining. After arrival at Shanghai, I went over to Hang-chau in a house-boat, and from thence to Haining, which I reached on the 4th October. As before remarked, this town is situated at the mouth of the Tsien-tang kiang, on the north or left bank. The Bhota Pagoda, built ages ago, to solicit a good Fung-shui to keep out the flood, is the most favourable point of view from which to see the Bore approach, and from which to watch it enter the river as a whole cascade after the junction of the two branches, and its conflict with the sea-wall. It is here that it is first seen as one unbroken line, commencing its majestic progress towards the city. From Haining there is a busy export. The junks, of which sometimes a dozen may be seen loading or unloading at the same time, draw from $1\frac{1}{2}$ to 2 feet water when empty, and ground $1\frac{1}{2}$ to 2 hours after high-water on a platform of stones enclosed by piles alongside the sea-wall. The attached sketch will best show how this platform is constructed, and how it is protected from the Bore by a massive buttress at the eastern end, which is 253 feet long (i.e., parallel to the sea-wall), 66 feet wide, and semi-elliptical in shape, and consequently deflects the flood-stream before it reaches the shelter. From the estuary south-east of Haining, the junk platform is protected by a spit of sand, dry at low-water, stretching out from the opposite shore, round which the southern branch of the flood must pass. Unless, therefore,

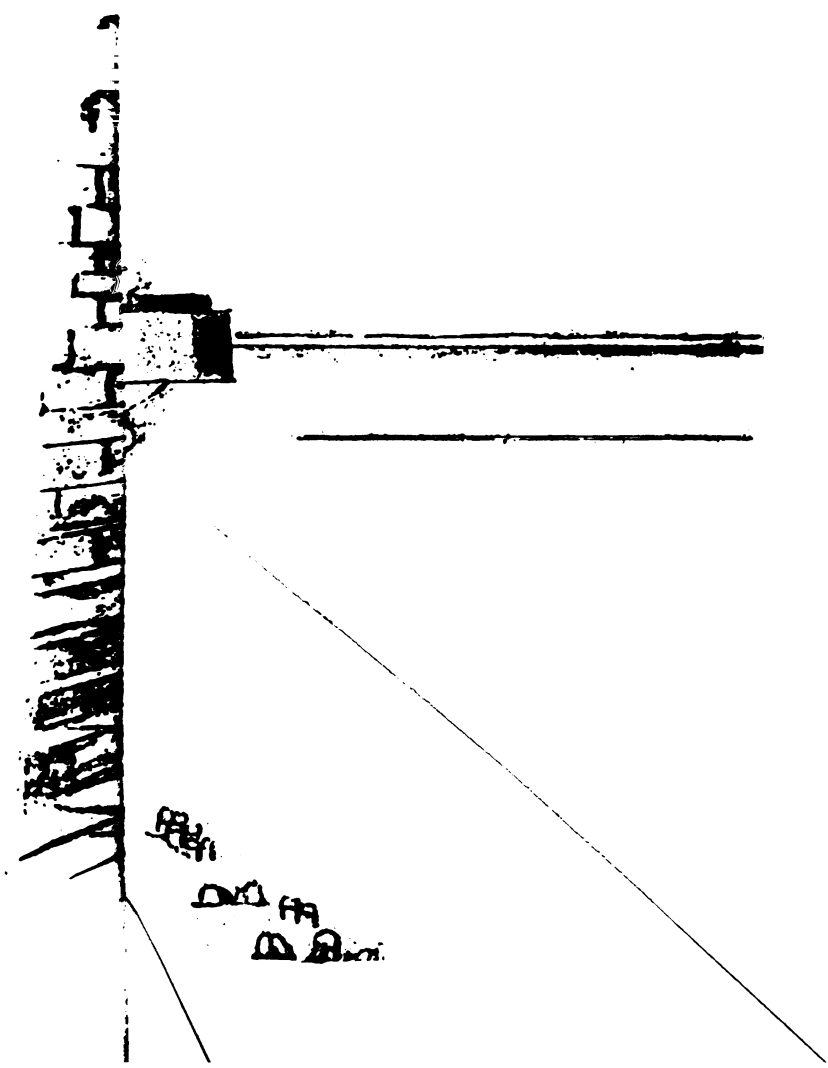
the south bank of the river changes its shape, or the buttress is destroyed, the force of the Bore cannot be experienced by junks on the platform, though the side of the cascade will wash along the piles which confine the stones.

This shelter or platform, abreast the pagoda, is 1,100 yards long, 20 feet wide, and 7 to 8 feet above low-water ordinary spring tide. At the west end of it there is another buttress, protecting a shelter on a higher level, of which Mr. CUST made the following measurements :—



The shelters—and I understand that there are many others up the river along the sea-wall—are well inside of a direct line from the outer tangent of one buttress to the outer tangent of the next. The sea-wall, abreast the pagoda, is $23\frac{1}{2}$ feet high above low-water ordinary spring tide, and 16 feet above the junk-platform. The side is cut in steps (15 in number) like those of a dock, but only 4 inches broad, so that the side of a junk, rising and falling, does not lodge. They may strike the wall, and in fact often do when the spring tide Bores pass, but, rudely built as they are, no harm comes of it. When the Bore is heard approaching,

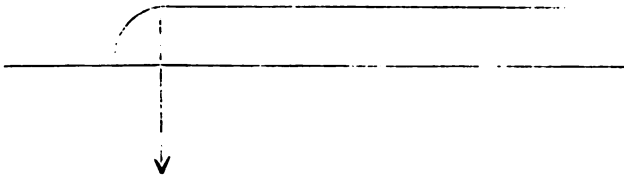
g, stranded at low water



the junk-master looks to his warps, lays out extra ones if he thinks it will be a high cascade, and summons his crew, who stand by with poles and boathooks. As the Bore passes, there is the usual shouting and gesticulating until the after-wash has gone by, when the junk is fairly afloat and able to carry on loading.

The water must be 9 feet high to float an empty junk. For the reasons I have mentioned, and because the bank, though steep-to from the channel of the river, is actually dry for 3 or 4 feet outside the piles which confine the junk-platform, the side of the Bore is never so high as the crest over the deep water. Thus, if I observe that, at the first rush, the piles are hidden and the junks afloat—as was the case on Sunday 7th October, and it is plain to me that the crest of the cascade is 2 or 3 feet higher than the side of it—I say the height of the Bore is 10 to 11 feet.

The term "Bore," as meant in this paper, is the front of the advancing flood, that part where the water commences to fall over the edge of the plane on to the river beneath.



The water invariably rises—within 15 minutes after the passage of the Bore—to a height above it of from one-quarter to one-half its own height. This is not, strictly speaking, the Bore, and is not included. Again, the surface behind the crest is generally in a state of violent commotion, the waves leaping up many feet above the general level. The height of these waves is not taken into account when recording the measurement of the Bore.

The chart will show the lay of the land, and the position of the place of observation at Haining with reference to the estuary and opposite side of the river. The Tsien-tang, opposite the pagoda, is 2·4 miles wide, but at low-water the breadth of the stream is not quite one mile.

The deepest water is some 2 to 4 cables from the north bank, the section being somewhat like this in shape:—



From the statements of the natives, and one or two casual soundings which were obtained, I have reason to believe that there is 2 to 3 fathoms *at least* in the channel at low-water spring tide. One sounding of $7\frac{1}{2}$ fathoms was obtained at high-water.

The sea-wall affords some evidence of the force of the Bore, its massive construction showing what the authorities have thought necessary to withstand the daily shocks. As it is distinguished by the Chinese from the embankment behind, it was probably built at a different epoch. Both are very old.³ The two together measure across 80 to 90 feet, of which distance the sea-wall occupies about 30 feet. Its top is 3 to 4 feet above high-water, ordinary spring tide,⁴ and is faced with blocks of stone 5 feet long, 1 foot 4 inches broad, and 1 foot 2 inches deep, laid endways out, and joined together by rivets of iron. Thirty to forty feet from the edge of the wall, on the embankment, there is a mud ridge, 7 to 8

³ Mr. CARLES has kindly looked up the *Pei-nen-yun-fu*, which gives the date of the commencement of the building of the sea-wall as 911 A.D.

⁴ *i.e.*, abreast the pagoda. West of the pagoda half a mile, there are places where it is 9 to 10 feet above high-water spring tide.



feet high, lined with trees. Beyond the sea-wall, and giving it further support, are the junk shelters and buttresses before described. The latter are built of mud enclosed by fascines.

The sea-wall, as distinguished from the embankment behind it, is said to have been built over 500 years. It extends, without interruption, to Chi-san eastward, and up the river between 19 and 20 miles. About 1,000 people are said to be constantly employed on its repair. I have only seen 12 miles of it close-to—that portion near the Bhota Pagoda and to Chi-san—but this, at any rate, was in excellent condition. The country which it protects from the flood is from 2 to 6 feet below high-water spring tide.

The embankment extends with more or less regularity from the Tsién-tang kiang to Woosung, round Yangtze Cape, a distance of 120 miles.

The Bhota Pagoda at Haining, which is said to be over 1,000 years old, is 120 feet high, hexagonal, six-storied, and has 36 bells. The highest gallery is 84 feet above high-water, and consequently 103 feet above the level of the river before the Bore arrives. The outer wall around the bottom of the pagoda is distant 30 feet from the edge of the sea-wall.

The following is the record of certain Bores observed about the time of new moon early in October :—

4th October. Day Bore. Observer on the sea-wall abroast Bhota Pagoda, Haining. Day calm.

10.44.—Bore was seen approaching from a direction between Chi-san and the sea-wall.

11.2.—A second roller formed behind the first line of breakers, probably due to the effect of the rebound from the sea-wall.

11.10.—As the flood narrowed in width to enter the mouth of the river, the sea was very confused, picturesque

lines of corkscrew breakers forming, and exhausting themselves against the south bank.

11.16.—Bore passed pagoda, as one straight line of continuous cascade, 5 to 6 feet high, washing the top of the piles confining the junk shelter.⁵ The line was as straight as infantry on the march, for 9 cables ($\frac{3}{10}$ of a mile) across the river. If not for its speed, I think a good launch might have ridden over this Bore. There was no second roller.

11.29.—Water had risen to 9 feet.

12.28.—Water 14 feet.

1.53.—High-water, 15 feet above the lowest level of the day. Up to the time the Bore passed, the stream was running out in the deep channel of the river.

5th October. Day Bore. Observer first on the highest gallery of the pagoda—103 feet above low-water.

10.56 a.m.—Bore in sight (through the telescope of a theodolite) coming towards the river along the sea-wall. Could distinguish the crest curling and breaking in places, in others a compact wall. Descended the pagoda, and took up position at low-water level. Water at its lowest for the day.

11.32.—Bore in sight. Height of eye above river $5\frac{1}{2}$ feet.

11.50.—Bore passed the pagoda. Height over deep channel of river 8 feet. Line of cascade nearly straight across and continuous.

11.58.—Water had risen 10 feet.

1.43 p.m.—Water 16 feet.

⁵ A word of explanation is required here. If the cascade washed the top of the piles at *spring tide*, it would be 6 to 7 feet high at the side and probably 8 to 9 feet over the channel, but the day before new moon the water in the river had not fallen to within 1 foot 6 inches or 2 feet of the level at springs. Consequently the height of the cascade was only 5 to 6 feet.

2.50.—High-water, $16\frac{1}{2}$ feet.

The water was at its lowest level for the day, and the stream was running out in the deep channel of the river at the time the Bore arrived.

When about 2 miles east of the pagoda, the flood-stream struck the sea-wall with great violence and rebounded. There was a severe rippling on the back of the Bore when it passed the pagoda, but no second roller or cascade.

Mr. GEORGE MOULE had stationed himself, at my request, on the sea-wall, 6 to 7 miles from Hang-chau and between 14 and 16 from Haining. The Bore passed him at 1.5 p.m. and the height was 6 feet.

5th October. Night Bore. The night Bore of the 5th (the period of new moon) was observed from abreast the pagoda. Observer, at first, sitting on the piles which confine the junk shelter. Weather fine, sea calm.

10.37 p.m.—Heard the muttering of the Bore. No doubt it could have been heard before had it not been for the continuous noisy rippling of the outgoing stream in the deep channel. At this time, the flood must have been between 12 and 16 miles distant.

10.45.—Noise very distinct.

11.28.—Junk-men, on top of sea-wall, stated that they could see the Bore.

11.58.—Bore passed pagoda with a loud roar. First rush level with the bottom of the sea-wall at the inner edge of the junk-platform. Height in centre 9 feet.

12.1 a.m.—Junks afloat, and surging against wall.

12.9.—Water had risen to 13 feet. Highest during the night 18 feet.

As far as could be made out in the darkness, the line of cascade was straight across to the opposite sands. Water was at its lowest level at the time the Bore arrived. The

natives said that, *considering the calm weather*, this was a high Bore.

6th October. Day Bore. Observer on highest gallery of pagoda. Weather fine. Sea calm. Light airs from the south.

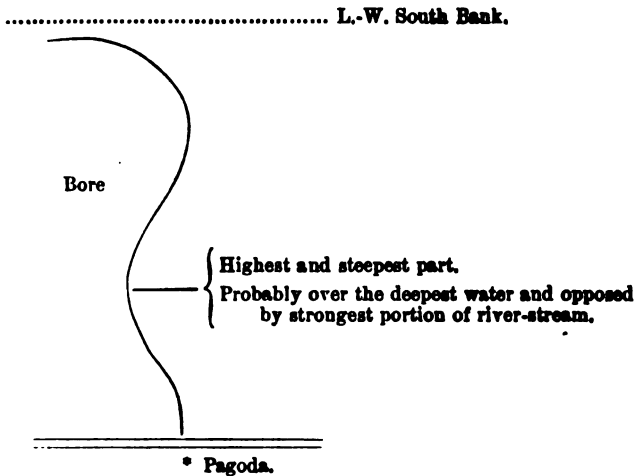
11.30 a.m.—Sighted Bore coming, as usual, straight from inside Chi-san Cape, along the sea-wall, the highest part being near the wall. The dry sand-flats visible from the pagoda, 5 to 10 miles distant and in line with Chi-san, no doubt prevent the Bore being seen sooner.

11.57.—A second Bore, not quite so high, was observed approaching from the south-east, with a second roller coming up on its back. The latter, on a closer approach, subsided, and the south-east branch of the Bore presented a uniform appearance. Converging towards each other, the right extreme of the line of breakers extending southward from the sea-wall (the main Bore), and the left extreme of the south-east branch, met at 12.8 with a splash and overlapping roller. The combined line of rollers now extended from the sea-wall to the sand-flats which stretch into the estuary from the south bank of the river, a distance of 2 miles, subtending an angle at the pagoda of 39° . Noise distinct.

12.15 p.m.—Flood-stream hit the sea-wall about 2 miles east of the pagoda, and rebounded with great violence, raising a series of breakers behind, but twice as high again as, the front of the Bore. These waves and breakers ran for some distance in a southerly direction, the sea of the estuary becoming violently agitated for two miles, and, after a time, settled down to the mean height of the top of the advancing flood. As the Bore contracted in width to conform to the mouth of the river, the rippling on its back was very severe. The highest part was in the middle, where the opposing rebounds from the sides met. The water was at its

lowest level of the day, and the stream in the river was running out, until the last minute before the Bore arrived.

12.23.—The Bore now marshalled into a fairly straight line of cascade, entirely breaking in a steep slope of bubbling foam, and passed the pagoda with the usual loud noise. The line of cascade was somewhat in this shape :—



The junks moved at once. Height of cascade over the deep channel 9 feet. A severe rippling was travelling on the back of the Bore, but no second roller.

12.29.—Rippling had passed, having extended behind the cascade for about a mile. Eleven junks came up behind the Bore, and swept into the river with the after-rush.

12.40.—Water had risen to 14 feet.

3.19.—High-water 19 feet. Stream commenced to set out of the river.

Mr. GEORGE MOULE observed this Bore from the same place on the sea-wall as on the 5th October. It passed him at 1.32 p.m., height 9 to 10 feet.

1 : *

At Union City, Tenn. Over a highest gallery of
 again. Weather in. In rain. Light air from the
 west.

1200mm—lighter than wing as usual, straight from
main dorsal line along the mid-vent, the highest part
being over the mid-vent. The eye and the visible from the
upper front side of the mid-vent with the eye, no
dark spot on the eye and nose.

1152—A small line, not quite so high, was observed appearing from the east-end, with a second roller coming up behind. The line, on a closer approach, exhibited, on its surface, the form of the line presented a uniform appearance. Grouping over each other, the right ends of the line of rollers extending seaward from the seaward line, and the left extreme of the south-westward line, and a slight and overlapping roller. The central line of rollers was composed from the seaward line, and extended into the estuary from the west end of the line, a distance of 2 miles, extending to the opposite point. The line.

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...the night and ... with great violence ...
...the night ... but were as high as ...
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SECRET

THE
- BUREAU OF THE
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U. S. DEPARTMENT OF THE ARMY
THE ATTORNEY GENERAL OF THE DISTRICT

~~THIS MESSAGE IS UNCLASSIFIED~~
~~DATE 08-11-2010 BY 60322 UCBAW~~
~~REASON: 25X~~

11-10-52

THE STATE OF TEXAS,
COUNTY OF DALLAS.

noted and that, considering the calm weather, this was a high Born.

At 10 a.m. Day Born. Observed on highest peaks of pagoda. Weather fine. Sea calm. Light airs from the west.

11.30 a.m.—Signal Born coming as usual, straight line into Chi-mo Cape, along the sea-wall, the highest peak being near the wall. The dry mud-flat visible from the pagoda, 5 to 10 miles distant and in line with Chi-mo, doubtless prevent the Born being seen sooner.

12.15.—A second Born, not quite so high, was observed approaching from the south-east, with a second roller coming up on its back. The latter, on a closer approach, subdivided and the south-east branch of the Born presented a multiple appearance. Converging towards each other, the right arm of the line of breakers extending southward from the sea-wall (the main Born), and the left extreme of the south-west branch, met at 12.4 with a splash and overlapping roll. The combined line of rollers now extended from the sea-wall to the mud-flat which stretched into the estuary from the south bank of the river, a distance of 2 miles, subsiding to a height at the pagoda of 80'. None distinct.

12.15 p.m.—First-born hit the sea-wall about 2 miles west of the pagoda, and rebounded with great violence, raising a series of breakers behind, but twice as high as the first of the Born. These waves and breakers ran for some distance in a southerly direction, the sea of the estuary becoming violently agitated for two miles, after a time, settled down to the mean height of the top of the adjoining flood. As the Born continued in width to extend to the mouth of the river, the rippling on its back was very even. The highest part was in the middle, where the opening subsided from the side met. The water was at its

feet high, lined with trees. Beyond the sea-wall and giving it further support, are the junk shelters and buttresses before described. The latter are built of mud and sealed by fascines.

The sea-wall, as distinguished from the embankment behind it, is said to have been built over 500 years. It extends, without interruption, to Chi-san eastward, and is the river between 19 and 20 miles. About 1,000 people are said to be constantly employed on its repair. I have only seen 12 miles of it close-to—that portion near the Bhoja Pagoda and to Chi-san—but this, at any rate, was in excellent condition. The country which it protects from the flood is from 2 to 6 feet below high-water spring tide.

The embankment extends with more or less regularity from the Tsién-tang king to Woosung, round Yangtze Cape, a distance of 120 miles.

The Bhoja Pagoda at Haining, which is said to be over 1,000 years old, is 120 feet high, hexagonal, six-sided, and has 36 bells. The highest gallery is 84 feet above high-water, and consequently 103 feet above the level of the river before the Bore arrives. The outer wall around the bottom of the pagoda is distant 30 feet from the edge of the sea-wall.

The following is the record of certain Bores observed about the time of new moon early in October:—

4th October. Day Bore. Observer on the sea-wall. At the Bhoja Pagoda, Haining. Day calm.

10.44.—Bore was seen approaching from a direction between Chi-san and the sea-wall.

11.2.—A second roller formed behind the first line of breakers, probably due to the effect of the rebound from the sea-wall.

11.10.—As the flood narrowed in width to enter the mouth of the river, the sea was very confused, picturesque

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6th October. Night Bore. Observer on the sea-wall near Bhota Pagoda. Weather rainy, with moderate S.E. wind.

11.38 p.m.—Heard the muttering of the Bore. The splash of the waves prevented its being heard before.

11.59.—Noise distinct.

12.3 a.m.—Occasionally saw the glint of the foam.

12.35.—Bore passed pagoda with a loud roar. Height 10 feet. As far as could be seen in the darkness, it appeared to be nearly a straight line across the river.

12.42.—Water had risen to 13 feet. During the night, the water rose to $19\frac{1}{2}$ feet above low-water ordinary springs, 4 feet from the top of the wall abreast the pagoda.

7th October. Day Bore. Moon $1\frac{1}{2}$ day old. Observer on sea-wall abreast Bhota Pagoda, Haining. Wind from the eastward; force 4 to 5 (BEAUFORT's scale), with rain, and squally appearance to seaward.

12.36 p.m.—Heard the Bore. Too much rain to see far.

12.40.—Noise distinct, though there was talking going on around and sound from the lapping of waves on the sand below.

12.48.—Bore in sight. When between one and two miles east of the pagoda, the flood-stream charged the sea-wall and rebounded with great violence, raising an irregular wall of water behind, but about twice as high again as, the front of the Bore. The top of this mass must have been nearly, if not quite, as high as the level of my eye—which was 28 feet above the level of the river at the time. Nothing could be seen beyond it, and at first I took it to be a part of the distant land. At a cautious calculation, I estimate it to have been, for a period of 3 or 4 minutes, 20 feet above the level of the river at the same spot immediately before the Bore arrived. Before reaching the entrance of the river, it

broke, and tumbled over in a series of magnificent rollers on to the back of the Bore.

12.57.—The Bore passed with a deafening roar, as one continuous cascade from bank to bank, and instantly floated the junks on the shelter. Over the deep channel of the river, the crest of the cascade was 10 to 11 feet high, but there were many waves carried along in the rippling on its back which were 3 to 4 feet higher. For several minutes after it had passed, the bosom of the flood was violently convulsed, heaving to and fro, from one bank to the other, like the ocean surface after it has closed over a sinking vessel, now and again leaving a depression in the centre, and washing up to within 6 feet of the top of the sea-wall.

1.7.—Mean level of water at the wall, 13 feet above low-water springs, i.e., the level of the river before the Bore arrived. The water was at its lowest, and the stream was running out, to the last moment. That portion of the cascade which was over the channel of the river was slightly retarded and steeper than the rest of the line. The Chinese said this was a good Bore, and attributed its violence to the easterly wind in the Hang-chau Gulf.

This concludes the notes on those Bores which I personally observed. Judging by the replies which I received from the natives to questions put at various times, it would appear that none of the cascades I saw were, in their estimation, as high as they often are at spring tides. They expect highest tides and highest Bores in the winter. This, at Haining, where a high or low Bore has a practical bearing upon their daily life. At Hang-chau there is a story that the highest Bore is always on the 18th day of the 8th moon, i.e., three days after the full moon of September; but it certainly was not so this year, and it is difficult to see why it should be so

any year, except when full moon happens to correspond with perigee, which it did nearly in 1887.

I understand that the Society was informed at one of its late meetings that the Bore of the Tsien-tang kiang only occurs at or near the equinox. As the object of our meeting is to fully discuss the subject, I take this opportunity of giving this statement an unqualified contradiction.

The junk-men say that the water has been known to rise within 2 feet of the top of the sea-wall, and to fall 2 feet lower than the lowest I recorded. This would make the range of exceptional spring tides 23 feet.

With reference to our full moon observations, it should be remarked that the range of that spring tide at West Volcano Island was a foot lower than it has been, and 2 feet lower than what may be expected under extraordinary conditions; while the water-marks on the rocks round Rambler Island and the opposite coast indicated a possible tide 17 feet above our computed mean level, and 5 feet above the spring tide, high-water, which we recorded.

The new moon Bores were not assisted by any continuous easterly wind in the Gulf, though a wind sprang up during the last 24 hours of my stay, which no doubt made the night Bore of the 6th October, and the day Bore of the 7th, both higher and earlier than they otherwise would have been. I believe the phenomenon has been, so far, observed under normal conditions, possibly under rather less favourable circumstances than usual. I have no doubt that there are occasions when the crest of the cascade attains a height of 15 feet, and continues at that height for a distance of 14 or 15 miles. A typhoon, or a long continuance of easterly wind blowing into the Gulf, would occasion this.

I will now compare the time of the passage of the Bore, in each case, with the time of the transit of the moon succeeding that to which the origin of the phenomenon is due.

DATE.	A.M. or P.M.	Mean Time Bore passed Pagoda at Haining.	Time of Moon's Transit.	Bore passed before or after.	Interval between Bore passing and Moon's transit.	REMARKS.
		h. m.	h. m.		h. m.	
○ 21st Sept. ...	A.M.	0 20	0 19	A	0 1	Calm.
	P.M.	0 47	0 42	A	0 5	"
22nd " ...	A.M.	0 52	1 3	B	0 11	"
	P.M.	1 9	1 24	B	0 15	"
● 4th October	A.M.	11 16	10 41	A	0 35	Calm.
5th "	A.M.	11 50	11 33	A	0 17	"
	P.M.	11 58	11 59	B	0 1	"
6th "	P.M.	0 23	0 26	B	0 3	"
7th "	A.M.	0 35	0 52	B	0 17	East wind.
	P.M.	0 57	1 20	B	0 23	Strong E. wind.

It appears from this, that the Bore originated by the sudden rise of water in the estuary following the inferior transit of the full moon and the superior transit of the new moon, passes Bhota Pagoda, Haining, precisely at the minute of the superior transit of the full moon and the inferior transit of the new moon. Or speaking generally, it may be said that the Bore passes Haining as the moon crosses the meridian. On very calm days (such as the 4th October) before or after spring tide, it is behind time, and during strong on-shore winds, it comes in early.

The proofs of the speed, and the evidence on which the heights of the different Bores were estimated, will be found in Appendix D. Mr. GEORGE MOULE has made several observations of the times and heights of Bores, which, with his permission, I now lay before the Society.

- (1) From the Ferry of Hang-chau, about 23 miles (by the river) from Haining :—

DATE.	A.M. or P.M.	Mean Time Bore passing.	Time of Moon's Transit.	Interval.	REMARKS.
1886		h. m.	h. m.	h. m.	
23rd October ...	P.M.	3 48	2 16	1 32	High-water at 4 h. 17 m.
2nd November	P.M.	1 10	10 9	3 1	
6th "	P.M.	3 8	1 58	1 10	High-water 6 feet 4 inches.
7th "	P.M.	3 52	3 0	0 52	Seen from the Sa- natorium. Time not to be relied upon to within 5 minutes.
17th "	P.M.	1 45	10 45	3 0	
19th "	P.M.	2 29	0 13	2 16	
20th "	P.M.	3 10	1 0	2 10	High-water 3 feet 8 inches.

From these notes, it will be seen that the time of the Bore passing Hang-chau is exceedingly irregular, owing probably to the shoals below the city. The early Bores are those of highest spring tides, when the difference of level is greatest between the water in the Hang-chau Gulf and the river before the Bore arrives, and when, consequently, the greatest propelling force is at work.

The average time for the Bore to pass Hang-chau about full and change of the moon is 2 hours after the Moon has crossed the meridian, the average height 2 to 3 feet. It is high-water in less than one hour afterwards.

Mr. GEORGE MOULE observed, that when full moon corresponded with apogee, the spring rise was only 3 feet 8 inches, but when new moon corresponded with perigee it was 6 feet 4 inches. The ordinary spring range at Hang-chau may be accepted at 5 to 6 feet.

On 3rd November, Mr. MOULE crossed the river and observed the Bore pass from a point directly opposite the city of Hang-chau. The time was 1 h. 29 m., and the height between 2 and 3 feet. His notes on two Bores about new moon

in October, which were taken on the sea-wall at a position 6 to 7 miles from Hang-chau, have been recorded with my own. The spring rise and fall at this spot was found to be 12 feet (approximate). He observed three Bores about full moon in October from a position on the sea-wall (the Avenue) about 5 miles from Hang-chau and 17 to 18 (along the wall) from Haining.

The times and heights were as follows :—

DATE.	A.M. or P.M.	Mean Time Bore passing.	Moon's Transit.	Interval.	Height.	REMARKS.
1888		<i>h. m.</i>	<i>A. m.</i>	<i>A. m.</i>	<i>feet.</i>	
19th October ...	P.M.	1 11	11 21	1 50	7 to 8	
20th " ...	P.M.	1 30	0 4	1 26	8 9	Strong N.N.E. wind.
22nd " ...	P.M.	2 42	1 32	1 10	7 8	

Mr. J. A. JACKSON, who was then travelling for the American Bible Society, informs me that in the middle of July 1885, when on his way down the Tsién-tang kiang, he was upset by the Bore. The boat had on board about 20 passengers, 3 of whom were drowned. The accident occurred just before daybreak. The name of the nearest city was Fu-yang, the boat being 15 li from it towards Hang-chau, and about 100 li, or 25 geographical miles, from the latter city. Having obtained a passage in another boat, Mr. JACKSON continued his journey, and had an opportunity of seeing the next Bore from a safe position. He was then about 12 or 13 geographical miles from Hang-chau, and estimated the height of the cascade as 5 feet. The moon was in perigee at 10 a.m. on 12th July 1885, and the phase of new moon occurred at 1 p.m. on the same day. Mr. JACKSON's rough guess at the date was the 19th. He has promised to look at the entries in his journal. I expect he will find that the

accident, which so nearly cost him his life, occurred on the 14th or 15th July.

