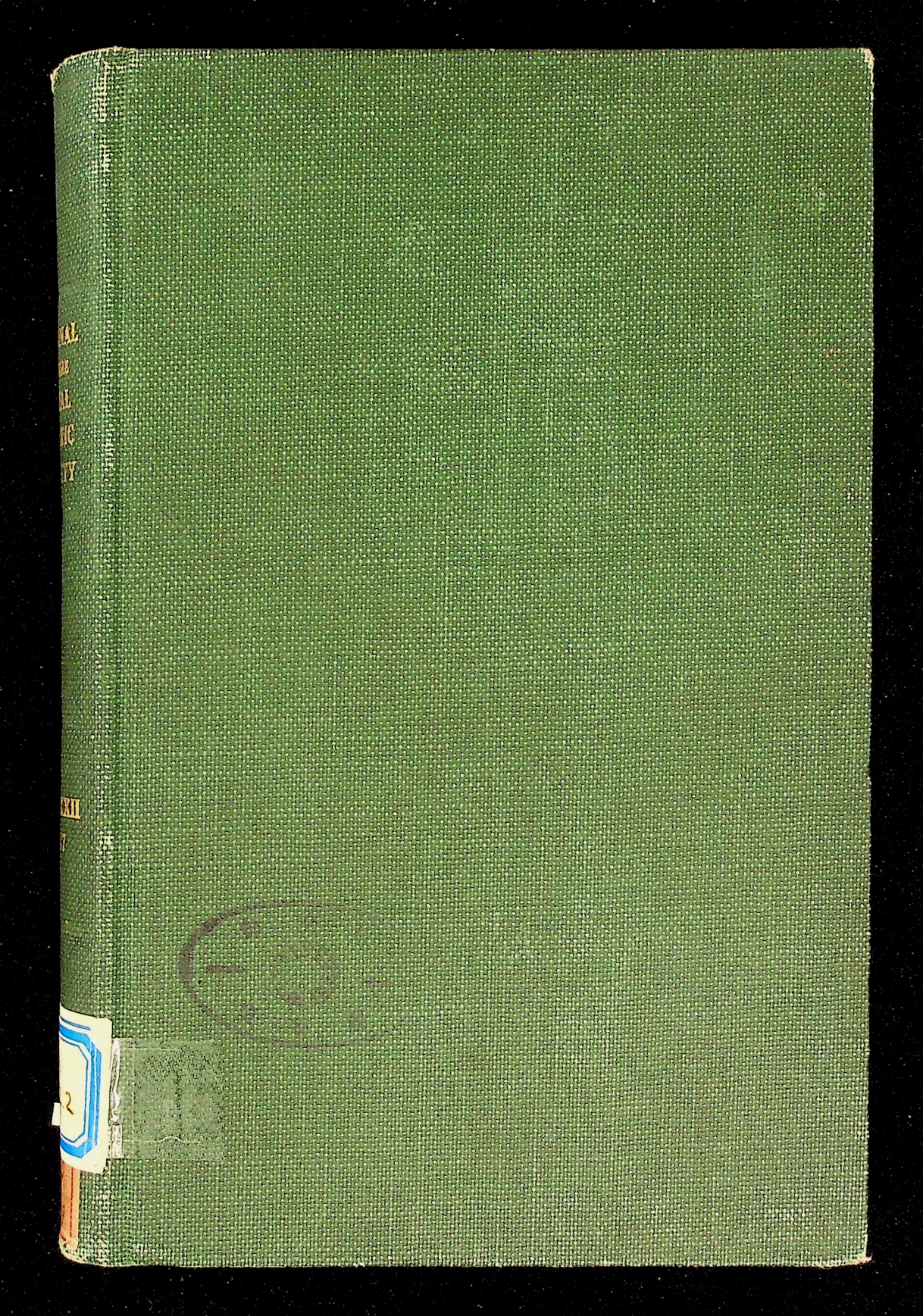

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SHANGHAI, 1888.

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OF THE

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FOR THE YEAR 1887.

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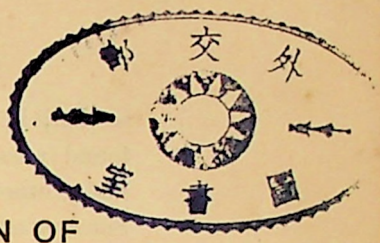

THE MILITARY ORGANIZATION OF CHINA PRIOR TO 1842,

AS DESCRIBED BY WEI YÜAN.

Translated by E. H. PARKER.*

The following account of the armies of China, together with the financial statement to which it leads up, is a digest of the chapter in the *Shêng Wu Chi*, or *History of the Manchu Conquests*, edited by the distinguished author WEI YÜAN. In a measure it may be said to be not only a digest, but also a translation, as everything in the original Chinese which tends to elucidate the subject has been translated, those portions alone being rejected which would tend to make the paper wearisome, or to exhibit undue redundancy. The achievements of the Manchu arms in Corea, China, Burmah, Nepaul, Annam, Formosa, Kashgaria, Sungaria, Tibet, Mongolia, etc., have all been treated of in separate papers;

* Read before the Society on 18th November 1887. For the discussion which followed, *see* "Proceedings." Since the Paper was read the present title has been substituted for that originally furnished by the Translator, the latter being regarded as somewhat misleading.—*(Note by Editorial Committee.)*

The Manchu, Chinese, and Banner Forces remain now much as they were in 1840. There is nothing to shew that the provincial "green" armies have undergone any great change; but in some cases the men have been partly transformed into *lien-ping*, or "trained troops," on higher pay. There is a specially strong army of trained men under the Viceroy of Chih Li's command. The armies of the Manchurian provinces are now being re-organized; there are several bands of *yung*, or "braves," kept constantly employed in Kwang Tung; and there are strong bodies of men stationed in the Lower Yangtsze forts, and in the new forts now being constructed in the north.—*(Translator's Note.)*

so that, in the latter part of the present digest, it has been found possible to omit much which is more fully detailed under other heads. The Opium War, the Rebellions of the Satraps, and the Revolts in the Provinces, have also been, or will be, discussed in special papers; so that, again, it has been found not only possible, but even advisable, to omit in this paper allusions to persons and events which would be incomprehensible without explanatory notes of undue frequency and length.

The portion which treats of the Revenue is specially interesting, inasmuch as it serves to fill out and illustrate much that has recently appeared on the subject in the different newspapers and reviews. The Manchu Annals here digested and translated appear to have been brought up to about the year 1840. The first opium war, true, is treated of in the final chapters; but the bulk of the book would seem to have been revised ere that war was undertaken.

Wei Yüan (魏源), the compiler of the *History of the Manchu Conquests*, or *Military Annals of the Present Dynasty*, was a native of Shao-yang District in Hu Nan. From paid licentiate with special honours *(pakung)*, he took his degrees, one after the other, until he reached the first place allotted to provincials at the Peking examination, secured his "arts" *(chin-shih)*, and served as magistrate in several Kiang Su districts. He was removed from his post as department magistrate of Kao-yu, north of Shanghai, on account of some neglect in forwarding despatches, but recovered his position later on, in consequence of meritorious services against salt smugglers. He died in 1856. He was the author of many works, and paid great attention to contemporary history. He almost invariably quotes the authorities from which his information is gathered, and these seem to be chiefly special histories compiled for private circulation. Amongst the

better educated Chinese, however, copies of important State documents on all subjects circulate very freely; and it is evident, from the great accuracy of such of his facts as can be corroborated, that he has not only taken the greatest pains to ascertain the exact truth, but has had access to occult sources of information which he is at times unable prudently to cite. The distinguishing feature in all his historical sketches is common sense. The frank bluntness with which he criticises the acts and motives of the highest personages, together with his contempt for superstitious nonsense and flattering glosses, mark him out as a Chinese author of rare independence of spirit. He speaks quite as unguardedly and boldly as if he were writing a series of newspaper articles for the *Shên Pao*.

I.—The Banner Troops.

The Eight Banners were first established in the year 1614,[1] two years before the name "Manchu" was given to the State of which Hetuala was the nucleus. Each 300 men were enrolled under a *tso-ling* or *nuru changyin* (equivalent to the Chinese *shou-pei* or captain), and over every five *tso-ling* was set a *ts'an-ling* or *ghiara changyin*[2] (equivalent to the Chinese *ts'an-chiang*, *yuchi*, or lieutenant-colonel). Over every five *ts'an-ling*, again, was set a *tut'ung* or *kusain changyin*[3] (equivalent to the Chinese *tsung-ping* or brigade-general), who thus commanded 7,500 men. Each *tut'ung* was assisted by two (left and right) *fu-tut'ung* or *meire*[4] *changyin* (equivalent to the

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[1] The common history book gives the first year of T'IEN-MING as the 46th of MING WAN-LIH, but the Manchu Annals make it the 44th, or 1616 A.D.—(*Translator's Note.*)

[2] 甲喇. All the Manchu sounds are guessed at unless previous European authorities afford a clue.—(*Translator's Note.*)

[3] 固山 [4] 梅勒

Chinese *fu-chiang*[5] or adjutant-general). The eight *tut'ung* were in command of the Eight Banners, or 60,000 men. It was not until the year 1660 that the above Chinese translations were employed instead of the Manchu equivalents given after them; moreover, the word *ngêchên*[6] was, until the year 1723, used instead of the word *changyin*. At first the Chinese and Mongols admitted into the banner organization were not enrolled into special banners; and, instead of the 200 Manchu *tso-lings*, each in command of 300 men, there came to be 400 *tso-lings*, each commanding 150 men, of which total 308 were Manchu, 76 Mongol, and 16 Chinese. In 1635 it became necessary to create eight additional Mongol banners of 16,840 men, and in 1642 eight additional Chinese banners of 24,050 men, which last absorbed the Chinese troops under the three Chinese generals K'UNG, KÊNG, and SHANG,[7] who earliest came over to the Manchu interest. From this date the *tso-lings* ceased to have any fixed number. In addition to the Manchu, Mongol, and Chinese banners above described, there are the Solon, Sibê, and Chakhar military establishments. When the Emperor SHUN-CHIH fixed his capital at Peking, all the Eight Banners were with him, and his minister KHOLOKHUI[8] was left in charge of Moukden. Each of the three armies engaged in subduing Shen Si, Shan Tung, and Kiang Nan consisted of 50,000 or 60,000 men; so that, including the Peking Guards,[9] there must have been about 200,000 men enrolled in the banners at this date, the Khorch'ins and a few other Mongols being the only feudatories as yet enrolled. Afterwards, those kept at Peking were drafted into the Imperial Guards,[10] whilst those on service in the Provinces

[5] It is thus plain that *fu-chiang* cannot under any circumstances be translated "Major-General."—(*Translator's Note.*)

[6] 額眞 [7] 孔；耿；尙 [8] 和洛輝
[9] 宿衛 [10] 禁旅

外交部藏書

were drafted into the Garrison[11] categories, the total number still remaining at 200,000, though the *tso-lings* were increased. Hence, when, in K'IENLUNG's time, we hear of 681 Manchu *tso-lings* at Peking, with 204 Mongol, and 266 Chinese *tso-lings*, besides the 840 garrison *tso-lings*, we must remember that each of these 2,000 or so of *tso-lings* only had from 80 to 90 men under his command.

Though the Imperial Guards were in eight banners under eight *tut'ungs*, yet only the troopers, corporals and armourers[12] of the Cavalry were enrolled under their command; whilst the Advance Force, Guards, Escort, and Musketry[13] were each under a separate Commander-in-chief; the Guards alone being, amongst these last four, under the command of the Captain of the Imperial Body Guards,[14] and no Chinese being admitted into any one of the four[15] classes.

On the other hand, the Manchu and Mongol cavalry do not possess any gunners, caltrop-throwers, or shield-bearers, such

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[11] 駐防　[12] 驍騎營之馬甲領催匠役

[13] 前鋒備折衝；親軍司宿衛；護軍扈驚蹕；火器習遠攻

[14] 領侍衛內大臣

[15] Each Manchu and Mongol *tso-ling* had 20 troopers: total 17,700. Each Chinese *tso-ling* 40 troopers: total 11,172: grand total 28,872. The *ling-ts'ui*, or corporals, are the pick of the troopers, who act as roster-keepers and paymasters; each *tso-ling* had five: hence the 1,051 *tso-lings* had 5,755 corporals. Each *tso-ling* had a number of bow and arrow makers, saddlesmiths, and blacksmiths, appointed by the Imperial Armoury, to the total number of 1,391.

Each *tso-ling* had two Advance men, *i.e.* 1,770 in all, all Manchus except 408 Mongols. (The 2,000 scalers of the Light Division are also counted as Advance men). The Guards are the same in number as the Advance. Each *tso-ling* has 17 Escort men; total 11,577 Manchus, and 3,468 Mongols. (The Summer Palace Escort are chosen from among these). Each *tso-ling* has 6 musketeers and one gunner: total, Manchu and Mongol, 5,310 musketeers and 885 gunners. There are 1,937 guns on the walls of Peking, of which 100 are taken to the Luk'ou Bridge in the autumn of each year for practice. On the Pai-t'a Hill there are five signal-guns; and, on alarm given, those at the nine city gates acknowledge.

Of the Guards, the three superior banners (white, yellow, and bordered yellow) are under the Captain, (the rest under the princely establishments), who also commands the 500 tiger hunters.

as the Chinese cavalry force has.[16] As to the Infantry Force, the Manchus, Mongols, and Chinese are all grouped together under one Commander-in-chief, and the above (Cavalry, Advance, Guards, Escort, Musketry, and Infantry) form together the Eight Banners of Peking Guards,[17] the Infantry alone being a body mixed of all three nationalities.[18]

Besides the above, there are 10,000 Chinese gendarmerie of the Green[19] Standard under the Captain-General[20] of Peking, and these also belong to the Peking Guards, the grand total of whom is thus brought up to 100,000, exclusive of 27,400 supernumeraries.[21] If we turn now to the Garrison Troops, we find that the Mongol, Manchu, and Chinese bannermen are all grouped under one command. There are 25 garrisons in the Metropolitan Cordon, consisting of 8,758 men. There are 44 garrisons in the Three Manchurian Provinces, consisting of 35,360 men.[22] There are in Sungaria and Kashgaria[22] 8 garrisons, consisting of 15,140 men. Distributed over China there are 20 garrisons, of 45,540 men. Besides these, there are 1,419 at the Tombs; 858 in the Hunting Park; and 700 guarding the frontier

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16 Each banner has 40 gunners: total, 320. The shield-bearers are for guarding the guns, and each banner has 100: total, 800. Each *tso-ling* has 8 caltrop bearers: total, 2,828.

17 禁旅

18 Each Manchu and Mongol *tso-ling* has two infantry corporals, or 1,770 in all: eighteen rank and file, or 15,930 in all. Each Chinese *tso-ling* has one corporal, or 166 in all: twelve rank and file, or 3,192 in all. Total infantry, 21,158.

19 綠旗

20 This officer is called Captain-General of Infantry, by virtue of his commanding the Eight Infantry Banners; and is also called the General of the Nine Gates, by virtue of his commanding the Chinese "Greens" distributed over the five quarters of Peking. He is assisted by two Provosts,—the 左 and 右 翼.

21 There are 16,664 Manchu supernumeraries drawing rice, and 5,428 not. There are 3,279 Mongols drawing rice, and 2,024 not. The 4,813 Chinese supernumeraries do not draw rice.

22 Within the past few years, however, the Manchurian and Turkestan garrisons have been greatly altered and redistributed.—(*Translator's Note.*)

gates of Kirin and Shêng-king. Total Garrison Troops 107,760, commanded by Tartar-Generals, *tut'ungs*, and City Commandants. In Turkestan and Manchuria, besides the above-described Eight Banners of Manchu and Mongol Garrison troops, there are the Solon, Sibê, Daour[23] (hunting), and the Bargu, Oelot, and Chakhar[24] (nomad) soldiery, belonging to those hunting and nomad tribes who submitted latest to the Manchu supremacy, and who, therefore, are enrolled under *tso-lings* of their own, outside of the Eight Banners. There are 97 hunting *tso-lings* commanded by the Tartar-General at Tsitsihar. There are 170 nomad or herdsman *tso-lings*, of whom 120 are over the chief tribe,—the Chakhars; and all these are commanded by the *tut'ung* at Kalgan. Odd bodies of hunters in the Kirin Province are from time to time enrolled, but not under *tso-lings* of their own. Thus the grand total of Peking Guards and Garrison Troops exceeds 200,000, of whom half are in Peking. The musketeers of the Manchu and Mongol banners date from K'ANG-HI'S reign. The Summer Palace Escort dates from YUNG-CHÊNG'S reign. The Light Division[25] dates from K'IEN-LUNG'S reign.

II.—THE GREENS.

These are divided into the Cavalry and the Infantry. The Infantry are sub-divided into the Fighting and the Defensive. All lance-corporals are Cavalry. The Province of Chih Li has 42,532 men, under the four commands of the Viceroy,

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[23] All three Tungusic.

[24] All three Mongolic.

[25] Trained originally for scaling the Tibetan stone towers.

N.B.—According to HOWORTH, the total pure Mongol forces left behind by GENGHIZ did not exceed 230,000 men, of whom Tului had nearly half. The shares of Juji, Jagatai, and Ogotai were only 4,000 Mongols apiece; but all the "Mongol" armies, and especially these last three, were largely made up of conquered Turkish and other tribes.—(*Translator's Note.*)

River Director, General, and the different Brigadiers. Shan Tung has 20,174, under the three commands of the Governor, River Director, and the Brigadiers. Shan Si has 25,534. Ho Nan 13,834. Kiang Su has 50,134, under the six commands of the Viceroy, Governor, General, Brigadiers, River Director, and Transport Director. An Hwei has 8,728. Kiang Si 13,832. Fu Kien has 63,304, under the commands of the Viceroy, Governor, Admirals, and Generals. Chê Kiang has 39,009. Hu Peh 22,740. Hu Nan, (including the military cultivators and the trained braves), 35,590. Shen Si has 42,960. Kan Suh has 55,609, (including those under the Barkul, Urumtsi,[26] and Ili Brigadiers), under the Viceroy, General, and Brigadiers. Sz Ch'wan has 34,188, including 994 Chinese soldiers under the Tartar-General. Kwang Tung has 69,052, including those employed afloat. Kwang Si 23,408. Yün Nan 42,549. Kwei Chou 48,490 (including 9,239 military cultivators). Total green troops, 661,656.

Reflections on Manchu Arms.

The Ming dynasty employed vast numbers of soldiers, the expense of which they charged upon the people. The Manchu system has always been to employ small bodies of troops, well-paid from the Imperial Treasury. In the conquest of Annam the Mings employed as many as 100,000 Coreans at a time, whereas both the Manchu columns engaged in the same conquest did not exceed 18,000. In the crushing of Po-chou and Li-ch'uan,[27] the Mings employed over 200,000 men. In the subjugation of the native tribes of Yün-Kwei, the Manchus only employed between 20,000

[26] Within the past few years there have been changes.—(*Translator's Note.*)

[27] 播州; 麓川

and 30,000. In the Oelot campaign of K'ANG-HI, the Dzungar campaign of K'IEN-LUNG, his campaign against the Greater and Lesser Kin-ch'uan Tanguts, and in KIA-K'ING's suppression of the superstitious rebellions in Sz Ch'uan and Hu Nan, there were never employed in all more than 100,000 men. NGO CHUNG-KUNG[28] only employed 7,000 men in crushing KOKONOR. CHAOHWEI[29] and FUTEH[30] defeated the two KHODJIDJAN with 30,000. MINGJUI'S two Burmese columns did not exceed 20,000. In fact, it was only in the suppression of WU SAN-KWEI'S rebellion that the Emperor K'ANG-HI had to put forth his full strength and employ over 400,000 Manchu and Chinese troops. The cost of the different Manchu campaigns has been as follows:—

	Taels.
Kin-ch'uan, (five years)	70,000,000
Sz Ch'wan and Hu Nan rebellion ...	100,000,000
Dzungars and Mussulmans	33,000,000
Burmah	9,000,000
Formosa	8,000,000
Annam	1,000,000

Cost of the Armies of China.

Of the Banner Troops, the Advance, Guards, Escort,[31] Corporals [? of Cavalry], and Master Armourers receive Tls. 4 a month. The Cavalry, Armourers, and Coppersmiths receive Tls. 3: all the above draw in addition 40 bushels[32] of

[28] 岳鍾琪; also did service in Tibet, Yün Nan, etc.—(*Translator's Note.*)

[29] 兆惠

[30] 富德; also employed against Kin-ch'uan.—(*Translator's Note.*)

[31] Each of these three get Tls. 1 a month in addition if *ghioro*, or collaterals of the blood.

[32] 斛

rice a year. The Infantry Corporals receive Tls. 2, and the Infantry Tls. 1–5, both classes drawing 24 bushels of rice. Gunners receive Tls. 2, and 36 bushels. Novices[33] [?=Supernumeraries] receive the same as the Infantry, but no rice. Of the Green Standard Troops, the three Peking gendarmerie camps receive, if cavalry, Tls. 2; if infantry, Tls. 1; and both classes five pecks[34] of rice a month. The Chinese cavalry in the provincial brigades receive Tls. 2, and the infantry Tls. 1–5, if fighting, and Tls. 1, if defensive; all three drawing three pecks of rice a month. The annual cost of the provincial Chinese troops is thus over Tls. 17,000,000 a year, and it is a question whether it would not be better to reduce the armies of the provinces by giving double pay to from 4,000 to 6,000 of the best men.

The pay of Chinese officers was thus fixed by the Emperor YUNG-CHÊNG, the unit being one private's pay. A General 80; a Brigadier 60; a Colonel[35] 30; a Major 20, in each case drawing the pay of infantry and cavalry in equal halves. Those who are not field officers, such as the *yuchi*, *tusz*, *shoupei*, *ch'ientsung*, and *patsung*, draw 15, 10, 8, 5, and 4 rations, in the proportion of one cavalry to four infantry rations in each five.

In 1782 the Emperor K'IEN-LUNG found that he had Tls. 78,000,000 in his Treasury, against Tls. 30,000,000 in 1736. He therefore presented Tls. 400,000 to the provincial soldiers; increased the Peking troops by 4,900, and the Shen-kan troops by 12,900, ordering the regulation regiments to be kept fully manned, and giving their officers "anti-extortion" allowances in compensation. These changes cost Tls. 3,000,000 a year. In 1813 it was found that it had

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[33] 教養兵 [34] 斗

[35] From this it will again be seen how impossible it is to translate *fu-chiang* by "Major-General."—(*Translator's Note.*)

since been necessary to raise Tls. 26,790,000 by extra taxation or sale of office, in order to meet unlooked-for expenses, and the Tls. 1,000,000 a year added on by K'IEN-LUNG for "anti-extortion" allowances was reduced to Tls. 800,000.

In 1644 the new Manchu dynasty abolished some of the wasteful Ming expenditures;[36] but, in 1651, after the campaigns in the south, the annual payments[37] to the armies, Tls. 13,000,000, with the civil service[38] payments, Tls. 2,000,000, at last exceeded the regular revenue,[39] Tls. 14,850,000. After 1656, the army payments were increased to Tls. 20,000,000, and later to Tls. 24,000,000 a year, against which sum there was a regular revenue of Tls. 19,600,000, besides the interest on the Treasury balance: yet the Emperor SHUN-CHIH imposed no extra taxes. After the rebellions of the Three Satraps, three fourths of the revenue again went to army payments, and the sale of office was opened for three years, producing Tls. 2,000,000 [? in all], whilst other financial reforms produced a little more: yet it did not escape the notice of the Emperor K'ANG-HI that enormous fortunes were squeezed out of the provinces by all his generals. It is a wonder how the Empire was kept together at all under such conditions.

The Treasury balance in 1722 was Tls. 8,000,000, which increased to Tls. 60,000,000 under KANG-HI'S successor; but most of this was spent in the western campaigns; so that K'IEN-LUNG came to the throne with a balance of only Tls. 24,000,000. The conquest of Kashgaria, etc., cost Tls. 30,000,000; yet after it the Board still had a balance of Tls. 70,000,000. In 1776 the Kin-ch'uan rebellion cost Tls. 70,000,000, and the balance was Tls. 60,000,000, increased in 1781 to

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[36] 三餉 [37] 餉? including the Court. [38] 官俸 [39] 額賦

Tls. 78,000,000, though the whole empire had received four entire remissions of the land-tax,[40] and the seven extra rice paying provinces two entire remissions of the rice-tax, which, with the cost of the Emperor's two journeys to Kiang Nan, meant Tls. 200,000,000 out of the Treasury: yet the balance in 1786 stood at Tls. 70,000,000, at which figure it remained at the abdication of 1795. Up to present date,[41] the Sz Ch'wan and Hu Nan rebellion, which cost Tls. 100,000,000, has been the only great war undertaken, and Tls. 70,000,000 of that sum was raised by the sale of office. K'IEN-LUNG had natural disasters to relieve as well as remissions to grant; the number of banner troopers receiving pay does not increase with the banner population; the drain of silver abroad apparently only affects the comfort of the people, but not the treasury receipts. How is it, then, that the Treasury is always empty? First, then, there are 30,000 imperial kinsmen, (whose pay is unfixed), against 2,000 who came with the conqueror: and secondly, the annual average of unpaid taxes has increased during a century from Tls. 600,000 to Tls. 2,000,000 a year, which is, in fact, largely caused by the enhanced price of silver. The reasons why K'ANG-HI'S balance was not equal to K'IEN-LUNG'S were four: 1. "Extra" charges did not go into the Treasury; 2. The regular sale of honorary titles had not yet been established,—now producing Tls. 3,000,000 a year; 3. The salt tax was only half collected, it having risen between 1650 and 1750 from Tls. 2,000,000 to Tls. 5,700,000; 4. The Comptrollers of Customs had no "extras" added to the fixed "minimums." It was the Emperor YUNG-CHÊNG who superadded "extras" in 1735, and it was his financial genius which raised the revenue. In 1792 the revenue receipts were Tls. 43,590,000, against an expenditure of Tls. 31,770,000

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[40] 錢糧 [41] About 1840.

for salaries, armies, and courier posts, leaving a balance of Tls. 10,810,000 (*sic*), which statement it is difficult to reconcile with another that Tls. 3,000,000 added (as above described) to the army expenditure would still leave an annual surplus of Tls. 2,000,000. Again, at the same date it is stated that Tls. 3,000,000 a year could be saved from the army establishments in the west, whereas in 1772 it was stated that Tls. 900,000 could be saved on that account. These two discrepancies may be accounted for by the fact that the increased Manchu garrisons sent to the west were only *transferred* from China, and that the additions of 12,900 and 4,900 troops previously referred to were made between the date of the re-transfer of the Manchus and the first statement.

The Public Revenue[42] of the Manchu Empire is[43]:—

	Taels.
[Poll and] Land-tax	29,410,000
Salt Excise	5,745,000
Customs	5,415,000
Rush Excise	122,500
Fish Excise	24,500
Tea Excise	73,100
Octroi and Miscellaneous	857,000
Property transfer fees	190,000
Yün Nan Mining Excise	81,000
Sale of titles (about)	3,000,000
Total (over) ... Tls.	40,000,000
Rice, peculs, China	4,601,000
Rice, peculs, Kashgaria	240,000

[42] 財賦 [43] *i.e.* was, about 1840.

Vide THONNELIER's catalogue, p. 532, No. 4015, where the commencement of an edition of this work by KLAPROTH is mentioned.

[*Library*:—Paris.]

44.—四體合璧文鑑 (*Sseu t'i ho pi wên chien*), M. *duin hacin hergen i kamciha bithe*—Manchu dictionary with Mongol, Tibetan and Chinese translation, the Chinese with Manchu transcription. Arranged in categories.

[*Libraries*:—St. Petersburg, Peking, Paris.]

45.—滿漢西番集要 (*Man han hsi fan chi yao*), about 1760. A dictionary of Buddhist terms in Sanscrit (in Tibetan characters), Tibetan, Mongol, Manchu and Chinese.

Vide AMIOT, *Mémoires*, xl, p. 516; RÉMUSAT, *Mél. As.*, I, pp. 153–84; II, p. 264.

[*Library*:—Paris.]

46.—清漢文海 (*Ch'ing han wên hai*)—Ocean of Manchu and Chinese; 20 vols., 8vo, 1821. Author, Kua-erh-chia-pa-ni-hun (perhaps *guwere gaba ni hun*—he with a clashing armour), native of Kirin; editor, his son 普荼 (P'u-kung). A Chinese dictionary with Manchu translation arranged according to five tones and 106 finals, extracted from the great 佩文韻府 (*P'ei wên yün fu*), (WYLIE, *Notes*, p. 11).

[*Libraries*:—Peking, v.M.]

III.—*The Canonical Books.*

47.—日講四書 (*Jih chiang ssŭ shu*), M. *inenggidari giyangnaha sy s'u i jurgan be suhe bithe.* 12 vols., 8vo, 1677 and 1683. The four books with Chuhi's commentary, Manchu and Chinese.

The transliterated Manchu text of the four books in VON DER GABELENTZ, Sseschu, Schuking und Schiking in Mandsch. Ueber. Leipzig, 1860, p. 1–149.

For translations see *Manual of Chinese Bibliography.*

[*Libraries*:—St. Petersburg, Peking, v.M.]

48.—**滿漢四書** (*Man han ssŭ shu*), M. *manju nikan hergen i sy̆ s'u.* 6 vols., 8vo, 1691. The text of the four books in Manchu and Chinese. The same, new edition, 5 vols., 8vo, 1846.

[*Libraries*:—v.d.G., Trübner, v.M.]

49.—**御製繙譯四書** (*Yŭ chih fan i ssŭ shu*), M. *han i araha ubaliyambuha duin bithe.* The text of the four books, Manchu and Chinese, a new translation ordered by the emperor Kienlung; 6 vols., 8vo, 1756.

[*Libraries*:—Paris, v.M.]

50.—**合璧四書** (*Ho pi ssŭ shu*). 6 vols., 8vo. The text of the four books, Manchu and Chinese.

[*Library*:—v.M.]

51.—**滿漢字合璧四書集註** (*Man han tzŭ ho pi ssŭ shu chi chu*). 13 vols., large 8vo, no year. The text of the four books, with commentary, in Manchu and Chinese.

[*Libraries*:—v.d.G., v.M.]

52.—**御製清文大學衍義** (*Yŭ chih ch'ing wên ta hsio yen i*), M. *da hio i jurgan be badarambuha bithe.* 32 vols., about 1700. Amplification of the Great Learning (the second of the four books), *vide* WYLIE, *Notes*, p. 69.

Vide second preface fol. 2 of **三合吏治輯要**, where this work is quoted under the title: *han i araha manju gisun i amba tacin i jurgan be badarambuha bithe*, and said to have been published under Kanghi.

[*Library*:—St. Petersburg.]

53.—**日講易經** (*Jih chiang i ching*, M. *inenggidari giyangnaha i jing ni jurgan be suhe bithe.* 1683. The I-king.

[*Libraries*:—St. Petersburg, Peking.]

54.—**御製繙譯易經** (*Yŭ chih fan i i ching*), M. *han i araha ubaliyambuha jijungge nomun.* 4 vols., 8vo, 1766. The I-king, Manchu and Chinese.

[*Libraries*:—Peking, Paris, Trübner, v.M.]

3.—The rosters are sent in to the Emperor every three years, births, marriages, and deaths included, as also appointments, promotions, and rates of pay, allowances to widows, orphans, etc. These rosters have not been sent in due time of late, and the Board is in future to have a Grand Roster, or Domesday Book in Manchu and Chinese, to be kept there for comparison with the triennial rosters, and for correction as required.

4.—Hitherto the Board has only been able to guess the active service requirements of each Banner from the pay rosters. In future the number of officers and soldiers in each Banner, their duties, etc., should be entered in another Grand Roster, and submitted to the Board of War through the Board of Revenue.

5.—The *pao-i* or serfs should have a separate roster. Those of the Three Upper Banners have hitherto had their accounts sent in from the Household or Seraglio, through their respective Banners, to the Board. Those of the Five Lower Banners have been similarly sent in through the Banners by their princely or ducal masters. But the Board is ignorant how many nobles there are in each Banner; to how many blue, red, or white troopers each noble is entitled; how many petty officers, how many paid Imperial Clansmen, etc. The Banners are to obtain for the Board information from the Seraglio and the dukes; and the Board will, in the case of the Lower Banners, request the Imperial Clan Department to check the ducal statements.

Payment of Bannermen.

6.—All family or official events involving increase or reduction of pay should be at once reported to the Board, instead of postponing, and refunding or adding, as before has too often been the case. If the events shall have taken place

before the pay roster comes to the Board, the entries must be made by the Banner: if after, but before payments made, then the Banner should send a card at once notifying the alteration, sending in the official information afterwards.

7.—New recruits and appointments for each month should be sent by the Banners in a separate roster, and only entered in the monthly general pay roster once a month, so as to facilitate the Board's comparison of names with those in the Grand Pay Roster.

8.—Presents of money on the occasions of death average 300 or 400 a month; and it is proposed, for the present at least, to confine these to the subject and his parents, to the exclusion of grand-parents and wives, as the Board has no means of finding out the truth or untruth of such reported deaths. The law providing that the Banner shall on such occasions send in a list of the whole family, has been persistently ignored.

9.—Gratuities to widows and orphans should be entered by the Banner in a separate list and published by proclamation. The net payments under this head average between Tls. 300,000 and Tls. 400,000 a year. In future the names of the widows' late husbands, of the orphans' late parents, the ages, date from which they claim, place of residence, etc., should be entered and sent for record to the Board; and all the payments for each month should be posted on the wall of the Banner office, so that frauds may be pointed out by the parties interested.

10.—The pay rosters sent by the Banners to the Board should be stamped so as to leave part of the stamp on each separate sheet. Lately these tallies have not been found to correspond, and the names and sums have shewn frequent signs of alteration. In future, each page succeeding another

should bear with it a portion of the stamp, and every alteration should be stamped.

Eight Rules governing the Sale of Banner Feus and Unoccupied Lands in Chih Li.[b]

Précis.

In 1852 and 1863 the prohibition against Chinese buying Bannermen's land was relaxed, and such lands after purchase were "raised" to taxation, and charged with a fine (*nah shui*), and taxed after the precedent of the *sz wei*, or four hunting-parks allotments. The common tenures are divided into three qualities, and the *k'i min kiao ch'an*, or "joint properties" held by Chinese from Bannermen as above described, should follow the rule of common tenures.

Such taxation should be reported with the common tenure taxation. The ground-tax, or *ch'ien liang*, of the Metropolitan Circuit and Chih Li province is levied on the poll-tax, or *ti ting* computation, of common tenures, in so far as it is collected on the one hand from the *pah hiang kwan-tsu*, or "eight kinds of official rents," and on the other from the above joint properties. Thus, there are three sorts, the *ti-ting* or "common tenures," the "eight kinds of official rents," and the "joint properties;" the first and third henceforth forming a common group, distinct from the second for purposes of reporting.

Under the rules of 1854, the joint tenures thus purchased of Bannermen by Chinese were held under a *chao*, or "title," granted by the Board. The old rule for "black," *i.e.*, unregistered public lands, reported as cultivated by Chinese, was to grant a *tien chao*, or "cultivator's licence." But as, after

[b] Also translated from the Shanghai Native Press.

payment as above described of a fine, the local officials grant a deed to the Chinese purchaser from a Bannerman, it is unnecessary to take out a Board's licence or title in addition.

It is proposed to place unowned waste lands, (*wu kén hwang ti*), since cultivated on a proper footing. Government and Banner waste lands (*kwan hwang, k'i hwang*) thus taken up used to pay a rent of Tls. 008 for each *mou;* but in 1866 they were put on the same footing as "joint tenures." However, this is not fair, as the former pay no price or fine, and may not sell or mortgage, though they may abandon their holdings and cultivate elsewhere; whilst the latter become the absolute property of the owners after payment of a fine. Future holdings of this description are to pay a rental of Tls. 004, Tls. 005, and Tls. 006 a *mou*, according to class.

Hitherto barren lands taken up have been divided into three categories, the *min hwang*, or "popular," paying no rent, but liable to be raised to taxation, managed by the Fu Kien Under-Secretary of the Board of Revenue; and the above-named "Government" and "Banner" kinds, paying a rent, and managed by the *tsing t'ien k'o*, or "Field Department" of the Board. The former should hold a *ch'u liang an-kü*, or "taxation-exemption paper," and be reported with the *ti ting*, or "common tenures;" whilst the latter are reported with the *kung ch'an*, or "public lands." Measures should be taken to prevent the two latter from pretending to be the former, and getting "raised" to taxation instead of paying rent. This can be done by always demanding exhibition of the paper, and the two departments should compare records and get erroneous grants set straight.

The *fu* or *ch'ien-liang*, *i.e.*, land-tax, of the joint-tenures, (*i.e.*, the Chinese holdings bought from Bannermen), together with the *shui-k'i yin liang*, or fine on transfer from a Bannerman, should be transmitted once a year to the Board by the

Treasurer (for Chih Li) and the Peking Prefect (for the Metropolitan Circuit). Since the change from rent to land-tax made in 1863, there have been irregularities, which must not continue.

There are over 300,000 *mou* of unsettled holdings, whether confiscations as to which the new cultivators have had no rents fixed; lands flooded as to which the deductions are still unfixed; or whether because of other pending matters still before the Board. All these pending cases must be settled within six months, with an allowance of extra time for passing on the correspondence through the usual channels.

The effect of the above rules must be promptly published in easy proclamations by all the magistrates concerned.

Supplement.[c]

Under the 24 Manchu and Mongol *tso-lings* at Sui-yüan there should be 2,000 corporals, Advance-skirmishers, and troopers, 700 infantry, and 600 supernumeraries, forming, with their families, a population of over 10,000. Each of the 80 corporals and 200 Advance-men is entitled to Tls. 4 a month, and each of the 1,720 troopers to Tls. 1.5. Since 1853, 36 per cent has been deducted from all payments to commissioned officers, and 20 per cent from the pay of corporals, Advance, and troopers. Moreover, their rice rations have not been regularly paid to them. Four hundred extra supernumeraries are now applied for at Tls. 1.5 a month each, or Tls. 600 a month in all, as Sui-yüan is an important key between Shan Si and the pastures.

When the Manchus conquered China, they reserved certain lands[d] for presents to their followers, and these have frequently changed hands *inter eos*, the rule being that

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[c] Taken from the *Peking Gazette*.

[d] 偏置圈地

the purchaser, no matter whether of the same or a different banner, do pay transfer duty[e] to the Left and Right Wing Customs. Bannermen buying common tenures pay transfer fees and taxes locally to the district magistrate. The *k'i ti*, or banner-land, thus pays no *ch'ien-liang*, or land-tax; and no distinction was originally made between the Peking and the Garrison Banners.[f] About twenty years ago, however, it was ordained that, in future transfers of banner-land to Garrison Bannermen, the transfer duty should no longer be paid to the Peking Wing, but to the local authority, who would thenceforward "raise such land to taxation." Confusion, however, arose in cases where such Garrison Bannermen resold such lands to Peking Bannermen. Moreover, the rents usually paid by Chinese tillers to Bannermen seldom exceed Tls. 006 to Tls. 007 the *mou*, which is just about the taxation under common tenures. It is now proposed to revert to the old custom, and to pay transfer fees between all Bannermen to the Wing, not charging land-tax. Bannermen purchasing common tenures will pay land-tax, and Chinese buying banner-land will have such land, "raised to land-tax."

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[e] 納稅　　[f] 屯旗

NOTES ON THE MINERAL RESOURCES OF EASTERN SHANTUNG.*

By H. M. BECHER, ASSOC. M. INST. C.E., F.G.S.

On commencing my work of inspecting the mineral resources of this interesting field, or "prospecting Shantung," as it was called, I hoped and prepared myself for expeditions throughout the length and breadth of the province. I was only permitted, however, to become thoroughly acquainted with about a quarter of the area, which, after all, is about as large as half our native Isle, and which would take many times the space of the two years allotted to me for a complete survey. Though the general map of China, compiled mostly from sources attributed to old Jesuit surveys, suffices for the traveller to trace his routes between the frequented ports, and even to follow the roads between most of the important cities of the interior, there are probably few portions of the country mapped with any degree of topographical accuracy; whilst the Chinese maps present the most absurd appearance, especially in the rendering of mountains, to the eye of the European cartographer. Shantung has been more fortunate than its neighbours in this respect, in that it has been mapped by several European authors; the work of M. FAUVEL, published in Paris, being quite a handsome production, wanting only in perfection on the same score of the mountains. In this direction I had hoped to make some

* Read before the Society on 25th October 1887. *See* "Proceedings."

material contribution, whilst adding at the same time to VON RICHTHOFEN'S geological picture; but, I regret to say, the limited scope of my travels has reduced the realisation of my intentions to the area I have to describe as North-Eastern Shantung only. The accessibility of this province, its comparatively pleasant, temperate climate, the agreeable variety of its landscape, with hills none too high for easy climbing, small rivers offering little difficulty to fording, and intervals of low, undulating ground with occasional plains—all these offer exceptional facilities to the prospector in Shantung, whilst he even profits by the misfortunes of his brother labourer of the plough and spade in having the rocks laid bare to his pick and hammer on the hill-sides which the latter has denuded in his ruthless harvest of their vegetable covering. Thus every traveller on the paths of Shantung can observe the nature of the rocks beneath his feet, and several have had something to say about them; but, as is not unnatural, that something, from the pens of laymen, has generally had reference only to the more attractive mineralogical features—the valuable metals said to be found in those rocks. Another aspect of geology also sometimes proves attractive to the lay observer—the speculative consideration of the phenomena produced by marvellous geological agencies; but this latter requires more power of word-painting to fascinate general attention than does the enumeration of mineral riches, and is only most successfully dealt with by the popular geologist to an audience in full view of the natural wonders of his theme.

My subject requires a brief reference to the geological history and formation of the rock-masses which constitute the base of the resources in question. I must be excused for frequently borrowing the words of the most eminent writer on the geology of "China," as he, VON RICHTHOFEN, has so clearly demonstrated some of the points which it is necessary

for me to refer to. At the same time, I most gratefully acknowledge the advantage I derived from the sound basis which he has established, and to which my own observations can only contribute in detail. In his introduction to the "Tektonik," or structure of the highlands of Shantung, he writes:—

"The hill-forming rocks are divisible into two main series, an older, which has been subjected to the most violent disturbances, and a younger, though still very old series, the strata of which are unequally spread over the surface of the former. . . . . From another point of view, however, the area in consideration is separable into two distinct halves. We have remarked the surprise with which the traveller in crossing the Wei-ho suddenly finds the variegated rock scenery disappear from his view. On the left hand the undulating hill land is composed of almost all the representative strata of the Shantung formations of second and third series. Beyond the broad, sandy river-bed, on the other hand, none of these are seen, but only the oldest crystalline rocks prevail. . . The dissimilarities of formation, which are most apparent at this point (being only separated by a sandy river-bed) are characteristic of the two divisions of the highlands which we designate as Eastern and Western Shantung.

"It is a remarkable fact that the internal structure of two halves of the same mountain land, which are composed of almost exactly similar formations, should present such a difference of geological history. Briefly to recapitulate the distinguishing features:—In the west a splitting up into 'flakes' took place on lines of no definite regularity, followed by gradual displacement and upheaval, amounting to 3,000 feet in places, in such a manner that all the flakes have a gentle inclination to the north. On the other hand,

in the east a compression of the gneiss was brought about by a force acting at right angles to the ranges of this rock, certain firmer portions retaining their original structure and the intervening parts experiencing a crushing and breaking up."

By these theories VON RICHTHOFEN accounts for the striking difference of configuration in the mountains of the eastern and western halves of the province; but, as I have to confine myself mostly to the former, I give this passage chiefly to explain why the mineral resources of the one may be expected to differ from those of the other, and to point the argument of absence of certain formations in either.

The break of continuity noticed by the Baron is certainly most striking to every observer crossing the Wei-ho, but his wholesale establishment of the big-fault theory from north to south is not quite borne out by observations at the south end of his line.

To come now to the subject—the consideration of the mineral resources—of which, with reference to the west, I can only speak from information, but from individual experience in the east. I must first refer to the authorities who have preceded me on the subject, and I will then show how far I can hold, and in what I must disagree, with them. First in rank of capability as an observer is undoubtedly the German author already quoted, but as he also cites the information of the Rev. Dr. WILLIAMSON and refers to the evidence of the maps of FAUVEL and HOWARD, I will first speak briefly of the last, and then return to compare notes with the others.

Without going into circumstantial evidence for or against the correctness of each locality favoured by a distinctive parti-coloured patch in HOWARD'S map, and of indications equally definitely but more modestly given in the others,

Vide SCHOTT, *Verz.*, p. 47. One tale in KLAPROTH's Chrestomathy, pp. 48–62; the same in French in St. Julien, *Livre des Récompenses et des Peines*. Paris, 1835, pp. 18–27.

[*Library*:—Paris.]

121.—心經 (*Hsin ching*), M. *niyaman i nomun*. In Manchu, Chinese, Tibetan (with Manchu transcription). 8vo.

Vide THONNELIER's Catalogue, p. 517, No. 3946. Is perhaps an abstract of the pradjna pâramitâ hridaya sûtra.

[*Library*:—Paris.]

122.—四十二章經 (*Ssŭ shih êrh chang ching*). The sûtra of 42 sentences.

Vide *Journal As.*, XI, (1848), pp. 535–57 for French translation by GABET and HUC.

123.—*Fucihi i nomulaha (?) dehi juwe fiyelen nomun*. The sûtra of 42 sentences. In Manchu, Mongol and Chinese. 1 cover, manuscript.

[*Library*:—St. Petersburg.]

124.—*Hian kie ch'ien fo hao*. The names of the 1,000 Buddhas, in five languages—Tibetan, Sanscrit, Manchu, Mongol and Chinese. 2 vols., 4to. The Kalpa of the sages (bhadrakalpa).

[*Library*:—Paris.]

125.—*Guwan s'eng di giyūn i iletuleme acabuha bithei urgen be targabure bithe*. 1728. Kuan-shêng's discourse on the giving up of the desire of rewards. A Taoist tract.

Vide WYLIE, Translation, p. xl.

126.—諸聖帝君訓誡世人之經 (*Chu shêng ti chün hsün chieh shih jên chih ching*), M. *geren enduringge di giyūn i jalan i niyalma be tacihiyan targabure nomun*. One leaf, 8vo. A Taoist tract: Warning and Injunction to the men of this world.

Vide WYLIE, Translation, p. xxxix.

127.—*Geren enduringge di giyūn i jalan de tutabuha boobai tacihiyan i nomun bithe*. 1 leaf, 8vo. A Taoist tract. Precious Teachings left to the world. In Manchu and Chinese.

[*Library*:—v.M.]

128.—關聖帝君覺世寶訓經 (*Kuan shêng ti chün chiao shih pao hsün ching*), M. *enduringge di giyūn kuwan mafai jalan de ulhibure boobai tacihiyan i nomun bithe.* 5 leaves, 8vo. A Taoist tract. Precious Teachings for the instruction of the world. In Manchu and Chinese.

[*Library*:—v.M.]

129.—文昌帝君陰騭文 (*Wên ch'ang ti chün yin chih wên*), *M. wen cang di giyūn enduri i butui erdemui bithe.* 4 leaves, 8vo. A Taoist tract. On secret virtues. In Manchu and Chinese.

[*Library*:—v.M.]

130.—戒淫文 (*Chieh yin wên*), M. *hayadara be targabure bithe.* 6 leaves, 8vo. A Taoist tract. Warning against debauchery. In Manchu and Chinese.

[*Library*:—v.M.]

131.—梓潼帝君感應陰騭文 (*Tzŭ t'ung ti chün kan ying yin chih wên*), M. *dsy tung di giyūn i butui sain de karulame acabume bithe.* A Taoist tract. On rewards and secret good actions.

Vide Wylie, *Notes*, p. 180; Manchu in Klaproth's Chrestomathy, pp. 37–47.

132.—欽定清文祭祀條例 (*Ch'in ting ch'ing wên chi ssŭ t'iao li*), M. *hesei toktobuha manjusai wecere metere kooli bithe.* 6 vols., large 8vo, 1765. In Manchu only. The Sacrificial Ritual of the Manchus; Vol. I–IV, describing the ceremonies and prayers during the sacrifices; Vol. V enumerates the different sacrificial vessels and utensils, of which Vol. VI gives 118 drawings.

Vide Langlès, *Rituel des Tartars-Mantchoux*, Paris. 1804, 4to, 74 pp. and 10 plates; reprint from *Notices et Extraits*, VII, pp. 241–308. C. de Harlez, *La religion nationale des tartares orientaux, mandchous et mongols; avec le Rituel tartare, traduit.* Bruxelles, 1887. 8vo, 216 pp. and 8 plates.

[*Libraries*:—Peking, Paris, v.M.]

This, however, does not help to confirm the reports of Coal being said to exist at Têng-chow-fu, Lai-chow-fu, and some other localities. I can only argue that the rocks which I observed in those places lead me to expect anything but the coveted coal-seams, whilst of three specimens brought to me as dug from as many supposed outcrops, one proved to be rotten basalt, another clay stained with manganese, and a third (which had at least the excuse of being carbonaceous), an impure graphite. The only semblance of a Coal occurrence, which bears a shadow of reality, is that in the oolitic La-yang fish shales, but these rocks contain only patches of what may be called fossil carbon of no practical importance.

To pass now to the metalliferous minerals, on which the real gist of my subject depends. Von Richthofen has despatched their consideration cursorily thus :—

"Shantung has acquired a renown for a fabulous wealth of metals of various sorts still hidden from knowledge in the depths of the earth. Much has been written on the subject, and the maps of European travellers are so covered with indications of the most important metals, that on seeing them one might believe to have before him one of the most richly promising mining countries of the world, and one cannot understand that the Chinese have been unable during thousands of years to see and pick up the riches which were evident to the eye of European amateur mineralogists at their first casual passage through the country. Seldom, however, has the vision of travellers been blinded by the desire to discover rich mines to a greater extent than here. The only metal to which perhaps any importance attaches, Iron, receives the least notice, and the frequency with which the others are mentioned is a direct exponent of the degree of profit which they expected to be derived from them. First comes Gold, then

follow Silver, Lead, and Copper. As in all the rivers of China whose courses are wholly or partly through crystalline rocks, gold is actually found in the drifts, though in exceedingly small quantities, and its extraction by washing constitutes at certain seasons the occupation of the poorest classes of the people. . . . . From the discovery of this fact the belief in the mineral wealth was established, nor is it dissipated to this day. . . . . The occurrence of various ores in Shantung admits of hardly a doubt, but workable deposits have not yet been found." The only exception which he admits is of Iron, ores of which, he says, occur frequently.

At first one is really led to expect some show of minerals from the appearance of the rocks at Chefoo, along the coast east and west and southwards, inland. These rocks are of the same formations which often are most productive of metals in other countries, but as there are exceptions to all rules—as cakes do not always contain plums,—so these favourable rocks are not particularly favoured. The gneiss is much the same as the normal gneiss which contains the numerous rich Silver lodes of the Saxon Erzgebirge. Granite, though almost barren here, carries Gold in other lands, and is the matrix of Tin in Cornwall, Australia, and the Straits. Just such crystalline schists and limestones are in places the country-rock of Lead, Copper, Iron, and other metalliferous ores. To the expectations based on a favourable appearance of the rocks further hopes are added by distinct indications of metals to be seen even in the immediate vicinity of Chefoo. In the walls of the Settlement itself, besides finding a most fertile study of practical mineralogy, the eye of the expert is attracted by glittering surfaces of comparatively pure Iron ore, of which a portion of the rock consists, used as rough stone building material. The

pedestrian on the hills near the harbour may pick up fragments of this and other Iron ores, and, should his curiosity lead him into a certain limestone quarry at the back of the city, he may think he has discovered the veritable source of China's Sycee in ponderous and silver-like lumps of shining Galena, which really lie there amongst the *débris* of the stone-workers. Extending his wanderings somewhat further afield he may chance on solitary natives engaged in mysterious grubbing amongst the boulders of the mountain creeks, whose occupation is found on close observation to be a mild form of stream Gold-washing, though no other tools than an iron hoe and a rough wooden panning dish betray the digger's calling. Should the Shantung gold-hunter, thus caught, be propitiated before he beats a scared retreat, or craftily dissimulates his labours, he may be induced to show the stranger how he works his free claim and exhibit his day's pile of "dust," carefully hoarded in a very small goose-quill. Such scant indications of hidden treasures when discovered, from Chinese report, by Europeans soon after the opening of Chefoo, were sufficient first to cause exaggerated rumours of mineral wealth, and then an actual rush of adventurers to the place. These, mostly unskilled prospectors, certainly found further proofs of the existence of Gold-bearing stream deposits to encourage them, but being quickly forced to decamp by the inhabitants, they carried away still more glowing reports of the golden riches they were unable to reap, and which the Chinese guarded with such apparent jealousy. The last phase of this inflated belief in the Shantung El Dorado is now transpiring under the auspices of foreign Chinese officials and capitalists. Several mysterious expeditions were made in recent years, at intervals, to the reputed localities; natives were secretly interrogated and trial pits surreptitiously dug, occasional

specimens of Gold quartz and Galena being carried away in triumph, as proof positive of the hidden mines wherewith to beguile the outside subscribers. All the places, however, thus visited by rival claimants for mining concessions may be counted on a few fingers. An amusing exponent of the traditional belief of the natives in the treasure of their mountains appears in the favourite name of Chi-pan-shan being given to three or four different hills in various parts of the province. It was only, however, a few years ago that open and authenticated search for mines was commenced, and then the difficulty of locating any deposits worth working became apparent. Only a single Gold mine, which had been worked within recent record and was well known throughout the district, proved worthy of re-opening, all others failing to produce solid proof of their reputed riches ; and the reasons for their not being better known were ascribed to the obstructiveness of local authorities, or the unwillingness of the natives to allow mining on their lands. The concessionary prospectors had every power and facility to discover or re-open mines in any part of the province, the only lack was of mines, or of sufficiently abundant or promising outcrops of any ores to induce active operations. Gold was, however, the only metal particularly sought for, and of course widely reported. Silver was traced in a few localities, but no mines were systematically commenced on this metal. Of other metals few traces were discovered, or even specimens brought in for determination.

Returning to my plan of discussing the several metals reputed, or known, to exist, according to their importance, and expressing at the same time my opinion that VON RICHTHOFEN's hasty judgment was not far below reality, I will take the Iron ores as first on the list. Here, again, I am sorry, for the future importance of the eastern end of the

province, that the palm belongs to the Iron ores found in the west, for there alone are they in any abundance and purity in close proximity to the fuel and fluxes necessary for their utilisation. But, as again I can only speak definitely of the occurrences which came under my observation, I must relegate the established resources of the Tsi-nan-fu and I-chow-fu Iron-fields to the acknowledged but unappreciated resources of that better half of the province. I have obtained several specimens of Iron ores, some of which are fine, rich stones, but they represent only two occurrences of any importance. As, however, my attention was not especially directed to this unattractive metal, to the Chinese eyes, I would not say that other and larger deposits may not be found in this region. The best locality known to me is at Chi-fu-tao, the hilly peninsula to the north-west of Chefoo Harbour, and known to Europeans as the Bluff. The ore consists of black specular and micaceous Hematite, contained in more or less proportion throughout a bed of quartzite rock, which is but one of the regular members of the mica-schist series. The greater part of the bed is too poor to be considered practically an Iron ore, but portions and pockets would probably be found of sufficiently high grade for smelting on examination of the outcrop, which extends almost all along the ridge of the Bluff hills, and continues in the same course on the lighthouse island, Kung-tung-tao. Though the oxide of Iron is itself a fine pure mineral, its association with quartz only would make this a most refractory ore for the blast furnace, but, should the better quality be found to smelt well in admixture with limestone, or perhaps with other ores, to be obtained by sea from other localities, on the coast, it is yet within the range of possibility that our little port of Chefoo may become the embryo Chinese Barrow-in-Furness, Essen, or Creuzot, from which shipbuilding material

will be distributed north and south, and guns, steel rails, and other necessaries of the coming Iron Age be transported inland on the railways of Shantung. No equally extensive deposit to this is found in other parts of the crystalline schists to my knowledge, but numerous little veins and stringers of specular Iron ore are frequent in the gneiss of the auriferous regions, having no further importance than mineralogical interest and bearing clues to other minerals.

The finest sample of Hematite in my collection is that obtained from a small vein in the Cambrian quartz conglomerates of the Têng-chow-fu Bluff, but this, too, is practically an insignificant occurrence. The commonest form of Iron ore found in this part of the province is an impure Limonite, which is frequent in the limestone beds overlying the crystalline schists, especially along the north-east coast. This, however, is a mineral of peculiar importance, not as an Iron ore, but as representing the outcrop of sulphuretted minerals, of which it is the product of surface decomposition, and as such I shall have to mention it again anon. Though apparently an abundant source of Iron ore, mentioned by VON RICHTHOFEN as found in stalactitic deposits, its veins would not be found to produce the same material in depth, and, such as it is, the mineral is probably too impure to yield a good quality of Iron.

Next in importance to Coal and Iron we may consider the Gold of Shantung, though, as in other parts of the world where this seductively precious metal is found, its remunerative production, that is to say, the practical value of its resources, remains a matter of speculative uncertainty—until established by demonstration. Gold was undoubtedly found, and as surely produced in this country, before the age of enlightenment of many other parts of the world, including that of the red man by his white prospecting brother on the

famous Pacific slopes, but no rich finds of "pay-gravel," no "Eureka gulches" or "Cherokee flats" have followed the discovery on this side to enrich the Shantung digger and elevate him to the standard of the denizens of Sacramento Valley, though he has had a hundred times the number of years for its development and his own. Even if we allow that his forefathers have exhausted the placers, and left the later generations nothing but the bed rock to work on, surely some stronger argument than the inferior intelligence of John Chinaman must be necessary to account for the wealth of this richer California remaining unnoticed by him till to-day. With all due respect to the opinion of VON RICHTHOFEN on the one side, and that of the optimist prophets of the coming golden age of wonders on the other, I venture to maintain a modest estimation of my own of this subject, though I hardly venture to predict from my short experience any absolute certainty of the results of pending trials. The source of the Gold, which still constitutes an item of regular production in small stream washings, is undoubtedly traceable to quartz veins in the gneissic country rocks of the well-defined auriferous regions. The question is, how far these original sources are in themselves suitable for exploitation. That rich outcrops of free milling Gold rock are not abundant is evident from the fact that only very few traces of workings on such are to be found amongst a people who are by no means ignorant or slow to profit by the occurrence of the precious metal when it pays them to get it. The other alternative remains that quartz containing too small a percentage for extraction by any but the most skilful treatment may exist in quantities, though it has proved valueless to the natives, who never learnt any but the rudest methods of dealing with it. From actual examination and practical test I am convinced that the greater number of quartz veins are but small and of low

grade. The larger veins are often almost barren, whilst the richest streaks are generally far too minute and irregular to be profitably followed through the rock. I am sorry I have no statistics on the actual annual production of Gold from native washings, whilst the out-turn of the only Gold mine and mill established is yet too uncertain a problem for conclusions. Such as they are, the auriferous rocks are widely distributed over the eastern end of the peninsula. Three places are, however, especially reputed as centres, viz., Ning-hai, Chi-hia, and Ping-tu, whilst other small districts collect little parcels of Gold-dust to supply the travelling buyers who make periodical visits in its quest from Chefoo and other markets. It is hoped by the present adventurers to find and work mines in all these districts; but up to the present, Ping-tu only has afforded a lode worth the re-opening of ancient workings, no second lode of sufficient size and richness having been discovered elsewhere. Even in the Ping-tu district many other promising-looking outcrops, on which systematic explorations were commenced, had to be abandoned as worthless. I have prepared an abstract of 99 assays of auriferous samples from which the average of the Ping-tu mine quartz proves to be from one to two ounces of Gold per ton, whilst that of other quartz veins seldom averages more than half an ounce. A further unfortunate characteristic of these ores is the prevalence of Pyrites and consequent combination of the precious metal, which is thus not all what is known as "free" for extraction.

The only other metalliferous ore actually found and said to have been produced in Eastern Shantung is Galena, Lead ore containing Silver, the latter (sycee) metal of course forming the attraction, and dignifying its reputed localities with the posthumous fame of Silver mines. Most of the occurrences are too insignificant to map, and it is hardly probable that

any will afford material for mining, but in the west larger deposits are reported at Chi-chuan, on which it is proposed to commence extensive smelting operations, although the resources of the mines themselves have not been established. Several samples from Chi-chuan, Kü-cho and other spots showed most of this Galena not to be very rich in Silver, generally from 20 to 30 ounces per ton. Besides these, no actual ores of Silver have been found to my knowledge.

Copper ores are still more conspicuous by their absence in anything like abundance. I have seen no Copper lodes, but only a few specimens from the I-shui district.

Quicksilver and Tin, though figuring on FAUVEL's and HOWARD's maps, appear to be only of legendary existence, which is to be regretted, as mines of these ores would be of great value to the Chinese, who use both metals largely.

Jade and precious stones complete the category of Shantung's reputed mineral resources. Of the former I have only seen the mock variety used for common stone ornaments, whilst common, valueless Garnets are the only representatives of the latter, much to the loss in intrinsic value of my collection.

Having disposed of Mr. HOWARD's "Principal Mineral Productions," I have, in conclusion, to mention a few less sensationally attractive minerals, not figuring on the map, but which really do contribute to the resources of the country; and I must also briefly refer again to one and the only class of metalliferous outcrops in which I discovered a fertile and interesting object for mining exploration.

The possible existence of a certain class of valuable metalliferous deposits, as indicated by numerous strong ferruginous outcrops, deserves some special attention; such outcrops are found only in the limestone rocks which VON RICHTHOFEN classes as uppermost members of the archaic metamorphic schist series, though numerous insignificant traces of similar

Iron oxides occur in the gneiss beds. The most characteristic occurrence is at a place called Chin-kuo-san, one of a low hill range along the coast between Chefoo and I-chow-fu (VON RICHTHOFEN: Kin-sun-san), where the abundance of limestone fragments strewing the surface of the low hills, especially on the south-western slope, is remarkable. These can easily be traced to solid masses in the rock of more or less size and regularity, the largest being on the crest of the hill, where a temple is perched, marked as "Pagoda Hill" on the charts, and, conformable to the strike of the limestone, its course can be followed east and west along the ridge and on neighbouring hills of the low range. The mineral, Limonite, is hydrous oxide of Iron, more or less mixed with carbonates of Iron and lime, oxide of maganese, and some quartz, and on closer examination parts of it are found to be of pseudomorphous crystalline structure, the shape of the crystals being modified cubes peculiar to pyrites. This peculiarity indicates the origin of these outcrops to be in the decomposition of bodies of sulphuret minerals, chiefly Iron pyrites, and gives a degree of probability to the supposition, based on native report, that Galena is to be found at Chin-kuo-san. These outcrops are therefore to be regarded as favourable sites on which to commence future explorations for mineral deposits which may be found in depth to carry Lead, Silver, or Copper ores. It is worthy of note that similar though much larger ferruginous outcrops, between limestone and quartzite, cap bodies of these sulphurets in the Chi-chow district, province of Anhwei, where limited prospecting operations have opened up quite a promising ore body.

A mineral product which really is mined and produced in considerable quantities, especially at Lai-chow-fu, is Steatite or Soapstone, found here in more or less purity and largely prepared for local use and exportation in the form of *shih-fên-dse*.