Lieutenant A. F. BALFOUR, the second in command of the "Rambler," proceeded to Haining at the end of November, and has furnished me with the following observations:—

1st December. Day Bore. Two and a-half days before new moon. Nine junks on the platform and two anchored off it with two anchors out ahead, and riding to the river-stream by a pole driven through a hole in the stern. Sea calm. Observer, first, on the highest gallery of the pagoda.

9.36 a.m.—Bore in sight, coming straight from Chi-san.

9.46.—South-east branch of the Bore in sight.

10.10.—Bore passed pagoda as one continuous cascade from bank to bank, 3 to 4 feet high. The two junks rode over it. Speed did not appear to be nearly as great as that recorded at spring tide. About ten minutes after the main Bore had passed, the south-eastern branch joined the after-rush, and gradually subsided on to the back of the Bore, forming heavy chow-water.

10.26.—Water rose suddenly to 7 feet above the lowest of the day, and there was a marked increase in the strength of the current, due to the second Bore.

10.37.—Junks floated (9 feet).

12.16 p.m.—High-water 14 feet 4 inches. The water was at its lowest for about 2 hours before the Bore arrived, and the stream of the river was running out to the last moment.

1st December. Night Bore. Observer on the sea-wall near the pagoda.

9.47 p.m.—Distinctly heard the muttering of the Bore.

10.39.—Bore passed the pagoda. Height 3 to 4 feet.

10.44.—A sudden rush of water, and rise to 8 feet, due probably to the south-eastern branch of the Bore following the main cascade.

2nd December. Day Bore. Observer, at first, on top of the pagoda. Water of river 3 inches above level of low-water ordinary spring tide. No junks anchored in the river on this day.

10.17 a.m.—Both branches of the Bore in sight. As on the previous day, the south-east branch did not join the main Bore exactly, but ran into it after the latter had passed the usual point of junction. It then appeared to run across the main flood-stream, and strike the sea-wall about 2 miles east of the pagoda, breaking over it, and sending volumes of spray over the trees on the embankment.

10.52.—The main Bore passed pagoda. Height 4 to 5 feet.

10.54.—The south-east branch of the Bore, with a regular front cascade, not quite so high, but travelling much faster than the main Bore, passed pagoda, and appeared to soon overtake the first cascade.⁶ The water rose to 8 feet. Two minutes after, it fell to 7 feet, but soon rose again, and at 11.7 was 9 feet above the lowest of the day.

3rd December. Day Bore.

11.35 a.m.—Bore passed pagoda. Height 5 feet.

11.37.—Sudden rush, and rise of water to 9 feet.

4th December. Day Bore.

12.15 p.m.—Bore passed pagoda. Height 10 to 11 feet. Junks floated at once. There was no second rush.

5th December. Day Bore. Observer on top of pagoda. Weather calm. Misty atmosphere.

12 (noon).—Both branches of the Bore in sight. Stream running out very swiftly in the deep channel up to the last moment.

12.48 p.m.—The two branches of the flood met.

⁶ This is the only occasion on which a second cascade has been seen passing Haining.

12.58.—Flood-stream hit the sea-wall and rebounded with great violence. Sea of the estuary agitated for some distance.

1.2.—Bore passed pagoda. Height 10 to 11 feet.

1.12.—Water had risen to 13 feet. Severe rippling on the back of the Bore.

3.46.—High-water 20 feet.

Mr. GEORGE MOULE observed this Bore from a position on the sea-wall, which he had occupied on former occasions, 17 to 18 miles above Haining. The Bore passed him at 2.16. Height 9 to 10 feet.

6th December. Day Bore.

12.55 p.m.—Bore in sight from the sea-wall.

1.40.—Bore passed pagoda. Height 10 to 11 feet.

The Chinese repeated to Lieutenant BALFOUR the statement which they made to me in October, that the Bore passes Haining with every flood-tide throughout the year. Mr. MOULE has proved that this is not the case 16 miles above Haining. Being desirous of settling the point, he visited the sea-wall, 17 to 18 miles above Haining, on the 29th November, on which date the lowest range of tide might be expected —(the last quarter of the moon occurred at 1.20 a.m. on 27th November)—and saw no sign of a Bore. The flood came in with a rush, but there was no cascade.

On his arrival at Haining, Lieutenant BALFOUR found a large section of the western buttress of the Haining platform washed away. The natives told him that this had occurred about 20 days previously. It was new moon on 4th November at 8 a.m., and the planet was in perigee at 11 p.m. on the same day. The Bores which visited the river at these springs were notoriously violent at Hang-chau, several junks being torn from their moorings.

Mr. BALFOUR visited that part of the sea-wall where the rebound takes place, about two miles east of Haining, and

informs me that outside the sea-wall at this part there is a barrier of piles 20 feet wide and 7 feet above low-water spring tide. It extends along the wall for several hundred yards. Outside of this again, but not extending so far east and west, probably limited to where the first charge of the flood is expected, there is a separate breakwater of piles, not so broad, but nearly the same height.

During the full moon Bores in October, and accompanying all Bores observed from the sea-wall between 16 and 18 miles from Haining since that date, immense numbers of duck and other water-fowl have been seen to accompany the cascade. The first time they were noticed by Mr. MOULE, he describes them as appearing as a low, thin cloud across the river, coming in view before his eye was attracted to the white wall of the cascade. On a closer approach, the cloud resolved itself into a gigantic flock of birds, hovering about the edge of the Bore, from 2 to 50 feet above it. Large numbers of duck were also observed floating up in the after-rush. The birds have never been seen in large numbers at Haining, or at the city of Hang-chau, but they seem to hang about the cascade between the two places. It would be interesting to discover the reason of their attraction to the Bore.

The following experience of Archdeacon MOULE's shows that the Bore is felt in a small river, 22 miles south-east of Haining, well out in the estuary:—

“On November 12th, 1867, when returning from Hang-chau to Ningpo, I had entered the river Dzao-ngo (which falls into the Tsien-tang near its mouth) at a place called Ts'ing-pu, by means of a buffalo-worked haul-over. The boatmen immediately set to work to scull and pole the boat, so as to reach the haul-over on the opposite bank, two miles up the stream—(the river here is about a quarter

of a mile wide). The tide had run out, however, and there was a dead calm, so we made no way. I was reading in the boat, when a loud shout roused me, and then I heard a roar and a rush, and, looking out, I saw the tidal wave a quarter of a mile off, advancing rapidly. The boatmen shoved off shore, and headed it just in time. The wave stood 3 or 4 feet high. We bumped over the first,—(there were three leading waves),—the second flooded the boat; but safely over the third, there was no more danger. Boats near me fared worse, tilts were knocked off, and cargo washed into the river.”

Dr. MACGOWAN has done his best to give our Bore a very good character for height,⁷ but we must not flatter ourselves that it is the highest in the world, for that of the River Amazon is said to attain a height of 180 feet. An animated description of this phenomenon is to be found in the *Dictionnaire de la Conversation*, under the heading “Barre d’un Fleuve, Barre d’Eau,” also in HUGHES’ *Physical Geography*, and ALISON’S *History of Europe*, Chap. 67. The latter version is so artistic that I cannot refrain from quoting it:—

“A vehement struggle ensues at its mouth (that is, the mouth of the River Amazon) between the river flowing down and the tide running up. Twice every day they dispute the pre-eminence, and animals equally with men withdraw from the terrible conflict. In the shock of the enormous masses of water, a ridge of surf and foam is often raised to the height of a hundred and eighty feet; the islands in the neighbourhood are shaken by the strife; the fishers, the boatmen and the alligators withdraw trembling from the shock. At spring tides, such is the vehemence of this collision that

⁷ Paper read before the Society 12th January 1853.

the opposite waves precipitate themselves on each other like hostile armies; the shores are covered to a great distance on either side with volumes of foam; huge rocks, whirled about like barks (*sic*) are tossed up to the surface; and the awful roar re-echoed from island to island, gives the first warning to the far distant mariner that he is approaching the shores of South America."

Members of the Society must examine the accounts of the Bore, or Pororoca (as the Indians call it), of the Amazon, for themselves, and determine how much reliance can be placed on them. Personally, I can only say, that I rose from the perusal of the description quoted above with a feeling of humiliating inferiority, and the conviction that nothing would astonish me in future,—quite prepared, if need be, on turning over the leaves of some other standard history or encyclopædia, to learn that there is a Bore, about the globe somewhere, as high as the ball of St. Paul's Cathedral.

The phenomenon of the Bore is not altogether unknown in the Woosung River, here, at Shanghai.

Mr. R. W. SHAW states, that on one occasion between the 16th September and 13th October 1868, (thinks the date was about 8th October), a Bore came up the Woosung River about 11 a.m.; estimated height 8 to 10 feet. Several sampans capsized, and cargo-boats broke adrift. A sampan, with his dog in it, was capsized end for end, bows first. When it was washed ashore, the dog was found alive underneath. Mr. SHAW's ship (the "Bertha") was, at the time, ashore on the mud below Messrs. BOYD & Co.'s Dock. The Bore floated his ship and threw her against the wharf, which was severely damaged. The small dock was flooded by the water. Captain ANDERSEN, of the "Ping-ching," who remembers the circumstance, is of opinion that the height of the wave was 7 feet.

To return, for one minute, to the special phenomenon which is the object of this paper, I will quote the account given by Dr. MAIN, some years ago, which is the most accurate description I have yet seen :—

“The configuration of the Hangchow Bay and the embouchure of the Tsien-tang river, which flows into it, favours the formation of the tidal phenomenon called a “Bore.” As the tide enters the river, in meeting the stream a watery ridge is formed right across the river, which in rushing against the descending current gradually grows into a perpendicular wall of water, and assumes the form of an advancing cataract, and during the Spring and Autumn equinoxes is sometimes 20 feet high. It is a grand and exciting scene to see it as it rushes past with prodigious violence and at a velocity of about 15 miles an hour.”

The name given to the Bore by the Chinese is simply *Chau*,—(the tide). Sometimes they speak of it at Haining as *Chau-dau*,—(the great tide). I have asked several of them, and they can give no reasonable explanation of the flood coming in this particular manner, but all emphatically declare it to be a bad “Fung-shui.” It is not surprising that they should make such a phenomenon the object of superstition and the theme of romance, devoted as they are to “Fung-shui,” or the occult influence of air and water.

At Haining, the story believed in by the junk-men is this : Many hundred years ago there was a certain general who had obtained many victories over the enemies of the Emperor, and who, being constantly successful and deservedly popular among his countrymen, excited the jealousy of his sovereign, who had for some time observed, with secret wrath, his growing influence. The Emperor accordingly caused him to be assassinated, and thrown into the Tsien-tang, when his spirit conceived the idea of revenging itself by bringing the

tide in from the ocean in such force as to overwhelm the city of Hang-chau, then the magnificent capital of the Empire. As my interpreter, who has been for some years with English-speaking people, put it, "His sowl felt a sort of ugly like arter the many battles he had got for the Emperor." The spirit so far succeeded as to flood a large portion of the country. Becoming alarmed at the distress and loss of property occasioned, the Emperor endeavoured to enter into a sort of compact with the spirit, by burning paper and offering food upon the sea-wall. This, however, did not have the desired effect, as the high tide came in as before, and it was at last determined to erect a pagoda at the spot where the worst breach in the embankment had been made. Hence the origin of the Bhota Pagoda, which induced a "good Fung-shui." After it was built, the flood-tide, though it still continued to come in the shape of a Bore, did not flood the country as before.

Archdeacon MOULE informs me that the natives of Hang-chau hold the Bore in great awe, and are to be found, at certain seasons, worshipping it as the arbiter of their destiny. During the Taeping rebellion, when the city was taken and re-taken several times, and thousands of homeless fugitives were crossing the Tsien-tang daily for two years, the Bore did not come. The channels are constantly altering, and he believes that, owing to some change in the bed of the river, or in the flats in the estuary, the flood did not reach the city in this shape, or, at any rate, the roller was comparatively harmless to what it was before, or has been since, that disturbed time.

Bishop MOULE has been so kind as to send me two legends relating to the Bore of the Tsien-tang, which, with his permission, I submit for the information of the Society. They will be found in Appendix A. It appears that the

phenomenon was known in the early part of the 5th century B.C., and that the embankment was constructed outside the city of Hang-chau 910 A.D. In the *T'ang-shu ti-li-chih*, however, it is mentioned that "In Yen-kuan, in Yü-hang of Hang-chou, there is a sea-wall (*han-hai-t'ang-ti*) 124 li long, which was rebuilt in the first year of K'ai-yuan (713 A.D.) In the earlier legend, there is an expression which would seem to indicate that the estuary or river had then a somewhat different formation, sufficient to delay the flood by two hours,—“whenever it came again at dawn and dusk, it had a wrathful sound.” This is a distinct allusion to spring tide, and could only refer to the Bore, which it will be observed arrives off Hang-chau, in the present day, about 4 p.m. on the third day after full or new moon.

The causes of the Bore are three :—

- 1.—The funnel or delta shape of the Hang-chau Gulf, which is open to the eastward, directly in front of the tidal wave from the Pacific Ocean. It is 50 to 60 miles wide at the mouth, about 10 miles at the narrower part where navigation ends, and the general depth is much greater across the mouth than it is in the western part.
- 2.—The large area of sand-flats at the head of the Gulf.
- 3.—The outgoing stream from the Tsien-tang kiang.

The Chusan Archipelago is remarkable for its swift tidal streams, which attain a velocity, in certain channels, of 8 knots an hour at spring tide. Last May, it was remarked by the officers of the “Rambler” that the time of high-water among the Volcano Islands was very different from that at Chang-tau harbour, although the distance between the two places was small; and it was arranged to erect the tide-pole at West Volcano Island, in any case necessary for the reduc-

tion of soundings in the western half of our survey, before the Chang-tau pole was taken down, and to carry out simultaneous observations of the level of the water, about the change of the moon early in September. The result showed that the apex of the tidal wave took two hours to travel between these two stations, and that at certain times of tide, fluctuating between the third and fourth hours of the flood, and between the fourth and sixth hours of the ebb at Chang-tau harbour, there was a considerable difference of level of the water, amounting at spring range to over 5 feet.

The comparisons between the levels at various times are shown in Appendix B. On reviewing these, it no longer causes any wonder that the tidal stream between the two stations should get up a velocity of 5 knots an hour, and in narrow straits as much as 7 or 8 knots an hour; and it is harmonious with the register, that the greatest speed should occur, as the current log kept on board the ship shows is the case, when it is about high or low water at Chang-tau, that is, when the difference of level is neither greatest nor least, but half way between, or when the sea is in the middle of its struggle to regain equilibrium, and has succeeded in reducing the difference of level between the two stations to one-half the maximum of that tide.

On the 8th September, the tide-pole at Chang-tau was embarked, and on the 20th it was erected at Rambler Island. The distance between Rambler Island and West Volcano Island is 46 miles, and the difference of establishment, that is, the time occupied by the tidal wave in passing from one to the other, is only one hour; but whereas at the latter station the range of tide is 12 feet at springs, at the former it is, owing to the configuration of the Hang-chau Gulf, 25 feet, and, under certain conditions of wind and position of the moon in her orbit, as much as 34 feet. Appendix C.

shows the comparison between the level of the water at Rambler Island and West Volcano Island for every half-hour from noon on 20th September 1888 to midnight on 22nd September.

It became of importance to institute a similar comparison between Rambler Island and the Tsien-tang kiang. Unfortunately, this was not practicable. Tide-poles were taken away in the boats for the purpose, but the difficulty of navigating the river and sheltering the boats, rendered any exhaustive inquiry into the half-hourly movements of the water impossible. Times of high and low water have, however, been obtained, also the range of spring tide, and a knowledge has been gained of the times of mean level and no tide. These are entered in Appendix C.

On inspection of the tables, it will be noticed that about an hour before it is high-water at Chang-tau, when the sea is between one and two feet above mean level at West Volcano Island, the water goes up at Rambler Island from 9 feet below mean level to 2 feet above it in one hour, bringing the difference of level between the two stations from 10 feet (West Volcano highest) to 2 feet (West Volcano also highest), the rise at Rambler Island being five times as much as that at West Volcano Island, or just in that proportion which the breadth of the estuary at the former place bears inversely to the width of the mouth where West Volcano is situated. Here are the elements of a tremendous force:—water banking up into the small end of a funnel, running down hill, and having in front of it a vast field of sand, the greater portion of which is dry when that force is set in motion, and indeed for some minutes afterwards. Presently the water begins to set over the flats slowly, but no doubt with more velocity and tumult through the very narrow channels kept open by the Tsien-tang kiang. When the sands are covered

MEAN

with 2 feet of water, the flood-streams run with great impetuosity. Friction, caused by the ground and by the swift outgoing streams of the river, impedes it; an overfall is formed, first, no doubt, and always higher, in the channels. By and by a greater volume overlays the first of the flood, and having less to contend against, runs forward and falls in front, also to be checked by the river-stream, and so on until in half-an-hour the Bore is formed, and as more water is shot in from behind, it gathers in height, and acquires sufficient strength to proceed on its course towards the river. It cannot take long to form, for the interval between the beginning of the quick rise at Rambler Island and the time of the Bore passing Haining, is two and a-half hours, and the distance between the two places is 29 miles. The difference of level between Rambler Island and the river at the time the two branches of the Bore effect a junction, and it commences to contract in width, is 19 feet. The flood is probably travelling faster at that time than at any previous period. The accompanying diagram will help to show the great differences of level which result in the projection of the Bore, the force which propels it for so many miles, and the reason of the velocity of the after-rush which follows the cascade, and which drove our boats 3 miles from their anchorage on the night of the 20th September. It will be seen that the difference of level between the water at Rambler Island and at Haining is 4 to 6 feet for an hour after the Bore has passed the latter place, and decreases very slowly up to the time of high-water in the river. The water at Rambler Island is then falling fast, and has come down to the level of that at Haining. As the estuary at Rambler Island is four times as broad as the river, and the force of the moon's attraction does not, so far as the river is concerned, enter into the question, directly the water at this station falls below

that of Haining, the stream must inevitably set out of the river,—and we found that it did so, directly after high-water. The river falls very rapidly, following close upon the water at Rambler Island, which is in the full swing of its downward course when the water in the river has only just begun; it is at mean level two hours after high-water, at the fifth hour ebb it is nearly low-water, the last foot dribbles away very slowly, and for two hours before the arrival of the Bore the water falls only 3 or 4 inches. The stream, however, of the river continues to make out fast along the channels, and is found opposing the Bore, which it helps to create. At Rambler Island the ebb-stream was found to be strongest between the second and third hours' fall, and to be practically nil after the fourth hour. The damage to our cable occurred in two cases after the second hour. The tables show that the difference of level between Rambler Island and West Volcano Island is then about half the maximum—West Volcano lowest,—and that at the fourth hour ebb, the two stations are on the same level. The stream from the river still flows out with great strength, but is expanding to the greater breadth of the estuary and quickly losing its speed.

I will now combine Appendices B. and C., which will show the levels from which the diagram is drawn, noting that it is H. W., F. & C. of the moon, at Chang-tau Island 10 h. 14 m., at West Volcano Island 0 h. 19 m., Rambler Island 1 h. 27 m., Haining 3 h. 0 m., and Hang-chau 3 h. 0 m., (approximate). The Bore passes Haining at 0 h. 0 m., and the city of Hang-chau between 1 h. 30 m. and 2 h. 30 m., according to circumstances.

To trace the progress and inclination of the tidal waves which followed the full moon of 20th September, from the ocean to the Hang-chau estuary, it will be sufficiently accurate to adopt the differences of level observed between West

Volcano Island and Chang-tau harbour on the 6th and 7th September, as the time and height of high-water at West Volcano Island were the same on both full and change of the moon.

DATE.	Difference of Level between Rambler Island and West Volcano Island.		West Volcano Highest or Lowest.	Difference of Level between Changtau Harbour and West Volcano Island.		West Volcano Highest or Lowest.	Difference of Level between Rambler Island and Changtau Harbour.		Changtau Highest or Lowest
20th Sept. 1888.	ft.	in.		ft.	in.		ft.	in.	
A. m.									
Noon	3	10	L	1	10	H	5	8	L
0 30 p.m.	5	0	L	2	5	H	7	5	L
1 0	6	5	L	3	2	H	9	7	L
1 30	7	4	L	3	6	H	10	10	L
2 0	8	0	L	3	7	H	11	7	L
2 30	8	7	L	3	8	H	12	3	L
3 0	8	2	L	3	10	H	12	0	L
3 30	4	8	L	3	10	H	8	6	L
4 0	5	1	L	3	4	H	8	5	L
4 30	4	0	L	2	8	H	6	8	L
5 0	2	0	L	1	6	H	3	6	L
5 30	0	2	H	0	3	L	0	5	H
6 0	1	9	H	1	8	L	3	5	H
6 30	3	7	H	3	1	L	6	8	H
7 0	5	6	H	4	2	L	9	8	H
7 30	7	2	H	4	8	L	11	10	H
8 0	8	10	H	4	11	L	13	9	H
8 30	10	3	H	4	8	L	14	11	H
9 0	11	1	H	4	1	L	15	2	H
9 30	10	4	H	3	4	L	13	8	H
10 0	6	10	H	2	9	L	9	7	H
10 30	2	3	H	1	11	L	4	2	H
11 0	1	5	L	0	10	L	0	7	H
11 30	3	4	L	0	3	H	3	7	L
Midnight	4	0	L	1	5	H	5	5	L
21st Sept. 1888.									
A. m.									
0 30 a.m.	4	9	L	2	3	H	7	0	L
1 0	6	1	L	3	1	H	9	2	L
1 30	7	1	L	3	4	H	10	5	L
2 0	7	10	L	3	4	H	11	2	L
2 30	8	6	L	3	7	H	12	1	L
3 0	8	6	L	3	11	H	12	5	L
3 30	6	9	L	4	1	H	10	10	L
4 0	5	9	L	3	11	H	9	8	L
4 30	4	4	L	3	9	H	8	1	L

DATE.	Difference of Level between Rambler Island and West Volcano Island.		West Volcano Highest or Lowest.	Difference of Level between Changtau Harbour and West Volcano Island.		West Volcano Highest or Lowest.	Difference of Level between Rambler Island and Changtau Harbour.		Changtau Highest or Lowest.
21st Sept. 1888.									
A. M.	ft.	in.		ft.	in.		ft.	in.	
5 0 a.m.	2	11	L	2	11	H	5	10	L
5 30	1	2	L	1	7	H	2	9	L
6 0	0	6	H	0	0	—	0	6	L
6 30	2	5	H	1	8	L	4	1	H
7 0	3	9	H	3	4	L	7	1	H
7 30	5	1	H	4	6	L	9	7	H
8 0	6	10	H	5	0	L	11	10	H
8 30	8	11	H	5	0	L	13	11	H
9 0	10	4	H	4	8	L	15	0	H
9 30	11	1	H	4	6	L	15	7	H
10 0	10	2	H	3	8	L	13	10	H
10 30	5	1	H	2	10	L	7	11	H
11 0	0	3	H	1	7	L	1	10	H
11 30	1	5	L	0	6	H	0	11	L
Noon	3	8	L	0	5	H	4	1	L
0 30 p.m.	4	6	L	1	7	H	6	1	L
1 0	5	4	L	2	5	H	7	9	L
1 30	6	2	L	3	2	H	9	4	L
2 0	7	4	L	3	4	H	10	8	L
2 30	8	2	L	3	7	H	11	9	L
3 0	8	7	L	3	10	H	12	5	L

This table shows that two hours before high-water at Chang-tau, when the apex of the tidal wave is over the deep water of the ocean, there is a difference of level of 15 feet between the water at Chang-tau harbour and Rambler Island. There is no indication of remarkable pressure at West Volcano Island, which is at the mouth of the Hang-chau Gulf, but an hour later, when the apex of the wave is nearing the Chusan Archipelago, there is great pressure on the water in the Hang-chau estuary, and the difference of level of the water between Chang-tau and Rambler Island reduces 13 feet in one hour and a-half. Judging by the analogous case of Chang-tau and West Volcano, the strongest flood-stream would be when this difference is reduced by one-half,

that is to say, when the water is in its full swing of effort to regain equilibrium. It is then high-water at Chang-tau, and the Bore forms west of Rambler Island.

The Bore cannot be accurately described as a wave. It is in no sense an undulation, nor is there any depression after it has passed. The same particles of water which rise with such a significant jump in the neighbourhood of Rambler Island, are precipitated over the vast bar of sand into the Tsién-tang. It is in this that the danger to shipping lies. In its effort to find equilibrium, the flood is travelling at a rate of 12 to 13 miles an hour, and overcomes everything in its progress. A wave, or two waves, of 6 to 10 feet in height may be met with good anchors and cables. Not so the Bore. A vessel moored off Haining would, in my opinion, be completely overwhelmed in a good spring-tide Bore, such as is described by the natives as happening occasionally during the winter months.

So far from there being any depression behind the cascade, our observations show that it is always succeeded by a rise of 3 or 4 feet of water. If the estuary terminated at Rambler Island, or the next cape in the gulf, to the south-west, we should probably see a rise of 50 or 60 feet, as in the Bay of Fundy; but the outlet being there, the pent-up waters discharge themselves through it, and as soon as the level of the sea at their source falls, they fall also. If asked for a brief definition of the Eagre or Bore, I would say: Two-thirds of the flood-range of the day arrives in the river, at any given spot, in a quarter of an hour, and in such a form as to show the observer a well-defined body of water, advancing at a high speed, many feet above the level of the river where he is situated. The front or crest of this flood is in the shape of a bubbling cascade of foam, about as high as the mean river-level, pounding itself and the sea in front of it in

precisely the same manner as the first onset of the ordinary flood-tide on a stretch of sand.

Anyone who has witnessed the coming-in of the flood on the sand-flats, at Weston-super-Mare, for instance, has seen a Bore on a miniature scale. On a very calm day, standing on the sea-wall, I found it difficult, if the Bore was a small one, to divest my mind of the idea that I was looking at the same sort of thing. The placid river became sand in imagination, and the regular line of foam nothing but a bigger and noisier ripple. In boisterous weather the scene is different; there is the same bubbling cascade, but the line is not so regular, squalls in the estuary appear to be whipping up the flood, the waves in the river destroy the illusion of sand, the fierce rebound from the sea-wall, the irregular rippling on the back of the Bore, with its waves tossed hither and thither and throwing up clouds of spray, the height, and the noise, all remind the spectator that he is looking upon one of the violent forces of nature.

From the shallow side of the river, that is, the south bank at Haining, and the north bank at the city, the pounding cascade does not strike the attention so much as the breakers along the side of the Bore.

It is improbable that the cascade ever exceeds 15 or 16 feet, as the first rush of the flood depends upon the quick rise in the neighbourhood of Rambler Island, and there is no reason to suppose that, even in a typhoon, this ever exceeds by 6 feet what was recorded by the "Rambler's" party. Bishop MOULE estimated ~~15~~ feet as the height of one Bore which he saw from the sea-wall about 5 miles east of Hang-chau. Dr. MAIN,^s of the Church Missionary

^s Dr. MAIN attempted to race the Bore on horseback along the sea-wall. He succeeded in keeping up with it for a few minutes at full gallop, his horse exerting itself to the utmost.

Society, measured down the wall, at the same spot, on one occasion, before the Bore arrived and after it had passed, and made the difference 12 feet.

The effect of a rebound from the sea-wall, such as happens daily east of Haining, is to raise water from 5 to 15 feet above the Bore, making a total of 20 to 30 feet under exceptional circumstances, but only for a few minutes.

The locality where the flood ceases to form mere rippings, and to create a Bore, no doubt varies very much with the wind at the mouth of the Gulf, the age of the moon, and the strength of the outgoing stream of the river.

On rare occasions, it is something more than a mere over-fall at Chapu, 40 miles from Haining; but, as a rule, an ordinary spring-tide Bore would form a few miles east of Chi-san, 12 to 16 miles from Haining. I have heard the muttering 1 h. 20 m. before the Bore arrived, and at that time it could not be less than 12 miles distant. It is improbable that I heard it immediately it was formed, because I had very little experience of the sound, and there was a certain amount of noise around, caused by the lapping of the waves, and rippling of the river-stream.

The position where the Bore vanishes, and nothing remains but a swift rush, is also variable.

Bishop MOULS experienced the Bore on the 29th May this year (1888), three days after full moon in perigee, at a place on a branch of the Tsién-tang kiang which is 18 or 19 miles above Hang-chau and about 41 miles from Haining. His notes on the occurrence will be found in Appendix D., and will, no doubt, be examined with keen interest by Members of the Society, as exemplifying the extraordinary impetus of the flood on certain rare occasions. As a rule, the Bore expires just above the city of Hang-chau. Its usual life, then, is 3 to 4 hours, during which time it travels 35 to 40

miles, but under certain rare combinations of wind, perigee spring-tides, and unusual stream from the river, it may have a life of 8 or 9 hours and travel as much as 80 to 90 miles. The sound in the distance is peculiar, and not exactly like any other. It most resembles the leaden noise of breakers on a distant coral reef, being a continuous muttering, broken only by an occasional dull thud, indicating some new addition to the flood or some exceptionally heavy breaker. As it approaches, the sound increases very gradually until it passes with a roar but little inferior to the rapids below Niagara. A few minutes after it has passed, nothing is heard or seen, the river has filled up to the level of the Bore, and no vibration from the foot of the cascade can penetrate the flood above it.