This, a fine, white, non-plastic, pipeclay-like substance, is, I believe, mostly used for washing and bleaching purposes. Varieties of the Steatite rock are also mined as an ornamental product, the beautifully marked *hwa-shih*, some of which is cut into slabs and carved in various forms, which have procured for the mineral the name of "Pagodite" in Europe. Similar minerals are also found in other parts of China and in Corea.

Quartz crystals form another source of desultory mining amongst the villagers in some of the higher ranges of granitic hills, particularly near Ping-tu and Chi-mi. The pure, unfissured mineral is used for the manufacture of spectacle lenses, which, when of a uniform, light, smoky-grey colour, are highly valued by the Chinese. Beautiful specimens of the black crystals are found and sold as ornaments, and Dr. WILLIAMSON mentions some of the peculiar violet hue, which constitutes the amethyst.

Asbestos occurs more or less frequently in the crystalline calcareous rocks, not, however, in sufficiently fibrous form to be of commercial value.

It is not at all improbable that when the days of geological surveys dawn on China, other valuable minerals will be discovered in Shantung, such as natural phosphatic fertilisers, or the ores of Sodium and Aluminium—that metal of the future. The necessary ingredients for glass are now found and utilised in its manufacture at Po-shan, and I have little doubt that some of the limestones would afford hydraulic cement. When, therefore, the Coalfields of the west are allowed to expand their resources, to supply the blessing of cheap fuel throughout the province, and the industries consuming the power to be generated by abundant Coal, come into life with the march of progressive culture, the true mineral resources of Shantung, other than those on which a partly fictitious reputation has depended, will be recognised and appreciated.

CHINESE PARTNERSHIPS: LIABILITY OF THE INDIVIDUAL MEMBERS.*

PROPOSITION.

A., B., and C. enter into partnership. A. contributes Tls. 500, *B. contributes Tls.* 1,000, *and C. Tls.* 2,000 *of capital, which may thus be regarded as consisting of* 7 *shares, of which A. holds* 1, *B. holds* 2, *and C. holds* 4. *After a time the firm fails, with debts to the amount of Tls.* 5,000, *and at the same time C. absconds.*

(a) To what extent and in what proportion will A. and B., according to Chinese mercantile law or custom, be required to make good the debts?

(b) Supposing C. is a member of a family of ample means, in which he has an undivided share (e.g., is one of three sons, father alive), to what extent can the family property be made available to pay the debts of the firm?

REPLIES.

Mr. C. T. GARDNER:—The partnership described in the heading is not common in China. As a rule, one head of firm, say A., manages business; B. and C.'s shares in business are loans to A.; B. and C.'s liability is limited to capital invested.†

* Read before the Society on 18th November 1887. *See* "Proceedings."

† Say C. is managing head of firm. C.'s family will often secure C. by pledging the family property. C. absconds. C.'s creditors will not even then be able to take the family property, but may be assigned rents, or be given equitable lien. The creditors will not be able to evict C.'s family, but may with difficulty force C.'s family to sell a portion of the property to pay or compromise claims.

In case of such a partnership as described :—

(a) I.—*Terms of Partnership known to Creditors.*—Creditors who have given credit to firm A., B., C., recover one-seventh from A., and two-sevenths from B.

II.—*Terms of Partnership not known to Creditors.*—Creditors will only recover seven-sevenths from A., B., if A. and B. have pledged their credit to such creditors explicitly or implicitly. If credit given to C. individually, creditor cannot recover from A. or B.

(*b*) I.—Chinese law is very weak in the executive power of courts to enforce civil decrees.

II.—The family property is commonalty, not individuality, the legal tenants of which are the family council. C.'s equitable interest in such property is not what we call "negotiable." Hence the Chinese court cannot attach absconding C.'s interest. The utmost a Chinese court would do in such a case would be, in case C.'s family came to terms on C.'s behalf with C.'s creditors, to facilitate C.'s family recouping themselves from C.'s equitable interest.

In conclusion, I would state :—1st. That English legal terms do not exactly express Chinese status and procedure. Hence the above answers are only approximate. 2nd. Owing to inadequacy of creditors' remedies, investments are insecure and interest consequently high.

Mr. Byron Brenan :—*(a)* All the Chinese whom I have consulted agree in saying that a just decision would be that each partner should be made liable for that proportion of the debts of the firm which his investment bears to the total capital, unless one of the partners had been acting as manager, when, if the losses were directly the result of his bad management, he would be held liable to a greater degree

than the others. All my informants state that there is no law or fixed custom.

(b) The family property cannot be made available during the father's lifetime, but a son would be made liable for the debts of his father.

Mr. E. H. PARKER:—*(a)* There does not appear to be any law governing this subject, and local custom would be almost certain to vary in great commercial centres. In most matters, however, both Chinese law and Chinese custom are in accord with what the Chinese suppose to be common sense; and, under the circumstances given, the reasonable view is that A. should contribute one-seventh and B. two-sevenths of the Tls. 5,000 for which the firm is liable; and this view is taken by the well-informed (but not commercial) Chinese authority consulted.

(b) If C.'s share is in any way indicated (though not in his possession), the father would not be liable beyond that share. Though the father is not liable for his sons' debts (as a son is liable for the father's), yet the father would be called upon to show (supposing the family property were totally undivided in any way whatever) that there was no collusion or fraud. The action of the creditors and the arbitrators or court alike would be guided by the evidences of good faith in C. and his family and in C. and his partners. Such is the opinion of the Chinese authority mentioned.

N.B.—Debts to Government are often subject to definite laws, and are not contemplated here.

Mr. HERBERT A. GILES:—*(a)* Every Chinese partnership is represented by one individual member, who is solely responsible to the outside world for the solvency of his firm.

In case of insolvency, it is to him that creditors look for payment of their claims. The money transactions of himself and partners are matters to be arranged among themselves. If either or all of the latter abscond, his liability remains unaltered.

If the working manager absconds, the creditors usually begin by laying hands on any of his property within reach, and then proceed to examine the books. Should the original shares, or sums invested by the other partners, be found to have been fully paid up, and should there be no evidence of any fraud, the liability of such other partners is at an end.

(*b*) A father who has cast off an unworthy son, or given notice that he "will not be responsible for debts," may, if pressed by the son's creditors, file a petition to the above effect in the District Magistrate's Yamên, and obtain an injunction in the sense desired.

Otherwise, the extent of a family's liability for a son's trade debts is generally referred to arbitration.

Mr. Chaloner Alabaster:—It would depend a good deal on circumstances.

If A. was ostensibly the managing partner, the creditors would go for him for the full amount, leaving him to try to recover from his partners. If B. was the manager, they would go for him. If C. was the manager, they would try to get the whole amount of debt out of A. or B., whichever was the man of substance, but with very little chance, failing interest with the authorities or foreign pressure, as they would allege they had merely contributed Tls. 500 and Tls. 1,000 to the capital of the firm, that they had lost that, and were not further liable. If the creditors were very persistent, and threatened to hang themselves if not paid, A. and B., to avoid the consequences,

would attempt to make a compromise, not otherwise; but according to Chinese ideas neither A. or B. could be held liable for more than their share of the debt, if that. In answer to the 2nd question, I believe an action might be brought against the family for the full amount of C.'s debt; but if the father was alive, he would have no share in the family property, though he would have a reversionary interest.

Rev. JOHN MACINTYRE:—Theoretically and according to the law of equity, as understood by the Chinese, A. and B. ought to be mulcted only in proportion to their shares. But as a matter of fact and inviolate custom, no distinction would be made; and it would be a mere question as to whether A. or B. were the more likely party to make good the loss. The custom is to pounce on both alike, and to hang on most tenaciously to the best payer. "Either or both"—is the motto,—"but by all means the best man." As to C., the absconder, the case is one of absolute certainty: the family is called on to make good the loss, and will be harried and worried until it does so. Cases are reported to me which in Western countries would be reckoned simply incredible. But such is the hold the Family Idea has in China, and such their notions of the family honour, that if A. and B. were not worth the trouble of squeezing, the family of C. would be politely waited upon by all the creditors alike; and some of the creditors (I have known such a case) might even take up their abode in the family, and remain there at the family cost, and share the family opium-pipe, till duly bought off. Another case is named in this city (Hai-ch'êng, near Newchwang) in which a large property had got infinitesimally divided and subdivided, leaving in course of time only one solvent and prosperous man out of a large number representing the original

undivided property. Yet he became answerable for all calls upon the original estate—and is now utterly ruined. This seems an inexplicable, and certainly is an extreme case. For to take a case not stated in the paper, but which ought to be stated for completeness' sake:—If C. and his brothers have already agreed with the father to break up the family estate (*fên-chia* 分家), then each is free from all claims made in the name of the other; the father is free of the son, the son free of the father, and the brothers are free of each other.

Mr. P. G. von Möllendorff:—A. and B. have first of all to pay their share, *i.e.*, A., one-seventh =Tls. 714.29; B., two-sevenths =Tls. 1,428.57. Should the third partner have no means, they have to make good his share too (同船共濟之道), if their personal property suffices. Against C. an action is brought before the magistrate of his place of registration (*Lü-li pien-lan*, chapter iii., pp. 1 and 5), and supposing his undivided share in the family property is sufficient, the four-seventh share (=Tls. 2,857.14) due by him is collected. If found insufficient, his brothers, as long as the family property remains undivided, have to make up the difference.

Each partner has first to pay in proportion to his share, and cannot be asked to pay more, until all means to collect the money due by the others have been exhausted.

If the debt cannot be fully paid by the partners, a 興隆票 *(hsing-lung-p'iao)* is sometimes given, referring the creditor to better times. Such promissory note can be presented at any time; even after the death of the debtor, his son and heir is responsible to the amount of his inheritance (父產子得父債子還).

A Chinese Official (anonymous):—1.—The answer to the query (*a*) will be, that in ordinary cases A. and B. would be liable to make good the debts in proportion to the amount of their respective shares to the extent of Tls. 2,142.86, of which A. would have to pay Tls. 714.29 and B. the balance. There is no express law on this point, and cases of this kind will have to be decided on their own merits and according to equity; but I find that numerous cases have from time to time been decided upon this principle, which may fairly be taken to be the general rule applicable to such cases. I am supposing the case now put as one of ordinary partnership, the debts, amounting to Tls. 5,000, having been contracted *bonâ fide* in the usual course of business; for if there has been fraud, it would alter the case materially, and the responsibility of A. and B. might be determined in a different manner.

2.—I take it that C. is a son who had hitherto done nothing to increase the wealth of the family, and that the Tls. 2,000 of the capital put in by him in business was not furnished by his father, and that the name of the family has never been used in contracting the debts; in which case the reply to the question (*b*) will be that, in accordance with the well-known maxim, "The father's debts the son pays, the son's debts the father ignores," the family property cannot be attached to pay the debts of the firm.

Mr. Sü Fu-shêng:—The answer is that they must all pay up, proportionately to the shares, either the whole amount owing, or, if so decided, a percentage on that amount, whatever it be. If C. should have absconded, A. and B. cannot be held responsible for it all; but, being partners, they may be called upon to deliver up C. If C. have a family,

or a father alive, or be one of three sons, and there is property remaining, any of these may be called upon to pay up; and, unless they pay, suffer attachment for the amount. In the case of brothers, it depends upon whether they keep separate households or not. If not separate, the brothers may be ordered to make the amount good; but if they have already separated housekeeping, the brothers cannot be called upon to answer for it. But for personal debts you can only make the family surrender his person: it is only in debts to Government that the property can be confiscated in satisfaction. If no trace can be found of C. after his absconding, A. and B. may be ordered to pay up their proportionate shares, in the first instance, of what is due; yet the matter cannot be allowed to stand there because A.'s and B.'s shares are smaller. If the concern have been owned by the three men in partnership, but C. alone have usually conducted the business, then it would be necessary to await the absconding C.'s recapture before deciding the case.

In short, the circumstances and ins and outs of such problems as these differ perpetually, and China has no rigid law to apply to all cases; all that can be done is to consider the facts and try to deal equitably.

Mr. Geo. Jamieson:—The general result to be gathered from the foregoing papers, a result which is quite coincident with my own reading and observation, may be summarised as follows:—

In the case of an ordinary partnership, A., B., C., where the terms are known to creditors and all the partners take some share in the control of the business, in event of failure each partner is liable only for a share of the debts proportionate to his share of the capital. Thus in the case stated, A.

would be liable for one-seventh, B. for two-sevenths, and C. for four-sevenths. A. on paying up his seventh is entitled to a clear discharge, and the creditors must get what they can out of B. and C. This, I think, may undoubtedly be considered as the leading principle. But in the case of a firm where there are one or more ostensible and managing partners and one or several dormant partners who have put money in the concern and receive their share of the profits, but who do not further interfere in the business and are not generally known as such to creditors, there will be a tendency to regard such dormant partners as investors merely, and not as partners proper. They will not usually be held responsible for any part of the debts. If, for instance, A. and B. were such dormant partners, and C. was the manager and ostensible head of the concern, then on C.'s absconding the creditors would have extreme difficulty in taking proceedings against A. and B. They would almost certainly have to show that A. and B. in some way contributed to the catastrophe or were privy to C.'s absconding or were endeavouring to screen him from justice. A. and B. would, of course, lose the capital that they had invested, and they would be expected and required to do all in their power to produce the absconding C., but further than that they would not be subjected to legal molestation. C. and the other ostensible partners, if any, would be deemed to be the sole partner or partners in the firm, and would be liable to be proceeded against as such under the general rule.

It would appear to follow from this that in the case of a joint stock company, the capital of which is represented by shares fully paid up, there would be considerable difficulty in compelling Chinese shareholders to contribute to the liquidation of the debts of the concern in event of failure, unless it could be shown that there was a specific agreement to so

contribute. I am of course speaking of a purely native company unconnected with any of the foreign systems for the registration and control of such companies. A company of this kind would probably be regarded, as in fact it is, as a huge partnership in which the directors would represent the ostensible or managing partners and the shareholders the dormant partners. The former would be responsible for the whole of the debts, while the latter would most likely be held blameless.

With regard to the second part of the question, viz., how far the family property in which the absconding bankrupt had an undivided share could be made available to meet his debts, there is some difficulty in giving a precise answer. The family property, as I have already described it, is such as that, while on the one hand each son or his representatives have an equal share in it, of which he or they cannot be deprived, on the other the father has the control of it for life, and may during his lifetime waste it or squander it as he pleases. Though he cannot by will control the devolution of it after his death, he may in his lifetime so use it that none of the sons shall ever get to enjoy it at all. He may also by a legal process cut out a son from the succession entirely, but as this can only be done for grave moral turpitude, and is rarely resorted to, it may be here left out of consideration.

Take, then, such a case as the proposition suggests—an absconding debtor who owns such an undivided share. There seems no reason why a decree, at all events, should not be recorded against the family property to the extent of the debtor's share. More especially would this be the case if the share which C. put in the partnership was advanced from the family property, and the profits of the concern, so long as there were profits, were brought into the common stock.

But the difficulty would be not so much in getting a decree against the family property as in carrying it out. The usual and ordinary way in which a Chinese Court enforces its decrees in civil matters is not by seizure and sale of the goods of the defaulter, as we do, but by attachment, that is, by arresting the person of the debtor and putting him in prison. To be in debt and to refuse or be unable to pay is itself a criminal offence, for which the offender is liable to punishment. The arrest of the debtor is therefore the necessary preliminary to the enforcement of any decree for the payment of a debt, and until this is effected nothing can be done. For debts due to Government—such as arise, for instance, from the defalcations of an officer of Government—it is customary to seize and confiscate by a summary process the property not only of the defaulter himself but also that of his family. As an instance of how that is done, I may mention a case which appeared in the very last issue of the *Chinese Times*, dated 12th November, where it is stated that an officer of the Government being short in his accounts, the officials confiscated his property, and that proving insufficient, they proceeded to confiscate that of his brother. Finding, however, afterwards that he had a son possessed of means, they released the brother's goods and seized the son's. In this case evidently the family property had been divided. This, however, is done rather by virtue of an order of the supreme executive than by process of law, and does not affect the general question. The usual and ordinary remedy is to put the debtor in prison until he pays.

It is evident, then, that so long as C., the defaulter, can escape arrest, no action can be taken against the family property. The father's debt is the debt of the son, and all remedies available against the former may be used against the latter, but the converse does not hold good; the son's

debt is not the father's, neither is it that of his brothers. None of these can be imprisoned at the demand of the creditors, and there being nobody to proceed against, nothing can be done. The creditors must wait until his share of the property has been separated from the rest and in the hands of one who can be attached.

Sooner or later, however, the defaulter would be found and thrown into prison, and then begins that see-saw of negotiations with which almost all cases of the kind end in China. It is a question of who can hold out longest—the debtor or the creditor. The upshot is always a compromise of some kind. The creditor or creditors take what they can get and declare themselves satisfied, whereupon the debtor is released.

So far I have been speaking of what would probably happen if the strict course of legal procedure were followed and no more. But as everyone knows, there are various other means by which creditors can enforce payment of debts without having recourse to the authorities at all. They may, as Mr. ALABASTER suggests, threaten to go and hang themselves if not paid, or they may go and quarter themselves on the family of the debtor, who do not venture to turn them out. To get rid of these annoyances or for fear of worse troubles, the debtor or his friends will pay or compromise or make some arrangement as soon as possible. These incidents, however, are beyond the scope of the present inquiry, which has been confined to consideration of the extent of the remedy which the law provides for a peaceful citizen who wishes to have his strict legal rights and no more. The general conclusion is that the family property, if still undivided, may by dint of exertion be made available for the payment of the debts of any of its members, at least up to the extent of that member's share, but that there is no simple or expeditious method of effecting it. If the property has already been

divided, the creditors will have no claim whatever against the other shares.

SUPPLEMENTARY.

EXTRACT from a PETITION presented to the Government of Hongkong by the Chinese Merchants in the Colony, suggesting an alteration in the law of Bankruptcy and the compulsory Registration of the Partners in Mercantile Firms. (*China Mail*, 20th July 1882.)

Chinese partnership concerns in the interior always use the real names in drawing up their partnership agreements. Now whereas according to Chinese usage, whenever a shop becomes insolvent, in all cases the full amount of deficit has to be made good *pro ratâ* by the partners acccording to the amount of capital represented by them. There is therefore in the interior no such practice as using fictitious names. But as in this Colony the regulations, paying no regard to the number of shares held in each shop, throw the blame, the moment when bankruptcy occurs, invariably on those who are men of substance, and require them to make full reparation on behalf of the whole of the partners, the consequence is that many use the name of some association, or the literary style of an uncle or nephew, in signing the partnership agreement, with a view to prevent being involved themselves. In case the Government desire that the true names of the chief partners should be reported, the undersigned pray that the matter may be dealt with by an alteration of the laws now in force. If there is a case of real insolvency the amount of liabilities should be required to be made good by the partners of the shop concerned, distributing the amount *pro ratâ* according to the amount of capital represented by their respective shares, and thus repaying the creditors.

The various hongs and shops having once reported and registered the names and surnames of their partners, the persons so registered should be considered the chief partners in each case, and if bankruptcy occurs they should be bound to repay and make good the amount of its liabilities. If any of such chief partners have no real property in this Colony, in that case, whether the creditors be foreign or Chinese, the Government should consent to send an official communication to the Chinese Authorities requesting that the family property which the persons concerned may have in the country be ascertained, sequestrated, and sold to provide the due portion of the amount to be repaid.

NOTES ON THE EARLY HISTORY OF THE SALT MONOPOLY IN CHINA.

By F. HIRTH, PH.D.

If it is true that even at the present day certain tribes of Bedouins, on the Arabian peninsula, entirely abstain from the use of salt in their meals[1] it is equally true that in the history of all civilised nations we find traces of salt having been among the earliest products of international industry and commerce. We possess a large literature not only on the modern state of its production and taxation in Western countries, but also on the historical phases of this important factor in the development of public resources.[2] In approaching the beginnings of the treatment of this commodity as a subject of national revenue, we find that in the west, too, salt was taxed, if not made a government monopoly, at the earliest periods of national life. A nation once accustomed to the use of this article will not easily give it up. As an indispensable commodity it was, therefore, from remote antiquity, not only a most handy medium for indirect taxation, but also a great source of international power to the producing countries; and as such it must have been a more efficient means to exact political advantages from the neighbouring states than even warlike efforts. In ancient times, when the

1 H. v. Maltzan, *Reisen in Arabien*, Vol. II, quoted in Hehn, *Das Salz, eine kulturhistorische Studie*, Berlin, 1873, p. 16. In the last-named work an interesting collection of passages from ancient and mediæval authors, regarding the use of salt with various nations, will be found.

2 *See* A. Schmidt, *Das Salz, eine volkswirthschaftliche und finanzielle Studie*, 2nd Ed., Leipzig, 1874, p. IX: "Literatur."

modes of manufacturing salt were much more imperfect than they are now, the production being chiefly confined to the sea-borders, it must have been an easy matter for a maritime state to bring an inland neighbour to terms by cutting off the supply in one of the principal necessaries of life; and it appears to me that the production of salt and its trade to the interior is not among the least reasons why the occupants of the sea-coast so frequently gained the supremacy over their inland neighbours.

In China, the history of salt taxation may be said to represent the principal features in the history of political economy generally. The earliest mention of the use of salt appears in the *Yü-kung*.[3] The great Emperor Yü (2205-2197 B.C.) had called upon the province of Ch'ing-chou[4] to supply the court with "*salt*, fine grass-cloth, and the productions of the sea, of various kinds; with silk, hemp, lead, pine-trees, and strange stones, from the valleys of the Tai, etc." Ch'ing-chou is described as the country lying between the sea and the Tai mountain. This answers to the present Shantung. The coast of Shantung must have indeed been the first part of the present empire where this important industry was practised; certainly the evaporation of sea-water on the southern coast did not follow but with the appearance of civilised life among the southern barbarians.

During the Chou dynasty (B.C. 1122-249) we find officers appointed for the administration of salt matters. *Yen-jên*, *lit.* salt-men, are mentioned in a list of the court officials during that period,[5] but since they appear amidst a host of apparently inferior employés, such as butchers, tailors and shoe-

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3 Legge, *The Chinese Classics*, Vol. III, Pt. I, p. 102.

4 青州.

5 *Chou-li* (周禮) ch. 1. p. 4 (in the recently reprinted Sung edition of Thirteen Classics). *Cf.* Plath, *Ueber die Verfassung und Verwaltung China's unter den drei ersten Dynastien*, Munich, 1864, p. 77.

makers, and since Ma Tuan-lin,[6] in his list of Chou officials, made out on a modified plan, includes them among his *wu-ming-kuan*, who appear to have been officers of a lower order as opposed to the *yu-ming-kuan*,[7] possibly "officers without a commission," it looks as if in the early days of the dynasty they had merely to regulate the purchase and consumption of salt for the Imperial kitchen, or for sacrificial purposes. We learn, however, from the *Liang-kuang-yen-fa-chih*,[8] that the earlier salt-officers of this dynasty were palace-officers, who had under them the control of certain gifts to the court payable in salt, although no preventive measures approaching anything like a system were in existence. The idea of the salt monopoly as a regular branch of government administration must be ascribed to the celebrated statesman Kuan Chung, *alias* Kuan I-wu,[9] who died B.C. 645, after a public career of forty years, during which time, as prime minister to the Duke Huan of the little state Ch'i,[10] he raised his native country to the rank of a powerful state. We are fortunate enough to possess the greater part of a work on legislation written by this ancient authority, and although it is generally understood that later commentators have made additions to the text handed down in the present editions,[11] the philosopher Kuan or "*Kuan-tzŭ*," for under this name he has become famous as an author, deserves to be studied by

6 Ch. 47, p. 32 (ed. 1523). 7 無命官；有命官.

8 兩廣鹽法志, Canton, 1835,—a record of all that pertains to the history and management of salt matters in Kuang-tung and Kuang-si, with an introduction on the history of the salt monopoly in China, generally. The *Han-wei-ts'ung-shu*, a collection of works of the Han and Wei dynasties (*see* Wylie, p. 209 *seq.*), contains a book on Salt and Iron, the *Yen-t'ieh-lun* (鹽鐵論), which, of course, treats merely of the ancient phases of the question.

9 管仲；管夷吾, also known as the philosopher Kuan-tzŭ, (管子). *Cf.* Mayers, *Manual*, p. 91.

10 齊桓公. Mayers, *op. cit.*, p. 68.

11 Wylie, *Notes on Chin. Lit.*, p. 74.

those who wish to acquaint themselves with the early development of political principles in the Far East. If the ideas handed down under his name are really those of a writer of the 7th century before Christ, we cannot but admit that in certain respects he was far ahead of any of his Western contemporaries. His lifetime, reaching into the early days of Royal Rome, and the work of his life being done before Solon the Athenian was born, Kuan Chung may be regarded as having furnished the very type of a statesman in the modern sense. By collecting facts for purposes of government administration, and by endeavouring to describe such facts in the shape of a numerical formula, he may, in the proper sense of the word,[12] be regarded as the oldest "statistician" of all nations. The method which he adopted in persuading his monarch to introduce taxes on salt may in all respects be called statistical. The Duke, in a conversation with Kuan-tzŭ, his minister, had consulted him on government affairs, and received the advice to levy taxes upon salt, hitherto not a source of public revenue. "How is this to be done?" the Duke enquired,[13] upon which the philosopher replied: "In a family of ten individuals, there will be ten consumers of salt; in a family of a hundred, there will be a hundred consumers. A male adult will consume five *shêng* (pints),[14]

[12] *Cf.* Wappäus, *Einführung in das Studium der Statistik*, ed. Gandil, Leipzig, 1881, ch. 1: Begriff der Statistik. [13] *See* the works of *Kuan-tzŭ*, ch. 22.

[14] 升. The scholiast adds that of salt 100 *shêng* are equal to 76 catties 12 taels and a small fraction. Kuan Chung's average for a male adult it seems therefrom would amount to 60 *shêng*, or about 46 catties or 61½ *lbs.* per annum, or at least half of that, say 30 *lbs.*; women are stated to consume but three-fifths, and children two-fifths. If we give the highest and lowest estimates and each of the three classes of consumers an equal share in our calculation, the annual average would amount to about 30 *lbs.* per individual. Necker estimated the consumption in those provinces of France which had purchased an exemption from the *gabelle* (pays francs rédimés) at about 19½ *lbs.* for each individual. (*Administration des finances*, tome II, p. 12, quoted in McCulloch's *Comm. Dict.* s. v. Salt.) McCulloch (*ibid.*) estimates the average at 22 *lbs.* for each individual in England. Kuan Chung's *lbs.* 30 or more would probably come to some similar amount if we could calculate the difference in weight caused by the quality of Chinese salt, which is very damp and not refined.

or at least half that quantity, of salt every month; a female adult, three *shêng*, or at least half of this; a child, two *shêng*, or at least half of this. These are the averages for salt consumption." Kuan Chung continues his reasoning by calculating from these averages the consumption not known at his time, for the whole country. "In a country of ten thousand chariots,"[15] he says, "the number of consuming individuals may be set down at ten millions." Upon these salt-consumers the prudent philosopher recommends to levy a tax payable by the dealers in this article; this, he said, would be an impost which nobody could escape. With a similar calculation he recommended the introduction of a tax upon the iron produced in the country. The officials in charge of the iron works (*t'ieh-kuan*) had reported that every woman in the country must have a needle and a knife, that every field labourer must have a plough, a spade, and a cooking pan, a cart, a hatchet, etc.,—all these being necessaries of life, a tax upon which would be a regular source of public revenue.

This conversation of Kuan Chung's with his Duke led to the institution of the salt and the iron monopolies, both of which not only yielded the desired revenue, but also became a great stimulus for the succeeding governments to do all in their power to promote production as well as consumption. We know that the iron industry of China assumed important dimensions during the following centuries. Chinese iron must have been of very superior quality, since not only the countries of Central Asia drew their supplies from the Far East, but even the Roman market, as we know from Pliny, who says, that of all kinds of iron coming to Rome the

[15] *Shêng* (乘), "chariots" being the literal translation. *Cf.* Mencius book I, 1, 1, 4 (Legge, *Classics*, Vol. II, p. 2). Legge remarks: "The emperor's domain,=1,000 *le* square, produced 10,000 war-chariots. A kingdom producing 1,000 chariots was that of a *how*, or prince." According to Kuan Chung, the chariot should be assumed to comprise a thousand individuals.

Chinese (sericum ferrum) is the best.[16] The salt produced on the Shantung coast during the Chou dynasty was not only consumed in the country of Ch'i, but we are informed that the states of Liang, Chou, Sung, Wei and T'u-yang were in great trouble when the usual supply of salt did not come forward from Ch'i, not to speak of the frontier nations, the Hsiung-nu, etc., who were then entirely dependent in this respect. The salt monopoly introduced by Kuan Chung thus became the source of immense wealth collected in the state of Ch'i, and was the basis of a regular system of administration known as *yen-fa*, *i.e.*, "the method of salt administration." It appears that there are no records to show that a similar system existed in other parts of the coast during the Chou dynasty, but the account from which I have derived most of my information, states that the revenue derived from the salt and iron monopolies had, during the Ts'in dynasty (B.C. 255–209) grown to about twenty times the amount gained during the Chou period.[17]

It appears that native records have no extraordinary changes to mention up to the Han dynasty. During the reign of Kao-ti (B.C. 206 to 194), we are informed in the *Shih-ki*, the people of Wu-chih,—a district city in the ancient principality of An-ting, somewhere in the present Kan-su Province,[18] became rich from salt and iron, and the *Liang-kuang-yen-fa-chih* remarks that at the time the two articles were not forbidden. It appears therefrom that the salt and iron monopolies introduced by Kuan Chung had been

16 Pliny, XXXIV, 14 (41) 145. Cf. *China and the Roman Orient*, p. 225 *seq.*, note 2. The iron industry of China came into prominence since the Ts'in dynasty (B.C. 255-202).

17 *Liang-kuang-yen-fa-chih* (*See* above, Note 8.) *Cf.* Ma Tuan-lin, ch. 15. p. 4b; *Ch'ien-han-shu*, ch. 24a, p. 15.

18 烏氏. See *Shih-ki*, ch. 129. p. 6 (in quoting the historical records I refer to the palace edition of A.D. 1739). According to a scholion to this passage the old district city was situated 40 li east of An-ting hsien in Ching Chou (涇州安定縣), *i.e.*, about lat. 35° 38', long. 104° 50'.

abandoned. The city of Wu-chih, being situated close to the frontier countries in Central Asia, it looks as if the market from which the west drew its supplies of both salt and iron was in the hands of its inhabitants during the Han dynasty. I am not prepared at present to collect notices regarding its trade, but the simple fact, as stated in the *Shih-ki*, is apt to raise our curiosity, since a staple place for Chinese iron in the extreme north-west of the empire must have been connected with the trade in Seric iron through Central Asia to Syria and Alexandria.

As regards the administration of salt matters it was during the Han dynasty that some sort of monopoly was again introduced. During the several wars carried on by the Emperor Wu-ti, with the Hsiung-nu and other nations in Central Asia, the expenses of which had been further enhanced by such costly expeditions as that of Chang Ch'ien to the countries of the West, the resources of even so rich a country as that of the Han were bound to dwindle down, and when, in the Yüan-Shan period (B.C. 122 to 116), the Imperial prince had been placed in command of armies all over the empire, a financial crisis demanded immediate steps towards an improvement. Two of the advisers of the great monarch were then specially named as having created an efficient system based on the revival of the salt and iron monopolies, *viz.*, Tung-kuo Hsien-yang[19] and K'ung Chin.[20] In their memorial to the Emperor they advanced the following arguments:[21] "Whatever treasures may be concealed in the ground or in the depths of the sea are *a priori* the property of the Crown.[22] If your Majesty be so disinterested as to

[19] 東郭咸陽. He occupied the post of a *ts'ai-kuan-shih* 材官吏. *T'u-shu-chi-ch'êng*, III, 14, ch. 551, p. 2 (in quoting this work I would refer the reader to Mayers' numbering of the categories and sections as given in *China Review*, Vol. VI, p. 219 *seq.*)

[20] 孔僅.