To sum up, from observations made at full and change of the moon, and information received from reliable witnesses, I feel justified in coming to the following general conclusions :—

At full and change of the moon, the Bore of the T sien-tang kiang originates between 10 h. 0 m. and 10 h. 30 m. in the neighbourhood of the meridian of Chi-san, a conspicuous headland 12 miles E.S.E. from Haining. On a still night, it can be heard from Haining, within half-an-hour after it has formed, and on a fine day it can be seen with a good telescope about the same distance.⁹ It is divided into two branches, one of which keeps along the north shore of the estuary, touching the sea-wall with its north extreme and the sands with its south extreme; this is the main Bore, and the highest. The other appears in view at Haining from a south-easterly direction, touching sand on both sides. When 4 miles from Haining, the branches join, the right extreme of the first with the left extreme of the second,

⁹ From the top of the pagoda.

making a continuous white line 2 miles in length. Shortly afterwards, the Bore commences to contract in width, increase in speed, and rise in height, conforming to the mouth of the river. When 2 miles from Haining, the flood-stream (probably that from the south-east,) runs through the other, or deflects the course of the whole, and charges into the sea-wall. There is no particular effect at the wall itself, but a violent rebound, causing a tumultuous rising of the water in waves, several hundred yards behind, but twice as high again as the front of the Bore. These waves are in existence for many minutes, travelling in a southerly or south-westerly direction, and, after a time, subside on to the back of the Bore. Precisely as the moon crosses the meridian, the Bore passes Haining, where it is nearly a straight line across the river, 9 cables wide, 8 to 12 feet high, and travelling between 12 and 13 knots¹⁰ an hour, its front being a uniform, sloping cascade of bubbling foam, falling forward and pounding on itself, and on the river before it, at an angle of between 40° and 70°. The highest and steepest part is over the deep channel of the river. The north edge of the flood swells up to the sea-wall as it goes along; but the south side, meeting as it does a very gradual incline of sand, which rises only 19 feet in 1·4 miles, trails away in a tapering wall of very deliberate breakers, which end half-a-mile behind, where the Bore had passed 3 or 4 minutes previously. The river fills up to the level of the Bore soon after it goes by, but not evenly. The height, speed and regular appearance of the front are maintained for 16 miles above Haining, after which the Bore decreases in height, and passes the city of Hang-chau about 2 h. 0 m., soon to break up and disappear. The stream behind the

¹⁰ A cable is one-tenth of a sea mile. A knot is a sea or geographical mile.

Bore, which I have designated the "after-rush," runs at a speed of about 10 knots¹¹ for one hour, and then diminishes to between 8 and 5 knots for the last two hours of the flood. A quarter of an hour after the Bore has passed Haining, the water has risen to 13 or 14 feet, and at 2 h. 0 m. to 18 feet. It is high-water, 19 feet, at 3 h. 0 m., and the stream at once commences to run out swiftly. At 5 h. 0 m. the river is at mean level, at 8 h. 0 m. it is nearly low-water. The outgoing stream, however, continues to run to the eastward with considerable velocity until the arrival of the next Bore. The water in the river is at its lowest for the two hours preceding the Bore. It is high-water at the city of Hang-chau about the same time as at Haining, but the rise and fall does not exceed 6 feet. At Haining, therefore, the flood lasts for 3 hours, the ebb, if such it may be called, for 9 hours. At the city, the flood continues for about an hour, and is nearly all in the Bore. There is no place, east of the city, where boats can be secured in safety $2\frac{1}{2}$ hours after high-water. Boats drawing as much as 3 feet must look out for a berth $1\frac{1}{2}$ hour after high-water. Traffic between Haining and Hang-chau begins soon after the Bore has passed, and ends 2 hours after high-water, a period of from 3 to 4 hours. On the right or south bank of the Tsien-tang kiang, the stream (at any rate for 5 or 6 miles within the mouth) commences to run out strong an hour before high-water at Haining. The reason of this has yet to be investigated. I offer it, as a possible explanation, that this may be the deflected river-water shoved on one side, so to speak, by the advancing Bore. Should any Members of the Society visit the south bank of the river, it would be well to take a hydrometer, and make an attempt to solve this interesting

¹¹ It will be remembered that I am describing an ordinary spring-tide Bore.

question. Opposite the city, the Bore, if it occurs at all, is not regarded in any way as dangerous for 15 or 20 days in the month. At Haining, the natives state positively that it comes with every flood-tide, but that in calm weather, at neap tides, it is only 2 or 3 feet high. It is probably always dangerous for boats on account of its speed. At springs, I have shown, it is most formidable, even for ships. Navigation in the river, or in the estuary, as far east as Chi-san, is out of the question.

The regularity of the appearance and shape of the Bore, the distance at which it is heard at night and seen by day, its charge against the sea-wall, its speed, height, gleaming front, and thundering roar as it tears past the observer, render it, in my opinion, a most impressive phenomenon.

Those who wish to see it at its best should take care to be at Haining 2 days after full or new moon, avoiding the epochs when these phases correspond with apogee. The best Bores of 1889 will be on the following dates: May 17th, 18th and 19th, June 16th and 17th, July 15th and 16th, November 25th and 26th. The Night Bores will be the highest, except in November.

APPENDIX A.

Extract from "Topography of West Lake, Hang-chow"
(*Hsi-jui-chi*, sec. 45, fol. 2):—

With regard to the tide of the Tsien-tang, there is an old legend that Wu Tsze-sü, after frequent remonstrances with the prince (Fu-ch'a of the feudal state of Wu) without result, was condemned to death but permitted to die by his own sword. When about to die, he charged his son in these words. 'Pluck out my eyes at the south gate, that 'I may see the army of Yüeh,¹² coming to ravage Wu. Take the 'skin of a *ti* fish' (*Silurus*, says WILLIAMS' Dictionary, evidently a large species) 'wrap in it my corpse, and fling me into the river. 'Then at dawn and dusk I shall come on the tide to gaze on the fall ' (or defeat) of Wu.'

From that time the tide-head at Tide-gate Hill came hurtling up, several hundred feet high, overleaping the sea-wall and passing Yü-pü (Fish Creek), after which it generally subsided. Whenever it came again at dawn and dusk, it had a wrathful sound, and the swift rush of thunder and lightning, and could be heard more than a hundred *li* off. Then might be seen, in the midst of the tide-head, Tsze-sü sitting in a funeral car drawn by white horses. Whereupon they built a temple to appease him with sacrifice.

Note by Bishop MOULE :—

The date of this legendary event is early in the 5th century B.C., when, according to MAYERS (*Chinese Reader's Manual*), Fu-ch'a and his minister lived and died. MAYERS makes Tsze-sü, after his suicide, to have been sewn up in a *wine-skin* and flung into the river near Soochow. This is perhaps a mistake for Hang-chow. MAYERS identifies the state of Wu with Keangsu, but it certainly at one time included Chekiang as far as the left bank of the Tsien-tang.

¹² On the right bank of the Tsien-tang kiang.

From the *Jin-ho Hsien-chi* (Topography of the district Jin-ho, one of the two divisions of the Department of Hang-chow) sec. 12, fol. 15 :—

The Tsien-tang river unites in a (common) boundary the districts of Jin and Tsien. Originally its liability to the incursions of the sea-tide was the calamity of the men of Hang-chow, and there was no device of any value for restraining it. Under the later Liang dynasty, in the 8th moon of the 4th year of K'ai-ping (A.D. 910) Prince Tsien Wu-suh at length built—without the How-ch'au and T'ung-chiang gates ("await-tide" and "open on river"—approximately the present S.E. angle gate and the one next it to the east)—a dyke to meet the tide-water. Day and night the work of piling and ramming the earthen walls was pressed forward without result. Whereupon he (the Prince) ordered some hundreds of valiant cross-bowmen to face the west (? up stream) and shoot arrows with a view to stay the fury of the tide. Again, he caused prayer to be offered on the hill Sū (within present city wall), whereupon, the tide-water retiring abashed, he made bamboo bands, piled huge stones, and drove in large trees. When the dyke was fully completed, after some time they founded a walled city. All that is now high and dry plain was formerly shifting, alluvial soil.

Note by Bishop MOULÉ :—

Tsien Wu-suh is said to have been a leader of salt-smugglers, who, for services against a band of rebels, was first made a local governor, and then a tributary Prince, a rank which was held by his son and grandson till the latter resigned his authority into the hands of the Emperor of the great Sung Dynasty (see MAYERS' *Chinese Reader's Manual*, Art. 772 to 774). Inscriptions bearing the date and style of the last Prince are still to be read over the great south gate of Hang-chow.

APPENDIX B.

Simultaneous Observations of the Distance of Water from
mean sea level at Chang-tau harbour and West Volcano
Island, 4th to 8th September 1888.

[N.B.—In the following table “a” indicates above and “b” indicates below
mean level respectively.]

DATE.	ABOVE OR BELOW M.L.				Difference of Level.		REMARKS.
	Chang-tau.		W. Volcano.				
	ft.	in.	ft.	in.	ft.	in.	
4th Sept. 1888.							
A. m.							
4 0 p.m.	b	4 4	b	4 7	0	3	9 h. 5 m. high-water, Chang-tau harbour.
4 30	b	3 7	b	5 1	1	6	
5 0	b	2 8	b	5 0	2	4	
5 30	b	1 6	b	4 7	3	1	
6 0	b	0 2	b	3 8	3	6	
6 30	a	1 3	b	2 6	3	9	
7 0	a	2 7	b	1 1	3	8	
7 30	a	3 8	b	0 1	3	9	
8 0	a	4 5	a	1 2	3	3	
8 30	a	5 1	a	2 5	2	8	
9 0	a	5 4	a	3 7	1	9	
9 30	a	5 3	a	4 8	0	7	
10 0	a	5 0	a	5 4	0	4	
10 30	a	4 5	a	5 6	1	1	
11 0	a	3 9	a	5 2	1	5	
11 30	a	3 2	a	4 10	1	8	
Midnight	a	2 4	a	4 4	2	0	
5th Sept. 1888.							
A. m.							
0 30 a.m.	a	1 4	a	3 9	2	5	3 h. 55 m. low-water, Chang-tau.
1 0	a	0 3	a	3 2	2	11	
1 30	b	0 10	a	2 6	3	4	
2 0	b	1 10	a	1 4	3	2	
2 30	b	2 9	a	0 4	3	1	
3 0	b	3 8	b	0 9	2	11	
3 30	b	4 0	b	1 9	2	3	
4 0	b	4 1	b	2 7	1	6	
4 30	b	3 11	b	3 5	0	6	
5 0	b	3 5	b	4 4	0	11	
5 30	b	2 7	b	4 9	2	2	
6 0	b	1 6	b	4 10	3	4	
6 30	b	0 3	b	4 3	4	0	
7 0	a	0 10	b	3 3	4	0	

DATE.	ABOVE OR BELOW M.L.				Difference of Level.	REMARKS.	
	Chang-tau.		W. Volcano.				
5th Sept. 1888.	ft.	in.	ft.	in.	ft.	in.	9 h. 5 m. high-water, Chang-tau.
A. m.							
7 30 a.m.	a	1 11	b	2 0	3	11	
8 0	a	2 9	b	1 0	3	9	
8 30	a	3 4	a	0 1	3	3	
9 0	a	3 6	a	1 0	2	6	
9 30	a	3 5	a	1 10	1	7	
10 0	a	3 2	a	2 8	0	6	
10 30	a	2 10	a	3 1	0	3	
11 0	a	2 6	a	3 9	1	3	
11 30	a	1 11	a	3 9	1	10	
Noon	a	1 0	a	3 5	2	5	
0 30 p.m.	0	0 0	a	2 11	2	11	
1 0	b	1 1	a	2 2	3	3	
1 30	b	2 4	a	1 0	3	4	
2 0	b	3 5	a	0 2	3	7	
2 30	b	4 4	b	0 10	3	6	
3 0	b	4 11	b	1 8	3	3	
3 30	b	5 5	b	2 7	2	10	
4 0	b	5 6	b	3 6	2	0	
4 30	b	5 2	b	4 3	0	11	
5 0	b	4 5	b	5 0	0	7	
5 30	b	3 6	b	5 6	2	0	
6 0	b	2 6	b	5 6	3	0	
6 30	b	1 2	b	4 9	3	7	
7 0	a	0 5	b	3 5	3	10	
7 30	a	2 0	b	2 4	4	4	
8 0	a	4 0	b	1 5	5	5	
8 30	a	4 9	a	0 4	4	5	
9 0	a	5 2	a	2 2	3	0	
9 30	a	5 5	a	3 7	1	10	
10 0	a	5 5	a	4 7	0	10	
10 30	a	5 2	a	5 5	0	3	
11 0	a	4 9	a	5 9	1	0	
11 30	a	4 3	a	5 10	1	7	
Midnight	a	3 7	a	5 9	2	2	
6th Sept. 1888.							4 h. 35 m. low-water, Chang-tau.
A. m.							
0 30 a.m.	a	2 5	a	5 5	3	0	
1 0	a	1 3	a	4 6	3	3	
1 30	a	0 2	a	3 5	3	3	
2 0	b	1 0	a	2 2	3	2	
2 30	b	2 2	a	0 11	3	1	
3 0	b	3 2	b	0 1	3	1	
3 30	b	4 0	b	1 2	2	10	
4 0	b	4 6	b	1 10	2	8	
4 30	b	4 8	b	2 7	2	1	
5 0	b	4 7	b	3 8	0	11	
5 30	b	4 4	b	4 7	0	3	

DATE.	ABOVE OR BELOW M.L.		Difference of Level.		REMARKS.
	Chang-tau.	W. Volcano.			
6th Sept. 1888.	ft.	in.	ft.	in.	
A. m.					
6 0 a.m.	b 3 5	b 5 5	2 0		9 h. 45 m. high-water, Chang-tau.
6 30	b 2 1	b 5 7	3 6		
7 0	b 0 11	b 5 1	4 2		
7 30	a 0 4	b 3 11	4 3		
8 0	a 1 6	b 2 7	4 1		
8 30	a 2 10	b 1 5	4 3		
9 0	a 3 5	b 0 3	3 8		
9 30	a 3 8	a 0 9	2 11		
10 0	a 3 8	a 1 9	1 11		
10 30	a 3 6	a 2 7	0 11		
11 0	a 3 2	a 3 1	0 1		
11 30	a 2 7	a 3 7	1 0		
Noon	a 1 11	a 3 9	1 10		
0 30 p.m.	a 1 0	a 3 5	2 5		
1 0	b 0 1	a 3 1	3 2		
1 30	b 1 3	a 2 3	3 6		
2 0	b 2 5	a 1 2	3 7		
2 30	b 3 8	0 0	3 8		
3 0	b 4 10	b 1 0	3 10		
3 30	b 5 10	b 2 0	3 10		
4 0	b 6 4	b 3 0	3 4		
4 30	b 6 7	b 3 11	2 8		
5 0	b 6 5	b 4 11	1 6		
5 30	b 5 9	b 6 0	0 3		
6 0	b 4 10	b 6 6	1 8		
6 30	b 3 7	b 6 3	3 1		
7 0	b 2 1	b 6 3	4 2		
7 30	b 0 1	b 4 9	4 8		
8 0	a 1 11	b 3 0	4 11		
8 30	a 3 5	b 1 3	4 8		
9 0	a 4 5	a 0 4	4 1		
9 30	a 5 1	a 1 9	3 4		
10 0	a 5 7	a 2 10	2 9		
10 30	a 5 8	a 3 9	1 11		
11 0	a 5 5	a 4 7	0 10		
11 30	a 5 0	a 5 3	0 3		
Midnight	a 4 5	a 5 10	1 5		
7th Sept. 1888.					
A. m.					
0 30 a.m.	a 3 7	a 5 10	2 3		
1 0	a 2 5	a 5 6	3 1		
1 30	a 1 4	a 4 3	3 4		
2 0	a 0 3	a 3 7	3 4		
2 30	b 1 0	a 2 7	3 7		
3 0	b 2 4	a 1 7	3 11		
3 30	b 3 6	a 0 7	4 1		
4 0	b 4 4	b 0 5	3 11		
			</		

DATE.	ABOVE OR BELOW M.L.				Difference of Level.	REMARKS.
	Chang-tau.		W. Volcano.			
7th Sept. 1888.	ft.	in.	ft.	in.	ft. in.	
A. M.						
4 30 a.m.	b	5 2	b	1 5	3 9	5 h. 0 m. low-water, Chang-tau.
5 0	b	5 6	b	2 7	2 11	
5 30	b	5 4	b	3 9	1 7	
6 0	b	5 0	b	5 0	0 0	
6 30	b	4 1	b	5 9	1 8	
7 0	b	2 11	b	6 3	3 4	
7 30	b	1 4	b	6 0	4 8	
8 0	a	0 6	b	4 6	5 0	
8 30	a	2 0	b	3 0	5 0	
9 0	a	3 1	b	1 7	4 8	
9 30	a	4 0	b	0 6	4 6	10 h. 30 m. high-water, Chang-tau.
10 0	a	4 3	a	0 7	3 8	
10 30	a	4 4	a	1 6	2 10	
11 0	a	4 3	a	2 8	1 7	
11 30	a	3 11	a	3 5	0 6	
Noon	a	3 4	a	3 9	0 5	
0 30 p.m.	a	2 6	a	4 1	1 7	
1 0	a	1 7	a	4 0	2 5	
1 30	a	0 5	a	3 7	3 2	
2 0	b	0 7	a	2 9	3 4	
2 30	b	1 10	a	1 9	3 7	5 h. 25 m. low-water, Chang-tau.
3 0	b	3 1	a	0 9	3 10	
3 30	b	4 2	b	0 3	3 11	
4 0	b	5 4	b	1 3	4 1	
4 30	b	6 0	b	2 6	3 6	
5 0	b	6 3	b	3 5	2 10	
5 30	b	6 5	b	4 3	2 2	
6 0	b	5 8	b	5 0	0 8	
6 30	b	4 9	b	5 10	1 1	
7 0	b	3 5	b	6 0	2 7	
7 30	b	1 7	b	5 2	3 7	11 h. 5 m. high-water, Chang-tau.
8 0	a	0 6	b	4 2	4 8	
8 30	a	2 2	b	3 0	5 2	
9 0	a	3 7	b	1 6	5 1	
9 30	a	5 0	0	0 0	5 0	
10 0	a	5 7	a	1 4	4 3	
10 30	a	5 11	a	2 7	3 4	
11 0	a	6 1	a	3 8	2 5	
11 30	a	6 0	a	4 11	1 1	
Midnight	a	5 8	a	5 11	0 3	
8th Sept. 1888.						
A. M.						
0 30 a.m.	a	4 9	a	6 4	1 7	
1 0	a	4 2	a	6 5	2 3	
1 30	a	3 3	a	6 3	3 0	
2 0	a	2 1	a	5 9	3 8	
2 30	a	1 0	a	4 9	3 9	

DATE.	ABOVE OR BELOW M.L.				Difference of Level.	REMARKS.	
	Chang-tau.		W. Volcano.				
8th Sept. 1888.	ft.	in.	ft.	in.	ft.	in.	
A. M.							
3 0 a.m.	b	0 1	a	3 7	3	8	5 h. 50 m. low-water, Chang-tau.
3 30	b	1 8	a	2 5	4	1	
4 0	b	3 1	a	1 3	4	4	
4 30	b	4 0	a	0 3	4	8	
5 0	b	4 6	b	0 6	4	0	
5 30	b	4 10	b	1 3	3	2	
6 0	b	4 11	b	2 9	2	2	
6 30	b	4 6	b	3 8	0	10	
7 0	b	3 7	b	4 10	1	3	
7 30	b	2 4	b	5 5	3	1	
8 0	b	1 1	b	5 3	4	2	
8 30	a	0 3	b	4 4	4	7	
9 0	a	2 7	b	2 4	4	11	
9 30	a	3 8	b	1 0	4	8	
10 0	a	4 9	a	0 2	4	7	
10 30	a	5 2	a	1 4	3	10	
11 0	a	5 2	a	2 3	2	11	
11 30	a	5 0	a	3 4	1	8	
Noon	a	4 7	a	4 5	0	2	
							10 h. 50 m. high-water, Chang-tau.

APPENDIX C.

Simultaneous Observations of the Distance of the Water from Mean Level at Haining, Rambler Island, and West Volcano Island. Full Moon, September 1888.

[N.B.—In the following table “a” indicates above and “b” indicates below mean level respectively.]

DATE.	ABOVE OR BELOW MEAN LEVEL.			Difference of Level between Rambler Island and W. Volcano Island.	REMARKS.
	Haining.	Rambler Island.	W. Volcano Island.		
20th Sept. 1888.	ft. in.	ft. in.	ft. in.	ft. in.	
A. m.					
Noon	...	a 8 2	a 4 4	3 10	
0 30 p.m.	...	a 9 3	a 4 3	5 0	
1 0	...	a 10 1	a 3 8	6 5	
1 30	a 9 0	a 10 4	a 3 0	7 4	
2 0	a 9 6	a 10 0	a 2 0	8 0	
2 30	a 9 6	a 9 6	a 0 11	8 7	
3 0	a 9 0	a 8 1	b 0 1	8 2	
3 30	...	a 5 9	b 1 1	6 10	
4 0	...	a 3 3	b 1 10	5 1	
4 30	...	a 1 2	b 2 10	4 0	
5 0	0 0	b 1 5	b 3 6	2 1	
5 30	...	b 4 5	b 4 3	0 2	
6 0	...	b 6 5	b 4 8	1 9	
6 30	...	b 8 6	b 4 11	3 7	
7 0	...	b 10 2	b 4 8	5 6	
7 30	...	b 10 11	b 3 9	7 2	
8 0	...	b 11 3	b 2 5	8 10	
8 30	...	b 11 4	b 1 1	10 3	
9 0	...	b 10 9	a 0 4	11 1	
9 30	b 8 0	b 8 10	a 1 6	10 4	} Birth of the Bore.
10 0	b 9 0	b 4 3	a 2 7	6 10	
10 30	b 9 0	a 1 3	a 3 6	2 3	
11 0	b 9 6	a 5 9	a 4 4	1 5	
11 30	b 9 6	a 8 3	a 4 11	3 4	
Midnight	b 9 9	a 9 6	a 5 6	4 0	Pressure removed from Rambler Id. Bore passed Haining 12 h. 30 m.

DATE.	ABOVE OR BELOW MEAN LEVEL.			Difference of Level between Rambler Island and W. Volcano Island.	REMARKS.
	Haining.	Rambler Island.	W. Volcano Island.		
21st Sept. 1882.					
A. M.	ft. in.	ft. in.	ft. in.	ft. in.	
0 30 a.m.	a 3 0	a 10 4	a 5 7	4 9	
1 0	a 6 0	a 11 3	a 5 2	6 1	
1 30	a 8 0	a 11 7	a 4 6	7 1	
2 0	a 9 0	a 11 5	a 3 7	7 10	
2 30	a 9 6	a 10 11	a 2 5	8 6	
3 0	b 10 0	a 9 10	a 1 4	8 6	
3 30	a 10 0	a 7 0	a 0 3	6 9	
4 0	a 9 6	a 5 0	b 0 9	5 9	
4 30	...	a 2 6	b 1 10	4 4	
5 0	...	a 0 1	b 2 10	2 11	
5 30	0 0	b 2 7	b 3 9	1 2	
6 0	...	b 5 0	b 4 6	0 6	
6 30	...	b 7 5	b 5 0	2 5	
7 0	...	b 9 3	b 5 6	3 9	
7 30	...	b 10 5	b 5 4	5 1	
8 0	...	b 11 3	b 4 3	6 10	
8 30	...	b 11 9	b 2 10	8 11	
9 0	...	b 12 0	b 1 8	10 4	
9 30	...	b 11 8	b 0 7	11 1	
10 0	b 9 0	b 9 4	a 0 10	10 2	} Birth of the Bore.
10 30	b 9 0	b 3 6	a 1 7	5 1	
11 0	b 9 0	a 2 3	a 2 6	0 3	
11 30	b 9 0	a 4 7	a 3 2	1 5	Pressure removed from Rambler Id.
Noon	b 9 6	a 7 3	a 3 7	3 3	
0 30 p.m.	b 9 6	a 8 3	a 3 9	4 6	0 h. 36 m. Bore passed Haining.
1 0	a 4 0	a 8 11	a 3 7	5 4	
1 30	...	a 9 6	a 3 4	6 2	
2 0	...	a 9 10	a 2 6	7 4	
2 30	a 9 0	a 9 7	a 1 5	8 2	
3 0	a 9 0	a 8 11	a 0 4	8 7	
3 30	a 9 0	a 7 5	b 0 10	8 3	
4 0	a 9 0	a 5 3	b 1 8	6 11	
4 30	...	a 2 9	b 2 3	5 5	
5 0	...	a 0 4	b 3 8	4 0	
5 30	0 0	b 2 3	b 4 4	2 1	
6 0	...	b 4 3	b 4 11	0 3	
6 30	...	b 7 1	b 5 10	1 3	
7 0	...	b 9 2	b 6 1	3 1	
7 30	...	b 10 3	b 6 0	4 3	
8 0	...	b 11 6	b 5 3	6 3	
8 30	...	b 12 0	b 3 10	8 2	
9 0	...	b 12 5	b 2 4	10 1	
9 30	...	b 12 4	b 0 11	11 5	

DATE.	ABOVE OR BELOW MEAN LEVEL.			Difference of Level between Rambler Island and W. Volcano Island.	REMARKS.
	Haining.	Rambler Island.	W. Volcano Island.		
21st Sept. 1888.					
A. M.	ft. in.	ft. in.	ft. in.	ft. in.	
10 0 p.m.	...	b 10 7	a 0 4	10 11	} Birth of the Bore.
10 30	...	b 4 6	a 1 7	6 1	
11 0	b 9 0	a 1 3	a 2 8	1 5	
11 30	b 9 0	a 4 9	a 3 4	1 5	
Midnight	b 9 0	a 6 11	a 4 0	2 11	Pressure at Rambler Island removed.
22nd Sept. 1888.					
A. M.					
0 30 a.m.	b 9 0	a 8 0	a 4 4	3 8	} 0 h. 52 m. Bore passed Haining.
1 0	a 8 0	a 8 11	a 4 6	4 5	
1 30	...	a 10 2	a 4 4	5 10	
2 0	...	a 10 6	a 3 10	6 8	
2 30	...	a 10 7	a 2 8	7 11	
3 0	a 9 0	a 10 3	a 1 7	8 8	
3 30	a 9 0	a 9 0	a 0 7	8 5	
4 0	a 9 6	a 7 3	b 0 4	7 7	
4 30	a 9 0	a 4 6	b 1 6	6 0	
5 0	...	a 1 11	b 2 7	4 6	
5 30	...	b 0 7	b 3 2	2 7	} Birth of the Bore.
6 0	0 0	b 2 9	b 3 11	1 2	
6 30	...	b 6 3	b 4 8	1 7	
7 0	...	b 7 9	b 5 6	2 3	
7 30	...	b 9 9	b 5 9	4 0	
8 0	...	b 10 9	b 5 5	5 4	
8 30	...	b 11 5	b 4 4	7 1	
9 0	...	b 12 0	b 2 10	9 2	
9 30	...	b 12 2	b 1 6	10 8	
10 0	...	b 11 8	b 0 4	11 4	
10 30	...	b 8 3	a 0 9	9 0	} Birth of the Bore.
11 0	b 9 0	b 1 9	a 1 11	3 8	
11 30	b 9 0	a 3 0	a 2 10	0 2	
Noon	b 9 6	a 5 1	a 3 7	1 6	
					Pressure on Rambler Island removed.
0 30 p.m.	b 10 0	a 7 1	a 4 2	2 11	} 1 h. 10 m. Bore passed Haining.
1 0	b 10 0	a 8 0	a 4 4	3 8	
1 30	a 8 0	a 9 3	a 4 4	4 11	
2 0	...	a 10 2	a 3 11	6 8	
2 30	...	a 10 5	a 3 3	7 2	
3 0	...	a 10 3	a 2 4	7 11	
3 30	a 9 0	a 9 7	a 1 0	8 7	
4 0	a 9 0	a 8 1	0 0	8 1	
4 30	a 8 6	a 5 7	b 0 10	6 5	
5 0	...	a 2 10	b 1 10	4 8	
5 30	...	a 0 9	b 2 10	3 7	

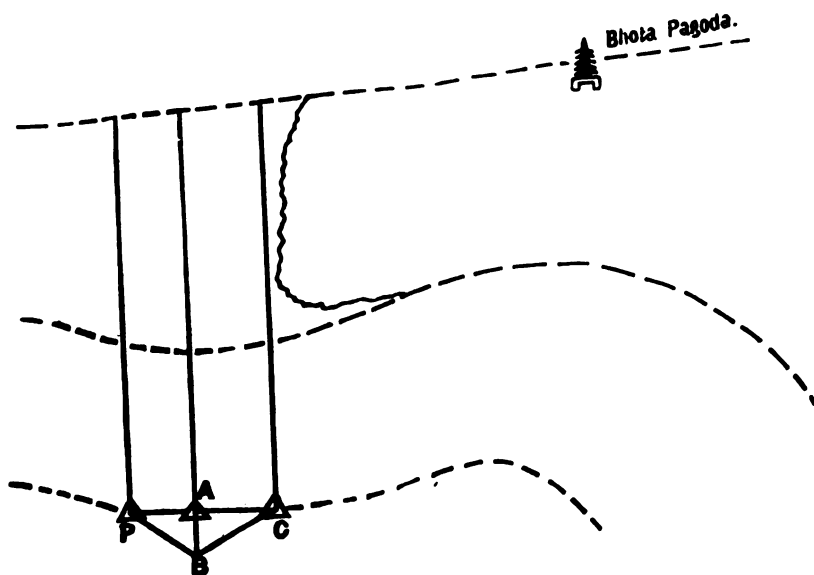
THE BORE OF THE

DATE.	ABOVE OR BELOW MEAN LEVEL.			Difference of Level between Rambler Island and W. Volcano Island.	REMARKS.
	Haining.	Rambler Island.	W. Volcano Island.		
22nd Sept. 1888.	<i>ft. in.</i>	<i>ft. in.</i>	<i>ft. in.</i>	<i>ft. in.</i>	
A. M.					
6 0 p.m.	0 0	b 1 7	b 3 6	1 11	
6 30	...	b 4 3	b 4 4	0 1	
7 0	...	b 6 7	b 4 10	1 9	
7 30	...	b 8 8	b 5 4	3 4	
8 0	...	b 10 3	b 5 4	4 11	
8 30	...	b 11 2	b 4 10	6 4	
9 0	...	b 11 7	b 3 2	8 5	
9 30	...	b 11 9	b 1 9	10 0	
10 0	...	b 11 6	b 0 9	10 9	
10 30	...	b 9 4	a 0 3	9 7	} Birth of the Bore.
11 0	...	b 3 7	a 1 8	5 3	
11 30	...	a 1 11	a 2 10	0 11	
Midnight	b 9 0	a 5 1	a 3 6	1 7	Pressure at Rambler Island removed.

APPENDIX D.

Proofs of the Speed, and evidence on which the Heights of the different Bores were estimated :—

SPEED.



A base AB , 821 feet, was measured in a direction perpendicular to the general direction of the Bore. Observers at P and C , having the line between them through A and rectangular to AB , observed the angles APB , ACB , thus obtaining $AP=3,463$ feet.

$AC=4,336$ "

Total length of Base $CP=7,789$ feet.

Three observers with chronometers were stationed at *C*, *A* and *P*. *C* and *P* had the telescopes of their theodolites parallel and at right angles to the line *CAP*. Observer at *A* had previously walked to *B* and selected an object on the opposite bank of the river in line with *A*. As the Bore passed, observers at *C* and *P* took the time when the left extreme of the foot of the cascade passed the wire of their theodolites. Observer at *A* took the time when the same phase passed the object he had chosen.

RESULT.

Place.					Mean Time.		
—					h.	m.	sec.
Bore passed	<i>C</i>	...	...	...	1	21	50
"	<i>A</i>	...	...	...	1	25	15
"	<i>P</i>	...	...	...	1	27	54

This gave the speed as observed :—

Between <i>C</i> and <i>P</i>	...	...	...	...	12.71	knots.
" <i>C</i> and <i>A</i>	...	...	...	...	12.53	"
" <i>A</i> and <i>P</i>	...	...	...	...	12.90	"

It will be seen that $2\frac{1}{2}$ hours elapses from the time of sudden rise at Rambler Island to the time Bore passes Haining. The distance is 29 miles. Also that 1 h. 12 m. elapses between the Bore passing Haining and a position on the sea-wall 15 miles to the south-west of Haining.

The following account by Bishop MOULE is of great interest as illustrating the impetus of the Bore under certain conditions :—

"I felt the sudden rush of the tide at about 5 a.m. on May 29th this year, 1888, (four days after full moon) at a place about 100 *li* above Hang-chow, a little short of Tsien-shan, a picturesquely-placed town 107 *li* from Hang-chow, called from a striking pyramid-hill round which the river makes a sharp bend, and just above which it is spanned by a bridge of boats. We were sculling and towing when the trackers were suddenly called to come on board, and had only just time to do so when a smooth wave (perhaps 2 feet above the previous level) came swiftly up and took us up stream at a great pace, I should say full 5 miles an hour. Unhappily, I have no detailed memoranda of the exact spot, but the 100 *li*, which the boatmen gave me in answer to my immediate question, 'how far are we from Hang-

chow?' places it between Ling-p'u, a busy town, 89 *li*, and the above-named Tsien-shan, 107 *li*, from Hang-chow."

In a later letter Bishop MOULÉ was good enough to reply to a question of mine about the time. He says:—

"I am sure of the day (29th May) and of the early hour (5 or 6 o'clock), but cannot answer for half-an-hour either way. The spot where the Bore overtook us was reputedly 100 *li* from Hang-chow, *not* the main river, but a branch which enters it from a little east of South (*see* Customs' Map of 'Tsien-tang River) near I-k'ian, which is 51 *li* from the head of the stone bund of Hang-chow. The nearest point to my sight of the Bore, which I have noted in my diary, is Tsien-shan, some 28 *li* up the branch, and which I passed about 6 a.m. So that if I wrote 5 a.m. for the occurrence I was probably out at least an hour or more."

Now, the junkmen speak of the distance between Haining and Hang-chau as 90 *li*, and it is in reality 23 geographical miles by the river. I think we may fairly assume that 4 *li*=one geographical mile. The 100 *li* given to Bishop MOULÉ by the natives, I reject for the more accurate measurement he gives from the Customs' Map in his second letter, viz., "near Tsien-shan, which is 79 *li* from the stone bund at Hang-chow." Suppose we call the whole distance from Haining to where the Bore overtook the boat as 164 *li*, or 41 geographical miles, we shall probably be very near the truth. On the night of the 28th May, the Bore was certainly early, as the apex of the tidal wave passed our station at Chang-tau 5 minutes after midnight, which is three-quarters of an hour at least before its time; but it is out of reason that the Bore should have reached Haining before 1 h. 30 m., as the usual interval between high-water at Chang-tau and the Bore passing Haining is 1 h. 46 m. Adopting 6 o'clock as the time the wave overtook the boat, this gives a mean speed of the Bore from Haining of 9 knots an hour. Probably the speed decreased gradually, after reaching the shallows off Hang-chau, from 13 knots downwards, until it passed Bishop MOULÉ at a speed of 4 or 5 knots. It was probably a good Bore, as full moon corresponded nearly with perigee. On the 26th and 27th May, the range of tide at Chang-tau harbour was 13 feet—1 foot more than ordinary springs. On the night of the 28th, however, the range was not extraordinary, but the high-water was early.

HEIGHT.

20th September. Night Bore. A boat grounded at mean level, which is $9\frac{1}{2}$ feet above low-water, obtained a sounding of 9 feet, 15 minutes after Bore passed. The boat drew 3 feet water. This makes a height of $15\frac{1}{2}$ feet. By subsequent observations, it was found that 15 minutes after a Bore had passed (at spring-tide) the water had risen 3 to 4 feet higher than it was immediately after the cascade had gone by. This would make the height of this Bore 10 to 11 feet.

21st September. Day Bore. An observer in a steam-cutter aground at H.-W. on the south bank of the river opposite Haining. Eye about 3 feet above H.-W. spring tide; saw the top of the Bore in line with keels of junks on the shelter abreast of Bhota Pagoda. The keel of a junk is $7\frac{1}{2}$ feet above the low line at springs, and the highest part of the Bore is distant from junk about 4 cables. Junk from observer 2.3 miles. Height of Bore 9 feet.

22nd September. Day Bore. An observer at base station C, 5 feet above H.-W. spring tide, observed the depression of the top of Bore to be $0^{\circ} 4' 50''$. Depression to top of sea-wall $0^{\circ} 1' 0''$. Distance of sea-wall (approximate) 3 miles. Distance of top of Bore (approximate) 2.4 miles. Sea-wall about 24 feet above L.-W. ordinary spring tide. An observer at base station A, with eye level with H.-W. spring tide, considered the height of the Bore to be three-quarters that of the sea-wall opposite. An observer at base station P, eye level with H.-W. spring tide, considered that a man on the sands was two-thirds as high as the Bore. The man was of average height, and $1\frac{1}{2}$ mile distant. Bore, as before, 2.4 miles. The same observer could distinguish no difference in level when looking through the telescope of his theodolite, between the top of the sea-wall opposite and the disturbed water on the back of the Bore. Bore 10 to 11 feet.

22nd September. Night Bore. Lieutenant PURRY-CUST, who was on a junk-shelter one-third of a mile west of the pagoda at Haining, notes, "the side wave, as it struck the embankment, was not more than from 4 to 5 feet high, and the real wave outside apparently 8 to 10 feet. In about 3 minutes, the tide rose 10 feet. Probably the rapid rise was until level with the real wave outside. Bore 8 to 10 feet."

New moon, 4th October. Day Bore. The side of the cascade washed the top of the piles, which, at that time, were $5\frac{1}{2}$ feet above the level of the river. That part of the cascade which was over the deep channel appeared to be higher. Bore 5 to 6 feet.

5th October. Day Bore. Side of cascade level with top of piles, which, at that time, were 7 feet above the level of the river. Part of cascade over deep channel higher. Five minutes after Bore passed, the junks on the shelter moved. It required 9 feet water to move the junks. Estimated that the crest of the cascade must have been nearly as high as the level of the water five minutes after it had passed. Bore 8 feet.

5th October. Night Bore. Side of cascade passed level with top of piles, which were 7 feet above the level of the river, and half-a-minute afterwards water was up to bottom of wall. In 3 minutes junks were afloat and surging against wall. It required 9 feet water to float junks. Height of cascade over the deep water probably 2 feet higher than at the side. Considered that, on this occasion, crest of cascade on passing should be registered as high as the water at the wall 3 minutes later. Bore 9 feet.

6th October. Day Bore. Top of piles hidden by the side of the cascade, and junks afloat 2 minutes later. Considered that the crest on passing was as high as the water at the wall 2 minutes later. Bore 9 feet.

6th October. Night Bore. Side of the cascade swept over the piles and up to the bottom of the wall, which was $7\frac{1}{2}$ feet above level of river at the time. No junk in the berth abreast the pagoda. In 7 minutes the water rose to 13 feet. Considered that the crest of the Bore must have been 2 or 3 feet higher than the side of the wall. Bore 10 feet.

7th October. Day Bore. Side of Bore floated the junks at once, which required 9 feet water above the level of the river at the time. Crest about 2 feet higher than side of cascade. Bore 10 to 11 feet.

The height of Bores at Haining, recorded by Mr. BALFOUR, were measured in the same way.

CHINESE CHESS.

By Z. VOLPICELLI.

處置其如治
者得用奕國
勝其而知譽

The following sketch is an attempt to give an account of Chinese Chess, on a methodic plan, as is done in treatises on our game. In doing so, I have not been able to resist the temptation of occasionally pointing out resemblances between the Chinese game and ours in the Middle Ages; these lead naturally to the investigation of the origin of the royal game, but, unfortunately, I am not able for the present to pursue this subject, and must reserve it for a future occasion.

Mr. HIXLY, in No. VI (for 1869-1870), New Series of this Journal, went very thoroughly into the history of Chess in China, and pointed out many analogies and differences with the same game in other countries in different times. Mr. HOLLINGWORTH, in No. III (for December 1866), New Series of this Journal, gave a very complete, thorough and succinct account of Chinese chess, but, unfortunately, he sacrificed clearness to brevity, and it would be difficult to learn the game from his article without the aid of a native player. He omitted, moreover, to point out a very remarkable difference between the Chinese and the Western game;—in the former, stalemate counts a win for the side which has confined the adverse King, so that he cannot move except into check.

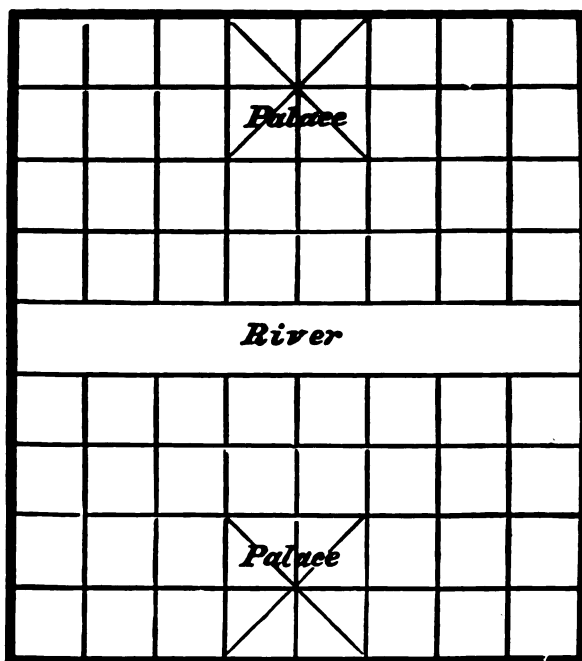
The two games, notwithstanding some differences, possess so many features in common, that I have only considered it necessary to point out in what they differ, and shall therefore not explain such points as the alternation of the moves, and the mode of capture, etc., which are identical in both games. I have had some opportunity of consulting native works on Chess, but such as I have seen, are rather for the advanced player, as they give no elementary instruction, so that I have had to supply this deficiency by my own experience, corroborated always, of course, by such native players as I have been able to question.

THE CHESS-BOARD.

This differs considerably from ours, the only similarity being that they both appear to have 64 squares, but even this leads to no common consequences, for two important reasons:—First, the Chinese board is divided horizontally into two halves, each of 32 squares, called Camps (營), separated by a rectangular space which is called the River (河). This really adds, for all intents and purposes, 8 squares to the board, because though they are not marked, still the River counts a step in passing it. Therefore, it would be more correct to say, that the Chinese board is a rectangle, 8 by 9, with the middle rank of squares left unmarked. Secondly, the Chinese chessmen are not placed on the squares, and do not move on them as in our game, but are placed on the points of intersection of the horizontal and vertical lines, and all the moves are performed on the lines, not on the squares.

Figure I. shows a blank Chess-Board, and it will be seen at a glance that though only 8 men can be placed in a rank, each occupying one square, 9 men can be placed in a rank

Fig. 1.



when they occupy the points of intersection. The Chinese have therefore 9 files to our 8, and, as will be seen later on, when treating of their Chess-Notation, they count from 1 to 9 in a horizontal direction. For the same reason, the Chinese have 10 ranks instead of our eight. It follows naturally that the squares, having no importance, are not distinguished alternately by different colours, as is done on our Chess-Board, to guide the eye in the moves of certain Pieces.

There is still another peculiarity to be noted;—the four central squares at the bottom and top of the Board, form what is called the Royal Palace (宮). Another glance at

Figure I. will show that this space is distinguished by two diagonal lines,—the only ones on the Board,—all the rest being horizontal and vertical. It will be seen later on that the Palace is the only field of action allotted to the King and his two Ministers.

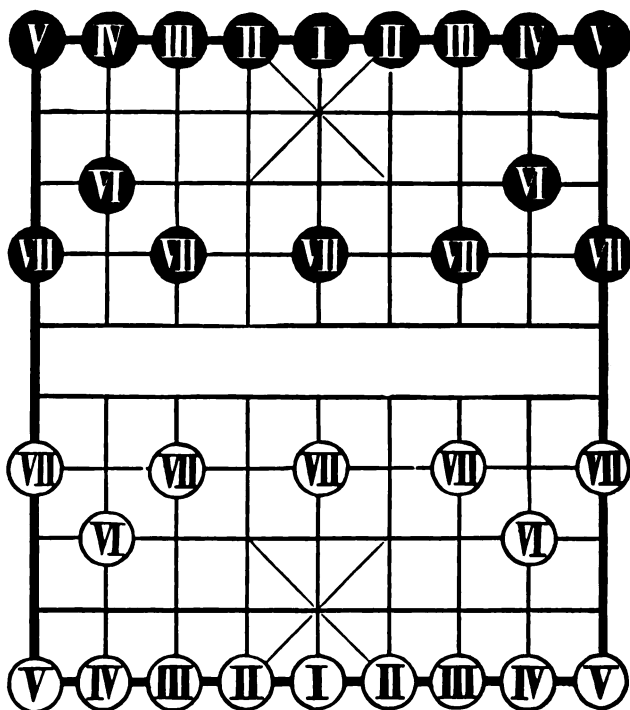
In Western mediæval Chess there seems to have been some kind of division of the Board, because CESSOLES, an author of the 13th century,¹ speaking of the first move of the Pawn, when he is allowed to advance two squares, explains this anomaly by saying, that within the boundaries of the realm, the Pawns feel safer, and therefore advance more boldly, but once they are over the borders they must be more cautious, and are only allowed to advance one square.

THE CHESS-MEN.

The Chinese have 16 men a side, as with us, but their total is differently constituted from ours, their 16 being made up by 1 King, 2 Ministers, 2 Bishops, 2 Knights, 2 Rooks, 2 Cannons and 5 Pawns, and some of these men are placed differently from ours. Figure II. shows a Chess-Board with all the Chessmen, as they are placed at the beginning of the game. The men are not shaped to roughly outline the object they are supposed to represent, like ours, but are simply round pieces of wood or ivory, like draughtsmen, with their names written on both surfaces.

¹ Jacopus de Cessolis, otherwise Jacopo Dacciesole, in his work, entitled *Solatium Ludi Scacchorum, scilicet Libellus de Moribus Hominum et Officiis Nobilium*, supposed to have been the first work printed in England by Caxton, who gave the English translation in the year 1474, under the name of *The Game and Playe of the Chesse*. The book was meant rather to teach morals than Chess, still the moves, etc., are given.

Fig. 11.



I.—King. 將 and 帥

II.—Minister, 士

V.—Rook, 車

III.—Bishop, 象 and 相

VI.—Cannon, 砲

IV.—Knight, 馬

VII.—Pawn, 卒 and 兵

I shall now describe the moves of the different Chess-men and the laws which regulate them.

THE KING (將 and 帥).²

The Chinese names for this Piece really mean General, but I shall use the name familiar to Western players, as the

² The rival Kings, besides being distinguished by colour, are denoted by different characters.

alteration is immaterial. The power of this Piece, *except in one case*, is much more limited than that of our King; he can move forwards, backwards and laterally, one step at a time, like our Piece, but he cannot go out of the square space called the Palace, and even there, he is not allowed to move diagonally, though, as we have seen, there are two diagonals marked out; he can only move along the horizontal and vertical lines, and take any unprotected Piece or Pawn that lies next to him on these lines. I mentioned one exception, where the Chinese Piece could exercise a more powerful action than ours; it is directed, however, exclusively against the hostile King. In Chinese Chess, the two Kings cannot stand on the same file, no matter in which rank of the Palace, without some intervening Piece or Pawn; the King is thus enabled not only to prevent the other King from being played on his file, but he can also protect one of his Pieces on that file against any attack of the hostile Monarch.

This law becomes very important towards the end of the game, when the greater part of the Pieces and Pawns have been exchanged; then, if there are no intervening men between the two Palaces, as the Kings can only be played on three possible files, the action of the hostile King reduces them to two in every case, and if he is placed on the middle file, the other King can only move backwards and forwards on either of the side-files. At the beginning of the game the Kings are placed in the centre of the first rank of the Palace, as shown in Figure II.

The far greater freedom of action of our King compared with that of the Chinese one, secluded in his Palace, suggests the reflection that the spirit of a nation's civilisation affects every branch of its activity, even such small things as its games; the Chinese Chess-King is as different from ours as the Chinese Emperor from a European Constitutional Monarch. ?

THE MINISTER (士).³

This Piece, by its position on the Board at the outset of the game, corresponds to our Queen, but its power is so much less, that this reason, and the fact that there are two Ministers, have prevented me from employing our term Queen to designate it. The Minister can move diagonally one step at a time, backwards and forwards, but always within the Palace, his action, like that of the King, ceasing at its walls; the diagonal lines are especially marked to indicate his moves. We thus see that the King and Minister combined possess all the variety of moves of our King, restricted to a narrow space. The two Ministers, at the beginning of the game, are placed, like good, loyal liegemen, one on each side of the King; in one move a Minister can be brought in front of the King, where he is protected by him and by the other Minister.

I stated that I decline to call this Piece a Queen, as it would be too disparaging to our noble Amazon; yet, if we look back to our ancient game, we shall find that the two Pieces were very similar. As late as the 15th century our Queen could only move diagonally to the next square, either forward or backward, exactly like the Chinese Minister. Only on her *first* move was she allowed to spring two squares in any direction. In a MS. collection of Problems of the 15th century in the Ducal Library at Florence, the Queen has sometimes the old manner of moving and sometimes the new one which the good old author calls "*Alla rabbiosa*"—"angry fashion," as we should say in Pidgin-English. It is lucky for the brilliancy of Chess that the "angry fashion"

³ This Piece has been generally called Secretary by foreign writers on the game, but Minister is more in accordance with our notions, as we call the principal Piece "King."

prevailed. The only difference between our mediæval Piece and the Minister was, that the former could fight all over the Board instead of being confined to a small arena.

THE BISHOP (象 and 相).⁴

The Chinese name really means Elephant (the second character being used as an homonym) and corresponds to the

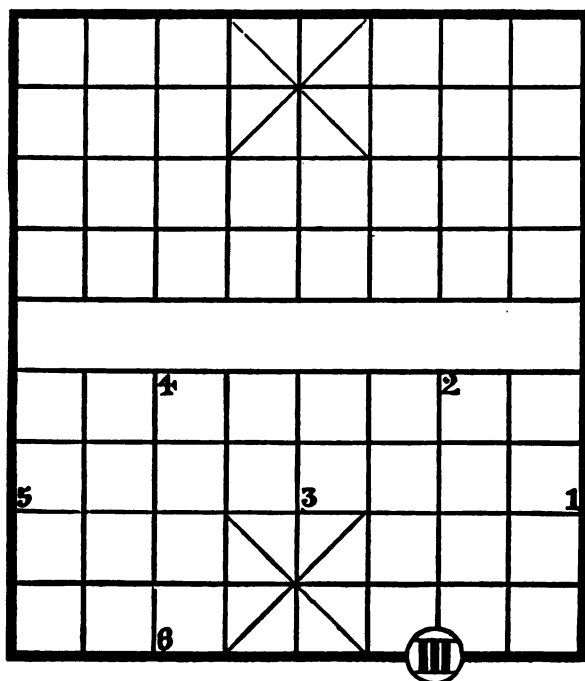
Arabic term *Fil* (فيل) also meaning Elephant; the

Italian *Alfiere* was derived from that word, with the Arabic article *Al* prefixed. This Piece moves diagonally forwards and backwards like our Bishop, but only two steps at a time, neither more nor less; he is, moreover, confined to his own Camp, not being ever allowed to cross the River. The Bishops and Ministers form a kind of *landwehr*, or militia, only employed for defensive purposes, the action of the former extending over the whole Camp, while the latter only defend the Palace. The Chinese Bishops are, if we may use the expression, both of the same colour, i.e., they can go to the same places and they can mutually protect each other.

- At the beginning of the game, they are placed just outside the Palace, on the first rank, and they can circulate over the Camp, passing, however, always over the same places. Figure III. shows all the possible moves of the Bishop; it will be seen that he can only move to *six* other distinct places, after which he must repass over the spots he has already occupied. The most favourable position for the Bishop is just in the centre of the Camp (at No. 3 in the diagram), he can then command four places.

⁴ The same remark applies to this Piece as to the King—a different character is used for the two sides.

Fig. III.



III.—Bishop, 象 and 相

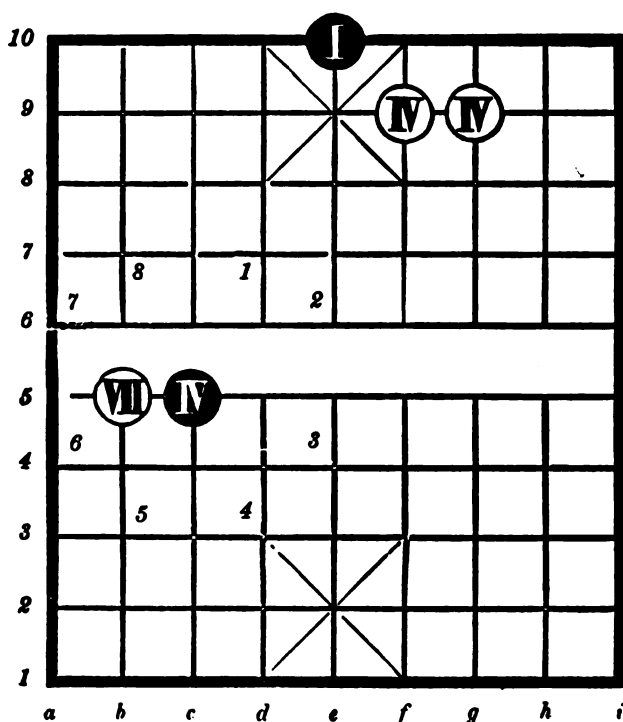
The moves of the Chinese Bishop are very similar to those of ours during the Middle Ages, when he was called *Alfy*; the latter also could only move on to the *third* square from that on which it stood, but it enjoyed two privileges denied to the present Chinese Bishop—it could jump over another man, like our Knight, and it could range all over the Board.

THE KNIGHT (馬).

This Piece is called Horse by the Chinese, by which name it is known in Italy also; it has the same moves as our Piece

—one step in a straight line and one in an oblique direction. Owing to the Chinese Piece moving on the lines instead of the squares, its move appears different from that of our Knight, and this difference is increased by the following consideration:—the Chinese Knight does not enjoy the important privilege of leaping over another man. This restriction of its powers brings out the importance of attending to the *order* in which the two steps forming the Knight's move follow one another. In our game it matters little whether the first step be oblique and the second in a straight line, or *vice versé*, the Knight always comes to the same square, leaping over any obstacle. But in Chinese Chess it should be always remembered that the first step must be in a straight line, because, if there is another man in that place, the Knight cannot pass over him and perform the second part of his move—the step in an oblique direction. Figure IV. shows how the move of the Knight may be obstructed. The Knight at *c 5* would have 8 places to which he could be played, (they are marked from 1 to 8 on the Figure), if it were not for the Pawn at *b 5*, which prevents him going either to 6 or 7. If the Pawn were at *b 4* or *b 6*, it would not impede any of the Knight's moves. As the attack of the Chinese Knight can be masked by a covering Piece or Pawn, it is possible to give a discovered check from the Knight, nay even give a double check with two Knights, both impossibilities in our game. Figure IV. shows how this double check can be given. The Knight at *f 9* masks the attack of the Knight at *g 9*, but if the former is played to *d 8*, the King will receive its check and the discovered one of the Knight at *g 9*. The Knight can cross over the River into the hostile Camp, and come back if he eludes capture; he is far more powerful than the other Pieces we have yet examined, as he is an attacking Piece forming part of the field army.

Fig. IV.



I.—King, 將 and 帥
 IV.—Knight, 馬
 VII.—Pawn, 卒 and 兵

THE ROOK (車).

The Chinese call it Chariot, but its move is exactly like ours; it can, when there is no obstruction, march all over the board, forwards, backwards and laterally, taking as many steps as it pleases. It is by far the most powerful Piece on the Chinese board, and, as we shall see later on, it is the only Piece which can give checkmate with the sole assistance of the King. Other Pieces can only win through stalemate.

All the Pieces we have examined, nine in all, occupy the first rank of the board,—the King in the centre, the two Ministers next to him, and on both sides, in successive order, the two Bishops, the two Knights and the two Rooks. There are still two more Pieces to be examined—the Cannons—which are placed at *b* 3 and *h* 3.

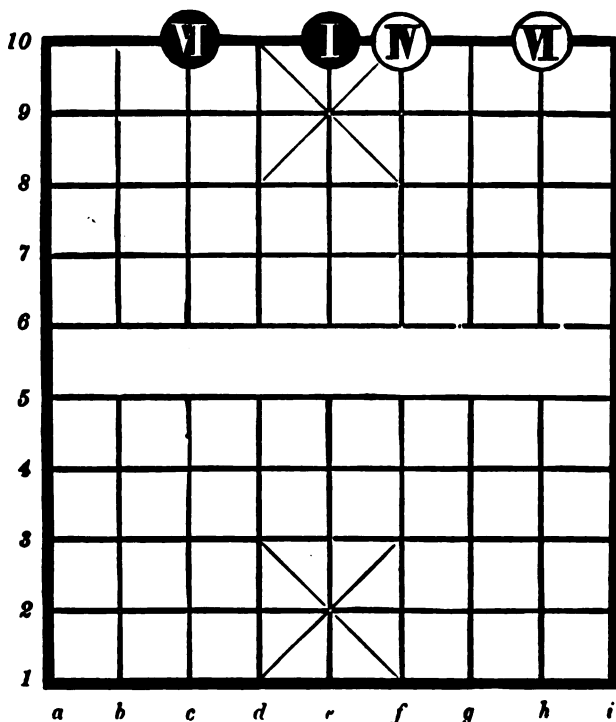
THE CANNON (炮).

The Cannon has no corresponding Piece on our board, and its very peculiar attack contributes largely to differentiate the Chinese game from ours, and give the former that brilliancy which the confined action of nearly half its Officers would otherwise prevent. All the Pieces we have yet examined, attack and take hostile men in the same direction as they move, and with the same restriction—that there should be no intervening man,—none of them being able to leap over other men, like our Knight. The Cannon moves exactly like the Rook, and with the same extensive range; on an empty board, it can go from one end to the other, both forwards, backwards and laterally, but it cannot attack the man that lies immediately opposite to it on any of its horizontal and vertical lines of action,—it requires an intervening Piece or Pawn to enable it to exercise its power on the object of its attack. A covering Piece or Pawn is necessary for the attack of the Cannon; of course, the intervening man may be friend or foe, it may also be another Cannon. It has the privilege of our Knight in leaping over another man, but it is only allowed to do so when it takes a Piece or Pawn, and in so doing it moves in a straight line, either forwards, backwards or laterally. When there is no man to take, the Cannon cannot leap over another man, but is confined in its movements, as the Rook would be under the

same circumstances. The Chinese formulate this law of attack by saying, that the Cannon must have a "partition."

The power of the Cannon is enhanced by the support of the other Cannon on the same rank or file; in such a case, each serves as a "partition" to the other. It is very difficult for a foreign player to get familiarised with the vagaries of

Fig. V.