[21] *Shih-ki*, ch. 30, p. 9.

[22] *shao-fu* (少府), *lit.* "the minor treasury," explained by the scholiast as representing the Emperor's private budget as opposed to the state treasury under the *ta-ssŭ-nêng* (大司農).

place them at the disposal of the state treasury in support of the public revenue, the people will thereby be able to appropriate the produce of the land and the sea and thus become rich and prosperous; but salt and iron officers should be appointed with authority to summon the people for boiling salt with implements and vessels belonging to government, the clandestine manufacture being punishable by the culprit's left foot being put in irons, and the vessels and implements used in committing the fraud being forfeited to Government." The originators of this plan were thereupon called upon to organise a new system carrying out this idea, and the service of salt as well as of iron inspectors (*yen-kuan, t'ieh-kuan*) it is stated dates from that period.

In the year B.C. 110 the Censor Sang Hung-yang[23] recommended the appointment of "collectors of salt and iron taxes, on the principle of adjusted taxation,"[24] according to which system 28 *chün*, or principalities, out of the 110 which constituted the 13 provinces, or *chou*, of the Western Han, were each to have an administrator of salt matters, or *yen-kuan*. But the levy of a salt-tax was not the thing the people liked, and political economists soon set to work, though in vain, to find arguments against it. We read that under the Emperor Chao-ti (B.C. 86 to 73) stress was laid, in a prize essay, on the dislike shown by the people against the salt and iron taxes, although Sang Hung-yang, the originator of the scheme, had quoted the example of former

[23] 桑弘羊. See *Ch'ien-han-shu*, ch. 66, pp. 8 and 19.

[24] 均輸鹽鐵官. From the following passages I conclude that Sang Hung-yang's system, though likewise a sort of monopoly, differed from the system adopted during the Chou dynasty in this respect, that formerly private people paid a tax for being permitted to work salt and iron, which they sold at pleasure, whereas now the Government monopolised the manufacture as well as the sale; the sale, on the plea of adjusting the price, which, however, was maintained at such a high rate as to yield a high tax; for, as we shall see hereafter, the poor were thereby forced to live upon unsalted meals.

emperors, when the profit made by the government out of the manufacture of these two necessaries was held to be solely made in the interest of the people, on the plea that it covered war expenses and thereby helped to keep up the peace; it had been the principal argument of Sang Hung-yang's scheme that "by neglecting the salt and iron taxation, the resources for keeping the boundary states in order were bound to fail, and the enemies of the country would gain the upper hand." The learned essayist remarks against this: "As to quoting the example of former emperors, the sense of justice for which our forefathers were known, is in direct contradiction with the doctrine taught by Sang Hung-yang. In ancient times the price of salt was equal to that of grain or rice, but since the Government has monopolised production in order to render prices uniform, salt has become dear, and the poorer classes have to work their fields with wooden ploughs and use their hands in lieu of weeding-hooks [because of the new tax upon iron], and live upon unsalted meals." The Government remained deaf against such complaints, and the salt and iron monopolies were kept in force for a century when, under the Emperor Yüan-ti (B.C. 48 to 32), they were suspended for three years. What became of them after this period is not quite clear, but it appears that some sort of taxation existed. The salt question, it seems, came to the front again under Ming-ti, of the Eastern Han dynasty (A.D. 58 to 76). It was again a financial crisis which summoned the inventive genius of the then prominent statesmen to advance arguments for and against the several remedies suggested. Chang Lin,[25] president of a board of Government, came to the conclusion that salt, being one of those necessaries of life which

[25] 張林. *T'u-shu-chi-ch'êng*, III, 14, ch. 234, p. 26. According to the biographical work *Wan-hsing-t'ung-pu* (萬姓統譜) quoted there, he merely revived the system introduced during the reign of Wu-ti.

none, not even the wealthy, could do without, was the fittest subject of taxation, and he proposed that its sale should again be taken in hand by the authorities.[26] It was in vain that a party of politicians, headed by Chu Hui,[27] a distinguished patriot, protested; Chang Liu's proposals were accepted and remained in force during the Emperor's lifetime. His successor, Chang-ti (A.D. 76 to 89) changed the system again by creating something similar to the former salt and iron tax officers, and again the patriots protested, this time headed by one Chêng Chung.[28] Under Ho-ti (A.D. 89 to 106) the prohibition of the manufacture of salt and iron was again abolished. This state of matters seems to have lasted till close to the end of the Han dynasty, when, during the Chien-an period (A.D. 196 to 220), commissioners were again appointed to control the sale of salt, on the plea that buffaloes should be bought from the net proceeds; these it was intended should be placed at the disposal of the people as an encouragement in agricultural labour, with a view to get emigrants and vagrant folks to return to their homes. It is remarked in our account that, although salt was not forbidden at the time, a tax had to be paid which could not be remitted.

During the period of the Three Kingdoms (A.D. 220 to 618), it appears that each of the three governments then dividing the rule over China had its own system. Kuang-tung, as part of the Kingdom of Wu, had its salt administrated by an officer residing at Tung-kuan, on the East

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[26] Cf. *Hou-han-shu*, ch. 73, p. 3.

[27] 朱晙. For his biography see *Hou-han-shu*, *l.c.* p. 1 *seqq.*; *T'u-shu-chi-ch'êng*, III, 14, ch. 66, p. 16.

[28] 鄭衆. In charge of the state treasury (*ta-ssŭ-nêng*, 大司農) from A.D. 81 to his death in A.D. 83. *T'u-shu-chi-ch'êng*, III, 14, ch. 494, p. 4. For fuller biography see *Hou-han-shu*, ch. 66, p. 1 *seqq.*

River, whose title was *ssŭ-yen-tu-wei.*[29] During the Tsin Dynasty (A.D. 265 to 420) salt and iron taxes were under the special control of a board of finances called *to-chih,*[30] with local officers in the different principalities.

When China was again ruled over by two courts, a deficit in the public revenue caused the Government of the southern part under Wên-ti in A.D. 561 to levy a tax upon "the boiling of sea-salt;" and after the empire had been re-united, we find under the year 583 the record of an edict which places the free use of the "salt-marshes"[30] and of the "salt-springs"[31] at the disposal of the people. It seems doubtful whether the sea-coast participated in this privilege.

During the first century of the T'ang dynasty the monopoly was not enforced with much strictness. At the beginning of the eighth century it appears that great portions of the lower orders of the population were without occupation, and that evil results threatened from insufficient production on the one hand and the imminent growth of proletarianism on the other.

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[29] 司鹽都尉.

[30] 度支, *lit.* the board "calculating expenditure." This was the authority in charge of all public property, and it had to "calculate the production of salt and iron (計算鹽鐵之數)."

[30] 鹽池, *yen-ch'ih.* T'ang records speak of 18 salt-marshes worked by Government officials. The most important ones within the present Eighteen Provinces were those at the bent made by the Yellow River in surrounding the Shan-si Province on its south-western corner, near the city of Chieh-chou (解州) in Shan-si. Their history, geography, administration, etc., will be found minutely treated upon in the *Ho-tung-yen-fa-pei-lan* (河東鹽法備覽), published in A.D. 1790, in 8 vols. Probably salt was manufactured on a small scale in these districts from remote antiquity, but the production cannot have assumed large dimensions up to the Han period, since we are told that the first Government inspector was there appointed in connection with Sang Hung-yang's scheme (B.C. 110).

[31] 鹽井, *yen-ching*, in Szechuen and Yünnan. Regarding those of the first-named province, *see* Imbert, in the *Annales pour la propagation de la foi*, vol. III, p. 369; extract in *Chinese Repository*, Vol. XIX, p. 325, and Huc, *A Journey through the Chinese Empire* (Engl. Ed., New York, 1855), Vol. I, p. 300 *seqq.* During the T'ang dynasty 640 salt-springs were worked under Government supervision.

This was apparently the state of the empire in A.D. 713, when one of the Emperor's advisers, Liu T'ung[32] made the proposal that menials and agriculturists without occupation should be employed in salt and iron works, and after this the collection of taxes upon the salt-marshes, of which there were eight, of the salt-springs, of which there were 640, and of the salt-works in Yu-chou (the country about Peking), in Ta-t'ung (in Shensi) and Hêng-yeh[33] was placed under the control of the To-chih[34] or Board of Finances. A further change was brought about during the period Chien-an (A.D. 758 to 760), when the Salt and Iron Tax Commissioner, Ti-wu Chi[35] proposed that out of the unsettled population those who occupied themselves with the manufacture of salt should be styled *t'ing-hu*[36] (cottars?), who were to do labour in salt-works kept on Government account and therefore to be exempted from all other socage. Moreover, on transporting salt from place to place in the interior, a transit tax of 10 per cent was to be levied on the market price. It must be understood that salt and iron were then worked entirely on Government account; for, it is further on record that the clandestine manufacture and sale of these products was liable to punishment. This arrangement must have had its drawbacks, since counter-proposals were soon made by Liu Yen,[37] the great scholar and financial operator of that period. He, too, in his turn held the post of a Salt and Iron Commissioner,[38] and as such became the originator of a system similar to that existing up to the

[32] 劉彤. The text of his memorial to the throne is given by Ma Tuan-lin, ch. 15, p. 15.

[33] 幽州大同横野. [34] 度支. [35] 第五琦. [36] 亭戶.

[37] 劉晏. For his biography see *Hsin-t'ang-shu*, ch. 149, p. 1; *T'u-shu-chi ch'êng*, III, 14, ch. 335, p. 95; Mayers' *Manual*, p. 135.

[38] 鹽鐵使.

present day with regard to rice and grain, according to which salt was to be transported by Government from the place of production to the consuming districts and there stored up in quantity. The tax levied upon the transport of salt from the place of manufacture to the more distant districts had the effect of raising prices at an unreasonable rate, and if the dealers, who it appears had speculated on the price of this indispensable commodity in times of scarcity, did not come forward with their supplies or demanded unreasonable prices, the Government would interfere by selling their stock at a standard rate, which could not be increased, however distant from the producing district a place might be, or however unfavourable the conjunctures of the trade had become. The salt thus held ready for the market by Government was styled *ch'ang-p'ing-yen*,[39] *i.e.*, "salt at never changing prices." Liu Yen, like some of his predecessors, declared it as the chief principle of administration, that "the budget must be covered by the taxation of indispensable necessaries."[40] In his memorial to the throne he declares that too many officials are a source of trouble to the people, and advises to return to the old system in appointing inspectors[41] over the *t'ing-hu*, or cottars; the salt manufactured by them, he said, should be sold to the dealers without asking whither they re-sold it; but the Government should at the same time take in hand the transport to distant districts and establish salt-granaries for storage with a view to underbid the dealers in the event of their driving prices up to unreasonable rates. By the adoption of this scheme the Government would secure its revenue while the people would not be exposed to any such trouble as a salt famine. Liu Yen made the

[39] 常平鹽. [40] 因民所急而稅之則國用足.
[41] *li* 吏.

observation that salt should be made during the dry season, since heavy rains interfered with the settling down of rich brine; this, he was of opinion, was a question for the Government to consider, who should instruct their officials to assist the people with advice in this respect. Liu Yen's system implied the abolition of the provincial salt-tax and of certain dues, previously levied upon the salt-junks trading to the interior. Whatever the details of this new scheme may have been, we are told that when Liu Yen took charge of the finances the annual net proceeds of the gabel amounted to 400,000 *mien* (about as many dollars); till up to the period Ta-li (A.D. 766 to 780) they had risen to six millions and constituted about one half of the entire revenue of the Empire.

It is with regret that we read in the biography of an official who did so much for the financial welfare of his country, that he fell a victim to political intrigue by being put to death as an enemy of the throne. For, when the order to confiscate his property was put in execution, it was found he had died possessed of no other effects than a few books.[42]

(42) Mayers, *l.c.*, p. 135.

THE SALT REVENUE OF CHINA.

BY

E. H. PARKER.

The *yen k'o*, or excise on salt, put down in the Red Book to the Comptroller of Chih Li Province, who is at Tientsin, is fixed at Tls. 437,949 a year. The Comptroller of Kiang Nan (*i.e.* Kiang Su and An Hwei), who is at Yang-chou, is put down for Tls. 2,085,282 a year. The Comptroller of Shan Tung, who is at the capital Tsi-nan Fu, is down for Tls. 120,720. The Ho-tung *taotai*, of Shan Si Province, who is at Yên-ch'êng, and adds the management of the salt business to his other duties, is put down for Tls. 507,285 a year. The chief *taotai* of Ho Nan also manages the salt business of that Province; but there is no *yen k'o*, or salt excise, which may be either because no salt is produced, or because the land-tax is higher than elsewhere. The *taotai* who resides at Fêng-siang Fu manages the salt business of Shen Si; but there is no excise, probably because no salt is produced. The same of the *taotai* at P'ing-liang Fu for Kan Suh Province. The salt excise of Fu Kien is Tls. 85,470, and is now managed by the Arsenal Superintendent. The Comptroller for Chê Kiang Province, who resides at Hang-chou, is down for Tls. 501,034 a year. The Kiang Si salt excise is only Tls. 5,150 a year, and is managed by a special *taotai* residing at the capital, Nan-ch'ang Fu. Hu Peh has no salt excise, but collects an enormous *likin* on Sz Ch'wan and Yang-chou salt, which, however, is not mentioned in the Red Book: the salt *taotai* resides at the capital, Wu-ch'ang Fu. Hu Nan has no salt excise, and the salt *taotai* resides at

the capital Ch'ang-sha Fu. Sz Ch'wan, which produces the most salt of all the Provinces, is not down for any excise, but the enormous salt production is under the tea and salt *taotai* at the capital, Ch'êng-tu Fu. The salt excise of Kwang Tung is Tls. 47,510, under a Comptroller residing at Canton. Kwang Si has a salt *taotai*, at the capital, Kwei-lin Fu, but no excise. Yün Nan the same, at Yün-nan Fu. Kwei Chou Province alone seems to have no salt official.

The above is the theoretical total revenue of China derived from salt, as given in the Red Book. The amount (at present exchange rates) is about £1,000,000 sterling, but it bears in detail hardly more real connection with the true and actual salt revenue of China than the virtuous sentiments enounced in the proclamations issued by the Chinese officials frequently bear to their acts, or than the actual fighting powers of the provincial armies do to the imaginary paper persons who consume the pay. Everything in China, until overhauled by foreign influence, has two faces, the official and the actual. To begin with a statement of the salt supplies:—Kiang Nan, Ho Nan, and part of Hu Kwang are supplied with salt from what is known as the Hwai region. Sz Ch'wan supplies itself; *part of Hu Kwang;* Yün Nan and Kwei Chou. Fu Kien supplies T'aiwan, itself, and *part of Chê Kiang.* Shan Si supplies *part of Hu Peh*, itself, and parts of Shen Si and Ho Nan. Kwang Tung supplies itself, Kwang Si, *part of Hu Nan*, and *part of Kiang Si.* Tientsin supplies part if not all of Chih Li, and part of Ho Nan. Shan Tung supplies itself and part of Ho Nan. Chê Kiang supplies itself in part, *part of An Hwei*, and part of Kiang Su. In the above statement the italicized districts are those which, for various reasons, should *not* in strictness be supplied from the sources whence in fact they are supplied.

To put it in another way:—Chih Li, Shan Si, Shan Tung, Fu Kien, Kwang Tung, and Sz Ch'wan are all self-supplying,

both in theory and practice. Chê Kiang supplies itself in theory, and also that part of Kiang Su (as far as Chinkiang) south of the Yang-tsze; but *Fu Kien salt is largely imported into South Chê Kiang.* Kwei Chou is supplied by Sz Ch'wan. Hu Nan should be supplied by the Hwai region, but the *Kwang Tung salt in the south and the Sz Ch'wan salt in the north* confine the chances of the Hwai interest to a very small area in the north of Hu Nan. The southern part of Shen Si is served by Sz Ch'wan, the central by Shan Si, and the northern by the Alashan and Ordos Mongol salt. Kan Suh is almost entirely supplied by the Alashan Mongol salt. Ho Nan is supplied by Shan Tung, Shan Si, Tientsin, and the Hwai. Yün Nan is supplied by Sz Ch'wan. Kiang Si is supplied by *Kwang Tung* and the Hwai. An Hwei is supplied by *Chê Kiang* and the Hwai. Hu Peh is supplied by *Sz Ch'wan, Shan Si,* and the Hwai. In the above statement, again, the underlined places are those where irregularity takes the place of strict law.

Sz Ch'wan.

Mention is made of Sz Ch'wan salt in A.D. 265, when the Wei general Têng Ai set his troops to work at boiling salt. The celebrated Tsz-liu Ching, or "self-producing wells," were, according to the late Viceroy Ting, discovered about A.D. 370. A full description of these wells is given in Volume IX of the *China Review* (1881-1882). They are from 2,000 to 3,000 feet deep, not more than a few inches broad, and bored at the rate of two inches a day. The brine is brought up in long bamboo tubes, raised by a windlass turned by bullocks, and is then evaporated in iron pans, heated by hydrogen gas, which is supplied in limitless profusion by the same wells. Some of the wells at Kung Tsing close by have no gas, and coal has to be employed for the evaporation.

Shan Si.

The salt-ponds of P'ing-yang Fu in Shan Si were thrown open to the people in the year A.D. 506, having previously been a Government monopoly. The writer is unable to say whether or no these are the same as the salt-lake of Kiai Chou, in the extreme south of Shan Si; or whether either, both, or neither can be called identical with what Richthofen calls the salt-marsh of Lu Tswun. In ancient times Shan Si salt was called "bitter" or "bead" salt.

Tientsin.

Persons who have visited the salt-flats at Taku will have observed the process by which salt is evaporated in the sun, from sea-water collected in shallow beds, for subsequent storage at Tientsin. The history of this industry has not been given in any recent State papers.

Chê Kiang Salt.

The *Pên Ts'ao* says that sea-water is boiled, amongst other places, at T'ai Chou and Wênchow, and that the result is *tsêh-yen*, which may mean "marsh" or "damp" salt. The chief salt factories in South Chê Kiang are in the Jui-an, Yoh-ts'ing, and Yung-kia districts of Wênchow. It is evaporated in pans. One of these factories is mentioned by name in a publication of the 12th century, and the old terms *lien yen* and *ngao po* ("purifying salt" and "boiling waves") shew that the fire process of to-day has been continuous.

Mongol Salt.

The Prince of Alashan possesses a salt-lake called Kih-lan, and the Ordos Mongols another called Hwa-ma, on the west and east sides, respectively, of the Holan Range. It is to be

presumed that the simplest method (sun evaporation) is employed by the simple Mongols, who derive a large revenue from the royalties on their salt.

Canton Salt.

An ancient tablet praises the prefect Ow-yang Wei for having established the salt trade in Canton. The *Pên Ts'ao* says, that sea-water is boiled in Kwang Tung, and the quality of the modern salt is known to be like that of Northern Hwai, which is evaporated in the sun. Where in the Kwang Tung Province, and precisely how, the salt is prepared is therefore a matter for enquiry.

Hwai Salt.

The Northern Hwai salt is white, being evaporated in the sun, and superior in taste to the Southern Hwai salt, which is from brine boiled in iron pans, dark and acrid. There are three kinds of sea-salt boiled out in Southern Hwai,—the *chên liang*, *chêng liang*, and *ting liang*, the three together being termed *shang sêh*. A fourth or better quality called *ch'ung lin*, or "twice filtered," is almost as good as the northern, and is being encouraged.

Shan Tung Salt.

Shan Tung salt is called *tai yen*, and that is all we know about it.

Fu Kien Salt.

Fu Kien salt is produced chiefly in the Hing-hwa prefecture. The passage in the *Pên-ts'ao* referring to Chê Kiang and Kwang Tung salt also names Fu Kien.

Hu Peh Salt.

There are some salt-wells north-west of Hankow, in one of the Yün-yang townships; and illicit salt, possibly from Yün-yang, is "manufactured" at Hwang-chou, Ti-chou, Hankow, and Wuch'ang.

The Hwai Salt Industry.

This industry was seriously disorganized by the T'ai-p'ing Rebellion, previous to which it was by a long way the most important of all the salt interests. During the Manchu conquests the Hwai salt monopolists gained the favour of the new dynasty by making loans to the Government; and thence, in consequence of the absence of competition, gradually grew idle and indifferent. During the reign of Tao-kwang, 1820-1850, the Viceroy T'ao Shu endeavoured (with but slight success) to galvanize the system into more active life; but the T'ai-p'ing Rebellion disorganized it, and introduced Sz Ch'wan salt into Hu Peh and Hu Nan; Canton salt into Hu Nan and Kiang Si; and Chê Kiang salt into An Hwei. In the year 1850 Hu Kwang had assigned to it 413,456 warrants of South Hwai salt a year, at 600 catties a warrant; An Hwei 114,858; Kiang Si 145,120, both of northern. Total for those provinces, say 320,000 tons. The rebellion increased the Kiang Su consumption, as the Poyang Lake was always kept open, but that of the other provinces dropped down to one half of the normal figure. After the recapture of Nanking, the Viceroy Tsêng Kwoh-fan introduced the "licence system" *(p'iao fan,)* the "government and private conveyance systems" *(kwan yün, shan yün)* both having failed. The Viceroy Tso Tsung-t'ang recently tried to force up the number of warrants by 192,000, and even essayed to prove that he had increased the excise *(k'o)* and *likin* by

Tls. 172,000 and Tls. 1,200,000 respectively; but the present Viceroy Tsêng Kwoh-ts'üan has since been obliged to admit that Tso's efforts, though well meant, were futile. Hu Peh produces no salt to speak of, and for many years there has been an internecine conflict between the Sz Ch'wan and Nanking Viceroys as to which shall have the honour of supplying salt to Hu Peh. The Hu Kwang Viceroy has evidently inclined to Sz Ch'wan, probably because distance from Peking obscures evidence; the hard salt is easier to handle, the quality of the granular salt is better, or at least preferred; and the carriage down river is prompter: moreover, the trade can be throttled much easier in the narrow gorges. Whichever way it goes, Hu Peh's great object is to tax the salt, and it is simply a question which of the other two Viceroys will offer the highest terms.

The principle of the Northern Hwai salt trade appears to be this. Each year's transactions form a *kang*, and each *kang* is 296,982 *yin*, or warrants. Each *yin* is 400 catties nominal; but the actual number of catties on which duty is paid is probably 600. The charge on each *yin* is Tls. 4, and 100 *yin* form a *hao*, or "lot." The *ch'ien liang* and *k'o* (land-tax and excise) levied on each *yin* of southern salt are stated by the Viceroy of Hu Kwang to be Tls. 6.9; but whether or not this includes the first-mentioned sum of Tls. 4 on northern salt is doubtful. The Viceroy Tso was charged with having only exacted Tls. 2 on each *yin*, and with having neglected to charge Tls. 200 on each warrant; from which it would seem that a *p'iao*, or warrant, covers one *hao*, or 100 *yin*. It is explicitly stated by one Nanking Viceroy that the Hwai salt-taxes produce about Tls. 3,000,000 a year, which accords with Tso's statement that 192,800 warrants (added to the 290,000 then applied for) would mean Tls. 1,372,000 extra taxes. Of the 192,000 extra warrants, 150,000 were for

southern and 42,800 for northern salt, of which the proper consumption should be 460,000 warrants.

The principle of the Southern Hwai salt trade appears to be this. Each *yin* is 600 catties nominal, but 900 catties for purposes of paying duty. A licence, or *p'iao*, covering 120 warrants, used to cost Tls. 4,000. The Viceroy Tso reduced this to Tls. 3,600, or Tls. 30 a warrant. In another place he argues that, the profits on northern salt being only one tenth of those on southern, Tls. 2 a warrant for northern and Tls. 20 for southern would be the proper proportion. In yet another place the sum of Tls. 16 is said to be the charge for a warrant, half payable in advance, and half after sale of the salt. Previous to the rebellion, the four prefectures near Hankow consumed 289,000 *yin* a year; the five near Ichang 80,000. As the original fixed consumption for Hu Nan and Hu Peh was 413,456, Hu Nan must have been down for about 46,800 warrants. The *ch'ien liang* and *k'o* (land-tax and excise) levied on each *yin*, or warrant, in Kiang Nan is stated by the Viceroy of Hu Kwang to be Tls. 6.9, which possibly means the half of Tls. 20 paid in advance on 900 actual (but 600 nominal) catties.

To sum up, Kiang Si and An Hwei seem to have been originally bound to consume 270,000 and 114,858 *yin* of northern salt a year; and, as 460,000 was the normal total, about 90,000 are left for Kiang Su and Ho Nan, as to which there are no statistics. The consumption of southern salt should be 413,456. But only 290,000 of the former have been consumed since the rebellion, of which Kiang Si 170,000 and An Hwei 72,000; leaving about 50,000 for Kiang Su and Ho Nan: and of the latter only 272,000, of which Hankow 130,000; leaving 140,000 for Hu Nan (which probably consumes 100,000, and admittedly takes 10,000 more than allotted by law); Ich'ang, (almost entirely swamped by

Sz Ch'wan salt); and other places. If, therefore, 560,000 *yin* bring the Kiang Nan exchequer over Tls. 3,000,000, the average would be about Tls. 6 all round, which agrees with the Tls. 6.9 said by the Viceroy of Hu Kwang to be levied on southern salt: but it is difficult to reconcile this average with the Tls. 4 and Tls. 16 or Tls. 20 a warrant above given.

Towards the end of the 8th century, the financier Liu Yen raised the Kiang Hwai salt profits from 400,000 to 6,000,000 strings of cash; but it is hardly probable that this figure was continued long. At present, the Nanking and Ganking troops absorb the greater part of the Tls. 3,000,000, whilst 10 per cent goes to the Viceroy of Transport.

Sz Ch'wan Salt.

A *yin* of granular Sz Ch'wan salt consists of 10,000 to 11,000 catties in 50 *pao*, or parcels, of 200 to 220 catties each. The price at the wells is 18 cash a catty, which, with 6 cash *likin*, brings the cost price up to 24. Thence the price increases with every day's journey. Hu Peh levies from 18 to 20 cash a catty *likin*; so that 50 cash is the least possible cost price in Hu Peh, *i.e.*, 500,000 cash, or, say Tls. 320, at 1,500 cash the tael. An official statement puts down the laying down cost at Ich'ang at Tls. 300, and the selling rate Tls. 310 to Tls. 320 a *yin*; so that the freight and profit must be derived out of extra weight allowances or corrupt arrangements with the *likin* offices. In 1884 the quantity allowed to be imported into Hu Kwang was 7,000 to 8,000 *yin*, which, as the actual *yin* are 11 to 12 times the actual weight of the Hwai *yin*, would be about 100,000 of the latter, and sufficient to account for the falling off. The Hu Peh authorities derive about Tls. 1,300,000 from this source, and the authorities of Hu Nan, it is presumed, also derive something considerable at Hwa Wan Kang station from that which is imported into Li-chou of

that Province. One authority places the amount received by the Hu Peh *likin* office, at P'ing-shan Pa in the gorge, at 5,000,000 strings a year; but this is undoubtedly too high.

The Viceroy of Sz Ch'wan admits to receiving over Tls. 1,000,000 a year at the wells. As his charge is six cash, this would be 60,000 cash, or Tls. 40 a *yin*, that is 25,000 *yin* in all. Another statement, however, makes the annual consumption of Sz Ch'wan salt in Kwei Chou Province and Southern Sz Ch'wan to be alone 75,000 *yin*. In 1881 the Viceroy of Sz Ch'wan officially reported a gross provincial revenue of Tls. 4,200,000. As the legal land-tax is considerably under a million, it is probable that the taxation on salt reaches at least Tls. 3,000,000, that the land-tax is really doubled or trebled in fact, or else that the 75,000 *yin* must be an exaggeration.

The Hu Kwang Viceroy tried hard some years ago to prove that it was more profitable for Peking for Sz Ch'wan salt to be imported into his Provinces. He argued that the Hwai authorities only levy Tls. 6.9 on each 600 catties, whilst Sz Ch'wan levies Tls. 3.0.6, and Hu Kwang Tls. 6.2.6.4 on the same weight; but it is not clear whether he makes allowance for the Hwai salt being only nominally 600 and actually 900. He estimates his loss at Tls. 300,000 a year, if 9,600 Sz Ch'wan *yin* be (as suggested) reduced to 7,200 a year. At this rate 9,600 would bring Hu Kwang the sum of Tls. 1,200,000 a year, at 18 cash a catty; whilst 75,000 *yin* at six cash would bring the Sz Ch'wan Government Tls. 3,000,000.

The northern part of Sz Ch'wan is supplied with salt from the wells of Yang Tao-ch'i, Yen-t'ing, and San-t'ai, which are not very deep, are worked by mules or men, and require grass or coal fuel. Descriptions of all these wells are given in the *China Review* for 1882. The production of the wells in Shê-Hung district is 30,000 tons a year (about $\frac{1}{20}$ of the production of the deep wells of Tse-liu Ching and Kung

Ching). P'êng-k'i district produces 20,000 tons, and San-t'ai and Yen-t'ing districts under 10,000, part of which total goes into Shen-Si, where it sells at a very high figure. The *likin* arrangements in North Sz Ch'wan seem to be unconnected with the great salt industry managed by the tea and salt *taotai* at the capital; but, in any case, the total charges, which rarely exceed eight cash the catty, cannot bring much more than Tls. 200,000 a year altogether. The *yin* of Shê-hung is 50 *pao*, of 160 nominal or 240 actual catties, and other places have also their peculiar measures.

The salt which goes to Hu Kwang is probably mostly granular. One *tsai*, or boat-load, is 100,000 catties, or 450 *pao* of 220 catties. Of pan-salt, one *tsai* is 600 *pao* of 167 (160½ net) catties, and most of this goes to Yün Nan and Kwei Chou.

Canton Salt.

This is divided into the "Great River" which takes in the Kiang Si supply, and is worked on the *Kwan tai shang pan*, or "merchants acting through officials" system; and the "Lesser River" which takes in Kia-ying, Swatow, etc., and is purely mercantile, the officials paying in the latter case only for the cost of drying or evaporating the salt, whilst in the former case they pay the freight too. The amount of Canton salt annually exportable by law in 821 *ch'êng*, on which Tls. 230,000 are leviable in fees and taxes. Some years ago, the Manchu soldiery and the blind beggars, who sold salt at half the Government rate of 30 cash, monopolised $\frac{2}{10}$ of the retail trade of Canton city, and the Salt Commissioner found it impossible to grapple with the evil.

In Kwang Si there an 66 salt offices, and 275,066 packages of 150 nominal (or 168 actual) catties each are supposed to come from Kwang Tung each year, producing, at Tls. 0.275

the package, Tls. 75,520 a year in duty. But the duty fell short until a year or two ago by Tls. 20,000, in consequence of the Kwang Si Governor having changed the actual weight to 200 catties, so as to make the duty and *likin* leviable in like manner, and in consequence of only 200,000 nominal packages coming. The Viceroy of Sz Ch'wan had a stiff encounter with the Governor of Kwang Si a year or two ago as to the right of Canton salt to penetrate by way of Kwang Si into the Li-po district of Kwei Chow Province: both of them produced historical precedents; but Sz Ch'wan came off the better from the encounter. The three Hu Nan prefectures of Hêng-chou, Yung-chou, and Pao-k'ing are known as the *chuan an* or "places specially" authorised to consume Canton salt, which for many years past has trespassed even farther north. What the total levy on Canton salt amounts to is not on record; but, as for many years past the excise has furnished Tls. 200,000 to the Peking Contingent, and Tls. 50,000 to the Household, it is evident that the Tls. 47,510 of the Red Book must be a purely imaginary figure. Canton also contributes an annual sum to the Contingent of Tls. 50,000 "interest," which, always being mentioned with, apparently refers to salt investments.

Fu Kien Salt.

Like the salt systems of the Hwai and Canton, the Fu Kien salt system suffered from the rebellion. The excise *k'o*, *likin*, and *hao* (or "extra charge") once produced Tls. 405,000 a year, and this is about the same now at last collected, after years of vicissitudes. The present system is known as *p'iao yün*, or "conveyance under licence;" half payment on licence bought, and the balance, with taxes, on arrival at the *pang*, which seems to mean *dépôt* of consumption. Besides the fixed minimum of Tls. 418,807 now officially

due every year, (and which again completely belies the Tls. 85,470 of the Red Book), there are extra sums of Tls. 18,500 collected on Formosa salt, and Tls. 25,600 on salt for T'ing-chou. Fu Kien salt finds its way in large quantities up the Wênchow River of Chê Kiang: thousands of tiny junks convey each a huge single ton package, almost up to the Fu Kien frontier. At Wênchow the salt costs from 3 to 4 cash: it pays *likin* at three places on the river, and sells at Lung-ch'üan for 11 to 12 cash the catty, giving a profit of 4 cash. About 72,000 tons a year go up in this way.

Chê Kiang Salt.

Across the ridge of hills which cuts off the Wênchow and Ch'u-chou prefectures from the rest of Chê Kiang, are K'ü-chou and Yen-chou, where Shao-hing salt is consumed. By the time it reaches its highest point, it sells for 35 cash the catty, which is about double the price at the flats. These are under official management, and the salt is both sun-dried and boiled: it pays a loading tax at Hangchow, duty at Lan-k'i and Yen-chou, and *likin* at places of consumption. The Ningpo salt, which is only dried in the sun, commands the easternmost districts. T'ai-chou salt, which costs 3 cash on the coast, is worth 16 cash by the time it finds its way to T'ien-t'ai. A considerable quantity of Chê Kiang salt finds its way into An Hwei Province by way of Yen-chou Fu. The *likin* and excise on Chê Kiang salt contributes Tls. 220,000 a year to the Contingent, whilst the Household takes Tls. 50,000 excise; but there is nothing on record to shew how far the half million claimed by the Red Book is made good. The Comptroller's duties extend over part of Kiang Nan, which Province gives him a portion of his title.

Tientsin Salt.

The accounts of the Tientsin Comptroller are so puzzling as to defy analysis. The salt that goes to Ho Nan under official conveyance has for some years produced Tls. 50,000 in taxes, but the traders have had such a hard fight with the contending salts of Shan Tung, Shan Si, and the Hwai that 50 per cent on the nominal weight of their packages has had to be allowed them. If 200,000 *nan yin* or Ho Nan warrants were sold to them at 4 mace, they say Tls. 80,000 would be the result for Government. The Chih Li share of the salt taxation only produces Tls. 20,000 a year, which perhaps explains the low price of the salt,—5 cash. There is an amount, ranging from Tls. 180,000 to Tls. 196,000 a year, called the *t'ang li* or "treasury interest" of the Peking public offices, which sum was lately diminished by about Tls. 6,000 by reducing the Peking warrants by 20,000. This would give between 3 and 4 mace a warrant, which, again, would give 600,000 warrants for Peking. For some years a sum of about Tls. 50,000 a year has been paid by this Controller to an unexplained absorbent called the Jung-kung or "Jung works," and it seems Tls. 200,000 are annually due to the Contingent, or Peking Remittances.

Shan Tung, Shan Si, and Shen Si Salt.

No information is as yet to hand about the salt administrations of these and the Manchurian Provinces, but the above is a sufficient nucleus around which to gradually build an improved exposition of the whole question. Salt was free in Moukden until *likin* was imposed a year or two ago. The Shan Si men pay *likin* on and supply Shen Si salt.

REMARKS ON THE PRODUCTION OF SALT IN CHINA.

By the late Archimandrite P. ZWEHTKOFF.

Retranslated from the German by* W. R. CARLES.

From time immemorial the production of salt has formed a subject of especial care to the Chinese Government, and here it is necessary to remark that in the remotest periods the salt trade was in China as highly esteemed as agriculture. Annually, at the opening of the salt-works, princes were present in person, and took an active interest in the first salt boilings; it cannot therefore be surprising that with such attention and encouragement on the part of princes, the salt trade rapidly assumed large proportions and became an important source of revenue to the State. In olden times in China salt was principally obtained by boiling sea-water; later on, however, *i.e.*, under the Tang dynasty (620 A.D.), people began to extract salt from the water of inland seas by evaporation in the sun. The operation was extremely simple. The earth on the banks of the lake was dug out, reservoirs were made there for water, and the water was conducted to them by ditches made on purpose, and leading from the lake or, in some places, from the sea. The water dried up, and the salt remained behind as a deposit. But the majority of salt-workers in those days followed the old method of boiling.

As the success of the operation depended mainly on the

* *Arbeiten der Kaiserlich Russischen Gesandtschaft zu Peking über China*, etc. Translated from the Russian into German by Dr. C. Abel and F. A. Mecklenburg ; Berlin, 1858, Vol. II, p. 495 *seqq.*

condition and correctly timed preparation of the brine, the superintendents of the salt trade began to evolve from time to time different means of producing it. From A.D. 1132 the following method was introduced for preparing brine. The whole of the sea-shore in the neighbourhood of the salt-works was measured out and divided into a number of small, regular squares; the surface layer of earth in each was dug out; the ground was then strewn with straw, and the earth that had been dug out thrown back upon it. The name given to it in those days was *lu*, an oven. The largest *lu* were not more than 2 ft. high and a fathom in circumference; but at the sides of the *lu* little ditches were made for the brine to run off. After the ovens had been thus arranged, the next step was to soak them with sea-water, and as this was an easy task, it was entrusted to women and children. After a short time the brine in the interior of the ovens gradually formed and ran off into basins. In order to test its degree of strength, small stones of a certain kind were thrown in; if they remained on the surface, the brine was considered good; if they sank under, it was called sweet, and in that case the ovens were abandoned for some other spots in which the earth was more suitable. The brine when fit for boiling was immediately poured into buckets and carried to the ovens. In these were set large evaporating basins, and 3–5 of them were always attached to each brine-oven. The boiling took place at once and was continued without interruption: when ready the salt was immediately shovelled out of the basins, and fresh brine poured in, so that in 24 hours about 5 basins of salt were boiled. Each basin turned out 3–5 piculs (about 18 pud) of pure salt.

After the 15th century the following method of procuring brine was pursued in all salt-works on the sea-shore. Pits were dug on the shore and bamboos were laid crosswise over them.

The whole was covered with double mats, and sand was strewn on the top. Every morning and evening the covering of sand was soaked with sea-water by the tide, and the salt liquor found its way into the pits. As soon as the water had retired from the shore the salt-workers came out with flaming bundles of straw to test the saltness of the moisture, and they were not convinced of their work being good unless the salt vapour, which rose from the pits, extinguished the fire. The brine thus produced was drawn off and carried to the salt-works, and salt was obtained from it uncommonly quickly. Somewhere about the same date, at the salt-works in the north, the most convenient plan was found to be to obtain the salt by exposure to the air and sun.

In the present day, as of old, the salt trade occupies an important place among the chief sources of imperial revenue. An innumerable number of salt-works, scattered over different points of the interior of China, are, under the direction of the Government, left in the hands of private persons, but the supreme direction of them, as well as the inspection of the salt sales are assigned to certain officials appointed by the Board of Revenue. These inspectors give the private farmers licences for the purchase and sale of salt, and draw from them the duties fixed by the Government. Each farmer is on his side required to keep a strict watch on the direction and regular course of labour in the salt-works, and to this end an elder is appointed to every 10 ovens, who is charged, besides supervising the workmen, with the duty of keeping a journal, and noting down when and by whom such and such a quantity of salt has been obtained, and how much has passed out. At the close of every month, the elders' journals are revised by certain persons who are selected by the local authorities from the merchant class. These revisers are also charged by every means in their power to co-operate with the

officials towards the prosecution and extinction of smuggling.

At the present moment in China salt is produced under three forms: sea-salt, lake-salt and well-salt. Sea-salt is either boiled or obtained by exposure, and is found in all the maritime provinces, viz., in Chih Li, Shan Tung, on the banks of the River Huai, and in Che Kiang, Fu Kien and Kuang Tung. Lake salt is obtained in Shan Si, Kan Su, and Shen Si, and to a certain extent is imported from the country outside the frontier, *i.e.*, from the pasture-grounds of Chahar, from Ordos and Kokonor. Well-salt is obtained in Kan Su, Sze Chuen, and Yun Nan. The salt sales take place on the authority of licences issued by the Government. In the Province of Chih Li, by direction of the Board of Revenue, 1,160,046 such licences are offered for sale every year, and each licence gives a title for the receipt of 300 catties of salt. In Shan Tung 804,920 licences for 225 catties are issued; in the salt-works on the Huai and in Che Kiang there are as many as 2,690,889 licences covering 335–400 catties; in Fu Kien 1,069,485 of 100–675 catties; in Kuang Tung and Kuang Si 864,510 of 235–322 catties. In Sze Chuen the number of licences is based on the consumption of the preceding year, and there are two kinds of licence in existence there: the one of 5,000 catties for the market by water, and the other of 400 catties for export overland. In Kan Su 72,688 licences for 178–200 catties are issued annually. On the receipt of the licences the farmers are required to give a bond that the salt shall be sold only in the districts named by the Government; non-observance of this rule entails prosecution and confiscation of their stock of salt. At the same time the fixed rate is given them, at which they are to conduct the sales. These rates are not the same everywhere, but lower for the districts in the neighbourhood of the salt-works, and higher in pro-

portion as the distance from them increases. Generally the average price of salt in China may be taken as 40 tschoch a catty, or 2 silver kopecks a pound.

The salt from the springs in Yun Nan and elsewhere is given at a fixed duty to farmers, taken from among the well-to-do villagers; but this salt is not sold at fixed, but at optional prices. The Crown duties for all branches of the salt trade are regulated by fixed ordinances, which are in harmony with the land-tax; they form at the present moment an important item in the imperial budget, for the total annual receipts from the salt licences, etc., generally amount to Tls. 5,745,000 in silver (*i.e.*, more than 12,000,000 silver roubles), which represent a quarter of the entire revenue of the empire.

We have said above that at present sea, lake, and spring salt are used by the Chinese. Sea-salt is obtained in the most important quantities, for which reason a quantity of descriptions are found, in Chinese writings, of the manner in which it is produced. We borrow from them some details.

The salt-works are dispersed over the whole extent of the line of coast, and are considered better, or worse, in accordance with the quality of their salt. In all of them the manufacture of salt takes place at a fixed season, consecrated by time and custom. According to Chinese notions, the 3rd, 4th, 5th, and 6th months (April–July) are the most favorable for manufacturing salt; and they maintain that at this time, when vapours are rising from the ground, the exudation of salt comes into play with them. In autumn the vapours gradually cool, for which reason the exudation also diminishes by degrees; but in winter, on account of the frost, the vapours disappear altogether, and with them the exudation disappears as well. On this account the manufacture takes place only during the hot weather, and hardly any occurs in the winter. To obtain sea-salt the Chinese employ two methods: they either boil the

brine, or else they leave the sediment of salt in the sun to evaporate.

The period of boiling is divided into three stages, the technical names of which are (1) *Shai-hui* (sunning ashes), *Lin-lu* (filtering brine), and (3) *Fu-huo* (boiling). The preparatory manipulation, called *Shai-hui*, consists in the following: on the very first day of opening operations in the salt-works the sea-shore is cleared of weeds, and a beginning is made by digging out the upper layer of earth and breaking it up; this earth when broken up is turned over and over with bamboo poles until it is fine and smooth. Then sea-water is brought from ingenious receptacles, which are filled with water at high-tide, and the earth is moistened with it, as with light rain, equally and thoroughly. Towards evening the earth is shovelled to one side, and a long line of mounds is formed of it, in order to protect it from rain during the night. On the following day the procedure is the same as on the previous day, except that the earth is carried to some particular spot for safety. In fine weather it is taken out again from time to time, and dried on the salt-grounds.

As soon as the earth has been thoroughly prepared, *i.e.*, is completely impregnated with salt particles, the workers take it to the ovens. These ovens, which are shaped like chests, 9 ft. long, 2 ft. high, 6 ft. broad, and 3 ft. deep, are called Lü; near each a well 8 ft. deep is dug. The floor of the oven is strewn with rotten wood; above this are fine bamboos; on them is a layer of brushwood; and above all is a layer of ashes of plants. The prepared earth is shot upon this, beaten hard and covered over with rice-straw. On this is poured sea-water, which finds its way through all the inner layers, and flows into the well as brine. Each oven in 24 hours gives more than 20 tan (60 pud) of pure brine, which is drawn out of the well and taken to the boiling oven to be boiled.

The salt boiling continues without interruption throughout the whole time of the operations. In each oven are several pans of different sizes, part of which are to hold the cold brine, part to boil it. Each boiling begins at 11 p.m. and continues until 10 o'clock on the following morning, and during this period salt is taken six times. As soon as the salt begins to harden, pods of the *tsao-chio* tree *(Gleditschia chinensis)* are thrown into the pans, in order that the particles of salt may combine more quickly, and when the salt is ready the party of men who are watching inform the others of it, in order that it may be cleared out at once and the pans may be filled with fresh brine. On an average 600 catties of the best brine turn out 140 catties of pure salt, called by the Chinese "fire salt" *(huo yen)*. It appears in three qualities and colours: white, dark and yellow; the white is the best, the dark not so good, and the yellow much inferior and of a bitter taste.

The second method (exposure to the air and evaporation in the sun of saline sediments) is distinct from the first, in that the brine is not boiled, but poured into peculiar paved tanks, and left there to the sun and wind. For complete evaporation two days in summer and 3–4 at other times are sufficient, and indeed the N.W. wind is quite as favorable to this operation as are the sun's rays; on the other hand, with unfavorable winds, and in rainy weather, no salt is taken.

There is nothing peculiar in the manufacture of salt from inland waters; we have therefore now only to speak of well-salt.

In the S.W. provinces of China, salt is taken from the belly of the earth, for deep wells are sunk, and this only happens in the neighbourhood of mountains. The salt is drawn from these wells by bamboo pipes, and conducted to the works by channels of stone. The construction of the

wells, as well as the manner of obtaining salt from them, is somewhat remarkable.

The boring of the well is effected by means of a wooden pile, tipped at one end with iron, and at the other provided with a rope. The workmen hold it by the rope, while they drive it into the earth, wetting the hole from time to time in order that the boring may proceed more easily. In this manner they advance to the salt-spring, *i.e.*, to a depth of 20–30, and in some cases of 100 fathoms. When the well is ready, a crane is put up close to it for letting down and drawing up the bucket, *i.e.*, a pipe which is made of bamboos from which the rind has been peeled off. This pipe is hollow, but open, and provided at the base with a leathern valve, which opens to let in the water at the foot of the well, and closes of itself on being wound up. Crane and pipe are connected by strong ropes with a revolving cross-beam. Generally the crane is set in motion by oxen, which walk round the well, to this side or that, quickly or slowly, according as the bucket is ascending or descending. All the operations attending the hoisting of the brine are conducted by signals or blows on wooden boards. The brine obtained from the wells in this fashion flows by ducts into the manufacturing pans, in which it is boiled and transformed into pure salt. Instead of fire-wood the exhalations of gas from the earth are generally utilised for boiling the salt, which also are obtained by wells and are of different degrees of strength. Bamboo pipes are led from the gas wells to the pans, and there the gas, which escapes out of openings in the pipes, is lighted. There are a white and a reddish kind of brine obtained from the wells: the white, or the purest, yields a white salt in large quantities, and of a strong saline flavour; a smaller quantity is obtained from the red, and the salt is somewhat sweet. Here

again the quantity of the salt depends upon the nature of the earth and the weather.

As in China the number of idle hands is great, an immense number of workmen are employed at the works on the salt-springs, as indeed is the case in every Chinese business, and each of them is assigned some duty connected with the work. Thus there are special persons detailed to inspect the wells, the cattle, the crane, the ropes, the signal-boards, the channels, the boiling, the pans, the fire, the fodder; there are also doctors, house-servants, smiths and other artificers. All this crowd of persons are subject to the contractors, to whom is entrusted the sale of the salt on the spot, as well as its market in more distant places. For the latter purpose, special licences are issued for the export of salt by land and by water. Besides the native inhabitants of Yun Nan, Sze Chuen and Kan Su, the people of Hu (? Kuei) Chou, Hu Nan, Hu Pei, and in some degree the barbarians, who are known under the name of Fan and Man, all use the well-salt.

According to observations of the Chinese, well-salt is at times damp and at others dry; it sometimes hardens, and sometimes powders; it gives a flavour to dishes and robs them of their flavour; it expels damp and excites it. This salt presses the inner parts together and causes consumption; sometimes stomachic disorders are occasioned by its excessive use; the savages use the red salt, and in consequence many of them suffer from goitre.

NAMES OF THE SOVEREIGNS OF THE OLD COREAN STATES, AND CHRONOLOGICAL TABLE OF THE PRESENT DYNASTY.

COMPILED BY

LUDOVICO NOCENTINI.

But little information is obtainable as to the names of the sovereigns of the legendary period and of the first Corean States, as the two 朝鮮, 三韓, and others.

As regards the first period, we are told only that the legendary 王儉, styled 檀君, reigned in Corea and had his seat of government at 平壤, afterwards at 白嶽山, the present 九月山. He ascended the throne B.C. 2331, and his State lasted 1,212 years.

The next period commences with 箕子, who also held his Government at the same capital (平壤). The Ci, or Kwi, dynasty lasted 929 years, during 43 sovereigns. But after 胥餘 or 須臾, the Viscount of Ci, or Kwi, who succeeded to the throne B.C. 1122, only the last two sovereigns are known, viz., 箕否 and his son 箕準, who lost his throne in B.C. 194. He afterwards changed his name to 新莽, founded the State of 馬韓, and transferred his capital to 金馬郡. Then 衛滿 usurped the throne and changed the name of the capital to 王儉城, and the state lasted for a further period of 87 years.

THE STATE OF 新羅 (other names 徐羅代, 斯羅, 斯盧).

The Capital was in the present 慶州, former territory of the State 辰韓. This State had 55 kings, and lasted 992 years.

No.	Name.	Genealogy.	Family Name.	Year of Accession.
1	赫居世	.....	朴	57 B.C.
2	南解王	son of the last king ...	,,	4 A.D.
3	儒理王	son of the last king ...	,,	24 ,,
4	脫解王	husband of the second king's eldest daughter. During his reign the State was called 雞林	昔	57 ,,
5	婆娑王	the third king's second son	朴	80 ,,
6	祇摩王	eldest son of the last king	,,	112 ,,
7	逸聖王	the last king's eldest son ...	,,	134 ,,
8	阿達羅王	the last king's eldest son ...	,,	154 ,,
9	代休王	grandson of the 4th king and son of 仇鄒 ...	昔	184 ,,
10	奈解王	the last king's grandson ...	,,	196 ,,
11	助賁王	the 9th king's grandson ...	,,	230 ,,
12	沾解王	the 9th king's grandson and younger brother of the last king	,,	247 ,,
13	味鄒王	descendant in 7th generation from 閼智, son of 仇道	金	261 ,,
14	儒禮王	the 11th king's eldest son	昔	284 ,,
15	基臨王	the 11th king's grandchild	,,	298 ,,
16	訖解王	the 10th king's grandchild	,,	310 ,,
17	奈勿王	the 13th king's nephew ...	金	356 ,,
18	實聖王	descendant of 閼智 ...	,,	402 ,,
19	訥祇王	the 17th king's son ...	,,	414 ,,
20	慈悲王	the last king's son... ...	,,	458 ,,
21	炤智王	the last king's son... ...	,,	479 ,,
22	智證王	the 17th king's great grandson	,,	500 ,,
23	法興王	the last king's eldest son ...	,,	504 ,,

No.	Name.	Genealogy.	Family Name.	Year of Accession.
24	眞興王	the last king's nephew ...	金	540 A.D.
25	眞智王	the last king's second son...	,,	576 ,,
26	眞平王	the last king's grandson ...	,,	579 ,,
27	善德王	the last king's eldest daughter	,,	632 ,,
28	眞德王	daughter of 國飯, younger brother of the 26th king	,,	646 ,,
29	武烈王	the 25th king's grandson. He destroyed the State 百齊	,,	654 ,,
30	文武王	the last king's eldest son. He destroyed the State 高句麗	,,	661 ,,
31	神文王	the last king's eldest son ...	,,	681 ,,
32	孝昭王	the last king's eldest son ...	,,	692 ,,
33	聖德王	the last king's younger brother	,,	702 ,,
34	孝成王	the last king's eldest son ...	,,	737 ,,
35	景德王	the last king's younger brother	,,	742 ,,
36	惠恭王	the last king's eldest son ...	,,	765 ,,
37	宣德王	a descendant in 10th generation from the 17th king	,,	780 ,,
38	元聖王	a descendant in 12th generation from the 17th king	,,	785 ,,
39	昭聖王	the last king's grandson ...	,,	799 ,,
40	哀莊王	the last king's eldest son ...	,,	800 ,,
41	憲德王	the 39th king's younger brother	,,	809 ,,
42	興德王	younger brother of the last king's mother	,,	826 ,,
43	僖康王	the 38th king's great grandson	,,	836 ,,
44	神武王	the 38th king's great grandson	,,	839 ,,
45	文聖王	the last king's eldest son ...	,,	839 ,,

No.	Name.	Genealogy.	Family Name.	Year of Accession.
46	憲安王	the 44th king's younger brother	金	856 A. D.
47	景文王	the 43rd king's grandson	,,	861 ,,
48	憲康王	the last king's eldest son ...	,,	875 ,,
49	定康王	the last king's younger brother	,,	886 ,,
50	眞聖王	the last king's younger sister	,,	887 ,,
51	孝恭王	son of the 48th king's concubine	,,	897 ,,
52	神德王	a distant descendant of the 8th king	朴	912 ,,
53	景明王	the last king's eldest son ...	,,	917 ,,
54	景哀王	younger brother of the last king's mother	,,	924 ,,
55	敬順王	a descendant of the 45th king	金	927 ,,

In the year 935 the State submitted to 高麗.

The State of 高句麗.

The Capital was 卒本扶餘, the present 成川.
This State had 28 kings, and lasted 705 years.

No.	Name.	Genealogy.	Year of Accession.
1	東明王	family name 高; he was born near the Mount 句麗 in 遼東	39 B.C.
2	瑠璃王	the first king's eldest son ...	21 ,,
3	太武神王	the last king's eldest son ...	9 ,,
4	閔中王	the last king's younger brother	44 A.D.

No.	Name.	Genealogy.	Year of Accession.
5	慕本王	the third king's eldest son ...	48 A.D.
6	太祖王	the second king's grandson ...	53 ,,
7	次大王	the last king's younger brother	146 ,,
8	新大王	the last king's younger brother	165 ,,
9	故國川王	the last king's second son ...	179 ,,
10	山上王	the last king's younger brother	197 ,,
11	東川王	the last king's eldest son. He transferred his capital to 平壤	227 ,,
12	中川王	the last king's eldest son ...	248 ,,
13	西川王	the last king's second son ...	270 ,,
14	烽上王	the last king's eldest son ...	292 ,,
15	美川王	the last king's nephew... ...	300 ,,
16	故國原王	the last king's eldest son. He transferred the capital to 九都城	331 ,,
17	小獸林王	the last king's son	371 ,,
18	故國壤王	the last king's younger brother	384 ,,
19	廣開土王	the last king's eldest son ...	392 ,,
20	長壽王	the last king's eldest son. He transferred the capital to 平壤	413 ,,
21	文咨王	the last king's eldest grandson	492 ,,
22	安藏王	the last king's eldest son ...	519 ,,
23	安原王	the last king's younger brother	529 ,,
24	陽原王	the last king's eldest son ...	546 ,,
25	平原王	the last king's eldest son ...	559 ,,
26	嬰陽王	the last king's eldest son ...	590 ,,
27	榮留王	the last king's younger brother, but not by the same mother...	618 ,,
28	寶藏王	the last king's nephew... ...	642 ,,

In the year 668 the State submitted to Li Tsih, General of the Tangs.

The State of 後百濟.

The Capital was 慰禮城, the present 稷山.
This State had 30 kings, and lasted 678 years.

No.	Name.	Genealogy.	Year of Accession.
1	温祚王	son of the first king of 高句麗. His capital was in 漢山, the present 廣州	18 B.C.
2	多婁王	the first king's eldest son ...	28 A.D.
3	已婁王	the last king's eldest son ...	77 ,,
4	蓋婁王	the last king's son	128 ,,
5	肖古王	the last king's son	166 ,,
6	仇首王	the last king's eldest son ...	215 ,,
7	古尒王	the 5th king's younger brother	234 ,,
8	責稽王	the last king's son	286 ,,
9	汾西王	the last king's son	298 ,,
10	比流王	the 6th king's son	304 ,,
11	契王	the 9th king's son	344 ,,
12	近肖古王	the 10th king's second son ...	346 ,,
13	近仇首王	the last king's eldest son ...	375 ,,
14	枕流王	the last king's eldest son ...	384 ,,
15	辰斯王	the last king's younger brother	385 ,,
16	阿辛王	the 14th king's eldest son ...	392 ,,
17	腆支王	the last king's eldest son ...	405 ,,
18	久尒辛王	the last king's eldest son ...	420 ,,
19	毗有王	the last king's eldest son ...	427 ,,
20	蓋鹵王	the last king's eldest son ...	455 ,,
21	文周王	the last king's son. He transferred the capital to 熊津 the present 公州	475 ,,
22	三斤王	the last king's eldest son ...	477 ,,
23	東城王	the 20th king's grandson ...	479 ,,
24	武寧王	the last king's son	501 ,,
25	聖王	the last king's son. He called his country 南扶餘 and transferred the capital to 泗沘 the present 扶餘	523 ,,
26	威德王	the last king's eldest son ...	554 ,,

No.	Name.	Genealogy.	Year of Accession.
27	惠王	the last king's second son ...	598 A.D.
28	法王	the last king's eldest son ...	599 ,,
29	武王	the last king's son	600 ,,
30	義慈王	the last king's eldest son ...	641 ,,

This State submitted to 新羅.

The State of 高麗.

The Capital was 松嶽, the present 開城府.
This State had 34 kings, and lasted 475 years.

No.	Name.	Genealogy.	Year of Accession.
1	太祖	son of 隆, prefect of 金城 ...	918 A.D.
2	惠宗	the first king's eldest son ...	944 ,,
3	定宗	the first king's second son ...	946 ,,
4	光宗	the first king's third son ...	950 ,,
5	景宗	the last king's eldest son ...	976 ,,
6	成宗	the first king's grandson ...	982 ,,
7	穆宗	the 5th king's eldest son ...	998 ,,
8	顯宗	the first king's grandson ...	1010 ,,
9	德宗	the last king's eldest son ...	1032 ,,
10	靖宗	the 8th king's second son ...	1035 ,,
11	文宗	the 8th king's third son ...	1047 ,,
12	順宗	the last king's eldest son ...	1083 ,,
13	宣宗	the 11th king's second son ...	1084 ,,
14	獻宗	the last king's eldest son ...	1095 ,,
15	肅宗	the 13th king's younger brother	1096 ,,
16	睿宗	the last king's eldest son ...	1106 ,,
17	仁宗	the last king's eldest son ...	1123 ,,
18	毅宗	the last king's eldest son ...	1147 ,,
19	明宗	the 17th king's second son ...	1171 ,,
20	神宗	the 17th king's third son ...	1199 ,,
21	熙宗	the last king's eldest son ...	1205 ,,
22	康宗	the 19th king's eldest son ...	1212 ,,
23	高宗	the last king's eldest son ...	1214 ,,

No.	Name.	Genealogy.	Year of Accession.
24	元宗	the last king's eldest son ...	1260 A.D.
25	忠烈王	the king's eldest son	1275 ,,
26	忠宣王	the last king's eldest son ...	1309 ,,
27	忠肅王	the last king's second son ..	1314 ,,
28	忠惠王	the last king's eldest son ...	1331 ,,
	忠肅王	again ..	1332 ,,
	忠惠王	,, ...	1340 ,,
29	忠穆王	the last king's eldest son ...	1345 ,,
30	忠定王	the 28th king's son, born from a concubine	1349 ,,
31	恭愍王	the 27th king's second son ...	1352 ,,
32	辛禑	a son of 昫; the last king adopted him as his own son	1375 ,,
33	辛昌	the last king's son	1389 ,,
34	恭讓王	the 20th king's seventh descendant. He reigned till 1392 ...	1389 ,,

From the first legendary sovereign (檀) till the year 1392, 3,725 years elapsed, then Corea, or 朝鮮, became a united kingdom, under the present dynasty 李.[1]

KINGDOM 朝鮮.

Dynasty 李; Capital 漢陽府.

No.	Temple style.	First Posthumous Name.	Genealogy.	Year of Birth.	Length of Reign.	Year of Accession.
					Years	
1	太祖	康獻王	son of 子春	1336	7	1392 A.D.
2	定宗	恭靖王	the first king's second son	1358	2	1398 ,,
3	太宗	定聖王	the first king's third son	1372	18	1400 ,,

[1] The preceding list has been compiled from the Chinese book 東藩紀要, and the following from the Corean annals 國朝寶鑑.

No.	Temple style.	First Posthumous Name.	Genealogy.	Year of Birth.	Length of Reign.	Year of Accession.
					Years.	
4	世宗	莊憲王	the last king's third son	1398	32	1419 A.D.
5	文宗	恭順王	the last king's eldest son	1415	2	1451 ,,
6	端宗	恭懿王	the last king's eldest son	1442	3	1453 ,,
7	世祖	惠莊王	the 4th king's second son	1418	13	1456 ,,
8	睿宗	襄悼王	the last king's second son	1450	1	1469 ,,
9	成宗	康靖王	the second son of 德宗[2]	1457	25	1470 ,,
10	中宗	恭徽王	the last king's second son	1488	39	1506[3] ,,
11	仁宗	榮靖王	the last king's eldest son	1515	1	1545 ,,
12	明宗	恭顯王	the 10th king's second son	1534	27	1546 ,,
13	宣祖	昭敬王	the third son of 德興大院君[4]	1552	41	1568 ,,
14	仁祖	憲文王	the eldest son of 元宗[5]	1605	27	1623[6] ,,
15	孝宗	宣文王	the last king's second son	1612	10	1650 ,,

[2] He was the 7th king's heir apparent and died in 1457, He is known in the history by the temple style 德宗 and the posthumous name of 懷簡王.

[3] Between the 9th and the 10th king the throne was occupied by 燕山君 for a period of 11 years, but he had no temple style.

[4] He was the 10th king's son.

[5] 元宗 was the 5th son of 宣祖. He received the temple name from his son, the 14th king, and from the Emperor of China the posthumous name of 恭良王. He is known also by the style of 定遠君.

[6] Between the 13th and the 14th king the throne was occupied by 光海君 for a period of 14 years; but he is not registered amongst the Corean sovereigns, and had neither temple style nor posthumous name.

No.	Temple style.	First Posthumous Name.	Genealogy.	Year of Birth.	Length of Reign.	Year of Accession.
					Years	
16	顯宗	昭休王	the last king's son ...	1637	15	1660 A.D.
17	肅宗	顯義王	the last king's son ...	1661	46	1675 ,,
18	景宗	德文王	the last king's eldest son	1688	4	1721 ,,
19	英宗	至行王	the 17th king's fourth son	1694	52	1725 ,,
20	正宗	文成王	eldest son of 思悼世子[7]	1752	24	1777 ,,
21	純宗	淵德王	the last king's son ...	1780	34	1801[8] ,,
22		體健王	son of 翼宗 (*see* No 6).		15	1835 ,,
23	熙倫	熙倫王	the third son of 全溪大院君	...	14	1850 ,,
24	...	...	The present king, the second son of 興宣大院君	...	...	1864 ,,

[7] He was the heir apparent, son of 英宗, who died at the age of 38. Another heir apparent, son of the same king, is recorded, who died when 10 years old, viz., in 1728. He received the temple style 眞宗 and the posthumous name of 溫眞王.