I.—King, 將 and 帥

IV.—Knight, 馬

VI.—Cannon, 砲

this strange Piece. Figure V. illustrates the attack of the Cannon. The Black King is under check from the White Cannon at h 10, the White Knight at f 10 serving as

"partition;" the Black Cannon at *c* 10 cannot take the White Knight by leaping over its King, as then the Black Cannon itself would serve as a "partition" for the White Cannon, the King still remaining in check; so Black has only two courses open to him, either to take the White Knight with his King, in which case the Black King would serve himself as a "partition" for the White Cannon, which could then take the Black Cannon, or to move out of check, in which case he also loses his Cannon.

THE PAWN (卒 and 兵.)⁵

The Pawn has not the irregularity of its Western colleague, of taking a hostile man in a different direction from that in which it moves; during all its chess-life the Chinese Pawn takes in the same way as it moves. The move of the Pawn is always one step at a time; at first it can only move forwards, but as soon as it has crossed the River, it receives an early promotion, and is allowed to move also laterally in either direction. It can never, however, move backwards or attack in that direction, and as soon as it has advanced to the last rank on the board, instead of bursting from its chrysalis and becoming a Queen, it is condemned to move only on that rank from right to left or *vice versa*. The Pawn thus loses much of its power when it advances too far in the hostile Camp, and it is necessary to be very cautious in advancing it when it has crossed the River; it is better to move it laterally along the same rank, until the opportunity offers of advancing it without loss.

The seclusion of the King enables the *passed* Pawns, if I may use this expression, in the Chinese game, to play a very

⁵ The same remark holds good for the Pawn as was made for the King and Bishop.

important part in the end game, and they are as useful as minor Pieces in attacking the hostile King in his Palace. As I have mentioned, the Chinese have only 5 Pawns, which are placed, at the beginning of the game, on the 4th rank, alternately on the 1st, 3rd, 5th, 7th and 9th files.

CHESS NOTATION.

The Chinese possess a method by which they can record all the moves of a game, and as it differs considerably from ours, it will need some explanation. They begin by dividing all the moves made on the board into three classes—advancing, retreating and lateral moves—and by numbering all the files, from right to left, from 1 to 9. All these distinctions are different for the two players, each counting from his own side, as in the English notation; thus, advancing for the one is retreating for the other, and *vice versa*, and the 1st file for the one is the 9th for the other. Each move is indicated by giving the name of the Piece, the number of the file on which it is placed, the direction of the move and the number of steps taken. This last indication is differently expressed according as the move is vertical or lateral; in the former case, whether advancing or retreating, the steps are counted from the place where the Piece stands, not included, up to the place where it goes, included; in the latter case, the number of the file to which the Piece goes, is only given. Thus, Rook 2 advancing 5, means, that the Rook which is on the 2nd file goes forward 5 steps; Cannon 5 retreating 3, means, that the Cannon on the 5th file goes backwards 3 steps. If these same Pieces were moved respectively 5 and 3 steps laterally, the notation would be Rook 2, laterally 7, i.e., it goes to the 7th file; Cannon 5, laterally 2, or 8, according as the move was to right or left.

As the place occupied by the Piece is only indicated by the

number of its file, if there are two similar Pieces on the same file, it is sometimes uncertain which of them is to be played; but I do not think this a very important defect of the notation; at least, in all the chess analyses I have studied, I have not yet met a case where the doubtful move was not cleared up by the next, or at most the next two moves.

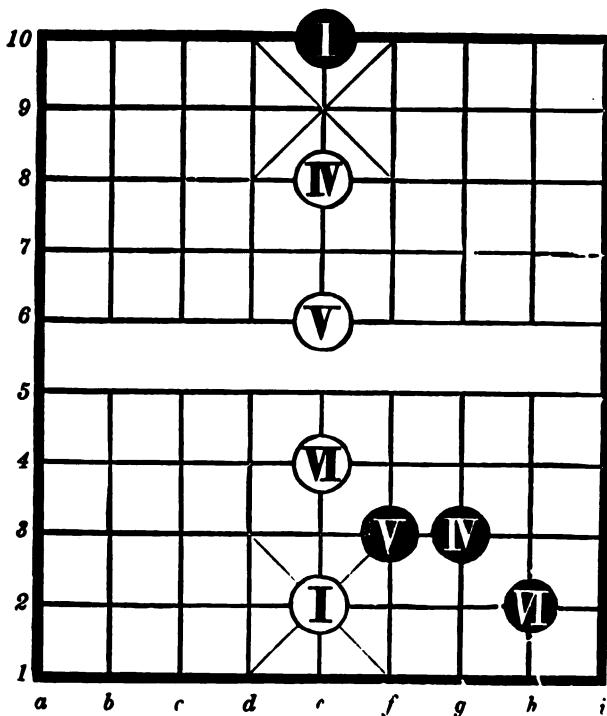
To explain the diagrams, I have employed, and shall continue to employ, the German notation; as the Chinese would needlessly complicate explanations, already difficult on account of the novelty of the subject; and the English system, to be adapted to the Chinese game, would require great alterations in the names of the files, the Chinese Pieces, as we have seen, not corresponding completely to ours.

CHECK, CHECKMATE AND STALEMATE.

In the Chinese game, besides the *simple*, *perpetual* and *discovered* checks, there is, owing to the peculiar attack of the Cannon, another kind, which we may call the *covered* check. A Cannon on the same rank or file as the hostile King, with no Piece or Pawn between them, is perfectly inoffensive, but if the owner of the Cannon interposes a Piece or Pawn, he gives check; of course, if the Piece interposed also attacks the King, this becomes a double check. In the Western game, it is at most possible to give a *double* check, but in the Chinese game a *triple* and *quadruple* check may be given. Figure VI. gives two examples of triple checks. If White plays his Knight to *c* 9 or *g* 9, he gives a triple check, viz., discovered checks of Rook and Cannon and simple check with the Knight. If Black plays his Rook to *f* 2, he gives discovered check from the Knight, covered check from the Cannon and simple check with the Rook. This same kind of triple check can be given with a Pawn in lieu of the Rook, but in both cases the White King, by taking the Pawn or

Rook, gets out of all three checks. A Cannon, instead of Rook or Pawn, would only give a double check.

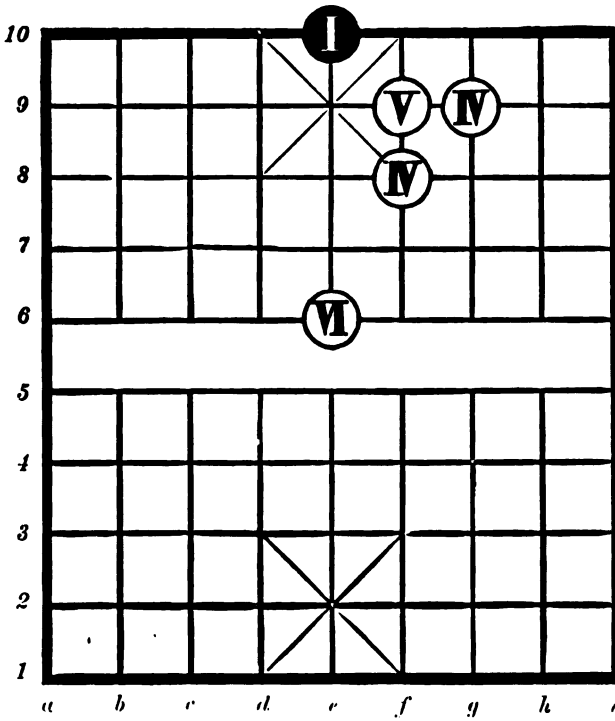
Fig. VI.



I.—King, 將 and 帥 V.—Rook, 車
IV.—Knight, 馬 VI.—Cannon, 砲

Figure VII. gives an example of a quadruple check. White, by playing his Rook to e 9, gives double discovered check from the two Knights, covered check from the Cannon, and simple check with the Rook; a Pawn instead of a Rook would do as well, but in both cases, unless protected, the Black King can take the Pawn or Rook and get out of the four checks. A Cannon instead of the Rook or Pawn would only

Fig. VII.



I.—King, 將 and 帥 IV.—Knight, 馬
 V.—Rook, 車 VI.—Cannon, 砲

give a triple check. The examples given above are, as far as I can see, the only possible triple and quadruple checks. These complicated checks rarely occur in practice, as they are not much more than curiosities, simple and double checks being most paying, but I have given them, as they serve to illustrate the power and peculiarities of the Chinese Pieces. On giving check, the word "King" may be employed to warn the other player, but this intimation is often neglected, and only when by the following move it becomes evident that

the adversary has not seen the check, is the word King mentioned. It is perhaps almost needless to remind the reader, that the primitive meaning of our word check was the same, as it came from the Persian word *Shah* (شاه).

In the Chinese game, checkmate is similar to ours, but it is not the only way by which the player can win,—a stalemate also counts in his favour. If the adverse King has no Pieces or Pawns to play, and if he cannot move anywhere without being in check, he is considered to have lost, though he is not in check at the time.

DRAWN GAME.

This may happen in the following cases: 1st.—When there is not sufficient force. This does not take place as often as in our game, because when the force is too weak to checkmate, it may often be able to stalemate, which, as I have stated, leads to the same result. 2nd.—When the forces are equal on both sides, as Rook against Rook with no advantage of position. 3rd.—When one side can give perpetual check. This may happen more easily in the Chinese game, owing to the seclusion of the King, who is thus prevented from gradually getting away from the Checking Piece, and sheltering himself behind one of his own men.

I am not aware that there is any rule corresponding to our 50-move law, which draws the game.

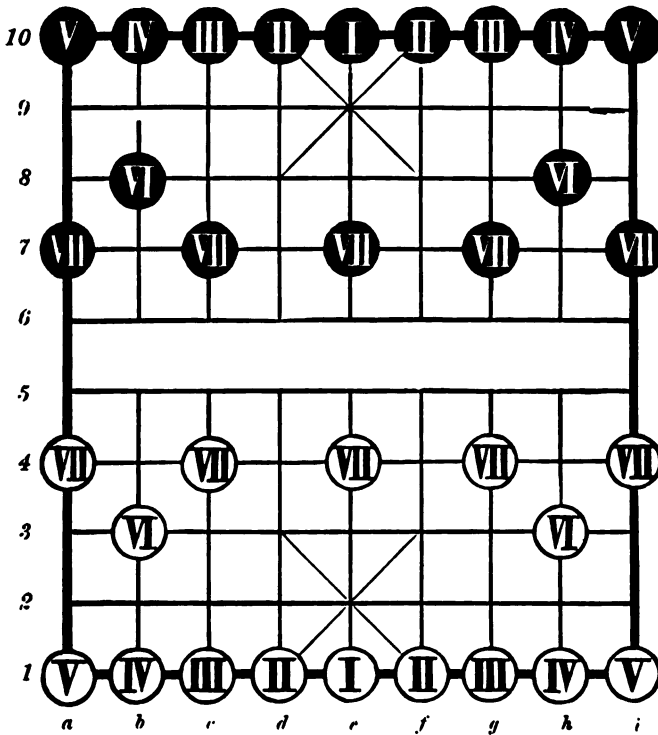
THE OPENINGS.

The Chinese do not seem to have paid much attention to this branch of the science; they seem to have preferred devoting themselves to the endings; and while it is easy to find books full of beautiful end-games requiring great brilliancy of combination, either to draw or win, the openings

are dismissed with some general advice. What follows, is mostly the result of my observation of play; I shall, therefore, only indicate the usual moves which occur at the beginning of most games, and give some rules for general guidance.

The advance of the King's Pawn, which is the first move in most of our openings,—the so-called Royal openings,—is not advisable in the Chinese game, as that Pawn constitutes at first the only protection to the King; it should not be advanced until a late stage of the game. Perhaps the most

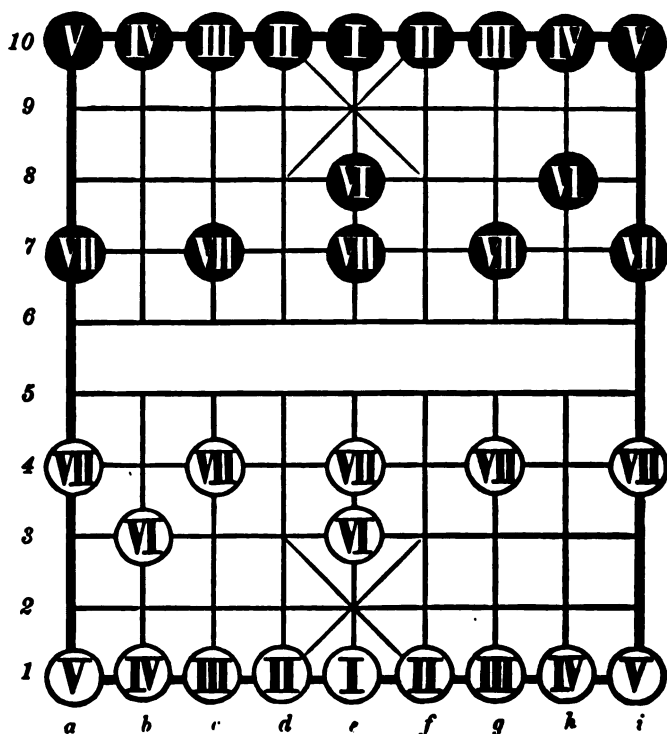
Fig. VIII.



- | | |
|----------------------|--------------------|
| I.—King, 將 and 帥 | V.—Rook, 車 |
| II.—Minister, 士 | VI.—Cannon, 砲 |
| III.—Bishop, 象 and 相 | VII.—Pawn, 卒 and 兵 |
| IV.—Knight, 馬 | |

usual first move of the Chinese, is to play one of the Cannons to *e* 3 (see Figure VIII) in front of its King; it then attacks the adverse King's Pawn. This may be compared to our King's Knight's opening. I may continue the comparison a little further, and say that Black may either defend his Pawn with a Knight at *g* 8 or *c* 8, as in the Italian Defence, or play one of his Cannons to *e* 8, à la *Petroff*. I

Fig. IX.



I.—King, 將 and 帥

II.—Minister, 士

III.—Bishop, 象 and 相

IV.—Knight, 馬

V.—Book, 車

VI.—Cannon, 砲

VII.—Pawn, 卒 and 兵

give a diagram (Figure IX) of the last position, as it will furnish another illustration of the Cannon's play. White now can take Black's King's Pawn with his Cannon giving check; Black in answer can take White's King's Pawn with his Cannon, leaping over the other Cannon, and relieve himself from check.

It is also very common for both players to begin the game defensively, by protecting their King's Pawn with one or both Knights at *c* 3 and *g* 3 for White, and *c* 8 and *g* 8 for Black,—a parallel, I might say, to our Three and Four Knights' Game. Another very common defence occurring among the first moves, is to play one of the Ministers to *e* 2 or *e* 8 (for White and Black) to cover the King. The Cannons can also be played to advantage on the Rook's files, followed up by the advance of the Rook's Pawn, which cannot then be taken by the opposite Pawn, without exposing the adverse Rook to capture by the Cannon. The Chinese Pawns being so few in number, and placed on the fourth rank, all the attacking Pieces—Knights, Cannons and Rooks—can be brought into play without advancing a single Pawn. One of the Bishops is often played to *e* 3 for White and *e* 8 for Black; he then occupies the most commanding position he can attain on the Board, and he protects and is protected by the other Bishop. I may add, that to form a strong attack on the adverse King, the Knights should cross the River promptly, and a Rook on one of the Palace files with a Cannon behind it, thus forming a double attack, is very dangerous for the other player. In the early stages the Pieces crowd on to the centre files both for attack and defence.

ENDINGS OF GAMES.

In treating this part of my subject, I shall proceed, as is usually done in treatises on our game, by first examining the

simple class of endings, where a King is left alone, against an adverse force of different kinds, treating first the cases where this force is strongest, and following with the cases where it is weakest, and finally I shall give some complex positions of end games, where both sides have nearly equal forces, and it is simply a question of position and skill, to either win or draw. In all that follows, I shall suppose that the reader whom I am addressing has White the winning side, this will simplify very much many cases, as otherwise it would be necessary to use all sorts of circumlocutions to distinguish between similar Pieces of both sides. All the simple endings are much easier in the Chinese game, first, because the King is confined to his Palace, second, because a stalemate counts as much as a checkmate.

KING AND ROOK AGAINST KING.

With this force at your disposal, you can win in a very few moves. As the two Kings cannot stand on the same file, if your King is on the middle file, the Rook can, in most cases, give mate on the move, by checking on either of the side-files; if the Rook is unfortunately situated on the 8th or 10th rank, and the adverse King on the 9th, as you cannot then check on a Palace file, without having your Rook captured by the King, you must either retreat the Rook a few steps, and then mate the next move, or gain a move with your King, keeping him, of course, still on the middle file, and then, when the adverse King is forced to move to the 10th or 8th rank, you mate with the Rook. If your Rook is on the 9th rank and the adverse King on the 8th or 10th rank, you win on the move, by simply gaining a move with either King or Rook, each keeping, however, to his file and rank, the adverse King is then stalemated,—in fact, as he cannot leave the Palace, and the other King cuts off the next file, and the

Rook the next rank, he has nowhere to go to. From all that precedes, it becomes evident, that with your King on the middle file, you win in at most two moves.

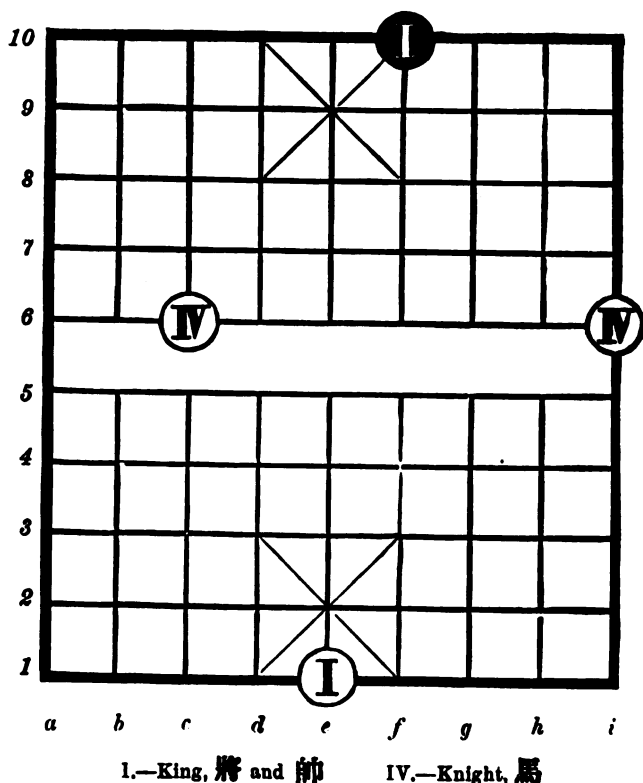
When the adverse King occupies the middle file, you have to drive him off it, with your Rook, and then by occupying the middle file with your King, the position becomes one of those we have just examined. Let us see the method of driving the adverse King off the middle file. This can generally be done in one move, by checking with the Rook on that file; the positions where this cannot be done, are the same as those we have examined in the first part of this ending, viz., when the Rook is on the 8th or 10th rank and the adverse King on the 9th, or the Rook on the 9th rank and the King on the 8th or 10th. In such cases you must retreat the Rook a few steps, and then check on the middle file the next move. So that, in at most three moves, you have your King on the middle file and the Rook ready to mate the next move. We can thus establish that with Rook, and the move, you are able to win, from all positions, in at most *four* moves. If it is Black's move, as he cannot alter materially any of the positions, you can still mate him in at most four moves.

KING AND KNIGHT AGAINST KING.

In the Chinese game it is not only possible to checkmate with the two Knights, but you can win with a single Knight by stalemate. As in the last ending, it will greatly simplify matters if your King is on the middle file; in such a case you have only to bring up your Knight, so that he may command the next place to the Black King. Figure X. shows how this can be done next move. With either of the Knights at *i* 6 or *c* 6, you can, if it is your move, play one to *g* 7 or *d* 8, stalemating your adversary. In advancing your Knight,

you should be careful not to play him on the middle file, covering your King, because, in such a case, Black can play *his* King on the middle file, pinning your Knight, until you move away with your King, thus losing all the advantage of the middle file.

Fig. X.



If your King is on one of the side-files, you must move up your Knight, so as to command the 9th place on the centre file, then the adverse King can no longer move up and down that file, and must be played on to the other side-file, leaving

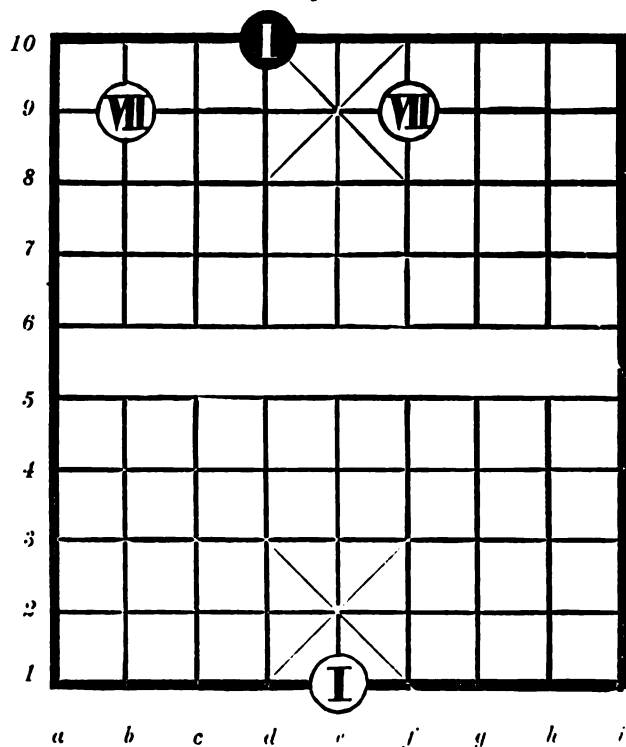
the middle file free for your King, and we come to the position examined in the first part of this ending.

KING AND PAWN AGAINST KING.

Though the Pawn cannot be Quenced, it can win by stalemate whenever it has not reached the 10th rank. To examine this ending with greater clearness, I shall divide it into two classes :—1st. When your King is on the middle file. 2nd. When the Black King is on the middle file. In the first class, as the Black King is on one of the side-files, your Pawn is either on the same side as the adverse King, or on the opposite one. The Pawn at *b* 9, in Figure XI., shows the first case. If it is your move, you play the Pawn to *c* 9, and stalemate your adversary—(the Pawns, as I have stated, attack laterally as well as forwards, as soon as they have crossed the River). If it is Black's turn to play, as his King must go to *d* 9, you still play your Pawn to *c* 9, checking, and when the Black King moves to *d* 8 or *d* 10, you gain a move with your King, playing him to *e* 2, and Black is stalemated. The Pawn at *f* 9, in Figure XI., illustrates the second case. If it is your turn to play, you move Pawn to *e* 9, and Black is stalemated ; if, on the other hand, Black has to move, his King goes to *d* 9, you still play your Pawn to *e* 9, checking, and when the Black King moves to *d* 8 or *d* 10, you gain a move with your King, playing him to *e* 2, and the adversary is stalemated.

Now let us examine the second class, i.e., when the Black King occupies the centre file. As in the preceding class, we may distinguish two cases—when your Pawn is on the same side as your King, and when the Pawn and your King are on opposite sides of the middle file. The Pawn at *c* 9, Figure XII., will serve to show how you are to proceed in the first case. If it is your move, you play the Pawn to *d* 9,

Fig. XI.

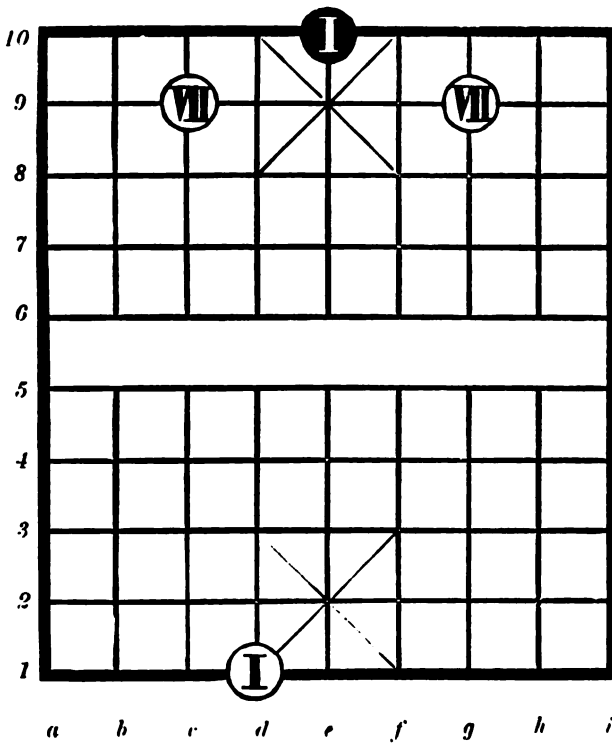


I.—King, 將 and 帥

VII.—Pawn, 卒 and 兵

and the Black King, being then unable to move up to *e* 9, on the centre file, will have to go to *f* 10, leaving the middle file free for your King, and as soon as you have occupied the centre file, we come to a position of the first class. If it is Black's turn to play, he will move his King to *e* 9 (his best move); you still play Pawn to *d* 9, checking, and the Black King will go either to *e* 8 or *e* 10, as he will try to keep on the centre file as long as he can; you gain a move with your King by playing him to *d* 2, and the Black King must abandon the middle file, and we come again to a position of

Fig. XII.



I.—King. 將 and 帥

VII.—Pawn, 卒 and 兵

the first class. The Pawn at *g9*, Figure XII., will show the second case. If it is your move, you play the Pawn to *f9*, and the Black King is stalemated. If it is Black's move, he will play his King to *e9*, and as you cannot check with your Pawn at *f9* without losing it, you must play your King to *d2*, gaining a move; now if Black plays King to *e10*, you play Pawn to *f9*, and stalemate him; his best move is King to *e8*, you then play Pawn to *f9*; Black has only one move to make, King to *f8*—(the Pawns do not attack backwards); you cannot then occupy the centre file with your King,

because Black can take your Pawn, so you play Pawn to *e* 9 ; again Black has only one move to make, King to *e* 8—(the Pawn attacking laterally, as soon as it has crossed the River prevents the King going to *f* 9); you move your Pawn to *d* 9, and the Black King must abandon the centre file, which you can then occupy safely, and we come again to a position of the first class.

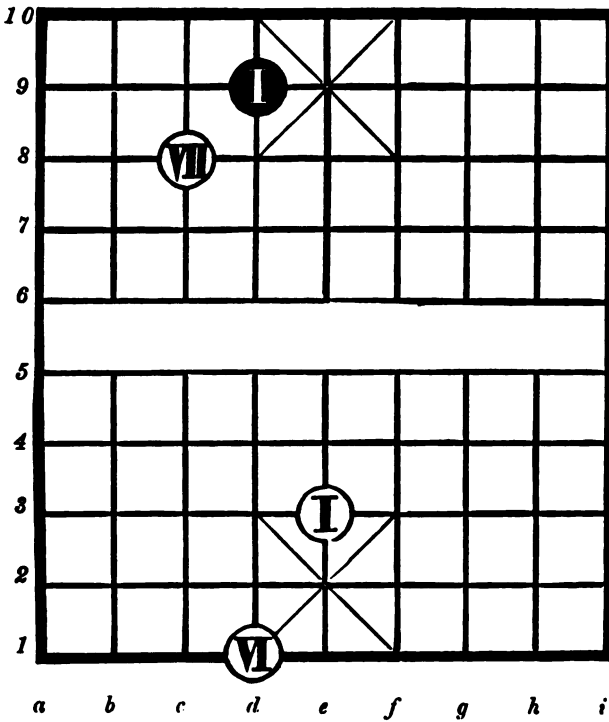
The Bishops and Ministers not being able to leave your Camp and Palace, are, as I have stated, useless for attacking, and as the Cannon cannot attack without an intervening man, there are no more endings where you can win with a single Piece or Pawn. I shall close the simple endings by showing how you can win with—

KING, CANNON AND PAWN AGAINST KING.

As you can win with King and Pawn alone, it seems a work of supererogation to show how you can do so with King, Cannon and Pawn ; but the Cannon is such a strange Piece, that the more we know about it the better. So that, in what follows, I shall never attend to the attacking powers of the Pawn itself, but consider it simply as a “partition” for the Cannon.

As in all the preceding endings, we must distinguish two cases :—1st. Your King on the centre file. 2nd. Black King on that file. In the first case, if your Pawn is not farther advanced than the 7th rank, and on the same side as the adverse King, you can bring it on the same Palace file as the Black King, then play Cannon behind it, mating. If your Pawn is on the same side as the adverse King, but on the 8th rank, you can also win by gaining a move, either with King or Cannon, when the Black King is on the 9th rank. Figure XIII. will serve to show this position. You cannot play Pawn to *d* 8, as Black would take it, getting out

Fig. XIII.



I.—King, 將 and 帥

VI.—Cannon, 砲 VII.—Pawn, 卒 and 兵

of the Cannon's check, so you must move King to *e* 2; Black must then retreat his King to *d* 10, and you play Pawn to *d* 8, covering check from the Cannon, and mating. When your Pawn is on the 9th rank, it is evident that it cannot serve as a "partition" for the Cannon to attack on a file, so you must then get your Cannon also on the 9th rank, behind the Pawn, so as to command that rank. You must do the same when your Pawn and the adverse King are on opposite sides of the centre file; in such a case, you cannot get your

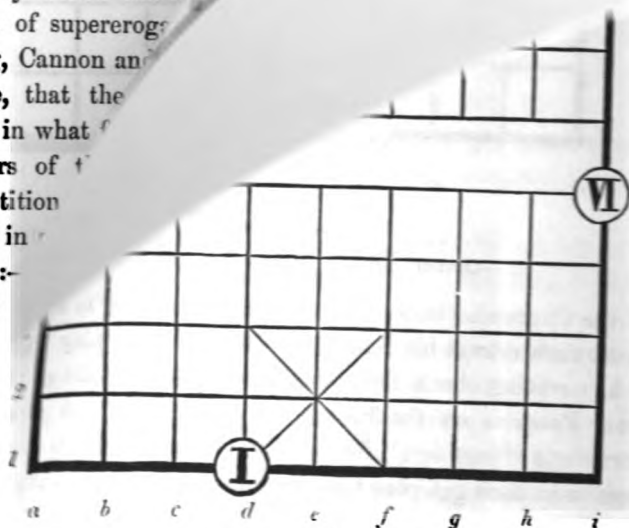
because Black can take your Pawn, so you play F again Black has only one move to make, King Pawn attacking laterally, as soon as it has moved prevents the King going to f9); you move and the Black King must abandon the center square can then occupy safely, and we come to the first class.

The Bishops and Ministers not in the Camp and Palace, are, as I have said, and as the Cannon cannot attack the King, there are no more ending for a single Piece or Pawn. I shall now be showing how you can win.

KING, CANNON

As you can win with the King, Cannon and Pawn, work of supererogation. King, Cannon and Pawn, Piece, that the King can do that, in what cases the powers of the King, Cannon and Pawn, "partition" the board.

As in the following cases:—
on the board
advantage
and



I.—King, 帥 and 將

VI.—Cannon. 砲

VII.—Pawn. 卒 and 兵

Figure XIV. illustrates the second case, and, as I have said, will serve also for some positions of the first case. You cannot drive the Black King permanently off the middle file with Cannon and Pawn, because as soon as you have driven off the King and occupied the centre file with your King, if you move away either Pawn or Cannon to commence the attack on the Black King on the side-file which he occupies, the King comes back to the centre file, pinning either Pawn or Cannon which may be interposed between the two Kings. You must proceed by establishing both Pawn and Cannon on the 9th rank, the Cannon behind the Pawn; in this way the Black King is confined in his movements either to the 8th or 10th rank, and as your King commands one of the three places in either of those ranks of the hostile Palace, the adverse King has only two places on which to move,—alternately from the centre file to the side-file not commanded by your King; as soon as he moves to the side-file you occupy the middle file with your King, and the adversary is stalemated. Figure XIV. will make clear all the preceding explanations. If it is your move, you play Cannon to *i* 9, checking; Black must play his King either to *e* 8 or *e* 10; in either case, you gain a move with your King, moving him to *d* 2; Black must play his King to *f* 8 or *f* 10, according as his first move was to *e* 8 or *e* 10; you play your King to *e* 2, and Black is stalemated. The Cannon and Pawn commanding the 9th rank, and your King the centre file, if it is Black's move, you win in only two moves. He must leave either the 9th rank or the centre file, by playing his King to *e* 8 or *e* 10 in the first case, to *f* 9 in the second case. In the first case you still play Cannon to *i* 9, Black must move to *f* 8 or *f* 10, you play King to *e* 1, and stalemate. In the second case you play King to *e* 1, Black must move his King to *f* 8 or *f* 10, you then play Cannon to *i* 9, stalemating.

Pawn over to the Black King's side to serve as a "partition" for the Cannon without losing command of the centre file, because crossing over, as soon as the Pawn is on the middle file, the Black King occupies it, pinning the Pawn until your King moves on to one of the side-files. So that, in this case, as well as when the Pawn is on the 9th rank, you have to get your Cannon on the same rank behind the Pawn;—this position is also the one you must secure when your King is on the side-file, *i.e.*, the second case, so I shall examine all these cases together, as they require the same mode of attack.

Fig. XVI.

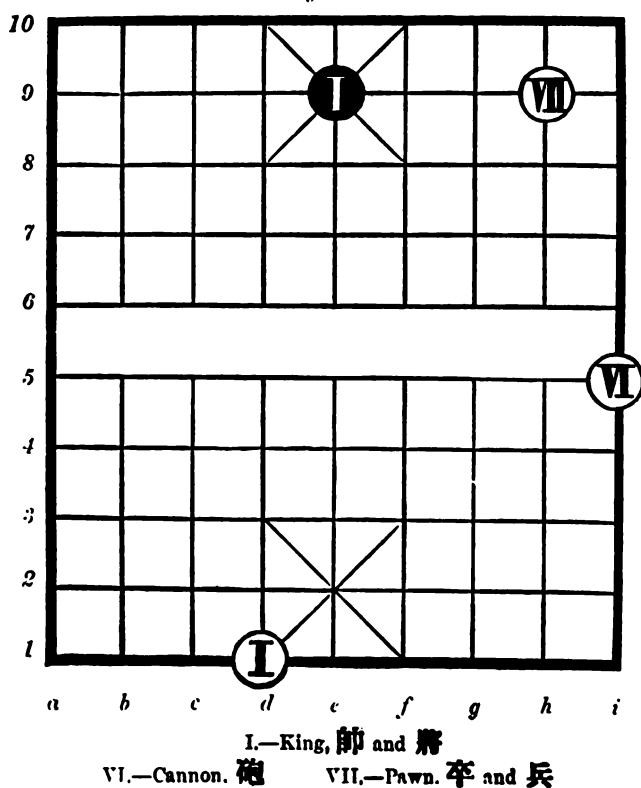
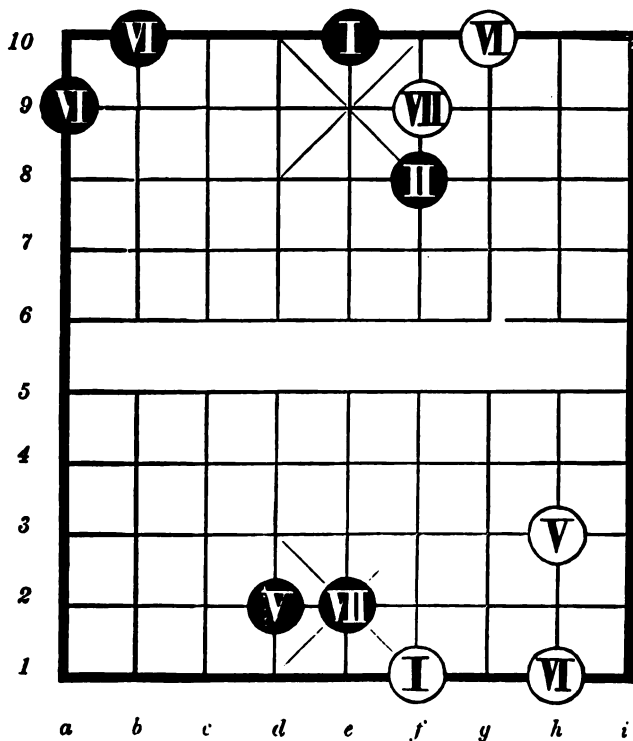


Figure XIV. illustrates the second case, and, as I have said, will serve also for some positions of the first case. You cannot drive the Black King permanently off the middle file with Cannon and Pawn, because as soon as you have driven off the King and occupied the centre file with your King, if you move away either Pawn or Cannon to commence the attack on the Black King on the side-file which he occupies, the King comes back to the centre file, pinning either Pawn or Cannon which may be interposed between the two Kings. You must proceed by establishing both Pawn and Cannon on the 9th rank, the Cannon behind the Pawn; in this way the Black King is confined in his movements either to the 8th or 10th rank, and as your King commands one of the three places in either of those ranks of the hostile Palace, the adverse King has only two places on which to move,—alternately from the centre file to the side-file not commanded by your King; as soon as he moves to the side-file you occupy the middle file with your King, and the adversary is stalemated. Figure XIV. will make clear all the preceding explanations. If it is your move, you play Cannon to *i* 9, checking; Black must play his King either to *e* 8 or *e* 10; in either case, you gain a move with your King, moving him to *d* 2; Black must play his King to *f* 8 or *f* 10, according as his first move was to *e* 8 or *e* 10; you play your King to *e* 2, and Black is stalemated. The Cannon and Pawn commanding the 9th rank, and your King the centre file, if it is Black's move, you win in only two moves. He must leave either the 9th rank or the centre file, by playing his King to *e* 8 or *e* 10 in the first case, to *f* 9 in the second case. In the first case you still play Cannon to *i* 9, Black must move to *f* 8 or *f* 10, you play King to *e* 1, and stalemate. In the second case you play King to *e* 1, Black must move his King to *f* 8 or *f* 10, you then play Cannon to *i* 9, stalemating.

COMPLEX ENDINGS.

The Chinese have collected a great variety of these, but most of them are very long, and with so many variations, running up sometimes to several hundred moves, that I cannot give the reader more than two examples, which, from their shortness and brilliancy, I may call problems. I shall give the solutions with explanatory notes. Figure XV. gives the first position :—

Fig. XV.



I.—King, 將 and 帥

II.—Minister, 士

V.—Rook, 車

VI.—Cannon, 砲

VII.—Pawn, 卒 and 兵

If it were Black's turn to move, he could mate by the following moves:—

Pawn, *e 2—e 1*, check.

As the White King cannot go to *f 2*, by reason of the Rook at *d 2*, and cannot take the Pawn with his King, on account of its being protected by the Black King, he must play—

Cannon *h 1—e 1*, takes Pawn.

Black then plays—

Cannon *b 10—b 1*, check.

White must move away Cannon, say—

Cannon *e 1—e 4*.

Black plays—

Cannon *a 9—a 1*, mate.

We thus see that White's King is in a very critical position, and though Black's King may be checked, White, owing to the embarrassed state of his men, apparently cannot win. The following moves will, however, show how he can do so in a very pretty way:—

(1) Rook *h 3—e 3*, check.

It is useless for Black to interpose his Minister, as he would be taken, so he must play—

(1) King *e 10—d 10*.

White must keep up the attack—

(2) Rook *e 3—e 10*, double check.

Black cannot take the Rook with his Cannon, as he would still be under check from White Cannon at *g 10*, and if he take Rook with his King, White plays the other Cannon *h 1—h 10*, mating. So he must play—

(2) King *d 10—d 9*.

White plays—

(3) Cannon *h 1—h 9*, check.

If Black plays his King to *d 8*, White can check with his Rook at *d 10*, forcing Black's King to *e 8*, and then check first with one Cannon at *g 8*, and when Black removes the

Minister, with the other Cannon at *h* 8, mating. Black having no option must play—

(3) Minister *f* 8—*e* 9.

(4) Rook *e* 10—*d* 10.

This move, and the following one, are very pretty. Black must take the Rook—

(4) King *d* 9—*d* 10, takes Rook.

(5) Pawn *f* 9—*f* 10, mate.

Black cannot go to *d* 9, as it is commanded by the Cannon at *h* 9.

Fig. XVI.

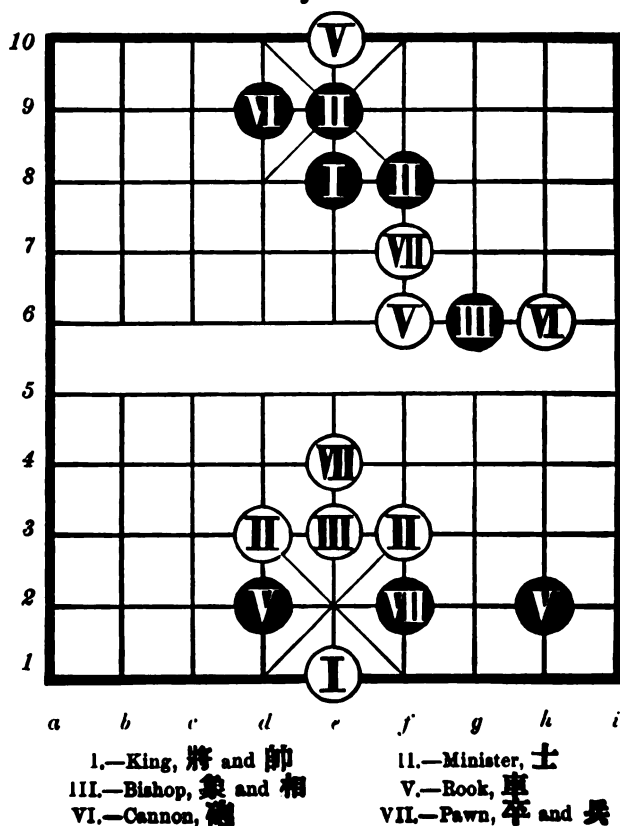


Figure XVI. gives the second position. A glance will show that Black can mate White on the move, by playing Rook $h\ 2-h\ 1$. White can only save himself as follows :

(1) Pawn $f\ 7-e\ 7$, check.

(1) King $e\ 8-d\ 8$.

Black has no other move.

(2) Rook $f\ 6-f\ 8$, takes Minister, check.

This is the beginning of a series of sacrifices quite in Morphy's style, leading up, however, to a complete rout of Black's men. Black must play—

(2) Minister $e\ 9-f\ 8$, takes Rook.

White continues his sacrifices—

(3) Rook $e\ 10-e\ 8$, check.

Black cannot take the Rook with his King, as it is protected by the Pawn, so he must play—

(3) Bishop $g\ 6-e\ 8$, takes Rook.

Black's King is blocked up by his own men. White has still one more sacrifice to make—

(4) Pawn $e\ 7-d\ 7$, check.

(4) Cannon $d\ 9-d\ 7$, takes Pawn.

Black's move is compulsory—

(5) Cannon $h\ 6-d\ 6$, check.

This move, the last of a beautiful combination, strongly exemplifies the power of the Cannon ; at the same time that it checks, it attacks the Black Rook at $d\ 2$ —

(5) Cannon $d\ 7-e\ 7$.

Black must remove the Cannon, as it is his only way out of check—

(6) Cannon $d\ 6-d\ 2$, takes Rook, check.

This is also a double attack, check to the King and to the Rook at *h 2*—

(6) Cannon *e 7*—*d 7*.

Black has no other move—

(7) Cannon *d 2*—*h 2*, takes Rook.

And White has broken up the whole of Black's attack, and saved himself from the impending mate.



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ADDENDUM.

At a Meeting of the Society held on the 22nd October 1888, a paper was read by Mr. W. R. CARLES, on a Korean monument bearing inscriptions in Chinese and Manchu characters, which commemorates a Manchu invasion of Korea in 1637 A.D.

A translation of the Chinese on the face of the monument will be found in the current volume of the Society's Journal, pp. 1 *sqq.*

In a postscript to the paper it was mentioned that rubbings of the inscriptions had subsequently been received from Mr. COLIN M. FORD, H.B.M. Acting Consul-General in Korea. The Manchu inscription on the reverse of the monument having thus reached the hands of the Society, has been copied and photo-lithographed, and is now published in the hope that some competent Manchu scholar will furnish the Society with a translation, and notes on any points of special interest in it.

NOTES AND QUERIES.

AGES OF CANDIDATES AT CHINESE EXAMINATIONS; TABULAR STATEMENT.

There are probably few countries where the system of examination has attained so complete a development as is the case in China. Unrestricted competition pervades the whole country and penetrates down to, and permeates through, the regions of commerce and agriculture. The application of the same principle is brought to bear with equal stringency on mental and intellectual matters, with such success that the product, the great civilian class in China, has for many centuries held its own against all attacks. Great generals, successful invaders, and powerful emperors have had to bend before the resistless assaults, or obdurate resistance, of this powerful hierarchy; while in modern times European diplomacy has not yet been a match for this strong organization. One peculiarity of the examination system in China is the absence of any limit of age for intending competitors. Children of 12 to 15 and dotards of 80 can all equally compete at the same examination. The veterans rarely or never succeed, but nearly every list of successful candidates contains the names of two, three or four youthful prodigies under 20 years of age. To show also how little age is taken into consideration, examiners, often men not much over 80, take rank, during the period of the *chu-jen* examination, with the highest provincial authority of the provincial capital where such examination is held.

Province.	Over 10 and under 20 years age.	Over 20 and under 30	Over 30 and under 40	Over 40 and under 50	Over 50 and under 60	Over 60 and under 70	Total.	
Keang-Su } An-Hui	6	69	50	16	5	—	146	1st & 2nd: 32 & 37 years.
Che-Kiang ...	5	45	27	25	3	—	105	1st 44: 2nd 18: 3rd 46 "
Fuh-Keen ...	1	48	45	6	2	1	103	1st 27: 2nd 22: 3rd 30 "
Yun-Nan ...	8	40	9	3	3	1	64	1st 20: 2nd 59: 3rd 24 "
Kwei-Chow...	2	27	11	6	4	—	50	1st 22: 2nd 23: 3rd 24 "
Keang-Si ...	2	43	44	11	3	1	104	1st 22: 2nd 28: 3rd 39 "
Kwang-Tung	2	35	36	11	4	—	88	1st 27: 2nd 41: 3rd 36 "
Shan-Hai ...	—	29	32	10	1	—	72	1st 36: 2nd 29: 3rd 32 "
Hu-Nan	—	31	20	8	2	—	61	1st 30: 2nd 27: 3rd 23 "
Hu-Pei	2	25	26	6	2	—	61	1st 23: 2nd 30: 3rd 39 "
Kwang-Si ...	—	—	—	—	—	—	51	
Shan-Tung...	—	—	—	—	—	—	74	
Shen-Si	—	—	—	—	—	—	52	
Ho-Nan	—	—	—	—	—	—	82	
Kan-Su	—	—	—	—	—	—	42	
Chihli	—	—	—	—	—	—	279	
Sae-Chuan ...	—	—	—	—	—	—	87	
Total ...	...	...	...	...	...	...	1,521	

An attempt is made in this contribution to give a tabular statement of the ages of the successful candidates at the examinations which took place in 1885 for the *chu-jen* degree. The returns are not complete, as, unfortunately, seven of the provinces, including the important province of Chihli, did not give the ages of the candidates in their printed returns; such as they are, however, they are given, and it will be seen the ages of the great majority of the successful candidates range between 20 and 40.

E. L. OXENHAM.

December 13th, 1886.

PROCEEDINGS.

MINUTES of a GENERAL MEETING held at the Society's Library on Monday, 10th December 1888, at 9 p.m.

Mr. P. J. HUGHES, Vice-President, occupied the chair. There were about 90 persons present.

The CHAIRMAN said that he had had only a few minutes' notice of the honour that was to devolve on him of introducing to the Society Commander Moore, who was to read the paper of the evening, on the Bore of the Tsien-tang River, and that he was in consequence not prepared to make any remarks on the paper further than that he believed it would be found of interest fully equal to that of any papers presented to the Society. He begged leave to introduce Commander Moore.

Commander MOORE, R.N., then read his paper entitled, "The Bore of the Tsien-tang Kiang (Hangchau Bay)," which is printed at pp. 185 *sqq.* of this fascicule.

The CHAIRMAN said that the Society was greatly indebted to Commander Moore for the interesting communication they had just heard, and called on the audience for any remarks that suggested themselves.

Mr. KINGSMILL said that one curious point had occurred to him. The course of the Tsien-tang had undoubtedly changed by erosion, the river formerly discharging far to the south of its present mouth; and as Commander Moore had stated that the Bore was occasioned by a coincidence of certain conditions, one of which was the situation of the mouth of the river at the apex of a wide-mouthed funnel, open to the East, it was probable that it was only about the time mentioned in the paper (A.D. 911) as that of the construction of the sea-wall, that the Bore began to be a danger to the country.

General MESSY gave some particulars regarding the Bore of the Hoogly. He stated that the general shape of Hangchow Bay, as shown on the chart hanging on the wall, bore a strong resemblance to that of the estuary of the Hoogly, and that the inciting causes were probably the same. He further stated that a sum of about 80,000 Taels was spent annually in repairs and maintenance of the splendid sea-wall from Hangchow to the mouth of the river.

A MEMBER called attention to the resemblance in shape between the embouchure of the Tsien-tang and that of the Thames, and asked how it could be explained that there was no Bore in the latter river.

Commander MOORE said that he had been struck by the resemblance in shape alluded to, and that he could only account for the absence of a Bore in the Thames by the fact that the flood tide, to reach its mouth, came round by the northern end of Scotland and at the Thames met a corresponding flood coming through the Straits of Dover, and that the two flood-currents neutralised each other. Further, the Thames had no such rapid natural current as was found in the Tsien-tang.

As there was no further discussion, the HON. SECRETARY, alluding to the lateness of the hour, moved that the hearty thanks of the Society be tendered to Commander Moore for his interesting and valuable contribution to its Proceedings. This was seconded and carried by acclamation.

The meeting then adjourned.

*MINUTES of a GENERAL MEETING held at the Society's Library on
Wednesday, 15th May 1889, at 9 p.m.*

Dr. R. A. JAMIESON, Vice-President, in the Chair.

The CHAIRMAN said that the meeting had been called at shorter notice than usual, in order to allow Mr. Volpicelli, the author of the paper on Chinese Chess, which was to form the subject of discussion that evening, to read it ; but, unfortunately, Mr. Volpicelli

had been obliged to hurry through Shanghai, and it therefore had devolved upon the Honorary Secretary and himself to read the paper and illustrate it by the diagrams on the blackboard, which were enlargements of those which accompanied the manuscript.

After the paper had been read, Mr. P. G. von MÖLLENDORFF, referring to other literature on the same subject, mentioned a very exhaustive paper which had been written by his brother, Mr. Otto von Möllendorff, and published in the *Mittheil. der Gesells. f. Nat- u. Völkerkunde Ostasiens.*, Vol. II. (1878).

A vote of thanks was proposed by the CHAIRMAN to Mr. Volpicelli for the valuable information on Chinese Chess which he had furnished to the Society. The motion was seconded by Mr. P. J. HUGHES and carried unanimously.

The meeting then adjourned.

[*Mr. Volpicelli's paper is printed at pp. 248 sqq. of this fascicule.*]

MINUTES of the ANNUAL GENERAL MEETING held at the Society's Library on Tuesday, 28th May 1889, at 9 p.m.

Dr. R. A. JAMIESON, Vice-President, in the Chair.

The meeting was purely formal, having been called for the presentation of Reports and Accounts, and the election of officers.

Before submitting these to the meeting, the Chairman announced the election of the following new members :—Mr. R. M. Campbell, Rev. J. S. Adams, Monsieur E. Chavanues and Mr. F. H. Mörsel.

The Reports and Accounts having been read by the Secretary, the CHAIRMAN proposed that "The Reports and Accounts as read be passed." The motion was seconded by Mr. KINGSMILL and carried unanimously.

The CHAIRMAN presented a copy of the last fascicule of the Society's Journal, containing a paper by Mr. Geo. Jamieson, President of the Society, on "The Tenure of Land in China and the Condition of the Rural Population," as well as a number of

contributions from missionaries and other residents in the interior, detailing the customs relating to the same matters locally ruling in widely-separated districts. This fascicule had just been completed, and would be in the hands of members in the course of a few days. In conjunction with the papers first mentioned, the greater part of the literature that had hitherto appeared on the subject of land tenure had been reproduced, and it was to be hoped that the importance of the volume would find for it a ready sale, as it formed a complete manual of information upon subjects which interested every foreign resident in China.

He also referred to a rubbing of the Tablet of Yü, which had been presented to the Society by the Rev. F. H. James, the characters in which were dissimilar to those generally known.

The CHAIRMAN then submitted the names of the gentlemen suggested by the outgoing Council for acceptance by the Society as the Council for the coming session, and proposed that the list selected be endorsed by the meeting. The following was the list:— P. J. HUGHES, M.A., *President*; W. R. CARLES and P. G. VON MÖLLENDORFF, *Vice-Presidents*; CARL BOCK, *Curator*; WM. BRIGHT, *Secretary*; R. M. CAMPBELL, *Treasurer*; ERNST FABER, DR. THEOL., *Librarian*; JOHN EDKINS, D.D., W. S. EMENS, J. H. FOCKE, DR. JUR., R. A. JAMIESON, M.A., and A. E. MOULE, B.D.

Mr. KINGSMILL seconded the motion, which was carried unanimously.

The CHAIRMAN spoke of the debt due by the Society to the officers for the past year, viz., the Hon. Secretary, Mr. H. B. MORSE, to whom a special vote of thanks had already been passed, the Treasurer, Mr. GEO. BROWN, the Curator, Mr. CARL BOCK, and especially to the Librarian, Mr. BECK, who for three years had discharged the duties of that office, duties of which the onerousness was in some measure evidenced by the bulky enclosure which accompanied his Report.

Mr. P. J. HUGHES said that, although highly complimented by having been elected President for the ensuing year, he felt that his task would be particularly difficult in attempting to follow in the

footsteps of his distinguished predecessors. He begged to move a vote of thanks to Dr. JAMIESON for the very efficient manner in which he had discharged the duties of President during the past year.

Archdeacon MOULE seconded the motion, which was carried by acclamation, and Dr. JAMIESON after thanking the Society for the kind terms in which he had been spoken of, declared the meeting adjourned until the beginning of the next session.

COUNCIL'S REPORT FOR THE YEAR 1888.

1.—The following members of Council and office-bearers were elected at the Annual Meeting held under the presidency of Dr. Hirth on the 4th April 1888:—

GEO. JAMIESON, Esq.,	<i>President.</i>
R. A. JAMIESON, M.A.,	} <i>Vice-Presidents.</i>
P. J. HUGHES, M.A.,	
H. B. MORSE, Esq.,	<i>Hon. Secretary.</i>
H. BECK, Esq.,	<i>Hon. Librarian.</i>
H. E. HOBSON, Esq.,	<i>Hon. Curator of the Museum.</i>
GEO. BROWN, Esq.,	<i>Hon. Treasurer.</i>
T. W. KINGSMILL, Esq.,	} <i>Councillors.</i>
J. H. FOCKE, DR. JUR.	
REV. E. FABER, DR. THEOL.	
Ven. Archdeacon MOULE, B.D.,	
W. R. CARLES, Esq.,	
W. BRIGHT, Esq.	

Almost immediately after the election of the above Council, the Society sustained a great loss in the departure from Shanghai of its President. As the Constitution of the Society contains no provision for the resignation of a President in the course of his

year of office and the election of another in his place, Dr. Jamieson has, at the request of the Council, acted as President.

Messrs. H. B. Morse and H. E. Hobson have also left Shanghai in the course of the year, though, fortunately, in the case of the Honorary Secretary the Society had the benefit of his services until March 1889. Messrs. W. R. Carles and Carl Bock were appointed by the Council to the posts thus left vacant.

2.—*Members of the Society*.—Twenty new members joined the Society during the year 1888, and but few have retired. The list now numbers 9 Honorary, 25 Corresponding, and 225 Ordinary members.

3.—*Meetings*.—Five meetings were held during the year, when papers with the following titles were read:—

"A Corean Monument to Manchu Clemency," by Mr. W. R. Carles.

"A Guide to True Vacnity," by Yuen Yang-tsze, translated by Bishop Moule, D.D.

"Changchow, the Capital of Fuhkien in Mongol Times," by Mr. Geo. Phillips, F.R.G.S., H.B.M. Consul at Foochow.

"The Porcelain Pagoda of Nanking," a translation of the historical portion of a pictorial sheet engraved and published by the Buddhist High Priest in charge of the Pao-ên Temple, by Mr. H. E. Hobson.

"Tenure of Land in China and the Condition of the Rural Population," by Mr. Geo. Jamieson, President of the Society.

"The Bore of the Tsien-tang Kiang (Hangchau Bay)," by Commander Osborne Moore, R.N.

"Chinese Chess," by Mr. Z. Volpicelli.

4.—*Journal*.—Besides the above, which are published in the current volume, a valuable paper on "Chinese Names of Plants," by Aug. Henry, M.A., L.R.C.P., referring more especially to plants found at Ichang and in its neighbourhood, was included in Vol. XXII., for 1887.

Much attention was devoted by the Council to the establishment of a Trade and Commerce Museum, a project which it was found necessary to abandon for a time. The correspondence on the subject will be found at pp. 49 *sqq.* of the current volume of the Journal.

The Council are glad to announce that there are now no arrears in the publication of the papers read before the Society. The amount of matter printed this year is considerably in excess of that in ordinary years, and the fascicule on Land Tenure is especially bulky, containing reprints of most of the important papers which have previously appeared on the subject, and thus forming a monograph on this important subject.



Appendix I.—TREASURER'S REPORT.

The Society's finances require little comment, their condition being satisfactory. There is a balance to credit of Tls. 153.58, which is not quite so large as that of last year. The decrease is chiefly due to the fact that a considerable number of subscriptions for 1888 are, from various causes, not yet collected. Proper steps are being take to call these in, and they will go to swell the funds for 1889. The booksellers state that their sales of the Society's Publications have been insignificant, and their returns are consequently allowed to stand over.

Museum.—The usual grants have been received from the English and French Municipal Councils. A slight increase in wages will be noticed, caused by the Taxidermist's pay having been raised a dollar a month. The other payments are as usual. The balance in hand is Tls. 178.41.

GEORGE BROWN,

Hon. Treasurer.

Shanghai, 1889.

THE HON. TREASURER IN ACCOUNT WITH THE CHINA BRANCH OF THE ROYAL ASIATIC SOCIETY

Dr.

FOR THE YEAR, 1888.

Cr.

FUNDS.		EXPENDITURE.	
Tls.	cts.	Tls.	cts.
To Balance from 1887	...	By Printing and binding Journals...	...
" Subscriptions from Members \$290	...	" Postages	...
" Sale of 1 copy Journal, Vol. XV, for 1880	...	" Stationery	...
" Rent from Shanghai Library	...	" Advertising	...
" Bank Interest	...	" Municipal Taxes	...
		" Repairs and Furniture	...
		" Fire Insurance	...
		" Wages of Library Coolie	...
		" Chinese Copying and Translating	...
		" Coals and Gas	...
		" Commission to Shroff, collecting subscriptions	...
		" Balance	...
Tls.	...	Tls.	...
706	34	706	34

F. & O. E.

SHANGHAI, 1889.