[8] During the years 1827, 1828, 1829 and 1830 the king was assisted in the government by his son, known by the temple name 翼宗 and the posthumous name 體元王. He was born in 1809. Here the Corean annals finish, and the last kings are taken from the 東藩紀要, where the temple names are not given.

NOTES AND QUERIES.

SALE OF OFFICE IN CHINA.

The rebellion of the Three Satraps induced K'ang-hi, in the year 1677, to permit the sale of office for three years, during which period Tls. 2,000,000 were received on that account, district magistracies being the most sought for.

In 1691 the sale of degrees, honorary ranks, promotion, privileges, posthumous honours, etc., was recommended in order to procure provender for the Galdan campaign, but was not sanctioned.

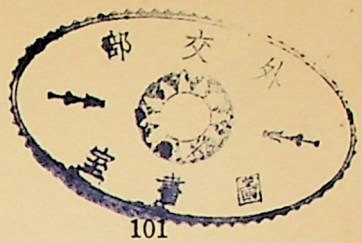
During K'ien-lung's reign there were sales of office on two occasions, once for the Ho Nan River repairs, and once for the Kin Ch'uan (Tibetan) campaign,—each time producing over Tls. 10,000,000.

There was a short period of sale of academicianships (捐監) in Kan Suh, about 1786, but this was soon stopped. In 1649, too, the Emperor Shun-chih had for a short period sold patents to priests and certain other petty honours, but none of these last count for much. The above is the history of the sale of office under this dynasty previous to the reign of Kia-k'ing, when it grew to a scandal.

E. H. P.

MANCHU HORSE-BREEDING GROUNDS.

The cavalry establishments of the present dynasty are three. The five camps of Peking gendarmerie and the cavalry which are appropriated by law to each province together number 116,853 horsemen, each drawing a provender allowance of Tls. 2.5 a month: this branch of the service is known as



the *ying-ma* (營馬). The cavalry at Jêho and Mi-yün (north of Peking), and those of the provincial banner garrisons number 86,021; and 9 *tou*, or pecks, of beans a month are allowed for each in the winter and spring, with six in the summer and autumn, *plus* 30 sheaves of straw in all months: this branch of the service is known as the *kwan-ma* (官馬). Then there are breeding-stations outside Kalgan, at the Stud Office under the Two Superintendents of Live Stock, and in various parts of Sungaria and Mongolia: these exceed 200,000 in number, and are known as the *kwan-ma* of the steppes. Under the T'ang, Sung, and Ming dynasties these establishments were sometimes private and sometimes under government; but want of space, coupled with bad management at last produced great confusion and corruption. After subduing the Chakhars, the Manchus turned their land into a horse-pasture. The Stud Office (太僕寺) manages the breeding-grounds under the four banners of the Two Live Stock Superintendents, whilst the Palace Stud (上駟院) manages those of the Ta-ling River (Liao Tung), Kalgan, and Tu-shih K'ou. This is a step in advance of the T'ang dynasty, which gave up the richest lands on the banks of the Wei (渭), in Shen Si, to 400,000 horses; and is on the lines of the system adopted by the Kitans, Nuchêns, and Mongols when they ruled China, and who, like the Manchus, were masters of the steppes or grass-lands.

E. H. P.

WEI YÜAN ON THE MONGOLS.

The following frank confession of Wei Yüan on behalf of the Manchus (date about A.D. 1840) is interesting:—

"The weakness of the Mongols is China's strength. To tame "the Mongols with the Yellow Religion is China's best policy; and, "indeed, from the point of view of Mongol interests, it is much "better for them to live quietly, and multiply, with no other cares "than those of finding pasture and water, than to swoop down upon

" the frontiers like the Huns and Turks used to do, keep China " under perpetual arms, and drench the plains with human gore. " This policy, in fact, is what may be called dispelling ferocity through " charity, and guiding untamable men with the doctrine of rewards " and punishments. Truly, both China and the countries beyond " her owe a deep debt of gratitude to Tsongkaba. It must be " added that the reverence of the Mongols for the Yellow Faith " began with Prince Anda, and Prince Anda's belief in Buddhism " had its origin in his wife San-niang-tsz. The three distinguished " Chinese statesmen of the Ming dynasty handled the reins very " deftly in this regard, accordingly as firmness or slackness was " required. Hence, not only did the Ming dynasty enjoy 50 years " exemption from frontier war, but our Manchu dynasty has been " able to obtain peace for over 200 years ; and thus the good work " of one charitable individual is still the portion of our people " until this very day. Hence, to govern barbarians, we must find " out what their natures are, and then we may change their ferocity " into order and subdue their fierceness by our goodness. Is it " possible to make use of the Religion of Jesus, with its rewards " and punishments, in order to put a stop to the opium which comes " from the West? To do this we require statesmen such as those " who dealt with the Mongols during the Ming dynasty."

Again, Wei Yüan argues, on the meaning of the word Œlot. " The Si-yüh T'u-chi takes Elut'êh to be the same as Alut'ai. But " it appears from the chapter on foreign countries in the Ming " History that Alut'ai and the Walah were engaged in an " internecine feud. The Elut'êh were the descendants of the " Walah; so how could they look up to their hereditary enemy " as their progenitor? Moreover *A* is a very different vowel from " *E*. However, the Annals of Genghiz say that the elder brother " of Naiman, by name Buruyuk Khan, fled west, and hunted in the " Wêlut'ai Hills, whence he was recaptured : so that Elut'êh must " be the name of a place in Western Asia, given to the tribe as a " name too. Why attempt to derive it from Alut'ai, a man's " name?" E. H. P.

THE ANDAMAN CANNIBALS IN CHINESE LITERATURE.

During the Middle Ages the Andaman Islanders were spoken of by Arab navigators with superstitious fear. As early as the middle of the 9th century the Arab travellers, known by the translation of their accounts furnished by Renaudot and Reinaud, report that "these people devour men alive; their hue is black, their hair woolly; their countenances and eyes have something frightful in them; their feet are of enormous size; they go naked and have no boots." A number of passages, chiefly from Western authors, as given by Yule and Burnell in their Anglo-Indian Glossary, report to the same effect. To these I should like to add what Chao Ju-kua has to say on the Andaman Islands in the beginning of the 13th century:

"When sailing from Lan-wu-li [*i.e.*, the Island of Lambri in the north-west of Sumatra] to Hsi-lan [Ceylon], if the wind is not fair, ships may be driven to a place called An-to-man [晏陀蠻, Andaman]. This is a group of two islands in the middle of the sea, one of them being large, the other small; the last is uninhabited, whereas the large one, measuring seventy li in circuit, is. The natives are of a colour resembling black lacquer, and eat men alive, so that sailers dare not to anchor on this coast. This island does not contain as much as an inch of iron, for which reason the natives use clam shells with ground edges in lieu of knives. The island contains as a sacred relic the so-called "Dead Man received in the Bed of Rolling Gold;" this body has been there for generations without decaying, and there is always a huge snake guarding it, on whose body hair has grown to the length of two Chinese feet; nobody dares to come near it. In the vicinity there is a spring the water of which will overflow twice a year and flow into the sea; the gravel over which it passes, after it has been covered by this water, turns into gold, and all the natives offer sacrifice to that spring. If copper, lead, iron or tin is soaked with this water while in a state of red-heat, it will also be changed into gold. There is an old story told of a merchant's ship which got wrecked and the sailors of which drifted on a bamboo raft to this

island. As they had heard about this sacred water, they secretly filled some of it into bamboo tubes, mounted a wooden raft, and were driven by the current of the sea to the country of Nan-p'i [which, from the author's detailed description, I identify with the coast of Malabar], where they presented the water to the king of that country. On having tried its effects the king of Nan-p'i raised an army for the purpose of gaining possession of that island; however, before his fleet could arrive there, they met with a severe whirlstorm, and the ships with all on board were thrown on shore at this island, and all the men were eaten up by the islanders. For, on this island live the "Strangers of the Golden Bed," which is silently guarded by a spirit so that man may not come near the place."

It is very probable that our author, who lived at Chinchew as Superintendent of Foreign Trade, got in the possession of this piece of island-lore through the Arab merchants trading to Zaitun, and that the account, as handed down by him, represents what was then currently reported among the travellers of the Indian Ocean. According to Conti *(India in the XV. Century*, quoted by Yule and Burnell, *l.c.)* the name Andaman means "the Island of Gold," and the tale of the "Body in the Bed of Rolling Gold" and the unlucky exploit of the Malabar fleet may be connected therewith.

F. Hirth.

Cement for Pasting Porcelain.

With regard to this subject the *Wu-li-hsiao-chi'h* says:—

"Apply a mixture of powdered *Pai-chi* [白芨, a kind of Ammonia] and limestone [石灰] with the white of an egg in well adjusted quantity to the broken surface, bind the broken vessel together with strings, and let it stand till perfectly dry, but so that the egg's broth cannot be noticed.

"To cement kuan-yao [官窯] mix the sap of burned green bamboo with the yolk of a fowl's egg [雞卵青], apply this

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mixture to the broken surface and bind the broken parts together; boil it up once or twice in hot water and keep the vessel on a dark spot for three or four or five days, after which it will be as strong as though it had been nailed together.

"Ting-yao [定窯], may be pasted together with the sap of the Nêng-ch'u [濃 楮, a kind of *Broussovetia ?*]."

F. H.

QUERY: KANGAROOS IN CENTRAL ASIA.

The *Mêng-chi-pi-tan* (ch. 24, p. 4) says: "In the northern districts of the Ki-tan there is an animal called *T'iao-tu* (跳 兎) or 'Jumping Hare.' It resembles an ordinary hare in shape, but its fore-legs are just a little more than an inch, whereas the hind-legs are about a foot in length. In order to move about it makes jumps of several feet with its hind-legs, and when it stops it will stumble to the ground. It lives in the sandy plains of Ch'ing-chou (慶 州=Ch'ing-yang of the present Kan-su Province?)." The work from which this notice is taken was written early during the 11th century, and the animal described is clearly a kind of Kangaroo. The querist is anxious to know whether this class of animal is not confined to Australia, or whether an extinct species may be referred to by this early Chinese author.

H. D. F.

NOTICES OF NEW BOOKS AND LITERARY NOTES.

W. Heyd, *Histoire du commerce du levant au moyen-âge.* French version by Furcy Raynaud. 2 vols., Leipzig, 1885–6.

The German edition of this celebrated work, which contains about all that may be known on the subject, *viz.*, the trade to the Levant and the East generally during the middle ages, appeared in 1879 in 2 vols. The subject being a very important one, and the author having dealt with it in the most exhaustive manner, the "Société de l'orient latin," under whose distinguished patronage many a learned work on the East has been laid before the literary world, decided to encourage him in publishing a French edition,—the work now before us. As this second edition contains much additional information it is, of course, preferable to the first, and may be considered the principal authority on all that relates to Oriental trade during the period it describes.

The student of the history of trade in the Far East and of Chinese traffic to the West will be specially interested in the various passages relating to China, such as the relations of the Arabs with China, Chinese junk trade to Ceylon, Indian ports, Aden and the Persian Gulf, the early European travellers to China, trade in Central Asia, etc.; and to the history of Chinese produce exported to the West, such as silk, porcelain, rhubarb, cassia, galangal, ginger (?), musk and nutgalls; and the several articles of foreign origin which constituted the import trade of China during the Sung, Yüan and Ming dynasties, such as cotton, cotton and woollen piece goods, glass, coral, ivory, pearls and precious stones; alum, frankincense, ambergris, storax, gum benjamin and similar drugs; the precious

woods, as eagle, sandal and sapan woods; camphor, cardamoms, cloves and nutmegs. Whatever has been written on any of these goods by a mediæval or modern author, whether European, Arab or Indian, has been carefully collected, and a most detailed monography is given upon every one of the articles traded in at the time. The Chinese student of the foreign relations of China during that period will find the study of this book an indispensable source of information as regards the Western literature.

Contemporaneous Chinese authors abound with matter of fact regarding several of the Oriental trade questions, and whenever we have an opportunity to discuss the Chinese view about them, we should not neglect to consider all that is known on the subject on the other side. The study of this important work will prove as suggestive to the student of the Sung, Yüan and early Ming geographers as that of Yule's "Cathay" and "Marco Polo." Chinese authors often contain useful information where we would scarcely expect it but for being acquainted with the unsolved problems of Oriental research. While rediscovering in their accounts the tales of early European and Arab travellers, we are often surprised to find they supply us with information looked for in vain in every other literature. The *provenance* of the nutmegs of mediæval trade is one of these difficulties. According to Heyd (Vol. II, p. 644) Arab geographers confine their remarks on this point to general terms such as "India," "the isles of the sea of Kerdendj;" Marco Polo refers this article to the country described by him as "Java Major," a term about which Pauthier and Yule on the one hand and Peschel and Heyd on the other cannot agree. The Chinese author who has contributed most towards the knowledge of Arab trade of his time (the beginning of the 13th century), Chao Ju-kua, says, in his second book,[1] describing the articles of foreign trade: "the nutmeg [肉豆蔻] comes from the inner parts of Huang-ma-chu [黃麻駐] and Niu-lun [牛崙]. It is a tree resembling the Chinese juniper [柏], growing up to ten

[1] 宋趙汝适諸藩志二卷.

chang in height, etc., etc." In the geographical part of his work the two names referred to are given in a list of eight small States, being dependencies of the kingdom of Su-chi-tan (蘇吉丹, Canton Dial. *Su-kat-tan*), which name occurs also in a work of the Ming dynasty, the *Tung-hsi-yang-k'ao*, and is there so described as to justify Mr. Groeneveldt to identify it with the country about Grissé, in the east of Java. This kingdom of Su-kat-tan must have had distant possessions, since we find among them Ti-wu (底勿, Canton Dial. *Ti-mat*) or Timor, which place is, in the second book, named as the origin of sandal-wood. It seems to me that, by endeavouring to identify the details of Chao Ju-kua's account, we may succeed in tracing the two names Huang-ma-chu and Niu-lun (which may stand for Golun or Gorun) to certain localities among the Molucca Islands. At a later period we find Banjermassing mentioned as a country where nutmegs are produced (*Tung-hsi-yang-k'ao*, ch. 4, p. 19; *cf.* Groeneveldt, *Notes on the Malay Archipelago*, p. 107, in an extract from the *Ming-shih*).

Another point of interest in the history of oriental trade is the route by which rhubarb found its way to Europe. All the authorities consulted by Heyd (Vol. II, p. 667) seem to show that none of it was forwarded by sea, the overland route through Central Asia being alone used. But since rhubarb was found on the market of Alexandria, Heyd hints at the possibility of its having been sent by sea as well. This conjecture is fully borne out by what we learn through Chao Ju-kua. Rhubarb, according to him, was one of the staples of Chinese origin, carried by Arab merchants from Chinese ports to San-fo-ch'i (*i.e.*, the present Palembang in Sumatra), the list comprising porcelain, silk piece goods, samshoo, ginger and galangal. From thence the Arabs were in the habit of distributing the produce of the Far East over the markets of their own country as well as their foreign colonies in Africa, and Chao Ju-kua distinctly mentions rhubarb together with lotus flower tanks, silks, porcelain, etc., as an article of import on the coast of Malabar, which he describes under the name of Nan-p'i

(南 吡) and of whose States he specially mentions Ku-lam (Coilom), Hu-ch'a-la (Gujerat),[2] Kom-pa-i (Cambay), Ma-lo-wa (Malwa) and others. Cambay is, moreover, specially described as a place where cargoes arrive by sea once a year from San-fo-ch'i, and where Arab settlers live in great numbers. Rhubarb being once on the Arab market in India, it is sure to have been brought to Alexandria either by sea or by caravan routes.

I have quoted these two instances in order to show how Chinese research may be turned to use in clearing up doubtful points in the history of Oriental trade; and I hope to be able to contribute a small share in this direction by publishing a translation of Chao Ju-kua's work. The German work now before us will be of inestimable value in confirming the accuracy of the Chinese data furnished, which would be of little value if considered without such a commentary.

F. Hirth.

CHINESE BOOKS.

The *P'ing-tzŭ-lei-p'ien* (駢字類編), like its sister work, the *P'ei-wên-yün-fu*, has been lately republished by the T'ung-wên-shu-chü (同文書局), of Shanghai, and thereby a work rarely seen in the hands of foreigners has been made accessible in a well-printed facsimile edition of handy and convenient size. I have often heard the opinion expressed among foreign students that the *P'ing-tzŭ-lei-p'ien* is inferior to the *P'ei-wên-yün-fu*. Closer inspection seems to show the reverse. The last-named work, it is true, may be more useful as a complete "Concordance." This name, first

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2 Gujerat was, according to Chao Ju-kua, one of the starting-points for commercial expeditions to Zanzibar. He says, under the head of Tsêng-po (*i.e.*, Zanzibar): "The country produces elephants' teeth, raw gold, ambergris and yellow sandal-wood. Every year the country of Hu-ch'a-la and the settlements on the sea-coast of Ta-shih (Arabia) send out ships to barter with this country, the articles of exchange being white cloth, *porcelain*, copper and red cotton." Chao Ju-kua's records thus place us in the position to trace the route of this one article, (porcelain) from China (say Zaitun) to Sumatra, thence to Gujerat for transhipment to the coast of Zanzibar.

applied to it by Mr. Parker, is much more descriptive of the character of the two works referred to, than the word "Dictionary." In either work the student looks in vain for a definition of the terms under which the numerous extracts from all branches of Chinese literature are given. We are thus often disappointed in trying to obtain a clue as to the meaning of a difficult passage through these "Concordances:" the crux in such a passage may consist in a single term, and this term may be a ἅπαξ λεγόμενον; the Concordance, instead of explaining it, will simply quote the only passage in which it occurs, and leave us as ignorant as we were before. Still, both works are indispensable to every Chinese reader who has them once on his shelves, and, though many may seem to think they can get on without them, those who are once accustomed to their use will never part with them.

As to the relative value of the *P'ei-wên-yün-fu* and the *P'ing-tzŭ-lei-p'ien*, each of the two works has its own distinctive merits. The former is fuller in articles; it contains about every term or phrase of two, three or four characters which may puzzle the reader of standard literature, and it is, therefore, more generally useful. The second work is confined to less articles, and these are an accidental collection rather than a systematic thesaurus; whatever does not fit into the twelve categories, into which the work is divided (*see* Mayers' "Bibliography of the Chinese Imperial Collections of Literature," in *China Review*, Vol. VI, p. 290), is simply omitted; and the categories are so arranged as to necessitate the omission of thousands of important terms which occur in the *P'ei-wên-yün-fu*. We have, therefore, before us merely a selection of the matter which ought to constitute a complete concordance, made out on the wrong system, because its division is neither logical nor exhaustive; but such as it is, the *P'ing-tzŭ-lei-p'ien* fully compensates for all these shortcomings by giving for each term inserted the fullest collection of passages imaginable; a comparison with the *P'ei-wên-yün-fu*, which is the earlier work, shows that not only all the matter contained therein under a certain head is taken over, but the matter has been considerably added to. Moreover, the arrange-

ment of the terms, it seems to me, is one more familiar to the European mind, since bisyllabic terms are grouped according to the first character, the terms and phrases contained in the *P'ei-wên-yün-fu* being arranged according to the last character.

The two modes of arrangement supply each other, inasmuch as it happens very frequently that one is anxious to know all that can be said of a character, in its capacity of a first character, while on other occasions one may care more for the last. Suppose we were to look for the Chinese equivalent of the word which through the Persians of the middle ages has become a well-known term in Western trade, and which has long been suspected to be of Chinese origin, the name *kim-hwa (kimkhwāb, kincob, kamkhā,* etc.), a kind of damasked silk *(see* Yule, *Glossary of Anglo-Indian Words,* p. 368), the syllable *kim* or *kam* will easily suggest Cantonese *kam* (金), gold. In order to find out whether old passages are on record in which this word enters into combination with another word, the sound of which is *hwa,* the two together having the meaning of embroidered silk, we need only refer to the *P'ing-tzŭ-lei-p'ien,* where about 200 bisyllabic terms beginning with *kam* (金) are given. Among them we find the term *kim-hwa* (金花, *lit.* "gold flower") in the sense of "silk embroidery," and thus are in the position to answer in the affirmative Col. Yule's query, who, in the work referred to, makes a conjecture to that effect. On the other hand, if the last syllable had been more suggestive, the first one being unknown, the *P'ei-wên-yün-fu* would have supplied the information required under the word *hwa* (花).

Both works are the most excellent keys to Chinese literature. The great sinologue who was asked his opinion about the age of the famous porcelain bottles discovered by Rosellini in an Egyptian tomb, alleged to have been opened the first time since the 18th century B.C., was not obliged to depend on inquiries made by native scholars ("recherches par des Chinois instruits," Julien, *Hist. et fabr. de la porcelaine chinoise,* préf., p. xvii) in order to prove that the inscription 明月松中照 *(ming-yüeh-sung-chung chao,* "the brilliant moon shines amid the pine trees"), found on one

of these little flasks, was derived from a poet of the T'ang period; the *P'ei-wên-yün-fu* would have supplied the information without much trouble.[3]

I merely mention these two instances in which reference to the one or the other of these two hand-books would have been useful for research in the European sense. The student who has hitherto confined himself to K'ang-hsi's *Tzŭ-tien*, which in the capacity of a dictionary proper is still the best ever published of the Chinese language, will soon learn that his knowledge of matters Chinese, whether linguistical, historical or geographical, will increase whenever he may open a volume of either of the two "Concordances."

F. HIRTH.

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[3] Ch. 77, fol. 7b., *s. v.* 照. The passage as quoted there has *chien* (間) for *chung* (中), which does not alter the meaning.

CORRESPONDENCE.

Mr. W. W. Rockhill to the Hon. Secretary.

U.S. Legation,
Peking, September 17th, 1887.

Dear Sir,—In Mr. E. H. Parker's article on the "Manchu Relations with Tibet," published in the last number of the Society's Journal, p. 296, note 1, he remarks that the dates as given by me in a note published in the "Journal" in 1885 disagree with his by one year. The fault is mine; my dates should agree with those Mr. Parker gives, for I quoted from the *Hsi-tsang-fu*, written by the President 和寧, who, to quote Mr. Parker (p. 295) "got a look" at the Domesday book of Lh'ara.

In printing the Tibetan names of the Tali Lamas some errors occurred which Mr. Parker has reproduced. Thus No. 1 should be read Dge-hdun; No. 2, Dge-hdun; No. 5, Nag-dvang; in No. 8 this word in also misspelt doang for dvang. A few other remarks suggest themselves.

p. 294. Mr. Parker's Takburi temple is better known as the Chapori temple, near Potala.

p. 295. Tsong k'a-pa was called *jyalwa* (not karwa), corresponding to the Sanskrit *djina*, "the most high."

p. 303. The Chinese garrison at Lh'ara is stationed at Trashi, not Tesh.

p. 303. Lolungtsung is not Shobando but Lhorang dzang, two stages east of that place.

p. 304. Chinese authors distinguish two Lu rivers, and the one referred to here is, they distinctly declare, not the great Lu chiang.

In fact, Mr. Parker's translation, a few lines farther on, says the same thing when it tells us that, "if you go through the Lohits west you come to Bhotan." I am not prepared to say, however, what the received name of this Nu or Lu chiang is.

Very truly yours,

W. W. Rockhill.

Mr. E. H. Parker's Reply to above.

H.M. Consulate General,
26th September, 1887.

Sir,—* * * * I have nothing to say in reply to Mr. Rockhill's observations, except that I should esteem it a favour if you would consent to express my thanks to him through your "Journal" for pointing out the inaccuracies enumerated by him, as to which he is a better judge than I.

I take this opportunity of calling attention to another grave inaccuracy, purely of my own. I have translated the words 敗烏蘭布通 as "for intriguing with the Ulanpu tribe." It should be "and defeated him (Galdan) at Ulanput'ung." I had no educated Chinese at hand to consult when I translated this passage, which puzzled me much; but I have since found out that Galdan was defeated by the Emperor K'ang-hi at the place in question.

* * * * * *

I am,

Yours faithfully,

E. H. Parker.

The Hon. Secretary,
China Branch, Royal Asiatic Society.

Dr. Edkins on Mr. Giles.

In page 321 of the Journal for last year Mr. Giles has referred to a translation of mine in an article written last year which does not satisfy him. It is from *Lie-tsï*, Ch. 3, p. 7 : 夢與不夢臣所不能辨也, "whether it is a dream or not is what I cannot distinguish." 欲辨覺夢惟黃帝孔丘 "if you wish to have waking and dreaming distinguished it is only Hwang-ti and Confucius that can do so."—I substitute this.

I beg to assure Mr. Giles that the paper on the Place of Hwang-ti in early Taoism was written to explain what that place was and not to make a veiled attack on him, as he, without reason, says. His views are bibliographical. They do not, if correct, displace Lau-tsï from his throne. The quotations in Chwang-tsï, Lie-tsï, Han-fei-tsï, vouch for Lau-tsï's reality and the nature of his teaching. We whose studies lie in ancient China may still rely on the results of our researches without fear on those points.

J. Edkins.

PROCEEDINGS.

MINUTES *of a* MEETING *held in the Society's Library, Museum Road, Shanghai, on Tuesday, 25th October 1887, at 9 o'clock p.m.*

Dr. F. HIRTH, President, occupied the Chair, and about thirty members and visitors were present.

Mr. H. M. BECHER, a professional geologist, who had lately returned from the Ping-tu Mines (situate 100 miles from Chefoo), and who was about to start for Siam, read some notes which he had prepared for the Society on "The Mineral Resources of Eastern Shantung." In illustration of the lecture, the room was hung with several maps of the province, among which were those of von Richthofen, Fauvel, and Howard, and there was also exhibited on the table many geological specimens gathered by Mr. Becher during his residence in Shantung. In introducing the lecturer, the CHAIRMAN took occasion to refer to the need for further co-operation among the members. He said :—

It is nearly six months ago that we met in this room for the last time, and although we are now long past the much-dreaded hot season, this is nominally our opening session for the year. It therefore becomes my pleasant duty to bid you welcome again, and express my hopes that an active winter will make up for the absence of life in our Society during this exceptionally hot summer. So far as I can see now, there is every prospect of a good season, since a number of papers is either in hand or promised, which will be read and printed, or printed merely, if not well adapted for an audience. This evening I have the good fortune to introduce to the Meeting one of our non-resident members, Mr. Becher, who has travelled or resided in the interior of Northern China for a considerable period, and who, from his experience as an expert, is particularly well qualified to speak on the subject before us. It would be necessary now to read the minutes of the last Meeting, but as they have already appeared in our "Journal," I hope I may anticipate your consent

in dispensing with this formality. Before we proceed to hear Mr. Becher's remarks on the mineral products of the Shantung province, I have again to announce the election of Professor Wilhelm Schott as an Honorary Member of our Society, since the regulations require that this should be done at two successive meetings after the election by the Council. Our new honorary member is apparently the most advanced in age on our list; he had the rare good luck to celebrate his 85th birthday last month, and the vigour of mind which he has enjoyed throughout his old days may be regarded as a just reward for a life such as his, full of scholarly activity. Let us hope that all our veteran honorary members, of whom in point of age Père Zottoli, Dr. Legge, and Sir Thomas Wade appear to be the next, will follow his example. It has been the constant endeavour of the Council to stimulate literary production among the members of the Society in general; yet, although we cannot complain of entire want of success, participation in the actual work we are supposed to do might be more general. I make this remark with special reference to the description of work we furnish. Every one of us has his speciality, his hobby as we may call it; and every one rides his hobby as best he can. But the number of riders on our literary racecourse is much too small, and the performances are not always in accordance with the taste of the lookers-on. It is for this reason that I avail myself of the beginning of the season to call upon all those who can handle a pen to collect materials for notes, however short, if only useful and contributing new matter to our knowledge of China. It is a prejudice prevailing among many of our members that to do useful work in our Society a certain amount of Chinese scholarship is required. This is by no means the case. A keen observer of human life and of things terrestrial generally will find ample opportunity to collect useful information without knowing a word of the language. While thanking our scholars for some of the more serious contributions towards the "Journal," we cordially invite the co-operation of those especially who can give us the benefit of their experience in botanical, zoological, or mineralogical questions; or in questions of commercial life, such as Chinese

commercial law, etc. A step in the right direction, it appears to me, has lately been made by one of our members most competent to deal with legal matters, to collect information on one of the many doubtful points in Chinese commercial law, if such unwritten law, or usage unrecorded, may be so termed; and we shall, I hope, hear the opinions collected on the subject in various parts of China at one of our forthcoming Meetings. A series of papers on commercial subjects would greatly enhance the value of our "Journal" in the eyes of most of our financial contributors, and I would here repeat that our Meetings and our "Journal" are open to all those who can furnish useful information of any kind, whether theoretical or practical. Our Meetings, I venture to suggest, might have a more conversational character. Apart from the papers to be read and the discussions following, it will be a pleasant feature of our evenings if members will exhibit curious objects, illustrating Chinese industries or manufactures, antiquities and curiosities of all kinds. All of us would like to look at them, if nothing else, and some of us might be able to make useful remarks about them, which could perhaps be printed in our "Proceedings." Mr. Becher now makes a beginning in this direction by exhibiting some minerals collected in Shantung, and I hope that during the coming winter season our other members will not be backward in exhibiting old bronze vessels, porcelains, native machinery and commercial products.

Mr. Becher prefaced his lecture by saying that in choosing "The Mineral Resources of Eastern Shantung" as the title for the remarks which he had to offer the Society that evening, he wished to limit himself to a subject fairly within his acquaintance, but he could only expect to attract a small number of the members and their friends, those, namely, who are to some extent students of geology; those who have resided or have friends resident in Shantung; and, lastly, those who, having a *penchant* towards the fascinations of mining, are always glad to hear something about new mineral fields. He was pleased to see many personal friends amongst his audience, and hoped that anyone to whom his description was not clear would not hesitate to ask for such further explanation as he could give. In offering any remarks relating to such a well-

known province as Shantung, he felt that only the speciality of the subject was sufficient excuse for adding to the volumes which had been written,—particularly when he addressed this Society, many members of which were probably well versed in the descriptions of able authors whose experience extended over far greater time and area than was afforded to his observations during about eighteen months' sojourn in that country. He could, however, make no excuse for the necessarily rather dry nature of the facts pertaining to the proverbially hard, dry stone; but having expended most of his geological theorising and long words lately on the *Chinese Times*, he could afford to be only moderately mineralogical that night. He must further rely on the small collection of minerals and rock specimens on the table before them to furnish material for interest and attraction should his text fail. (*Mr. Becher's "Notes on the Mineral Resources of Eastern Shantung" are printed* in extenso *on pp.* 22–38 *of this volume.*)

The Rev. Dr. Williamson, after paying a high compliment to the paper just read, said that he had been all over the province of Shantung and knew it better than Scotland, and he corroborated a great deal of what Mr. Becher had said. There were in it a great many places where galena and silver had been found, judging by the number of specimens which he had seen from time to time. He thought that Mr. Becher, however, had understated the importance of the quantity of asbestos to be met with in Shantung. There was a place away to the south of Têng-chow-fu where the people used at one time to make fireproof clothing out of asbestos, and he had himself seen many specimens of it. He had at home a specimen of the fibre which could easily be spun and woven, and he thought that the existence of the mineral in Shantung was important, as the asbestos industry was now attracting attention at home. He corroborated what Mr. Becher had said about the coal-fields of the western part of the province, and regretted that there were not the means of bringing the coal to Shanghai, which could very easily be done either by steamers of light draught or railways, for the construction of which the country, being very flat, was admirably adapted. The minerals and ground of the province were, however,

undetermined at present and required to be settled by a systematic survey.

Mr. Becher said that one of the reasons why he did not attach so very much importance to galena was that it took a great deal of it to amount to any considerable value. As to asbestos, he was sorry that he had not been able to see more specimens of it. He thought that the richness of the iron and coal mines would have a great effect upon the development of railways, by-and-by, in the province.