Compared with Vouchers and found correct,

R. M. CAMPBELL.

A. L. ROBERTSON.

GEORGE BROWN,

Hon. Treasurer.

2 c

THE HON. TREASURER IN ACCOUNT WITH THE SHANGHAI MUSEUM FOR THE YEAR 1888.

Dr.	FUNDS.		EXPENDITURE.		Cr.	
	Tls.	cts.	Tls.	cts.	Tls.	cts.
To Balance from 1887	...	123 02	By Wages of Taxidermist and Coolie	...	322	66
" Grant by Municipal Council	...	500 00	" Municipal Council Taxes	...	12	67
" Grant by French Municipal Council	...	100 00	" Fire Insurance	...	10	63
" Returns by Taxidermist—Profit on work	...	22 27	" Rent of Rooms paid to Shanghai Library	...	160	00
" Interest on Bank Account	...	4 08	" 1 Year's Interest on Loan from Recreation Fund	...	78	00
			" Balance at Credit	...	178	41
	Tls. 749	37		Tls. 749	37	

F. & O. E.

SHANGHAI, 1889.

Compared with Vouchers and found correct,

R. M. CAMPBELL.
 A. L. ROBERTSON.

GEORGE BROWN,
 Hon. Treasurer.

Appendix II.—CURATOR'S REPORT.

Since I had the pleasure to take charge of the museum in June last year, on Mr. Hobson's departure, I have to report the following donations to the museum :—

1888.

- June 15.—2 *Alligator sinensis* (Chinese alligator).
 July 4.—Piece of Coral.
 „ 4.—Specimen of Insect-wax.
 „ 19.—*Zygæna malleus* (hammerheaded shark).
 „ 19.—Snake (common).
 „ 19.—*Xylotrupes dichotomus*.
 „ 19.—Snake.
 Aug. 1.—*Lamia punctator* (longicorn).
 Sept. 8.—*Manis* sp. (Phatagin)—spoiled, rotten skin.
 „ 29.—6 moths (*Actais Luna*, *Saturnia Cynthia*).
 „ 29.—(*Saturnia atlas* 2, death's-head moth 2). *Asteria*
 (starfish).
 Oct. 18.—*Mustela sibirica* (chorok).
 „ 24.—*Limosa Baeri* (bar-tailed godwit).
 „ 29.—2 snakes.
 „ 31.—*Hirundo gutturalis* (Eastern house swallow).
 Nov. 15.—*Gorgonia* sp. (coral).
 „ 20.—*Milous melanotus* (black-eared kite).
 „ 26.—Laughing dove from Germany.
 „ 26.—*Gecinus Guerini* (green wood-pecker).
 „ 28.—*Mungos* (mongoose).
 Dec. 4.—*Viverra* (little spotted civet).
 „ 10.—*Lempigius semitorques* (collared owl).
 „ 22.—*Tadorma Valpanser* (sheldrake).
 „ 27.—A collection of butterflies and beetles.

1889.

- Jan. 10.—*Totanus calidris* (redshank).
 „ 10.—*Hæmatopus osculans* (Eastern oyster-catcher).
 „ 10.—*Mergus merganser* (goosander).
 „ 10.—*Grus monachus* (hooded crane).
 „ 11.—Sp. Crustacea.
 „ 14.—*Tarandus Rangifer* (reindeer).
 „ 21.—*Botaurus Stellaris* (bittern).
 „ 21.—*Anthus Blakistoni* (Blakiston's pipit).
 „ 23.—*Circus Spilonotus* (striped harrier).
 Feb. 12.—*Coccythraustes melanurus* (black-tailed hawfinch).
 „ 12.—*Colymbus septentrionalis* (red-throated diver).
 „ 19.—Sp. of *Sulphur* from Formosa.
 March 5.—*Colymbus septentrionalis* (red-throated diver).
 „ 26.—*Exocactus volitans* (flying fish).

Of the animals presented, there are none new to science, most of them being common forms, the rarest being Blakiston's Pipit (*Anthus Blakistoni*), a bird common in Japan.

In the collection are a number of bird and mammal skins in a useless state. The ever-present moths and worms, and the great heat, coupled with the moisture, play havoc among specimens, especially the skins, not so much the stuffed specimens.

The museum can boast of a fine collection of local birds, most of them in a good state of preservation, and whenever opportunity occurs, new specimens have been bought to supplement old, invalid ones.

The number of visitors from 1st June 1888 to 30th April 1889 was 3,237.

CARL BOCK,
Hon. Curator.

Shanghai, 10th May 1889.

Appendix III.—LIBRARIAN'S REPORT.

GENTLEMEN,

I now have the honour to submit my Report for the year ended 30th April 1889, comprising:—

- 1.—A List of Societies, Public Institutions and Periodicals exchanging Publications with the Society.
- 2.—(a).—A List of the Transactions of Learned Societies and Periodical Publications received ;
(b).—A List of Miscellaneous Works presented to the Library or purchased by the Society.

Numerous fresh applications for the Society's Journal have been received during the year, mostly from scientific Institutions ; so far as the stock on hand permitted, they have been responded to.

The following fascicules have been published and distributed during the year, viz. :—

Vol. XXII., Fasc., 3-6, 1887.

„ XXIII. „ 1 and 2, 1888.

Vols. XXI. and XXII., which were issued in several parts or numbers, have now been bound in one volume each, and can be supplied on application to the undersigned.

The Agency for the sale of the Society's Publications on the Continent of Europe, more especially in Germany, has been entrusted to K. F. Koehler's Antiquarium, Berlin.

H. BECK,

Hon. Librarian.

**List of Societies, Public Institutions, and Periodicals
exchanging Publications with the Society.**

ASIA.

CHINA.

Peking :

Peking Oriental Society.

Shanghai :

Statistical Department, Imperial Maritime Customs.

Observatoire Magnétique et Météorologique de Zi-ka-wei.

Chinese Recorder and Missionary Journal.

COCHIN-CHINA.

Saigon :

Excursions et Reconnaissances.

Société des Etudes Indo-Chinoises de Saigon.

Pnôm-Penh (Cambodia) :

Comité d'Études Agricoles, Industrielles et Commerciales
du Cambodge.

HONGKONG.

Hongkong :

Hongkong Observatory.

China Review.

INDIA.

Bombay :

Bombay Branch of the Royal Asiatic Society.

Calcutta :

Asiatic Society of Bengal.

Agricultural and Horticultural Society of India.

Geological Department of the Indian Museum.

Geological Survey of India.

Colombo :

Ceylon Branch of the Royal Asiatic Society.

JAPAN.*Tokio :***Rōmaji Kai.****Deutsche Gesellschaft für Natur-und Völkerkunde Ostasiens.***Yokohama :***Asiatic Society of Japan.****The Chrysanthemum.****Japan Mail.****Japan Daily Herald.****JAVA.***Batavia :***Bataviaasch Genootschap van Kunsten en Wetenschappen.****STRAITS SETTLEMENTS.***Singapore :***Straits Branch of the Royal Asiatic Society.****EUROPE.****AUSTRIA-HUNGARY.***Trieste :***Società Adriatica di Scienza.***Vienna :***K. Akademie der Wissenschaften.****K. K. Geographische Gesellschaft.****K. K. Geologische Reichsanstalt.****K. K. Zoologisch-Botanische Gesellschaft.****K. K. Naturhistorisches Hofmuseum.****Orientalisches Museum.****Anthropologische Gesellschaft.****Deutsche Rundschau für Geographie und Statistik.****Oesterreichische Monatsschrift für den Orient.***Budapest :***Société Hongroise de Géographie.**

BELGIUM.

Brussels :

**Société Royale Belge de Géographie.
Académie Royale des Sciences.**

DENMARK.

Copenhagen :

Det Kongelige Danske Geografiske Selskab.

FRANCE.

Havre :

Société de Géographie Commerciale.

Lyons :

**Société d'Anthropologie.
Société de Géographie.**

Marseille :

Société de Géographie.

Paris :

**Société Asiatique.
Société Académique Indo-Chinoise.
Société des Études Japonaises, Chinoises, Tartares et Indo-Chinoises.
Société d'Acclimatation.
Société de Géographie.
Société de Géographie Commerciale.
Société d'Ethnographie.
Musée Guimet.
•Annales de l'Extrême Orient et de l'Afrique.
Revue Critique d'Histoire et de Littérature.**

Tours :

Société de Géographie.

GERMANY.

Berlin :

K. Preussische Akademie der Wissenschaften.

Gesellschaft für Erdkunde.

Gesellschaft für Anthropologie, Ethnologie und Urgeschichte.

Orientalische Gesellschaft.

Orientalische Bibliographie.

Braunschweig :

Verein für Naturwissenschaft.

Bremen :

Geographische Gesellschaft.

Dresden :

Verein für Erdkunde.

Frankfurt a/ Main :

Verein für Geographie und Statistik.

Frankfurt a/ Oder :

Naturwissenschaftlicher Verein des Reg.-Bez. Frankfurt.

Gotha :

Justus Perthes Geographische Anstalt.

Greifswald :

Geographische Gesellschaft.

Halle a/ Saale :

Verein für Erdkunde.

**Kais. Leopoldinisch-Carolinische Deutsche Akademie der
Naturforscher.**

Deutsche Morgenländische Gesellschaft.

Hamburg :

Geographische Gesellschaft.

Jena :

Geographische Gesellschaft.

Koenigsberg i/ Pr. :

K. Physikalisch-Oekonomische Gesellschaft.

Orientalische Bibliographie.

Leipzig :

Deutsche Morgenländische Gesellschaft.
 Verein für Erdkunde.
 Magazin für die Literatur des In-und Auslandes.
 Literatur-Blatt für Orientalische Philologie.
 Museum für Völkerkunde.
 Kgl. Sächsische Gesellschaft der Wissenschaften.

Metz :

Verein für Erdkunde.

Munich :

Kgl. Bayerische Akademie der Wissenschaften.

Stuttgart :

Württ. Verein für Handels-Geographie.

GREAT BRITAIN AND IRELAND.

Dublin :

Royal Dublin Society.

Edinburgh :

Royal Society.
 Royal Physical Society.
 Scottish Geographical Society.

London :

Royal Asiatic Society of Great Britain and Ireland.
 Royal Society.
 Royal Institution of Great Britain.
 Royal Geographical Society.
 Society of Biblical Archæology.
 Zoological Society.
 Geological Society.
 Statistical Society.
 Anthropological Institute of Great Britain and Ireland.
 Linnean Society.

Trübner's American, European and Oriental Record.
 Trübner & Co.'s Monthly List.
 London and China Express.
 Athenæum.

ITALY.

Florence :

R. Istituto di Studi Superiori (Accademia Orientale).
 Società Asiatica Italiana.

Naples :

Società Africana d'Italia.

Rome :

R. Accademia dei Lincei.
 Società Geografica Italiana.

Turin :

Cosmos.

NETHERLANDS.

Amsterdam :

R. Aardrijkskundig Genootschap.
 Académie Royale.

S'Gravenhage :

K. Instituut voor de Taal-, Land- en Volkenkunde von
 Nederlandsch Indië.

PORTUGAL.

Lisbon :

Sociedade de Geographia de Lisboa.
 Académie Royale des Sciences.

RUSSIA.

Charkow :

Société des Sciences expérimentales.

Kiew :

Société des Naturalistes.

Moscow :

Société Impériale des Naturalistes.

Odessa :

Société des Naturalistes de la Nouvelle-Russie.

St. Petersburg :

Imperial Botanical Garden.

Imperial Geographical Society.

Académie Impériale des Sciences.

SPAIN.

Madrid :

Sociedad Geográfica.

SWEDEN.

Stockholm :

Svenska Sällskapet för Antropologi och Geografi.

SWITZERLAND.

Neuchâtel :

Société Neuchâteloise de Géographie.

AFRICA.



EGYPT.

Cairo :

Société Khédiviale de Géographie.

AMERICA.



CANADA.

Ottawa :

Geological and Natural History Survey of Canada.

Toronto :

Canadian Institute.

MEXICO.

*Mexico :***Ministerio de Fomento.****Sociedad Científica " Antonio Alzate."****Observatorio Astronómico Nacional de Tacubaya.**

UNITED STATES.

*Boston, Mass ; Cambridge, Mass. ; New Haven, Conn. ;**Philadelphia :***American Oriental Society.***Boston :***American Philological Association.***Brookville, Ind. :***Brookville Society of Natural History.***Cambridge, Mass. :***American Philological Association.****Museum of Comparative Zoology at Harvard College.***Chicago :***Newberry Library.***Minneapolis, Minn. :***Minnesota Academy of Natural Sciences.***New York :***American Geographical Society.****Cooper Union for the Advancement of Science.****Journal of Comparative Medicine and Surgery.***Philadelphia :***American Philosophical Society.****Wagner Free Institute of Science.****Numismatic and Antiquarian Society.***Sacramento, Cal. :***California State Mining Bureau.***Salem, Mass. :***Essex Institute.**

San Francisco, Cal. :

California Academy of Sciences.
Geographical Society of the Pacific.

Trenton, N.J. :

Natural History Society.

Washington :

Smithsonian Institution.
United States Coast and Geodetic Survey.
United States Department of Agriculture.
United States Geological Survey.
United States Geographical Survey W. of the 100th Meridian.

AUSTRALASIA.

AUSTRALIA.

Brisbane (Queensland) :

Queensland Branch of the Geographical Society of Australasia.

Melbourne :

Royal Society of Victoria.

**List of Works added to the Library of the China Branch
of the Royal Asiatic Society from 1st April 1888 to
30th April 1889.**

a.—Transactions of Learned Societies and Periodical Publications.

ASIA.

CHINA.

Shanghai :

China Branch of the Royal Asiatic Society :

Journal :

Vol. xxii, fasc. 3-6, 1887.

„ xxiii „ 1, 1888.

Imperial Maritime Customs, Statistical Department :

Customs Gazette :

No. lxxvii, Jan.-March 1888.

„ lxxviii, Apr.-June „

„ lxxix, July-Sept. „

„ lxxx, Oct.-Dec. „

Returns of Trade and Trade Reports for 1887. Part I :

Report on the Trade of China, and Abstract of Statistics. 29th/28rd Issue.

Returns of Trade and Trade Reports for 1887. Part II :

Reports and Statistics for each Port; with the Reports and Statistics for Corea. 29th/28rd Issue.

Returns of Trade and Trade Reports for 1888. Part I :

Report on the Trade of China, and Abstract of Statistics. 30th/24th Issue.

List of Medicines exported from Hankow and the other Yangtsze Ports, compiled by R. Braun (Chin. Customs Service); and *Tariff of Approximate Values of Medicines, etc.,* exported from Hankow. Shanghai, 1888.*Tea*, 1888. (Special Series, No. 11.) Shanghai, 1889.*Service List* (14th Issue). Corrected to 1st July 1888. Shanghai, 1888.*List of the Chinese Lighthouses, Light Vessels, Buoys and Beacons* for 1889. Corrected to 1st December 1888. 17th Issue. Shanghai, 1889.

Do. do. do. (In Chinese.)

Bulletin Mensuel de l'Observatoire Magnétique et Météorologique de Zi-ka-wei. Tome xiii, Année 1887, (Nos. 149-160). Zi-ka-wei, 1888.

Do. do. 1888, No. 161, January.

„ 162, February.

„ 163, May.

„ 166, June.

„ 167, July.

„ 168, August.

The Chinese Recorder and Missionary Journal :
 Vol. xix, Nos. 4-12, April-December 1888.
 „ xx, „ 1-4, January-April 1889.

Hongkong :

Observations made at the Hongkong Observatory in 1887.
 By W. Doberck, Director. Hongkong, 1888.

The China Review :
 Vol. xiv, Nos. 4-5, January-April 1886.
 „ xv, „ 1-6, July 1886-June 1887.
 „ xvi, „ 1-6, July 1887-June 1888.
 „ xvii, No. 1, July-August 1888.

COCHIN-CHINA.

Saigon :

Bulletin de la Société des Études Indo-Chinoises de Saigon.
 Année 1887, 1^{er} et 2^e Semestre. Saigon, 1888.
 Do. „ 1888, 1^{er} et 2^e Fascicule. Saigon, 1888.
 „ „ 1888, 1^{er} Semestre.
 „ „ 1888, 2^e Semestre, 3^e Fasc.
 Excursions et Reconnaissances :
 Vol. xiii, No. 80, Jan.-Févr. 1887. Saigon, 1887.

Pnôm-Penh :

Bulletin du Comité d'Études Agricoles, Industrielles et
 Commerciales du Cambodge. 1^{re} Année, 2^e Partie.
 Pnôm-Penh, 1888.

INDIA.

Calcutta :

Proceedings of the Asiatic Society of Bengal :
 Nos. 9-10, Nov.-Dec. 1887.
 „ 1-8, Jan.-Aug. 1888.
 Journal of the Asiatic Society of Bengal :
 Vol. lvi, Part i, Nos. 2-3, 1887.
 „ „ „ ii, „ 2-4, 1887.
 „ lvii, „ i, „ 1-2, 1888.
 „ „ „ ii, „ 1-3, 1888.

Records of the Geological Survey of India :

Vol. xxi, Parts 1-4, 1888.

„ xxii, Part 1, 1889.

A Bibliography of Indian Geology. Compiled by R. D. Oldham, A.R.S.M., F.G.S. Calcutta, 1888.**JAPAN.***Tokio :***Mittheilungen der Deutschen Gesellschaft für Natur-und Völkerkunde Ostasiens :**

Vol. iv, Fasc. 39-40, April-July 1888.

„ v, „ 41, April 1889.

Supplement to Vol. v, April 1889.

Rōmaji Zasshi (a Japanese Romanized Paper).—Files.*Yokohama :***Transactions of the Asiatic Society of Japan. Vol. xvi, Part ii, 1888.****The Japan Weekly Mail.—Files.****The Japan Herald Mail Summary.—Files.****JAVA.***Batavia :***Notulen van de Bataviaasch Genootschap van Kunsten en Wetenschappen :**

Vol. xxv, Fasc. 4, 1887.

„ xxvi, „ 1-4, 1888.

Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen. Vol. xlv, Fasc. 2, 1888.**Tijdschrift voor Indische Taal-, Land- en Volkenkunde.—(Published by the Bataviaasch Genootschap van Kunsten en Wetenschappen.)**

Vol. xxxii, Fasc. 3-4, 1888.

„ „ „ 5-6, 1889.

- Verslag van de Werkzaamheden en Verrichtingen van het
Bat. Gen. van K. en W., uitgebr. door den Voorzitter in de
Algem. Vergadering van 27. Dec., 1888. Batavia, 1889.
- Algemeen Reglement en Reglement van Orde voor het Bat.
Gen. van K. en W. Batavia, 1889.
- Nederlandsch-Indisch Plakaatboek, 1602-1811. Part v.
1743-1750. By J. A. van der Chijs. Batavia, 1888.
- Dagh-Register, gehouden int Casteel Batavia, Anno 1653.
By J. A. van der Chijs. Batavia, 1888.
- Dagh-Register, gehouden int Casteel Batavia, Anno 1659.
By the same author. Batavia, 1889.

STRAITS SETTLEMENTS.

Singapore :

- Journal of the Straits Branch of the Royal Asiatic Society :
No. 19, 1887.

EUROPE.

AUSTRIA-HUNGARY.

Vienna :

- Mittheilungen der K. K. Geographischen Gesellschaft in
Wien, 1887, Vol. xxx.
- Jahrbuch der K. K. Geologischen Reichsanstalt :
Vol. xxxvii, Fasc. 2-4, 1887.
„ xxxviii, „ 1-3, 1888.
- Verhandlungen der K. K. Geologischen Reichsanstalt :
Nos. 17-18, 1887.
„ 1-18, 1888.
„ 1-2, 1889.
- Verhandlungen der K. K. Zoologisch-Botanischen Gesell-
schaft. Vol. xxxviii, Fasc. 1-4, 1888.

Oesterreichische Monatsschrift für den Orient :

14ter Jahrgang, Nos. 2-12, Feb.-Dec. 1888.

" " " 1, Jan. 1889.

15ter " " 2, Feb. 1889.

Annalen des K. K. Naturhistorischen Hofmuseums :

Vol. ii, No. 4, 1887.

" iii, " 1-4, 1888.

Mittheilungen der Anthropologischen Gesellschaft :

Vol. xv, Fasc. 4, 1885.

" xvii, " 3-4, 1887.

" xviii, " 1-4, 1888.

Budapest :**Bulletin de la Société Hongroise de Géographie :**

Vol. xvi, Fasc. 1-10, 1888.

" xvii, " 1-3, 1889.

BELGIUM.**Brussels :****Bulletin de la Société Royale Belge de Géographie :**12^e Année, Nos. 1-5, 1888.**FRANCE.****Harre :****Bulletin de la Société de Géographie Commerciale :**

Nov.-Déc. 1887 (2 fascicules).

Jan.-Déc. 1888 (7 ").

Jan.-Fév. 1889 (1 fascicule).

Paris :**Compte-Rendu des Séances de la Société de Géographie :**

Nos. 2-17, 1888.

" 1-5, 1889.

Bulletin de la Société de Géographie :7^{me} Série, Tome viii, No. 4, 1887.

" " " ix, " 1-4, 1888.

Bulletin de la Société de Géographie Commerciale :

Tome x, Nos. 2-7, 1887-88.

„ **xi, No. 1, 1888-89.**

Bulletin de la Société d'Ethnographie. Nos. 26-27, Fév.-Mars 1889.

Annuaire de la Société d'Ethnographie, 1888.

Tours :

Revue de la Société de Géographie :

Nos. 1-8, Jan.-Déc., 1888.

„ **1-2, Jan.-Mars, 1889.**

GERMANY.

Berlin :

Sitzungs-Berichte der Kgl. Preussischen Akademie der Wissenschaften zu Berlin. Vol. xl-liv (20 Oct.-22 Dec. 1887.)

Sitzungs-Berichte der Kgl. Preussischen Akademie der Wissenschaften zu Berlin. Index pro 1887.

Vol. i-xxxvii, 12 Jan.-26 July 1888.

Philosophische und Historische Abhandlungen der Kgl. Preussischen Akademie der Wissenschaften zu Berlin, 1887, 1 Vol.

Verhandlungen der Gesellschaft für Erdkunde zu Berlin :

Vol. xv, Fasc. 1-10, 1888.

„ **xvi „ 1-2, 1889.**

Zeitschrift der Gesellschaft für Erdkunde zu Berlin :

Vol. xxii, Fasc. 6, 1887.

„ **xxiii, „ 1-6, 1888.**

„ **xxiv, „ 1, 1889.**

Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte (Redigirt von Rud. Virchow):

1887, Sitzungen vom 18 Juni, 16 Juli, 15 Oct., 19 Nov., 10 Dec., 17 Dec.

1888, Sitzungen vom 21 Jan., 18 Feb., 7 April, 28 April, 26 Mai, 30 Juni, 21 Juli, 20 Oct.

Orientalische Bibliographie. Herausgeg. von Prof. Dr. A. Müller, Koenigsberg :

Vol. i, Fasc. 2-4, 1887.

„ ii, „ 1-2, 1888.

Veröffentlichungen der Orientalischen Gesellschaft, Fasc. i :
Ueber die Bauwerke der Siebenhügelstadt am Bosphorus.
 Vortrag gehalten von August Senz. Berlin, 1889.

Bremen :

Deutsche Geographische Blätter, herausgeg. von der Geographischen Gesellschaft in Bremen :

Vol. xi, Fasc. 1-4, 1888.

„ xii, „ 1, 1889.

Dresden :

Festschrift zur Jubelfeier des 25 jährigen Bestehens des Vereins für Erdkunde zu Dresden. Dresden, 1888.

Frankfurt a/ Oder :

Societatum Litteræ. Herausgeg. von Dr. Ernst Huth :
 No. 12, Dec. 1887.

„ 1-8, Jan.-Aug. 1888.

Monatliche Mittheilungen aus dem Gesamtgebiete der Naturwissenschaften. Herausgeg. von Dr. Ernst Huth :

Vol. v, Nos. 9-10, Dec. 1887 & Jan. 1888.

„ vi, „ 1-6, Apr.-Sept. 1888.

Gotha :

Dr. A. Petermann's Mittheilungen :

Vol. 84, 1888. Nos. 2-12.

„ 85, 1889. „ 1-3.

Ergänzungshefte Nos. 89-92.

Greifswald :

Dritter Jahresbericht der Geographischen Gesellschaft zu Greifswald. Part i, 1888.

Halle a/ Saale :

Mittheilungen des Vereins für Erdkunde, 1888.

Hamburg :

Mittheilungen der Geographischen Gesellschaft in Hamburg,
1887-88, Fasc. 1.

Jena :

Mittheilungen der Geographischen Gesellschaft zu Jena :
Vol. vi, Fasc. 3-4, 1888.
„ vii, „ 1-2, 1888.

Koenigsberg i/ Pr. :

Schriften der Physikalisch-Oekonomischen Gesellschaft zu
Koenigsberg i/ Pr., Vol. 28, 1887.

Leipzig :

Zeitschrift der Deutschen Morgenländischen Gesellschaft :
Vol. xli, Fasc. 4, 1887.
„ xlii, „ 1-4, 1888.
Mittheilungen des Vereins für Erdkunde, 1887. One volume.

Metz :

Zehnter Jahresbericht des Vereins für Erdkunde zu Metz für
1887-1888. Metz, 1888.

Munich :

Sitzungsberichte der Mathematisch-Physikalischen Classe der
Kgl. B. Akademie der Wissenschaften :
1887, Fasc. 2-3.
1888, „ 1-2.
Sitzungsberichte der Philosophisch-Philologischen und His-
torischen Classe der K. B. Akademie der Wissenschaften :
1887, Fasc. 3.
„ Vol. ii, Fasc. 1-3.
1888, Fasc. 1-3.
„ Vol. ii, Fasc. 1-2.
“ Ueber historische Dramen der Römer.” Festrede geh. in
der öffentl. Sitzung der K. B. Akademie der Wissen-
schaften am 15 Nov. 1887. Von Dr. Karl Meiser.

2 ' *

Stuttgart :

V-VI. Jahresbericht (1886-1888) des Württembergischen
Vereins für Handelsgeographie. Stuttgart, 1888.

GREAT BRITAIN AND IRELAND.

Dublin :

The Scientific Proceedings of the Royal Dublin Society :
Vol. v, Parts 7-8, July and Nov. 1887.

„ vi, „ 1-2, Feb. and May 1888.

The Scientific Transactions of the Royal Dublin Society :
Vol. iii, Fasc. 14, Dec. 1887.

„ iv, „ 1, Apr. 1888.

Edinburgh :

The Scottish Geographical Magazine :

Vol. iv, Nos. 8-12, 1888.

Index to Vol. iv, 1888.

Vol. v, Nos. 1-8, 1889.

Proceedings of the Royal Society of Edinburgh :

Session 1883-84. One Volume.

„ 1884-85, „ „

„ 1885-86, „ „

„ 1886-87, „ „

List of Members of the Royal Society of Edinburgh, at
November 1887.

Proceedings of the Royal Physical Society, Session 1886-87.
Edinburgh, 1887.

London :

Journal of the Royal Asiatic Society of Great Britain and
Ireland :

Vol. xx, Part i, Jan. 1888.

„ „ „ ii, Apr. „

„ „ „ iii, July. „

„ „ „ iv, Oct. „

Journal of the Anthropological Institute of Great Britain and Ireland :

Vol. xvii, Nos. 3-4, Feb. and May 1888.

„ xviii, „ 1-2, Aug. and Nov. 1888.

List of the Geological Society of London. Nov. 1st, 1888.

The Quarterly Journal of the Geological Society :

Vol. xlv, Part 1, No. 173, Feb. 1888.

„ „ „ 2, „ 174, May „

„ „ „ 3, „ 175, Aug. „

„ „ „ 4, „ 176, Nov. „

„ xlv, „ 1, „ 177, Feb. 1889.

Proceedings of the Royal Geographical Society :

Vol. x, Nos. 2-12, Feb.-Dec. 1888.

„ xi, „ 1-2, Jan.-Feb. 1889.

Proceedings of the Royal Society :

Vol. xliii, Nos. 261-265, 1887-88.

„ xlv, „ 266-272, 1888.

„ xlv, „ 273-276, 1888-89.

Journal of the Linnean Society :

Vol. xxiii, (Botany) Nos. 156-157, Dec. 1888.

„ xxiv, „ No. 164, „ „

Journal of the Royal Statistical Society :

Vol. i, Parts iii-iv, Sept. and Dec. 1887.

„ ii, „ i-iv, March-Dec. 1888.

Trübner's American, European and Oriental Literary Record.

Vol. ix, Nos. 1-6, 1888.

Trübner's Record, a Journal devoted to the Literature of the

East. Third Series. Vol. i, No. 1, March 1889.

Trübner and Co's Monthly List :

Vol. xii, Nos. 3-12, 1888.

„ xiii, „ 1-3, 1889.

Proceedings of the Society of Biblical Archæology :

Vol. x, Nos. 4-8, 1888.

„ xi, „ 1-4, 1888-89.

Proceedings of the Zoological Society of London ;
 1887, Part iv.
 1888, Parts i-iii.
 The London and China Express.—Files.

ITALY.

Naples :

Bollettino della Società Africana d'Italia. Vol. vii, Fasc.
 11-12, Nov.-Dec. 1888.

Turin :

Cosmos. Vol. ix, Fasc. 3-12, 1886-1888.

NETHERLANDS.

S'Gravenhage :

Bijdragen tot de Taal-, Land-, en Volkenkunde van Neder-
 landsch Indië. Published by the "Koninklijk Instituut
 voor de Taal-, Land-, en Volkenkunde van Nederlandsch
 Indië : "

5th Series, Vol. iii, Fasc. 2-4, 1888.