General Mesny asked Mr. Becher to tell the Meeting something, if he could, about the magnetic iron ore which he had often been shown by Chinamen, who wanted to know from him how it could be worked with profit. He had often seen in the province very fine specimens of agates, used for making snuff-boxes and also for spectacles.

Mr. Becher thought that the value of agate was more appreciated by the Chinese than by Europeans. He had often heard that magnetic iron ore was found in the province, but until there were the means of conveyance to bring it away it was not of much importance.

Mr. Kingsmill, who mentioned that he had recently made a journey through Western Shantung, corroborated Mr. Becher as to the existence of coal in that province, of extremely good quality, which he thought could be made accessible either by the Yellow River or by a railroad. He also spoke about the geographical structure of the remarkable district to which Mr. Becher drew attention, and commented upon the notable absence of fossils, which prevented him giving any further opinion on the geological structure of the mountains.

On the motion of the Chairman a hearty vote of thanks was accorded to Mr. Becher for his entertaining paper. A vote of thanks to the Chairman, moved by Mr. Bright, brought the proceedings to a termination.

MINUTES *of a* MEETING *held in the Society's Library, Museum Road, Shanghai, on Friday, 18th November 1887, at 9 o'clock p.m.*

Dr. F. HIRTH, President, was in the chair, and there were about thirty members and visitors present.

The CHAIRMAN in opening the proceedings said:—Following the routine lately adopted at our Meetings, I wish, with the approval of the members present, to propose that the minutes of the last Meeting, which was held on the 25th ult., be considered as read, since they contain nothing which has not appeared in the local newspapers. The first business of the evening is the announcement of the election of a few new members, viz., of Dr. Denton E. Peterson and Messrs. Hsü Chia-kuang and Hsü Ch'iu-i. The Council have resolved to encourage the enlistment of respectable Chinese gentlemen as members of the Society, in anticipation of the fact that these may be able to considerably assist us in promoting our general aims. In taking this step the Council was chiefly guided by the consideration that while according to the regulations the Society is open to members of all nationalities, the example of our sister societies in India, who count native Indians among their most useful members, has proved successful in every respect. We now proceed to the scientific part of this Meeting, and I would ask Mr. Jamieson to explain the subject, which is properly his own, of the questions we have addressed to certain members and friends of the Society in the matter of "Chinese Partnerships."

Mr. JAMIESON prefaced his remarks by referring to the difficulty in obtaining accurate information on matters referring to civil rights in China. All the text-books and the code of laws referred exclusively to criminal matters. On that there was full and ample detail. A specific and appropriate penalty was provided for almost every conceivable offence under the sun. You could learn exactly how many strokes of the bamboo or how many years banishment you would be liable to if you did such and such an act, but nowhere

could one find what remedy there was in damages against another by whom you had been wronged or even whether there was a remedy at all. A person was liable to be bambooed if he refused to pay his debts, but as to the circumstances which would be held to constitute a debt, the law was silent. Take the common case of the liability of partners : if one wanted to find out how that stood, the common answer you would get was "Oh! there is no fixed rule—every case would be decided on its own merits." But partnerships had existed from time immemorial in China, and it could not be doubted that there were some general rules on the subject. It had therefore appeared to them worth while to use the machinery of the Society to get the opinions on this subject of those best qualified to give information. In order to keep the information as precise as possible, the subject had been circulated in the form of a special case as follows :—"A., B., and C. enter into partnership. A. contributes Tls. 500, B. contributes Tls. 1,000, and C. Tls. 2,000 of capital, which may thus be regarded as consisting of 7 shares, of which A. holds 1, B. holds 2, and C. holds 4. After a time the firm fails with debts to the amount of Tls. 5,000 and at the same time C. absconds. *(a.)* To what extent and in what proportion will A. and B., according to Chinese mercantile law or customs, be required to make good the debts? *(b.)* Supposing C. is a member of a family of ample means, in which he has an undivided share, (*e.g.* is one of three sons, father alive) to what extent can the family property be made available to pay the debts of the firm?"

Mr. JAMIESON, referring to the latter half of the proposition, considered that it would perhaps make the discussion more intelligible if he stated beforehand what is the meaning of the term "family property," which in China bore a somewhat different signification to what it did in Western countries. Suppose a family consisting of a father, sons, and daughters, and possessing certain property in land, or movables, or both. This property, however acquired, is, strictly speaking, the property of the family, and not that of any one individual in it. The father, so long as he is alive, has the control of it, as indeed he has the

control of all the persons composing the family, but he has no power to leave it by will, or in any way to direct its devolution after his death. Subject to his life interest, it belongs by inalienable right to all his sons or male descendants. Except by a process sometimes, but rarely, resorted to, known as expelling a renegade son, none of the male descendants can be deprived of their due share in the inheritance. On the death of the father (or even in his lifetime, if he so directs) the sons may agree to divide. If they so agree, the property is divided into as many shares as there are or have been sons, certain provision being made for the marriage of such of the daughters as are yet unmarried, and each son or his descendants takes a share. If a son should have happened to pre-decease his father, leaving no natural-born son, a son by adoption is appointed to him by the family council, and this adopted son takes his share of the inheritance. Each son then forms the head of a new family group, and the same thing goes on as before. Daughters are all married off, as a matter of course, as soon as they come of age, and have no claim whatever on the property. Even in cases where only daughters are born, a male child will be adopted from a collateral branch, or the next-of-kin in the male line, according to a well-established rule, will come forward and claim the inheritance. It is only in default of all kindred through the male line that daughters will succeed. But the sons may agree not to divide, and in families of any pretension it is by no means unusual to refrain from dividing often for generations. In that case the property is held in common, and is managed by the seniors of the family or clan, who form a sort of "family council." All the earnings of all the members are brought into a common pot, and out of that the expenditure of each is defrayed. The property may be largely increased by the energies and success of one, whether in trade or in official life, or otherwise, but up to division it is all community, and on division all share alike. No single member has a right to withdraw and take out his share at pleasure. Division must be the joint act of all. The question, then, is, supposing a member of such a family engages in trade, and that after a successful career, during which his profits may have gone to swell the common stock,

he becomes bankrupt, can this family property, in whole or in part, be made available to pay his debts?

Mr. Jamieson next read the replies which he had received from several gentlemen distinguished for their intimate acquaintance with Chinese affairs, and including Mr. C. T. Gardner, H.B.M.'s Consul at Hankow; Mr. Byron Brenan, H.B.M.'s Consul, Tientsin; Mr. E. H. Parker, H.B.M.'s Consular Service, Shanghai; Mr. H. A. Giles, H.B.M.'s Consul, Tamsui; Mr. C. Alabaster, H.B.M.'s Consul, Canton; Mr. P. G. von Möllendorff, Tientsin; the Rev. J. Macintyre, Newchwang; Mr. Sü Fu-shêng, Shanghai; and an anonymous Chinese official. He also read an extract from a petition presented in 1882 to the Government of Hongkong by Chinese merchants in that colony, when an agitation was on foot there to change the law in consequence of the unusual crop of bankruptcies. Lastly, he read a paper by himself which summarised the opinions expressed in the replies that had been sent in. *(These papers will be found on pp. 39-52 of this volume.)*

A vote of thanks was unanimously accorded to Mr. Jamieson for the trouble he had taken in connexion with the subject, and especially for the excellent summary that he had prepared.

The Chairman, in introducing Mr. Carles, who read Mr. Parker's paper on "The Armies of China," Mr. Parker not being able to be present, said:—Mr. Parker's subject, "The Armies of China," has been most exhaustively dealt with by Sir Thomas Wade in a paper headed "The Army of the Chinese Empire," which will be found in the 20th volume of the *Chinese Repository*, published in 1851. Since then many books and papers have been written which contain notes on the army and cognate subjects, all of them having a more or less practical tendency; but none of them has succeeded in superseding Sir Thomas' work, which is as yet the chief source regarding the constitutional organisation of the army. The information contained in it is entirely drawn from the *Ta-tsing-hui-tien*, the principal work on Government institutions, the *Hu-pu-tsê-li*, dealing with financial questions, and the *Chung-ch'ü-ch'êng-k'ao*, a treatise on the army, published in 1825; with more which the author draws from Chinese sources. This would seem to be a

disadvantage in the eyes of those who care merely for practical and modern information. Yet, it must be clear to anyone who is really anxious to form an accurate idea of Chinese military matters, that mere personal observation, such as many of our modern writers on the subject have deemed sufficient, is a very poor substitute for a systematic inquiry based on literary studies. However useful the notes taken from life may be in showing how the theoretical organisation bears on practical warfare, however indispensable they may be in giving us an idea of what exists in reality as opposed to what exists on paper merely, it appears to me that even the most ingenious military expert cannot form a correct idea without consulting such works as that of Wade's as a basis; and I avail myself of this opportunity to recommend to our Society, as a useful addition to a future issue of our "Journal," a second edition of this paper, since the 20th volume of the *Chinese Repository* is a book most difficult to be got. Mr. Parker's is also a literary paper, and its value has to be judged in the same sense as that of Sir Thomas Wade's; his Chinese authority is somewhat more independent and more outspoken than the official works used by the latter, and also a little more recent in date. It deals also with theoretical matters rather than with the practical questions of the present day, but those who propose to write or make studies in these will do well to examine its details, for which purpose it will serve as a welcome supplement to that of Sir Thomas.

Mr. Carles read numerous extracts from the paper, to which he added others from Captain Gill's more recent contribution on the same subject. *(Mr. Parker's paper will be found on pp.* 1–21 *of this volume.)*

The Chairman having thanked Mr. Carles on behalf of the Society for his kindness in reading the paper at such a short notice, announced that the subject was open for discussion.

Mr. Kingsmill thought that Mr. Parker should have given some other title to his paper, as it was not an actual description of the army of the present day, which its title would lead one to suppose, but merely of the army on paper of over forty years ago. Since then great changes had taken place, and the Chinese troops

were now a very well paid and well conducted body of men. They got something like five taels a month, out of which they had to keep and clothe themselves, and they paid considerable attention to their profession. Travellers visiting the great camps now get much civility from these soldiers. But what he thought was wanted was not a description of the ideal army but of the real army of China. He did not think it would do any good to print a paper on the army of forty years ago. It contained nothing of the great changes in the organisation of the army, brought about by the Taiping rebellion, by what Mr. Parker called the "Opium War" and by the French war of a few years ago. If the paper was printed as it then appeared it would be accepted as giving information of the army of China at the present time, and would be most misleading.

The Chairman said that in the opening portion of the paper Mr. Parker explained that it was a digest and a translation from an authentic Chinese paper. It was essentially a paper of a historical character. In order to understand the present organisation of the army it was necessary to go back to its historical elements, and Mr. Parker never intended to give what Mr. Kingsmill seemed to expect.

Mr. G. James Morrison remarked that Mr. Kingsmill had found fault with the title of the paper, but he (Mr. Morrison) thought that it was not the title which was most in fault. He considered the paper would be very misleading to people at home, and even Mr. Carles in reading it was obliged to supplement by extracts from the paper of Captain Gill.

Mr. Carles, rising, disclaimed any intention of supplementing Mr. Parker's paper, and said he merely used Captain Gill's work to explain a few points in Mr. Parker's contribution.

Mr. Morrison concluded by saying that the paper would be very valuable to a great many people, but at the same time he thought the title could be changed with advantage. The paper was moreover a translation of a Chinese book of which they knew nothing.

The CHAIRMAN said that Mr. Parker's name was a sufficient guarantee on that point; and it was not too late to change the title.

After some remarks from Mr. J. F. VON GUNDLACH, Mr. GEO. JAMIESON observed that the "braves" were a new class in the Chinese army; they were under stricter discipline and did a large portion of the fighting of late years. They were, however, not enlisted for any length of time, but for a campaign, and gave much trouble in sending them back to their homes in Hunan. After the French war an effort was made by certain Governors to do away with the Green troops and substitute these troops, but it was not adopted. He thought the Meeting was indebted to Mr. Kingsmill and Mr. Morrison for calling attention to the title of the paper, which he also considered somewhat misleading. Mr. Jamieson then mentioned that some time ago he made a calculation of the revenue of the Manchu Empire, and including *likin* and Customs duties, it came to about 65 million of taels. The writer of the paper set it down at 40 millions in 1840, and if that was the amount before the Taiping Rebellion, he (Mr. Jamieson) was disposed to think that his calculation must be nearly right. Of this sum only about 14 or 15 millions went to Peking.

The Rev. ERNST FABER said he wished to see the paper supplemented; in its present state it was defective. There was nothing said in it about armour, training, commissariat, drill, tactics, military law, mobilisation, concentration, etc., of the Chinese army. The paper, however, contained among the statistics of expenditure an item which at the present was of special interest, namely, the fact that the sum of 3,800,000 taels had been annually spent on the Yellow River (Shantung and Honan provinces). This amount, if brought down to the present year, would give a total of some 180,000,000 taels expended since 1840 on the Yellow River embankment. Yet, had the money really been expended on it? This was a point to which the attention of the Government officials at Peking ought to be drawn.

Mr. CARLES said that with reference to the remarks of Mr. Morrison he wished to say that he thought the best way to explain some of the terms used by Mr. Parker was to read extracts

from Captain Gill's paper, to which he invited the attention of the audience, as it covered a great deal of the ground left untouched by Mr. Parker.

Mr. P. J. HUGHES said that with reference to the remarks of Mr. Jamieson he did not believe it was the case that all the "braves" were disbanded at the close of a campaign. Their leaders still retained with them, when possible, the troops who had been with them in the field, or at all events troops from the same part of the country as that which had furnished the field force. The Huai region between the River Yangtze and the old bed of the Yellow River is one of the two great recruiting grounds for "braves" in China, the other being that mentioned by Mr. Jamieson, the province of Hunan. The Viceroy of Chihli (Li Hung-chang) had still with him braves from the Huai region, so also has Liu, the Governor of Formosa. In Nanking and other places on the Lower Yangtsze there are still large numbers of "braves" who came from Hunan.

The CHAIRMAN intimated that the title of the paper before the Meeting would probably be changed by the author.*

With a vote of thanks to the Chairman, proposed by Mr. JAMIESON, the proceedings terminated.

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* The title was subsequently changed. *See* Note * on p. 1.

ANCIENT PORCELAIN:

A STUDY IN CHINESE MEDIÆVAL INDUSTRY AND TRADE.

By F. HIRTH, PH.D.

1.—The Age of Porcelain in China.

The history of the invention of porcelain in China is wrapped in mystery. Whatever the age of earthen pottery may be, we possess no satisfactory record as to the date when anything approaching porcelain, in the technical sense, was first produced. Julien, in his celebrated work on the history and manufacture of the Chinese porcelain,[1] quotes the Annals of the district of Fou-liang, in which the King-tê-chên potteries are situated, in order to show that the invention of porcelain reached as far back as the Han dynasty (206 B.C. to A.D. 220); and, by means of an ingenious conjecture as to the period when the name of the locality of the alleged first manufacture was used, arrives at the conclusion that we have to place the invention of the art between the years 185 B.C. and A.D. 87.

Julien does not give us the text of the passage referred to; it is, therefore, difficult to judge on its merits. If the question is merely one of terms, which it apparently is, it must be considered extremely doubtful. The Chinese word *yao*,[2] now commonly applied to the various classes of chinaware, is an

[1] *Histoire et fabrication de la porcelaine chinoise*, etc., par M. Stanislas Julien. Paris, 1856. Préface, p. xx *seqq.*

[2] 窯

entirely neutral term, and may mean pottery of any kind; whereas porcelain proper, as distinguished from earthenware, is now termed *tz'ŭ*.[3] Chinese authors seldom make this distinction, and when we find certain descriptions of pottery mentioned in their works, we ought not to assume their being either the one or the other, unless we have reason to believe that the articles described be identical with certain specimens existing at the present day. Of these, I feel confident we possess none out of so early a period as the Han dynasty; and even if certain articles should be mentioned under the name of *tz'ŭ-ch'i*,[4] the term now applied to porcelain in the modern sense, in passages referring to the Han period, it is very likely that this word was used for pottery of a composition quite different from the one it now describes. In other words, it seems that so long as we have not *seen* porcelain proved to have been made during the Han dynasty, it is difficult to believe in its existence, the literary evidence not

[3] 磁 or 瓷. This word, though described as "hard and fine grained pottery" (陶器堅緻者. *Lei-p'ien*) in dictionaries of the Sung period, is in the *Shuo-wên*, a glossary published in 100 A.D., explained as "pottery" and nothing more (瓷瓦器也). The simple fact of the modern name for hard porcelain occurring in an ancient text is, in my opinion, far from sufficient to prove that hard porcelain then existed. For, as in Western languages the meaning of a word may change within a few centuries, a thousand years or more very frequently produce a similar effect in certain terms of the Chinese language. If this were not the case, the use of glossaries such as the *Erh-ya* and the *Shuo-wên* would be superfluous. Of the two shapes now used for this character, the form 磁, having the radical *shih* (石), "stone," at its side, might for this reason be taken as an indication of the category of this name having been that of a hard or stony substance. But this character, which is the proper name of loadstone, has been borrowed in later centuries. The old and original shape is 瓷, the radical being *wa* (瓦), indicating the category of earthen materials. It appears to me that this very fact of later generations substituting for the original sign a character of the same sound, but with a radical more appropriate to the category of the word as it was at the time understood, may be regarded as indicating a change from the original meaning.

[4] 磁器. *Cf.* Jacquemart, *Hist. of the Ceramic Art.*, Transl. Mrs. Palliser. London, 1877, p. 47.

carrying with it the necessary conviction, owing to the doubtfulness of terms.

I shall now try to explain the reasons which have led me to conjecture that the manufacture of porcelain must have first been practised on a larger scale during the beginning of the 7th century A.D.

The *Chêng-lei-pên-ts'ao*,[5] the pharmacopœia of the Sung dynasty, compiled in A.D. 1108, under the head of "Porcelain earth," or *Pai-ngo*,[6] quotes from the writings of T'ao Yin-chü[7] that "this substance *(pai-ngo)* is now much used for painting pictures."

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[5] 證類本草, Ch. 5, p. 22. Bretschneider, *Botanicum Sinicum*, p. 47, says of this work, "it is still extant, but I have not come across it." It appears from Klaproth's Catalogue, that a portion of the work is contained in the Royal Library of Berlin. I saw a copy in the hands of Father Heude, at Sicawei, and succeeded in obtaining one myself, though this must be called an exceptionally lucky find. I have since seen the title of this work in a list of prices for Japanese reprints, but I am not able to say to what extent the original has been reproduced.

[6] 白垩. There can be no doubt as to the terminology of this ancient name of the mineral now known as Kaolin, for details regarding which I would refer the reader to Geerts, *Les produits de la nature Japonaise et Chinoise*, Vol. II, p. 370 *seqq.* This author says of 垩土 (Jap. *A-do*) and "白垩土 (Jap. *Haku-a-do*), ces deux derniers noms sont des noms génériques pour toute matière qui produit la porcelaine la plus fine et la plus belle. Ils s'appliquent donc aussi bien aux pegmatites et felsites ou feldspaths quartzeux, qu'à la terre à porcelaine véritable ou Kaolin pur;" and, p. 376: "白垩 (Jap. *Haku-a*), ce nom inclut le Kaolin et le pegmatite." *Cf.* Hoffmann, "Mémoire sur les principales fabriques de porcelaine au Japon" in Julien's *Histoire, etc., de la porcelaine Chinoise*, p. 283: "terre blanche à porcelaine;" and Porter Smith, *Contributions towards the Materia Medica and Natural History of China*, p. 127, s. v. *Kaolin*. A list of ten localities in China and a large list of places in Japan, where Kaolin is found, is given by Geerts, p. 273 *seqq.* According to the *Pên-ts'ao-kang-mu* (ch. 7, p. 1) it is sold in square cakes, when it is used for washing clothes "and in burning the paste of white porcelain" (用白瓷器坯者). Apart from this, the *Kang-mu* is more silent on the subject than we should expect. The localities mentioned by Geerts as those where Kaolin is found in China, correspond to the principal places where porcelain is known to have been manufactured during the Sung dynasty, viz., the neighbourhood of King-tê-chên in Kiangsi, that of Lung-ch'üan in Chehkiang, Ting-chou in Chihli, Hua-t'ing (華亭縣) in Kansu, P'ing-ting-chou (平定州) in Shansi, Ju-chou (汝州) in Honan and Tê-hua (德化縣) in Fukien. *Cf.* Julien, p. 127 *seq.*

[7] 陶隱居 (*see* Note 8).

This remark is made in order to show that the article referred to is not merely a medicine, but used for other purposes as well; and according to the routine of so learned a writer as the one quoted, he would have surely mentioned the use of porcelain earth in the manufacture of chinaware if in his time it had been so used on an extensive scale. T'ao Yin-chü was a celebrated author on pharmaceutical, and indeed all scientific subjects, who died in A.D. 536.[8]

The *Chêng-lei-pên-ts'ao* further quotes, under the same head, from the *T'ang-pên-ts'ao*,[9] the pharmacopœia of the T'ang dynasty, compiled about A.D. 650: "it (viz. *pai-ngo*, or porcelain earth) is now used for painters' work and rarely enters into medicinal prescriptions; DURING RECENT GENERATIONS[10] IT HAS BEEN USED TO MAKE WHITE PORCELAIN."[11]

It appears from these two passages that during the Liang dynasty, *i.e.*, in the 6th century A.D., when T'ao Yin-chü wrote, the use of porcelain earth for pottery purposes was unknown; but that it had come into practice for some time back at the T'ang period, say during the century, *i.e.*, a few generations, preceding the compilation of the *T'ang-pên-ts'ao*, or about the year A.D. 650. The same T'ang authority[12] recommends a powder prepared of "white porcelain of Ting-chou"[13] for certain medicinal purposes.

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8 For his biography see *Liang-shu*, ch. 51, p. 12; extract in the *T'u-shu-chi-ch'êng*, III, 14, ch. 210; Mayers, *Man.*, No. 710; and Bretschneider, *Bot. Sin.*, p. 42. In the biographies his name appears as T'ao Hung-ching (陶宏景), but Yin-chü is the personal name by which he is quoted as an author in the *Chêng-lei-pên-ts'ao*.

9 唐本草. *See* Bretschneider, *Bot. Sin*, p. 44.

10 *chin-tai*, 近代. 11 *i pai-tz'ŭ wei chih* 以白瓷爲之.

12 Quoted in *Chêng-lei-pên-ts'ao*, l. c., p. 32.

13 *Ting-chou pai-tz'ŭ* 定州白瓷. The white porcelain of Ting-chou was destined to play a conspicuous part among the ceramic industries of the Sung and later dynasties. The passage referred to seems to show that white Ting porcelain existed early during the T'ang dynasty, *i.e.* in the 7th century A.D.

It appears from a passage in the *Sui-shu*, the History of the Sui Dynasty, whose reign extends from A.D. 581 to 618, that Ho Ch'ou, *alias* Ho Kuei-lin,[14] who, at the beginning of the 7th century, was President of the Board of Works, and was known as a refined scholar deeply versed in antiquarian matters, endeavoured to recover the secret of manufacturing glass, which had been lost since its introduction into China by Indian or Syrian artisans about A.D. 424[15]; he is said to have succeeded in imitating *liu-li*, *i.e.* opaque glass, which could not be distinguished from real glass, by means of "green porcelain." I am not able to judge whether such a process is possible, and if so, whether the passage referred to throws any light on the existence at the time of porcelain in the technical sense.

For, the passage, as quoted, does not show whether Ho Ch'ou invented green porcelain for the purpose of imitating opaque glass, or whether he used it as a substance existing before his time as an ingredient in fusing. Julien[16] who quotes the identical passage from the *P'ing-tzŭ-lei-p'ien*, translates in the former sense. So much seems probable, that from about the year A.D. 600 the porcelain industry began to flourish in various parts of the Empire. T'ao Yü, the manufacturer who turned out work which could be mistaken for jadestone, and was therefore called "imitation jade," and Ho Chung-ch'u, mentioned by Julien [17] as having founded potteries at the close of the Sui dynasty, may have

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[14] 何稠; 何桂林. See *Sui-shu*, 何稠傳, quoted in *P'ei-wên-yün-fu*, s.v. 瓷, *T'ao-shuo*, ch. 4, p. 17, and *T'u-shu-chi-ch'êng*, III, 14, ch. 214, p. 24.

[15] See *China and the Rom. Orient*, p. 230 *seqq.*

[16] *Op. Cit.*, Préface, p. XXIII. The passage reads as quoted in the *P'ing-tzŭ-lei-p'ien*: 稠以綠瓷爲之與眞無異; Julien speaks of "la porcelaine verte que fabriquait *Ho-tcheou* pour remplacer le *Lieou-li* (sorte de pâte de verre), etc."

[17] *ibid.*, p. XXIV.

made real porcelain, since at this period the use of porcelain earth for pottery purposes must have been known. Yet, the author of the *T'ao-shuo*[18] begins his treatise on ancient porcelains with the Yüeh-chou potteries of the T'ang dynasty.

2.—T'ang Porcelains.

As to the various kinds of porcelain manufactured during the T'ang period, which extends from A.D. 618 to 907, it is most likely that we possess none but literary witnesses of their former existence. I feel bound to add that my experience in this respect is necessarily very limited, and that I merely repeat the opinion of Chinese connoisseurs. Should anyone be able to produce a piece of porcelain in the technical sense, proved on good evidence to have been made during that early period, this would be a remarkable find indeed. Chinese works on the ceramic art describe some of the porcelains of the T'ang dynasty, but these descriptions suffer from the defect, peculiar to all works on ceramic art, of being next to useless without our having a chance to examine specimens of what is described.

3.—Sung Porcelains.

This chance we find exists with some of the Sung porcelains inasmuch as it is not difficult to procure, on paying good prices, specimens credited by Chinese connoisseurs with such an age and possessing the characteristics described in Chinese works. The latter, it must be admitted, may be too vague to be considered the only guides in determining the age and class of a piece of ancient crockery; but as supplementing the tradition handed down among the Chinese themselves, such records become highly valuable. The great difficulty is that,

[18] 陶說, published in A.D. 1774. *See* Julien, *l.c.*, p. LXX.

unless we have before us specimens of the class of porcelain described, it is often impossible to understand the text. The study of the literature should, therefore, be made dependent on the study of real objects, so far as they can be obtained. Failure in this, it seems to me, is the chief defect of certain portions of Julien's work, which has become the basis of about all that was written in Europe on Chinese ceramic art after its appearance.

4.—The Colour Ch'ing (Blue or Green.)

Stanislas Julien is generally known as so accurate a translator, and I am myself so full of profound respect towards his sinological erudition, that, in pointing out errors in his works, I think it right to do so with this reserve. Julien's translation of those parts of his Chinese authority which treat upon the porcelains of the Sung dynasty contains an error which is perhaps excusable in a sinologue who has never seen China, but which unfortunately becomes fatal to the understanding of the text in all that relates to that important class of old chinaware known as céladons. The characteristic colour of the céladon is green, varying in shade. The word which Julien translates by "blue," and which here means "green," since it appears in all the Chinese texts describing porcelains which every Chinese connoisseur identifies with the old céladons, is *ch'ing*.[19] Now, this word

[19] 青. It seems that there was every facility for Julien to check the correctness of the translation of this term even without going back to the terminology of the Japanese school, which, owing to their constant reference to Chinese literature, is almost identical with that of the Chinese. The recognised Japanese name for céladon porcelain is *sei-ji* (青磁, in Chinese *ch'ing-tz'ŭ*). Such a contradiction as is implied in the translation (p. 73) "les porcelaines *bleues* de Tchang sont d'un ton pure comme le plus beau *jade*," ought to strike every one who knows that jade is not blue, but green; and the composition of the enamel as described on p. 206 *seqq.*, in § XI ("composition des différentes sortes d'émail," Nos. 1, 2, 13 and 14), which may be easily shown to have contained *yellow* colouring materials besides the blue, ought to have been taken into consideration. M. Salvétat,

ch'ing is a great stumbling-block to a European inasmuch as we cannot understand that peculiar kind of colour-blindness which has caused the Chinese to comprise under the same name colours or certain shades of colours which we would decidedly distinguish by several names. The Chinese word *ch'ing* means "green" *a priori;* the colour of things sprouting, such as plants;[20] the skin of bamboos is called *ch'ing*;[21] examples abound in Chinese literature in which this word is applied to the foliage of trees.[22] The olive is called *ch'ing-kuo*,[23] *i.e.* "the green fruit," and *ch'ing* may in this case be properly rendered by "olive green." *Ts'ung-ch'ing*, *i.e.* "onion green," is a colour often applied to old céladon porcelains in ceramic texts; it would be absurd to speak of "onion-blue." On the other hand, the same word is applied to colours which none of us would call anything but blue, such as, for instance, the blue cottons worn by the lower classes; and that this is not a modern meaning may be gathered from a definition in the ancient glossary, the *Shuo-wên* (XIII A), where the colours

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the technical annotator of Julien's translations, is on the right track in his footnote under the head of *Tung-ch'ing-yu* (東青釉, p. 213), translated by Julien with "émail bleu oriental," when he says: "Je crois qu'il s'agit ici du ton si recherché que les amateurs appellent en France céladon." If we consider that long before Julien's time the correct renderings had been given in the famous letters on the King-tê-chên manufactures by P. d'Entrecolles, and that Julien was fully aware of this discrepancy in his translation (*see* Préface, p. XXVII; p. 56, footnote; and p. 231, note 2), we cannot but wonder, how this question could be allowed to remain for the last thirty years as it was, without eliciting further enquiries.

20 The *Shih-ming* (釋名), a glossary compiled during the Eastern Han dynasty, quoted by K'ang-hi, says: 青生也象物之生色也.

21 K'ang-hi, *s.v.* 青.

22 *Cf.* von Strauss und Torney, "Bezeichnung der Farben Blau und Grün in chinesischen Alterthum," in *Z.D.M.G.*, XXXIII, p. 502 *seqq.*

23 青果. The *Pên-ts'ao-kang-mu* (ch. 31, p. 6) says: "the olive is called ch'ing-kuo, because, though ripe, it remains green (*ch'ing*)." Even in modern Chinese the meaning "green" is quite common for *ch'ing*. *Ch'ing-fan* (青礬) is the tariff name for "Green Alum;" "Moss" is called *ch'ing-t'ai* (青苔); "green peas" are called *ch'ing-tou* (青豆).

ch'ing and *huang* (yellow) are said to yield *lü* (green). In this connection *ch'ing* can mean nothing but blue. A grey horse is called *ch'ing-ma*.[24] As applied to porcelain we find that the blue China of the Ming and present dynasties is called *ch'ing-hua*,[25] *i.e.* "blue ornaments." This may have led Julien to assume that "blue" was the proper rendering of this word wherever it occurred in ceramic texts. But what, in the absence of practical knowledge, he may have considered methodical consistency, has proved to be a serious error in this one instance. The result is that a large and very important class of ancient porcelain cannot be traced in his work, and that the several writers on ceramic art who used it as a basis for Chinese information on the subject are not able to say anything about either the *provenance* or the history of céladon porcelains, the principal legacy left to later generations by the ceramic schools of the Sung dynasty.

5.—Principal Classes of Ancient Porcelain.

Julien's work contains the description of a number of classes said to have been manufactured during the Sung period. Of these, several descriptions are now either extinct or not traceable. Probably many of the porcelains existing during the thirteenth century and previously were of such delicate make as to be unfit to survive even to the Ming dynasty, whereas the strong kinds, such as some of the old céladons, which were of an almost imperishable hardness and thickness, or the heavy Chün-yao porcelains, have lasted to the present day. As a witness to this fact, I quote a passage from Chang Ch'ien-tê, an author of the

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[24] 青馬. [25] 青花.