" " " iv, " 1, 1889.

RUSSIA.

Kiew :

Mémoires de la Société des Naturalistes de Kiew. Tome ix,
 Fasc. 1-2, 1888.

Charkow .

Travaux de la Section médicale de la Société des Sciences
 expérimentales :

1886-87. One Volume.

1888 " "

Moscow :

Bulletin de la Société Impériale des Naturalistes de Moscou.
 Nos. 1-3, 1888.

Supplement to Bulletin : " Meteorolog. Beobachtungen ausgeführt am Meteorologischen Observatorium der Landwirtschaftlichen Akademie bei Moskau." Von A. A. Faddeïeff :

Vol. ii, 1887.

„ i, 1888.

Odessa :

Mémoires de la Société des Naturalistes de la Nouvelle-Russie :

Vol. xii, Part ii, 1888.

„ xiii, „ i-ii, 1888.

Memoirs of the Mathematical Class of the Société des Naturalistes de la Nouvelle-Russie :

Vol. vii, 1886.

„ viii, 1888.

St. Petersburg :

Bulletin of the Imperial Geographical Society of St. Petersburg :

Vol. xiii, Fasc. 6, 1887.

„ xiv, „ 1-3, 1888.

Mélanges Asiatiques tirés du Bulletin de l'Académie Impériale des Sciences de St. Pétersbourg :

Vol. ix, Parts 3-4, 1887-88.

SWEDEN.

Stockholm :

Ymer Tidskrift, published by the " Svenska Sällskapet för Antropologi och Geografi : "

Fasc. 1-8, 1887.

SWITZERLAND.

Neuchâtel :

Bulletin de la Société Neuchâteloise de Géographie :

Vol. iii, 1887.

AFRICA.**EGYPT.***Cairo :*

Bulletin de la Société Khédiviale de Géographie du Caire :

2^e Série, No. 12, 1887.

3^e „ „ 1, 1888.

3^e „ „ 2, 1889.

AMERICA.**CANADA.***Ottawa :*

**Annual Report of the Geological and Natural History Survey
of Canada :**

Vol. ii, 1886.

Toronto :

Proceedings of the Canadian Institute. Third Series :

Vol. v, Fasc. 2, April 1888.

„ vi, „ 1, Oct. „

**Annual Report of the Canadian Institute. Session 1886-87.
Toronto, 1888.**

MEXICO.*Mexico :*

Memorias de la Sociedad Científica " Antonio Alzate " :

Vol. i, Fasc. 8-12, Feb.-June 1888.

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Mensual :**

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Vol. ix, 1889.**

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 „ ii, „ 1-3, 10 June-24 June „

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 „ „ May 1888.
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Cambridge:

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 College :
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- Thirtieth Annual Report of the Trade and Commerce of
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New York :

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 „ xx, Nos. 1-4, 1888.
 „ xx, Supplement, 1888.

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„ x, No. 1, 1889.**

Philadelphia :

Proceedings of the American Philosophical Society :

Vol. xxiv, No. 126, July-Dec. 1887.

„ xxv, „ 127, Jan.-June 1888.

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First Contribution to the Study of Folk-Lore of Philadelphia and its Vicinity. By Henry Phillips, jr. (Read before the Amer. Philosoph. Society, March 16th, 1888.)

Reports of the Committee to examine into the Scientific Value of Volapük. (Presented to the Amer. Philosoph. Society, Nov. 18, 1887, and Jan. 6, 1888.)

Supplementary Report of the Committee appointed to consider an International Language. (Read before the Amer. Philosoph. Society, Dec. 7, 1888.)

Sacramento :

California State Mining Bureau :

Seventh Annual Report of the State Mineralogist. For the year ending Oct. 1st, 1887. Sacramento, 1888.

Salem :

Bulletin of the Essex Institute :

Vol. 19, Nos. 1-12, Jan.-Dec. 1887.

San Francisco :

Bulletin of the California Academy of Sciences :

Vol. ii, No. 8, Nov. 1887.

Trenton :

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No. 3, Jan. 1888.

Washington :

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Vol. xxxi. Washington, 1888.

„ xxxii. „ „

„ xxxiii. „ „

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United States Geological Survey. Monographs :

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By Samuel Franklin Emmons. Washington, 1886.

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Washington, 1887.

Report of the Superintendent of the U.S. Coast and Geodetic Survey, for the year ending with June 1886 :

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AUSTRALIA.

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„ iii, „ 1, 1888.

„ „ „ 2, 1889.

Melbourne :

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Vol. xxiv, Parts 1-2, Sept. 1887 and July 1888.

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By W. Baldwin Spencer, B.A. Melbourne, 1888.

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Kiachta to the sources of the Yellow River.

Explorations on the Northern Frontiers of Tibet; and road via
Lobnor along the basin of the Tarima. (In Russian.)
St. Petersburg, 1888. Presented by the Author.

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Straits Branch of the Royal Asiatic Society. Vols. i-ii.
London, 1886. Presented by the Straits Branch R.A.S.

Miscellaneous Papers relating to Indo-China and the Indian
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Asiatic Society. Second Series. Vols. i-ii. London, 1887.
Presented by the Straits Branch R.A.S.

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Author.

The Cooperative Index to Periodicals. Issued quarterly by W. J.
Fletcher. Vol. iii, No. 4, 1887. Index for 1887. Vol. iv,
Nos. 1-4, 1888. Purchased.

Confucius und seine Lehre. By Georg von der Gabelentz.
Leipzig, 1888. Presented by the Author.

Banquet given by the Learned Societies of Philadelphia, to com-
memorate the framing and signing of the Constitution of
the United States. Philadelphia, 1888. Presented.

- Compilation of Notes and Memoranda bearing upon the use of Human Ordure and Human Urine in Rites of a Religious or Semi-Religious Character among various Nations. By John G. Bourke, U.S. Army. Washington, 1888. Presented by the Author.
- Bi-metallism in Europe. Reports from the Consuls of the United States. No. 87, Dec. 1887. Washington, 1887. Presented.
- Note on the Lapps of Finmark. By H.H. Prince Roland Bonaparte. Paris, 1886.
- La Nouvelle-Guinée. III^e Notice : Le Fleuve Augusta. Paris, 1887. IV^e Notice : Le Golfe Huon. Paris, 1887. By the same Author. Presented.
- Uebersicht über die Litteratur der Württembergischen und Hohenzollernschen Landeskunde. Herausgeg. von dem Württ. Verein für Handelsgeographie. Stuttgart, 1888. Presented.
- Die Völker des Ural und ihre Sprachen. Vortrag in der Ungar. Geograph. Gesellschaft von Paul Hunfalvy. Budapest, 1888. Presented.
- Reis in Oost-en Zuid-Borneo van Koetei Naar Banjermassin. By Carl Bock. S'Gravenhage, 1887. Presented by the Author.
- Antiquarian, Architectural and Landscape Illustrations of the History of Java. By the late Sir Thomas Stamford Raffles, F.R.S. London, 1844. Presented by J. W. Maclellan, Esq.
- How to enliven Geographical Instruction and to lighten it. By Dr. Konrad Ganzenmüller. (Reprinted from the American Geographical Society Bulletin, No. 4, 1887.) Presented by the Author.
-

APPENDIX.

LIST OF OFFICERS OF THE SOCIETY FOR 1889.

President: P. J. HUGHES, M.A.

Vice-Presidents: { W. R. CARLES, Esq.
P. G. VON MÖLLENDORFF, Esq.

Hon. Secretary: WM. BRIGHT, Esq.

Hon. Treasurer: R. M. CAMPBELL, Esq.

Hon. Librarian: REV. ERNST FABER, Dr. Theol.

Hon. Curator of Museum: CARL BOCK, Esq.

Councillors: { W. S. EMENS, Esq.
Rev. J. EDKINS, D.D.
J. H. FOCKE, Dr. Jur.
R. A. JAMIESON, M.A.
Ven. Archdeacon MOULE, B.D.

LIST OF MEMBERS.

(Corrected to 31st August, 1889.)

Members are particularly requested to notify the Hon. Secretary of any change of address or other necessary correction to be made in this List.

† Indicates a Member who has contributed to the Society's Journal.

§ „ Life Member of the Society.

Name.	Address.	Year of Election
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Honorary Protector.

His Majesty LEOPOLD II, King of the Belgians.

Honorary Members.

Alcock, Sir Rutherford, K.C.B., D.C.L.	Athenaeum Club, Pall Mall, London, S.W.	1864
Hart, Sir Robert, G.C.M.G., LL.D.	Inspectorate - General of Customs, Peking.	1864
Legge, Prof. James, D.D. ...	University of Oxford	1864
Richthofen, Freiherr F. von ...	Berlin	1880
Seward, George F. ...	Orange, Essex County, New Jersey, U.S.A.	1864
Wade, Sir Thomas F., G.C.B., M.A.	5, Salisbury Villas, Cambridge ...	1864
Yule, Colonel Henry, C.B. ...	India Office, London, S.W. ...	1874
Zottoli, Père Angelo ...	Jesuit Mission, Sicawei, Shanghai ...	1886

Name.	Address.	Year of Election
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Corresponding Members.

†Bastian, Dr. Adolph	Ethnological Museum, Berlin	1865
†Bretschneider, E., M.D.	Moika, 64, St. Petersburg	1880
Cordier, Henri	3, Place Vintimille, Paris	1886
†Edkins, Rev. Joseph, D.D.	Custom House, Shanghai.	1864
†Fritsche, H., PH.D.	C/o Russian Legation, Peking	1877
†Fryer, John	Kiangnan Arsenal, Shanghai	1868
†Gabelentz, Prof. Georg von der	Grassistrasse, Leipzig	1884
†Giles, Herbert A.	British Consulate, Ningpo	1880
Happer, Rev. A. P., D.D.	Canton	1864
Hepburn, J. C., LL.D.	245, Bluff, Yokohama, Japan	1864
†John, Rev. Griffith, D.D.	Hankow	1864
Keischke, Ito, M.D.	Tokio, Japan	1875
Kreitner, G. Ritter von	Yokohama, Japan	1880
†Lindau, Rudolph, PH.D.	C/o Auswärtiges Amt, Berlin	1864
Lockhart, Wm., F.R.C.S.	67, Granville Park, Blackheath, London, S.E.	1864
†Macgowan, D. J., M.D.	Custom House, Wenchow	1864
†Martin, Rev. W. A. P., D.D.	T'ung-wén Kuan, Peking	1864
†McCartee, D. B., M.D.	C/o Dr. Ellinwood, 23, Centre Street, New York, U.S.A.	1865
†Moule, Right Rev. Bishop, D.D.	Hangchow	1864
†Muirhead, Rev. W.	London Mission, Shanghai	1864
Rondot, Natalis... ..	C/o Chambre de Commerce, Lyons	1864
Schereschewsky, Right Rev. Bishop, D.D.	23, Bible House, New York, U.S.A.	1864
Széchényi, Count Béla	Zinkendorf, Hungary	1880
†Williamson, Rev. A., LL.D.	3, Minghong Road, Shanghai	1864

Name.	Address.	Year of Election
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Ordinary Members.

Aalst, Jules A van ...	C/o Custom House, Shanghai ...	1888
§Abbott, R. J. ...	Custom House, Shanghai ...	1888
Acheson, James ...	C/o Custom House, Canton ...	1880
Adams, Rev. J. S. ...	Am. Bap. Miss. Union ; Kin-hwa fu, via Ningpo	1889
Addis, Charles Stuart ...	Hongkong & Shanghai Bank, Hong- kong	1885
Adler, Max ...	Messrs. Reiss & Co., Shanghai ...	1885
†Allen, H. J. ...	54, Cambridge Road, Brighton, Sussex	1872
Andersen, N. P. ...	C/o Custom House, Shanghai ...	1883
†Anderson, G. C. ...	C/o Messrs. Jardine, Matheson & Co., Shanghai	1880
Anding, W. ...	C/o German Consulate-General, Shanghai	1887
Arnoux, Comte G. d' ...	Custom House, Hankow ...	1883
Baber, E. C. ...	C/o British Consulate-General, Shang- hai	1877
§Ball, J. Dyer ...	Supreme Court, Hongkong ...	1883
Bamford, Rev. A. J., B.A. ...	Wolverhampton, Staffordshire ...	1881
Baux, G. ...	20, Place Denfert-Rochereau, Paris	1885
†Becher, H. M. ...	C/o Messrs. Jardine, Matheson & Co., Shanghai	1885
Beck, H. ...	23, Szechuen Road, Shanghai ...	1885
Beebe, R. C., M.D. ...	Nanking ...	1889
Bethge, C. ...	Casa Valentino Molo, Bellinzona, Switzerland	1887
Bock, Carl ...	Consulate-General for Sweden and Norway, Shanghai	1888
Booth, A. S. ...	C/o Custom House, Amoy ...	1884
Borkowsky, P. ...	C/o Messrs. Overbeck & Co., Shanghai	1886
Bottu, Prof. A. ...	Kiangnan Arsenal, Shanghai ...	1889
Bourne, F. S. A. ...	C/o British Consulate-General, Shanghai	1885
Brand, W. ...	C/o Robt. Brand & Co., 7, Union Street, Old Broad Street, Lon- don, E.C.	1887
Bredon, M. Boyd, B.A. ...	C/o Custom House, Shanghai ...	1883
Bredon, Robt. E., B.A. ...	C/o Custom House, Shanghai ...	1885
Bright, Wm. ...	Inspectorate-General of Customs, Shanghai	1885
Bristow, H. B. ...	British Consulate, Chefoo ...	1877
Brosche, H. ...	Custom House, Hankow ...	1881
Brown, Geo. ...	British Consulate-General, Shanghai	1887
§Brown, J. McLeavy, B.A. ...	C/o Custom House, Canton ...	1865
Brown, Thos. ...	Kelly & Walsh, Limited, Shanghai...	1885
Buchanan, J. ...	Messrs. J. P. Bisset & Co., Shanghai	1887

Name.	Address.	Year of Election
Burrows, T. D. ...	Custom House, Kowloon, C/o Lane, Crawford & Co., Hongkong	1886
†Bushell, S. W., M.D. ...	British Legation, Peking ...	1868
Butler, Count A. von ...	Formosa ...	1886
Butler, P. E. O'B. ...	British Consulate, Ningpo ...	1886
Campbell, R. M. ...	Agra Bank, Shanghai ...	1889
†Charles, W. R. ...	British Consulate-General, Shanghai	1887
Carrall, James W. ...	C/o Custom House, Amoy ...	1885
Chalmers, James L. ...	C/o Custom House, Canton ...	1885
Chavennes, E. ...	French Scientific Mission (Tientsin). Peking	1889
†Clayson, W. H. ...	C/o Custom House, Canton ...	1885
Cocker, T. ...	Custom House, Canton ...	1885
Cooper, W. M. ...	12, Rue de Calais, Boulogne-sur-Mer	1877
Corder, G. A. ...	Hongkong ...	1885
Cordes, Aug. C. ...	Messrs. A. Cordes & Co., Tientsin ...	1877
Coughtrie, J. B. ...	45, Queen's Road, Hongkong	1879
Creagh, E. Fitzgerald ...	Custom House, Yuensan, Corea ...	1886
Danforth, A. W. ...	Cotton Mill Co., Shanghai ...	1887
De Groot, Dr. J. J. M. ...	C/o Netherlands Consulate, Amoy...	1887
Deighton-Braysher, C. ...	Custom House, Shanghai ...	1870
Dennys, H. L. ...	Secretary's Office, City Hall, Hongkong	1877
Dmitrevsky, P. A. ...	Russian Consulate, Hankow ...	1882
Dodd, John ...	C/o Messrs. Dodd & Co., Tamsui ...	1872
Dowdall, Chas. ...	21, Fouchow Road, Shanghai ...	1881
§†Drew, E. B. ...	C/o Custom House, Shanghai ...	1882
Duncan, Chesney ...	Jenchuan, Corea ...	1889
Ebba, W. ...	Messrs. R. Telge & Co., Shanghai ...	1886
Ehlers, Aug. ...	9, Hankow Road, Shanghai ...	1886
Emens, W. S. ...	U. S. Consulate-General, Shanghai ..	1886
†Faber, Rev. Ernst, DR. THEOL.	Saunders' Compound, Shanghai ...	1886
Faragó, Edm. ...	Poste Restante, Budapest, Hungary.	1877
Fergusson, T. T. ...	C/o Messrs. Fergusson & Co., Chefoo	1872
Finzi, Vito ...	C/o Italian Consulate, Shanghai ...	1885
Fisher, H. J. ...	C/o Messrs. W. M. Deacon & Co., 80, Bishopsgate Street Within, London	1877
Flothow, Carl ...	Messrs. Siemssen & Co., Shanghai ...	1886
Flothow, Hugo ...	Messrs. W. Meyerink & Co., Shanghai	1886
Focke, J. H., DR. JUR.	German Consulate-General, Shanghai	1882
Francis, R. ...	10, Peking Road, Shanghai ...	1888
Frazer, M. F. A. ...	British Consulate-General, Shanghai	1888
Frater, Alex. ...	British Consulate, Swatow ...	1877
Fries, S. Ritter von ...	Custom House, Lappa ...	1885
Fulford, H. E. ...	C/o British Consulate-General, Shanghai	1885
Gabriel, Hermann, DR. JUR. ...	C/o German Consulate, Amoy ...	1884
†Gardner, C. T. ...	British Consulate, Hankow ...	1877

Name.	Address.	Year of Election
Gatti, Carlo	C/o Messrs. Jardine, Matheson & Co., Shanghai	1886
Gebhardt, F.	Messrs. H.M. Schults & Co., Shanghai	1886
Gowing, Lionel F.	6, Upper Park Road, Haverstock Hill, London, N.W.	1885
Grant, P. V.	Messrs. Boyd & Co., Shanghai	1871
Gulick, Rev. L. H., M.D.	3, Soochow Road, Shanghai...	1885
†Haas, Joseph	Austro-Hungarian Consulate, S'hai.	1869
Hall, J. C., M.A.	C/o British Consulate-Gen., Shanghai	1888
Hallifax, T. E.	Seoul, Corea	1889
Hanbury, T.	C/o Messrs. Iveson & Co., Shanghai.	1868
Happer, Andrew P., Jr.	C/o Custom House, Shanghai	1885
Harding, J. R.	Custom House, Amoy	1885
Hart, J. H.	C/o Custom House, Shanghai	1885
Hart, Rev. V. C., M.A.	314, Parkdal, Ontario, U.S.A.	1887
Henderson, D. M.	Custom House, Shanghai	1885
Henderson, E., M.D.	2, Shantung Road, Shanghai	1876
Henningesen, J.	C/o Great Northern Telegraph Co., Shanghai	1885
†Henry, A., M.A.... ..	C/o Inspectorate-General of Customs, Storey's Gate, London	1881
Hey, E.	8, Foochow Road, Shanghai...	1886
Hippisley, A. E.	C/o Custom House, Lappa	1876
Hirsch, Emil Edler von	Austro-Hungarian Consulate, Yokohama	1887
†Hirth, F., PH.D	83, Sendlingerstrasse, München, Germany	1877
Hjousbery, E	C/o Messrs. Mustard & Co, Shanghai	1880
†Hobson, H. E.	C/o Custom House, Shanghai	1868
Hodges, Rev. H. C., M.A.	The Deanery, Shanghai	1887
Hoetink, B.	Deli (Sumatra), C/o Netherlands Consulate, Singapore	1882
Holst, J. M.	C/o Great Northern Telegraph Co., Shanghai	1886
†Hosie, Alex., M.A.	British Consulate, Wenchow	1877
How, A. J.	1, Hongkong Road, Shanghai	1876
Hsü Chia-Kuang	1, Honan Road, Shanghai	1887
Hsü Ch'ü-i	1, Honan Road, Shanghai	1887
†Hughes, P. J., M.A.	British Consulate-General, Shanghai	1868
Hughes, T. F.	Custom House, Amoy	1885
†Imbault-Huart, C.	C/o French Consulate, Canton	1880
Ivy, R. S., D.D.S.	1, Kiukiang Road, Shanghai	1889
†Jamieson, G.	H.B.M.'s Supreme Court, Yokohama	1868
Jamieson, J. W.	British Consulate, Canton	1888
†Jamieson, R. A., M.A.	40, Szechuen Road, Shanghai	1864
Jansen, D. C.	Astor House, Shanghai	1877
Kenmure, A.	British and Foreign Bible Society, Canton	1887
Kennedy, General J. D.	C/o U.S. Consulate-General, Shanghai	1888

Name.	Address.	Year of Election
Keswick, J. J.	C/o Messrs. Jardine, Matheson & Co., Shanghai	1883
King, Paul H.	Custom House, Chefoo	1886
†Kingsmill, Thos. W.	28, Kiangse Road, Shanghai	1864
Kleinwächter, F.	C/o Custom House, Shanghai	1868
†Kopsch, H.	C/o Custom House, Tamsui	1877
Korff, Adalbert	Messrs. Melchers & Co., Shanghai	1886
Latham, T.	C/o E. Robinson, Esq., Hongkong	1886
Lenz, Ph., PH.D.	German Legation, Peking	1885
Lépassier, E.	C/o Custom House, Shanghai	1885
Lieder, Ph.	Messrs. Mandl & Co., Shanghai	1886
†Little, Archibald J.	C/o R. W. Little, Esq., North China Herald Office	1868
Little, L. S., B.A.	C/o R. W. Little, Esq., North China Herald Office	1879
Little, Robt. W.	North China Herald Office	1886
Llorente, Conde de	C/o Spanish Consulate, Shanghai	1886
Lockhart, J. H. Stewart	Hongkong	1885
Macgregor, John	Messrs. Jardine, Matheson & Co., Shanghai	1888
Macintyre, Rev. John	Newchwang	1880
Mackey, Jas.	38, Yama, Kobe, Japan	1886
Maclellan, J. W.	C/o North-China Herald, Shanghai	1888
Major, E.	14, Hankow Road, Shanghai	1887
Martinoff, G.	Tientsin	1889
McDougal, H., M.B.	Amoy	1885
McIntosh, G.	3, Minghong Road, Shanghai	1889
†Medhurst, Rev. C. Spurgeon	C/o Messrs. Sietas & Co., Chefoo	1888
Melchers, W.	Messrs. Melchers & Co., Hongkong	1886
Mencarini, J.	C/o Custom House, Shanghai	1887
Mertz, C., PH.D.	C/o German Consulate, Amoy	1883
Metzger, E.	29, Kriegsbergstrasse, Stuttgart	1887
Meyer, R.	C/o J. J. Buchheister, Esq., Shanghai	1887
Meyer, Th.	9, Hankow Road, Shanghai	1886
Milles, W. J., F.R.C.S.	2, Shantung Road, Shanghai	1885
Mills, Lieut. D. A., R.E.	Bude, Cornwall	1888
Mittag, M.	Messrs. Gipperich & Burchardi, S'hai.	1887
†Müllendorff, O. F. von, PH.D.	German Consulate, Manila	1877
†Müllendorff, P. G. von	Inspectorate-General of Customs, Shanghai	1877
†Morrison, G. J., M.I.C.E.	Messrs. Morrison & Gratton, Shanghai	1880
Morse, H. B.	Custom House, Pakhoi	1888
Mörrel, F. H.	Custom House, Jenchuan	1889
Mortimore, R. H.	British Legation, Peking	1885
Moule, Ven. Archdeacon A. E. B.D.	Church Missionary Society, Shanghai	1888
Mowat, R. A.	H.B.M.'s Supreme Court, Shanghai	1888
Müller-Beeck, Geo.	C/o German Consulate-General, Yokohama, Japan	1886
Murray, D. S.	British and Foreign Bible Society, Shanghai	1887

Name.	Address.	Year of Election
† Nocentini, L.	Via del Proconsolo, 21; Firenze, Italy	1884
Novion, A.	C/o Custom House, Shanghai ...	1885
Nully, R. de	Chateau de Bernos, Pas St. Laurent, Médoc, Bordeaux	1884
Ohlmer, E.	Hildesheim, Hanover, Germany ...	1885
Ottomeier, P. A. W.	Messrs. Siemssen & Co., Shanghai ...	1886
Owen, Rev. G. S.	London Missionary Society, Peking.	1872
Oxenham, E. L.	C/o British Consulate - General, Shanghai	1887
Palamountain, B.	Inspectorate-General of Customs, Shanghai	1886
† Parker, E. H.	British Consulate, Pagoda Anchorage, Foochow	1877
Paterason, J. W.	C/o Custom House, Canton	1883
Perkins, H. M., D.D.S.	1, Kiukiang Road, Shanghai	1885
Peterson, Denton E., D.D.S.	The Club, Shanghai	1887
Pichon, L., M.D.	16, Peking Road, Shanghai	1876
Piry, Théophile	Inspectorate-Gen. of Customs, Peking	1885
† Phillips, Geo.	British Consulate, Foochow	1888
Plancy, V. Collin de	Seoul, Corea	1877
† Playfair, G. M. H.	British Consulate, Tamsui	1885
Prentice, John	Messrs. Boyd & Co., Shanghai ...	1885
Price, G. U.	Messrs. Tait & Co., Amoy	1886
Pym, E. T.	Custom House, Wuhu	1885
Ramsay, H. F.	Hankow	1884
Rathasin, Th.	German Consulate, Canton	1887
Rayner, Charles	C/o Messrs. Carlowitz & Co., Tientsin	1886
Rees, Claude A.	Messrs. Gilmour & Co., Shanghai ...	1889
Reinsdorf, F.	German Consulate, Seoul, Corea ...	1883
Rémusat, J. L.	C/o Custom House, Canton	1885
Rennie, Sir Richard T.	H.B.M.'s Supreme Court, Shanghai ...	1885
† Rhein, J.	C/o Netherlands Legation, Peking ...	1877
Riva, Achille	C/o Messrs. Russell & Co., Shanghai.	1885
Rocher, Emile	Custom House, Hanoi	1877
Rocher, Louis	Custom House, Ningpo	1884
Rockhill, W. W.	No. 1620, 19th St., Washington, D.C.	1885
Rosthorn, A. Edler von	C/o Custom House, Hankow	1888
Ruhstrat, Ernst	C/o Custom House, Shanghai	1886
Russell, Sir Jas., C.M.G.	Hongkong	1870
Russell, W. B.	Custom House, Newchwang	1886
Sampson, Theo.	C/o Custom House, Canton	1868
Samson, J.	C/o Messrs. Reid, Evans & Co., Shanghai	1877
Sauwer, Ernst	Cöln a/R, Germany	1886
Saunders, W.	14, Manor Road, Brockley, Kent ...	1865
Schjöth, Fr.	Custom House, Chinkiang	1885
Schwacker, B.	Messrs. Carlowitz & Co., Shanghai ...	1887
Schmidt, K.	Messrs. Carlowitz & Co., Shanghai ...	1888
Schröder, A.	C/o Pharmacie de l'Union, Shanghai	1885
Schulze, F. W.	Jenchuan, Corea	1879
Seckendorff, Baron Edm. von.	German Consulate, Tientsin	1880

Name.	Address.	Year of Election
Shinagawa, E.	C/o Japanese Consulate-Gen., S'hai	
Snethlage, H.	4, Canton Road, Shanghai	1885
Southey, T. S.	Custom House, Amoy	1880
Spinney, W. F.	Custom House, Wuhu	1885
Startseff, A. D.	Messrs. Tokmakoff, Molotkoff & Co., Tientsin	1889
Stonehouse, Rev. Joseph	London Mission, Peking	1886
Streich, K. I.	C/o German Consulate, Swatow	1880
Stripling, A. B.	C/o British Consulate, Jenchuan, Corea	1877
Styan, F. W.	C/o Messrs. Robt. Anderson & Co., Shanghai	1884
Sutherland, H.	C/o Messrs. Fairhurst, Sutherland & Co., Foochow	1876
Syburg, F. von	C/o German Consulate-General, Shanghai	1886
Tanner, Paul von	C/o Custom House, Canton	1881
Tata, D. B.	Messrs. Tata & Co., Shanghai	1874
†Taylor, C. H. B.	Foochow Arsenal	1885
Taylor, F. E.	C/o Custom House, Kowloon	1885
Underwood, G. R., M.B.	Kiukiang	1888
Valdez, J. M. T.	Portuguese Consulate, Shanghai	1888
Vissière, A.	86, Avenue de l'Est, Parc St. Maur (Seine)	1880
Voelkel, S.	Pharmacie de l'Union, Shanghai	1885
†Volpicelli, Z. H.	C/o Custom House, Shanghai	1886
§Vouillemont, E. G.	Shanghai	1888
Wade, H. T.	Shanghai Club	1886
Wallberg, R.	Messrs. Kirchner & Böger, Shanghai	1887
Washbrook, W. A.	Custom House, Chinkiang	1881
Watters, T., M.A.	British Consulate, Newchwang	1865
Wicking, H.	Club Chambers, Hongkong	1877
Wilcox, R. C.	<i>Daily Press</i> , Hongkong	1877
Williams, Rev. E. T.	Nanking	1889
Wood, A. G.	Messrs. Gibb, Livingston & Co., Shanghai	1879
Zedelius, C, M.D.	18, Kiangse Road, Shanghai	1885

N.B.—*Applications for Membership, stating the Name (in full), Nationality, Profession, and Address of Applicants, should be forwarded to "The Honorary Secretary, China Branch of the Royal Asiatic Society, Shanghai." Remittances of Subscription for Membership (\$5 per annum, which entitles the Member to a complete annual set of the Journal for the year in which payment is made) should be addressed to "The Honorary Treasurer, China Branch of the Royal Asiatic Society, Shanghai." A Member may acquire "Life Membership" by payment of a composition fee of \$50.*



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