Ming period, who in his work, the *P'ing-hua-p'u*, an essay "on Flower-pots and Flowers in Pots"[26] remarks:

"In ancient times no vases were made of porcelain, and up to the T'ang dynasty [*i.e.* the beginning of the 7th century[27]] all such vessels were made of copper; it was not till then that pottery came into vogue. After this period we find a large number of classes of porcelain, such as the kinds known as Ch'ai, Ju, Kuan, Ko, Ting, Lung-ch'üan, Chün-chow, Chang-shêng, Wu-ni, Hsüan and Ch'êng.[28] Amongst antiquities, copper articles are the best; of porcelains, the Ch'ai and Ju kinds, though the best of all, have ceased to exist; the Kuan, Ko, Hsüan and Ting porcelains are the most precious curiosities of the present day, whereas the porcelains called Lung-ch'üan [the heavy, old céladons of

[26] 張謙德瓶花譜, quoted in *K'o-chih-ching-yüan*, ch. 36, p. 12. The Imperial catalogue (ch. 116, p. 36) has only a few words to say about this book, and unfortunately fails to give us the exact date of its publication; but, since the author, Chang Ch'ien-tê, is distinctly called a Ming writer, it certainly dates previous to the year 1644. We learn, however, in the notice contained in the Imperial Catalogue (ch. 123, p. 7) of another work, which greatly concerns us, the *Ch'ing-pi-tsang* (清秘藏), that its author, Chang Ying-wên (長應文), *alias* Chang Mao-shih (長茂實), was the father of Chang Ch'ien-tê, and that the preface to his work was written by Chang, the son, in 1595. (*Cf.* Eitel, "Notes on Chinese Porcelain," in *China Review*, vol. x, p. 310). It results therefrom that the *P'ing-hua-p'u* must have been published within less than a lifetime from this date, and probably several decades la'er than the *Ch'ing-pi-tsang* was written. For, while the father says in his work, with regard to Ju-yao: "I constantly meet with specimens of it" (*see* Eitel, *l.c.*), the son says that "the Ch'ai and Ju porcelains have ceased to exist" (*see* above). I conclude from the two passages that Ju porcelain, which was considered one of the most valuable curiosities of the time, disappeared from the market towards the end of the 16th century; and it seems not improbable that the Japanese inroads on China during the years 1552 to 1587, when the coast provinces from Shan-tung down to Hainan were completely plundered by the enemy, have considerably contributed towards this state of things, either by destruction or by theft.

[27] This remark tends to confirm my conjectures as to the period when porcelain was first made.

[28] 柴, 汝, 官, 哥, 定, 龍泉, 均州, 章生, 烏泥, 宣, 成. *See* Julien, the passages referred to in his Index under *Tch'aï-yao*, *Jou-yao*, *Kouan-yao*, *Ko-yao*, *Long-t'sioueu-yao*, *Kiun-yao*, *Tchang-k'i*, *Ou-ni-yao*, *Sioueu-yao* and *Toh'ing-hoa-yao*. The last two varieties represent the earlier Ming porcelains.

modern collectors], Chün-chow, Chang-shêng, Wu-ni and Ch'êng-hua are esteemed as objects of only secondary value."

6.—Ch'ai and Ju Porcelains.

The passage here quoted is of some interest inasmuch as it shows that we need not trouble much about Ch'ai and Ju porcelains, since these had, in the author's opinion, ceased to exist in his time, *i.e.* as early as three hundred years ago. There is little hope, therefore, to obtain specimens at the present day, although it happens that Chinese dealers, having fallen in with an ancient looking specimen which seems to bear no resemblance to any of the now known categories of the Sung period, offer it for sale as *Ju*, or even *Ch'ai*. Chang Ch'ien-tê's assertion on this point is, however, but partly borne out by Dr. Bushell's Illustrated Manuscript.[29] It is stated in the introduction to this interesting work, that "the reign of Ch'ai [*i.e.* the Emperor Shih-tsung of the Posterior Chou dynasty, just preceding the Sung period, A.D. 954 to 960] was the first to become celebrated for its pottery, so that in the present day [16th century A.D.] men search for a fragment of this porcelain without being able to find one, and declare it to be but a phantom."[30] At the same time, the collection described and illustrated by Dr. Bushell's author contains several pieces of Ju porcelain; the surface of these is described as "a pale bluish green coarsely crackled" (Nos. 19 and 34) or simply "bluish green"

29 S. W. Bushell, M.D., "Chinese Porcelain before the present Dynasty," in *Journal of the Peking Oriental Society*, vol. I. p. 65 *seqq.* This is of all that has appeared the most important contribution towards the elucidation of ceramic matters by means of Chinese records. Dr. Bushell has had the good fortune to fall in with a descriptive catalogue of old porcelains, with illustrations painted in water colours, by a collector and artist who lived about three hundred years ago. No student of old Chinese ceramic art should neglect this publication.

30 *Cf.* Julien, *op. cit.*, p. 12.

(No. 22). Since the text, from which Dr. Bushell translates, is accompannied by coloured illustrations, certainly a most valuable feature, there cannot well be any doubt as to the accuracy of the English version. Some of the Ju porcelains appear therefrom to have been green, and not blue as Julien, owing to the misunderstanding of the word *ch'ing*, calls them.[31] The colour applied to them in Julien's text is described as *tan-ch'ing-sê*,[32] and Julien's translation "couleur bleu pâle" should be exchanged against Bushell's "bluish green." It might appear from Dr. Eitel's translation from the *Ch'ê-kêng-lu* (Preface, A.D. 1366, see *China Review*, vol. x, p. 309) that Ju-yao was "manufactured" during the Ming dynasty. The passage referred to reads in the translation: "under the present Dynasty (Ming) the white porcelain ware of Ting-chow, being gritty and unfit for presentation for the use of the Court, an order was accordingly issued for the manufacture of the blue [*ch'ing*, probably "green"] porcelain ware in Ü-chau [Ju-chou], etc." It is obvious, however, that since the author quoted wrote his preface in A.D. 1366, the phrase "under the present Dynasty" cannot relate to the Ming, whose reign dates from A.D. 1368, but that the Mongol Dynasty (A.D. 1280 to 1368) is meant by it; if not the whole extract is a quotation from the Sung author mentioned in the first paragraph.

Apart from the Ch'ai porcelain, which apparently was extinct during the Ming dynasty, and the Ju variety, which must have been at least very rare, we have to direct our attention to the Kuan, Ko, Ting, Lung-ch'üan, Chün-chow, Chang-shêng and Wu-ni porcelains as objects well known in Chang Ch'ien-tê's time and belonging to the Sung period

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31 Julien, p. 63, *seqq*.

32 淡青色.

(A.D. 960 to 1280), and out of these again [1] the Lung-ch'üan (plain céladon), including the Ko (crackled céladon), and Chang-shêng (oldest plain céladon), [2] the Chün-chow porcelains, and [3] the white Ting-yao, are the varieties of which traces may be found at the present day without too much difficulty.

7.—Ting-yao.

The porcelains of Ting-chou, near the present Chêng-ting-fu in Chih-li (Playfair, Nos. 548 and 7303), known under the name of Ting-yao, may be regarded as one of the oldest kinds known, if the passage quoted above from the *T'ang-pên-ts'ao* (A.D. 650) refers to it. Its colour was mostly a brilliant white, whence it is also known as Pai-ting, or white Ting porcelain. Specimens of the Sung and Ming dynasty are still seen in the hands of dealers and collectors. The peculiar brilliancy of white Ting-yao can be easily distinguished from the creamy white of what is known as Kien-yao, a class of fine white porcelain made in Fukien, but it has been well imitated in various periods at King-tê-chên. The *Ko-ku-yao-lun*,[33] one of the principal works on antiquarian subjects written during the Ming dynasty, completed in A.D. 1387, and therefore one of the oldest authorities we can quote, with regard to the subject in hand, has the following on the Ting porcelains of the Sung dynasty:

"Old Ting porcelain is valuable if the paste is fine, and the colour is white and brilliant; low qualities are coarse and of a yellowish colour. If it has marks as of tears, this is a sign of

[33] 格古要論, quoted in the *T'ao-shuo* (陶說), ch. 2, p. 6. For bibliographical details *see* the Imperial Catalogue, ch. 23, p. 4, and Bretschneider, *Bot. Sin.*, p. 162. This work is constantly quoted in the native cyclopædias. It treats, in thirteen sections, on the following subjects: (1) Old bronzes, (2) Old pictures, (3) Old manuscripts, (4) Old inscriptions, (5) Old musical instruments, (6) Old ink slabs, (7) Curiosities, (8) Gold and iron, (9) Old porcelain, (10) Old lacquered ware, (11) Silks, (12) Rare woods, (13) Rare stones,

its being genuine. Specimens having ornamental designs cut into the paste are the most excellent; plain pieces also are good; those which have ornaments worked into (or painted on) the enamel are of the second quality. The best specimens were made during the periods Chêng-ho (A.D. 1111 to 1117) and Hsüan-ho (A.D. 1119 to 1125); but these are difficult to collect. Brown porcelain was also made at Ting-chou, and a black variety resembling black lacquer in colour."

The remark about the different modes of showing the ornament apparently refers to the division of ornamented Ting porcelains as given in the *Po-wu-yao-lan*,[34] a work similar to the *Ko-ku-yao-lun* and also much quoted in the cyclopædias, according to which the ornaments were distinguished as [1] engraved, or cut into the paste, [2] worked into the enamel or painted (?) and [3] printed or pressed on with a mould.[35] The ornaments chiefly represented on Ting porcelain during this, the classical period of its manufacture, were, according to the same authority, the Chinese pæony, the Hsüan-ts'ao *(Hemerocallis fulva)* and the Fei-fêng, or "Flying Phœnix."[36]

The *T'ao-shuo* quotes another source to show that a distinction was made between the plain, smooth kind and the variety having ornaments in relief; that the enamel was added to the paste, which was white already, and that the appearance of "tears' marks," so highly spoken of in the *Ko-ku-yao-lun*, was produced by the enamel being thus thrown on. The

[34] 博物要覽. *T'ao-shuo*, l.c., p. 7. I am not able at present to give the date when this work was published; but since the *T'ao-shuo*, ch. 3, p. 6., quotes it in connection with all porcelains up to the reign of Chia-ch'ing (A.D. 1522 to 1567) without there being a quotation from it referring to later periods, we may perhaps guess its age from this fact.

[35] 劃花繡花印花. *Cf.* Julien, p. 61: "avec des fleurs en relief; avec des fleurs gravées en creux; avec des fleurs moulées." Julien throughout translates *hua* by "fleurs;" but it should be understood that by "flowers" the Chinese understand ornaments of every description.

[36] *Cf.* Julien, p. 61.

brown and black varieties (of which I have never seen a specimen) were not held in high value.

The real Ting-yao of the North has been well imitated during the Yüan dynasty (A.D. 1260 to 1367) by one P'êng Chün-pao,[37] at Ho-chou in Kiang-nan. Of this class of porcelain, the *Ko-ku-yao-lun*, whose author wrote not too long after that time, says: "This New Ting porcelain *(hsin-ting-yao)*, is fine in paste and white in colour, and it looks very much like real Ting-yao." Since the imitation is stated to have been very breakable, it is not improbable that nowadays the chances of being deceived by it are less than they were five hundred years ago. The ingenuity of King-tê-chên artists has probably since made up for this, and as the material they used in their factories is much less heterogeneous with Ting-yao than it is with other porcelains of the Sung dynasty, such as the real céladons of Lung-ch'üan or Chün-yao, collectors should be on their guard in this respect.

8.—Chün-yao.

The porcelains known as Chün-yao (or Chün-chou-yao) are among the oldest we know of, both as regards literature and existing specimens. The factories were situated in or near the city now known as Yü-chou (Playfair, No. 8775) in the Prefecture of K'ai-fêng-fu. The name of this district of Yü-chou was Chün-chou or Chün-t'ai[38] during the Sung dynasty, whence the term Chün-yao has been derived. Julien (p. 73) translates from the *King-tê-chên-t'ao-lu*, that these factories existed at the beginning of the Sung dynasty, which would carry them back to the 10th century A.D.

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[37] 彭均寶. Julien, p. 21.

[38] 均州; 均台. *Chün* 均 often appears as 鈞, and sometimes wrongly as 君. *Cf.* Julien, p. 74.

The following is a translation of what is said in the *T'ao-shuo* on the Chün-yao of the Sung dynasty, specimens of which have been preserved to the present day:

"The *Liu-ch'ing-jih-cha*[39] says: 'It shows in gradual shades the brilliant effects of all colours, very prominently the *t'u-ssŭ* pattern[40] and the *ch'ing* (green or blue) colour of a blazing flame.'[41]

"The *Po-wu-yao-lan* says: 'The highest quality consists of pieces having a colour as red as cinnabar, and as green as onion-leaves and kingfisher's plumage,[42] which is commonly called the green of the perrot and the purple brown colour of the skin of an egg-plant fruit, or of pieces red like rouge, green like onion-leaves and kingfisher's plumage, and purple like ink black, these three colours being pure and not in the slightest degree changed during the firing. Pieces which have one or two numbers on the bottom[43] as a trade mark,

[39] 留青日札.

[40] 兎絲紋, *t'u-ssŭ-wên*. Julien translates this term by "veines imitant les *soies* (poils) *du lièvre*," and others have adopted this much too literal translation; *cf.* Marryat, *History of Pottery and Porcelain*, p. 200: "the most esteemed had veins resembling the fur of the hare." A glance at the passages given under this head in the *P'ing-tzŭ-lei-p'ien* (ch. 214, p. 8) shows that *t'u-ssŭ* is the name of a vegetable parasite and as such is associated with that of a similar growth called *nü-lo* (女蘿) by the Chinese; it is the plant known to botanists as Cuscuta, or as the dodder in common English. *Cf.* Porter Smith, *Chinese Mat. Med.*, p. 87. I am inclined to think that the metaphor implied in this name refers to a peculiar crackled muster, which is neither the "crab's claw muster," nor the "fish spawn muster" of the Kuan-yao and Ko-yao porcelains, and which may be seen on some old specimens of Chün-yao.

[41] 火發青.

[42] 硃砂紅葱翠青. To a European eye the tints appearing in old Chün-yao porcelains, besides the reddish colours, are perhaps rather bluish than greenish; but it should be considered that, by the admixture of white and red materials, the exact description must have been very difficult to a Chinese writer. Probably no better metaphor could have been found for the colour described than the plumage of the perrot (*ying-ko-lü* 鸚哥綠), if we think of the red-tailed bird of a greyish plumage, which is so superior to all other varieties for its linguistic faculties.

[43] 底有一二數目字號. Julien (p. 74) translates: "les vases qui portaient au-dessous du pied les charactères numériques *i.*, 一 (un), *eul* 二 (deux);" Eitel (*China Rev.*, vol. x., p. 311): "specimens bearing

and are of a colour resembling pig's liver, since the red, *ch'ing* and green colours got mixed together like saliva hanging down through not being sufficiently fired, are not to be distinguished as different kinds.[44] For, such names as "mucus," or "pig's liver," which are given to this class of porcelain, have been invented for fun's sake. Among these porcelains, those which have bottoms like the flower-pots in which sword-grass is grown, are considered the most excellent;[45] the others, *viz.* those which have bottoms like

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one or two numerical characters at the bottom." I have, against my grammatical instinct, adopted the second rendering, since I have seen a Sung specimen bearing the number 五 (*wu*, five) as a trade mark. The description given by Fortune (*A Residence among the Chinese*, London, 1857, p. 86) of "the most ancient examples of porcelain" apparently refers to this class of Chün-yao.

[44] As is done in Julien's translation (pp. 74 and 75), where seven classes are named, *viz.*, (1) *Mei-tzŭ-ch'ing* (梅子青) or "green or blue, like plums;" (2) *Chia-pi-tzŭ* (茄皮紫) or "purple brown, like the skin of the egg-plant fruit" (*see* above); (3) *Hai-t'ang-hung* (海棠紅) or "red, like the Japanese pear"; (4) *Chu-kan* (猪肝) or "pig's liver" (*see* above); (5) *Lo-fei* (騾肺) or "mule's lungs;" (6) *Pi-ti* (鼻涕) or "mucus" (*see* above); and (7) *T'ien-lan* (天藍) or "sky-blue."

[45] 此窯惟種葜蒲盆底佳甚. Julien, *l.c.*, translates: "Parmi les porcelaines de cette manufacture, on regarde comme excessivement beaux les plats sous le pied desquels on a peint un glaïeul." It appears to me that both the grammatical analysis and the general context are against this rendering. The author here speaks of the bottom as that part of the vessel from which the nature of the paste may be recognised, because it is there not covered by enamel. Moreover, the three characters *chang-pu-pên* (葜蒲盆) are quite a common term in Chinese, meaning an ordinary flower-pot with a round hole through the bottom and a saucer underneath to receive the water soaking through the earth with which it is filled. The Chinese are much given to growing this graceful grass in pots, whence all flower-pots of this description are called "sword-grass pots." The passage referred to has been entirely misunderstood by Julien, whose rendering has given rise to the legend, having made the round among writers on Chinese porcelain marks, that a bunch of sword-grass was painted on the bottom of certain vessels as a factory mark. *See* Chaffers, *Marks and Monograms on Pottery and Porcelain* (London, 1868), p. 156; "葜蒲 *Tchang-pou.* The acorus, an aquatic plant, painted under the foot of a vessel, designates it as being of the manufacture of *Kiun*, of the finest quality, from 960 to 963." *Cf.* J. Marryat, *A History of Pottery and Porcelain*, London, 1857, p. 209, and other works of the kind.

ton-shaped censers,[46] Ho-fang jugs[47] or Kuan-tzŭ,[48] are all of a yellowish, sandy paste, for which reason they are not good in appearance; they have been made in recent years at I-hsing,[49] the paste consisting of a gritty clay, though the the enamel somewhat resembles the better class article; but they do not stand wear and tear.'

"The *Ch'ing-pi-tsang*[50] says: 'Of Chün-chou porcelains the best quality consists of pieces that are red like rouge; the second quality is green *(ch'ing)* like onion-leaves and king-fisher's plumage, and brown or purple like ink. Pieces that are of a pure colour and contain one or two numbers as marks on the bottom, are superior; pieces that show mixed colours are in no demand.'

"The *T'ung-ya*[51] says: 'Of Chün-yao there are five colours. A *Yao-pien*[52] [*i.e.*, a piece of porcelain which has accidentally changed colour in the fire] exists at the time; for, the [image of] Kuan-yin [the Buddhist Goddess of Mercy] in the Pao-kuo Monastery[53] is a *Yao-pien*.'

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[46] 坐墩鑪. [47] 合方餅.

[48] 罐子, a very common shape of gallipot or flower-jar, well known to collectors of King-tê-chên porcelain.

[49] *I-hsing-hsien* (宜興縣), a few miles up river near the western shore of the T'ai-wu Lake. Foreigners resident in Shanghai occasionally visit the place, which is known for its *terra cotta* potteries, imitating the shapes of ancient periods. The cheap, handsome brown tea-pots hawked about in the streets of Shanghai come from this place; a kind of green enamel is called after this city. *Cf.* Julien, p. 197.

[50] 清秘藏. *See* Note 26.

[51] The *T'ung-ya* by Fang Mi-chih (方密之通雅). The author took his degree of Chin-shih in A.D. 1640, and his work was published at the very close of the Ming dynasty. Although enumerated among the miscellaneous philosophers, this work is a sort of cyclopædia treating upon the customary categories in 52 chapters. See *Ssŭ-k'u-ch'üan-shu-tsung-mu*, ch. 119, p. 11. The *T'ung-ya*, in the passage quoted (ch. 33, p. 16) remarks that "Chün-yao is of the same category as Ju-yao" (均州有五色卽汝窯一類也). The T'ao-shuo omits this remark, possibly because it was not considered correct.

[52] 窯變. [53] 報國寺.

9.—Kuan-yao.

Kuan-yao, or Mandarin Porcelain, is the produce of certain Government factories. The Kuan-yao of the Sung dynasty, as described by the early writers on porcelain, must have been an entirely different thing from that which is sold as Kuan-yao, even as old Kuan-yao, at the present day. I have never been able to ascertain from the dealers the exact *provenance* or age of these porcelains, but I am inclined to consider them indentical with the *Kuan-ku-ch'i* (kouan-kou-khi) described as King-tê-chên porcelain of the Ming and later periods by Julien on p. 46. The objects shown to me in the native shops were of a peculiar brownish green, a sort of bronze colour which the Chinese describe as *ch'a-ch'ing* (*lit.* tea-green), whereas of the varieties described in the *T'ao-shuo* as belonging to the Sung dynasty, one was "white and thin like paper and inferior to Ju-yao," another was "very much the same as Ko-yao [the ancient céladon crackle] with three gradations in colour constituting their value, *viz.* (1) a pale *ch'ing*-green, (2) a fallow white, and (3) grey.[54] The *Ko-ku-yao-lun* speaks of *ch'ing*-green playing into pale scarlet, the shades being very different, though; the best ones having the "crab's claw pattern,"[55] and "a red brim with an iron coloured bottom."[56] This class of porcelain is said

[54] 粉青；淡白；灰色. However accurate the Chinese writer, who had a distinct notion as to the exact shade he wished to describe, may have been, the renderings of even the most painstaking foreign translator have to be received with great caution, unless there be a possibility to compare the description with a specimen of the class described, or as Dr. Bushell has been in the position to do with a coloured illustration. It is only by analogy with the few cases in which the identity is beyond doubt that we may venture to furnish a translation of the names of colours for unseen ancient porcelains.

[55] 蟹爪紋, "raies imitant celles des pattes de crabes" (Julien *passim*), a term often used in describing certain crackled surfaces.

[56] 紫口鐵足. This and the former characteristic are usually ascribed to certain kinds of Ko-yao, or old céladon crackle. This term, which literally translated means "red mouth, iron-foot" is of some importance

in that work to be of the same category as Ju-yao. We see from all this that old Kuan-yao, which was made in Pien-liang (K'ai-fêng-fu, Honan) at first, and, since the removal of the court of Sung emperors to the south, in the southern capital, Hang-chow,[57] as well as Ju-yao could be *ch'ing*-green in colour, *i.e.*, belong to the class now known as céladons. The *Ko-ku-yao-lun*, quoted in the *Ko-chih-ch'ing-yüan* (ch. 36, p. 15), even says that the Kuan-yao of Hang-chow was imitated at Lung-ch'üan. Possibly some of the old céladons which came to Western countries during the period of Arab trade to the east, were made at Hang-chow, the Quinsay of Marco Polo; but since the *Ko-ku-yao-lun* describes them as "thin in paste," the chances are that they did not survive, and that nearly all the Chinese old céladons now in the hands of Western collectors came from the place where the thick and heavy, green porcelain and céladon

in understanding one of the principal characteristics of old céladon porcelain. The *Po-wu-yao-lan*, quoted in the *T'ao-shuo* (ch. 2, p. 9) explains it as follows: "As regards Kuan-yao, it should be known that the porcelain earth found at the foot of the Fêng-huang-shan (or Phœnix Hill) near Hang-chow is red; for this reason 'the foot' [*tsu* 足, technically that part of the bottom on which the vessel rests when being fired, and which is therefore not covered by the enamel, especially applied to the rings seen on the bottom of old céladon vessels, *cf.* Julien, p. 245: "bord circulaire du pied d'un vase de porcelaine"] resembles iron in colour; this was at the time called "red mouthed and iron-footed." The term "red mouth" refers to the brim or opening of the vessel; the latter becomes red by the enamel flowing down and away from it so as to be much thinner on the brim than it is on the body of the vessel, which allows spots of red paste to become visible (故口露紫痕)." The red or iron coloured bottom, usually appearing in the shape of a ring, is a characteristic feature of the Lung-ch'üan céladons; but, if the above explanation is correct, the bottom of Lung-ch'üan vessels differed from Kuan-yao bottoms, since the paste of Hang-chow céladons (the southern Kuan-yao) is said to be red in itself, whereas that of the Lung-ch'üan-yao is originally white and merely turns red in the fire in such parts of the surface which are not covered by the enamel.

[57] Julien, pp. 47 and 65 *seq.* Julien, for the reason I have pointed out, describes these porcelains, too, as blue. The probability that the word *ch'ing* as applied to most of the Sung porcelains meant "green," and not "blue," is supported throughout by Dr. Bushell's translation of his illustrated book. As to Kuan-yao, all the kinds described therein, *viz.*, the Nos. 2, 5, 8, 13, 15, 17, 47, 50, 53 and 73, are of greenish colours.

crackles were then made, the city of Lung-ch'üan. Besides the Kuan-yao it appears that the varieties described as Tung-yao (Julien, p. 67, *segq.*, where "green" must be read wherever "blue" appears in the translation) and some of the Corean porcelains *(Kao-li-yao*, Julien p. 35*)* were céladons. The *T'ao-shuo* does not mention Japanese porcelain among the potteries of the Sung dynasty; but it says that the *Po-li-yao* (*lit.* glazed pottery) of the "island barbarians" as well as the enamel ware of Fo-lang[58] were not real porcelains and are therefore not described. The former may have been Japanese earthenware.

10.—Lung-ch'üan-yao and Ko-yao, the real old Céladons.

The term "céladon" may be understood to be known to all collectors in Europe. It was in the first instance used for a certain colour which had become fashionable during the seventeenth century, when novels and poems describing the idyllic pleasures of enamoured shepherds were the order of the day in France. It was then that the hero of a novel called "l'Astrée," by d'Urfé, lent his name to this class of courtier in shepherds' clothes, who played a prominent part not only in books but also on the stage. The favourite colour in which they presented themselves in theatrical plays was a kind of sea-green, mixed with bluish or greyish tints, neither a decided green nor anything like blue; in fact exactly what the Chinese call

[58] 島夷之玻瓈窰大食國之佛郎嵌. The *tao-i* or "island barbarians" are mentioned in the *Shu-king* (III. 1, 10, Legge) as wearing fur clothing; it appears from this that this term need not necessarily apply to the inhabitants of southern islands. Though the tradition of the passage referred to is doubtful, some of the commentators apply the term to Japan.

ch'ing colour in certain old porcelains. This colour, which was then fancied by the elegant world, was named "céladon" after the shepherd so called, and was soon applied to the old Chinese porcelains and all other porcelains that were of a similar colour.

M. Jacquemart,[59] speaking of Ceramic Art in Persia, says: "Céladons are very common in Persia; they have the beautiful sea-green tint of the old Chinese céladons, and are to be recognised only by their style. Some are simply gadrooned or fluted, others have ornaments in relief in good taste,"—"Pétis de la Croix mentions another coloured porcelain in his translation of the 'Thousand and One Nights,'—the Martabani. 'Six old slaves,' he writes, 'less richly dressed than those who were seated, immediately appeared; they distributed mahramas [blue squares of stuff used to wipe the finger], and served shortly afterwards, in a large basin of martabani [green porcelain] a salad composed of whey, lemon-juice, and slices of cucumber.' Chardin cites a green porcelain, which seems to be the same. He writes: 'Everything at the king's is of massive gold or porcelain. There is a kind of green porcelain so precious that one dish alone is worth four hundred crowns. They say this porcelain detects poison by changing colour, but that is a fable: its price arises from its beauty and the delicacy of the material, which renders it transparent, although above two crowns in thickness.' This last peculiarity [says Jacquemart] has a great importance. It is impossible to suppose travellers would here allude to the sea-green céladon of which we have spoken above; this, laid upon a brown, close paste, approaching stoneware, is never translucent. In the martabani, on the contrary, a thin, bright green glaze, is applied upon a very white biscuit, which

[59] *History of the Ceramic Art*, transl. Mrs. B. Palliser, p. 151.

allows the light to appear through. It is most wonderful that a material so esteemed, and of so high a price, is not more common in our collections. Its name, on the other hand, leaves no doubt of its Persian nationality. Martaban (Mo-ta-ma) is one of the sixteen states which composed the ancient kingdom of Siam; it would not be impossible, then, that we must restore to this kingdom the porcelain mentioned in the Arabian story."

The question raised by these remarks of Mr. Jacquemart has lately been taken up again, and the origin of the céladon dishes found in Arab countries, and there called *martabani*, has become the subject of an unusually warm controversy. A well-known Arabist, Professor Karabacek, of Vienna, in an able essay, entitled "Zur muslimischen Keramik," and published in the "Oesterreichische Monatsschrift für den Orient,"[60] has advanced the theory that these céladon porcelains are *not* of Chinese origin. On having discussed the terminology of pottery articles as described in Arab sources, the learned author says:

"So far, we may say, the terminology of Muslimic porcelains has been exhausted, with the exception of one name, *viz.*, *Martabânî*."

"While reserving to myself a more detailed discussion upon this subject, I wish to state briefly that this name is throughout the Muslimic Orient applied to the finest Céladon porcelain, and that there cannot be the slightest doubt as to this terminology."

"As it would take us too far away from the subject in hand, I am not going to enlarge upon the question, naturally resulting therefrom, as to the period at which the Arabs became first acquainted with Chinese porcelain, although it appears to me that the answer to this question and the fixing of

60 Vol. x, December 1884, p. 281 *seqq.*

the starting-point will at the same time be attended with real progress in settling the doubts prevailing in respect to the invention of porcelain in China."

"I, therefore, deal at once with another question, which, with regard to the subject now in hand, is of much greater importance, *viz.*, *Has porcelain ever been produced on Islam territory?*"

Professor Karabacek endeavours to disperse what he considers a prejudice, *viz.*, the idea that during the middle ages China was the only country where porcelain came from. Wherever porcelain had been found under circumstances suggesting great age, a class of scholars who, in the learned professor's opinion are as exclusive as the Chinese themselves, and who may be comprised under the name of "sinologues," came forward to claim the product as Chinese manufacture sent abroad by the early traders to the Indian or Arabian countries where they had been discovered. Professor Karabacek, on the other hand, is of opinion that certain porcelains, especially the "large, heavy, thick, green céladon dishes with the well-known ferruginous ring on the bottom, which have been found spread over all the countries of Arab civilisation" are not of Chinese origin. It appears that either these heavy céladons or some articles related to them are known in Arab literature by the name of *Martabâni*. Whether this name is, or is not, correctly applied to them (a question which in the absence of local experience I would never venture to decide), so much seems certain from Karabacek's researches, that the celebrated encyclopædist Hâdschi Chalfa, who died in A.D. 1658, says that "the precious, magnificent céladon dishes and other vessels seen in his time were manufactured and exported at Martabân in Pegu." On this passage he mainly bases his theory of the non-Chinese *provenance* of these characteristic porcelains. Against this,

the Chinese origin was again upheld by Dr. A. B. Meyer, who[61] maintains that, apart from the passage referred to, no evidence can be brought forward to show that real porcelain was made at Mulmein (Martaban), Rangoon, or Bangkok,[62] but that porcelain was there of old as on the present day imported from China. Dr. Meyer justly draws attention to a number of passages from Ibn Batuta and other Western travellers, to show that lively traffic in Chinese porcelain existed in those days. At this point the question assumes a polemic character, Professor Karabacek[63] bringing forward, from Arab and other sources, a further array of arguments, in order to prove his case. Being an entire stranger to Arab literature, and in the absence of any local information as to the finds of céladon vessels in Western Asia, India or Siam, I could never dare to say a decisive word in so intricate a difficulty. It is, moreover, impossible to form an opinion on articles one has never seen; for I have to entirely depend on the authority of others, who declare that céladon vessels possessing all the characteristics of certain Chinese manufactures have been found in all parts of the world formerly ruled over by the Arabs, such as Morocco,

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61 "Ueber die Herkunft gewisser Seladon-Porzellane und über die Martabani's" in *Oesterr. Monatsschr. für den Orient*, Vol. XI, January 1885, p. 11 *seqq.*

62 The *Tung-hsi-yang-k'ao* (東西洋考), published about the year 1618 (Wylie, p. 47) and containing minute accounts of all the articles of trade of the several countries with which China had commercial relations in that period, devotes 22 pages to a description of Siam and gives a list of 38 articles of trade produced in, or exported from, that country. But nowhere have I found an allusion to export trade in Porcelain in this account. The only passage I have so far discovered in a Chinese author as showing that porcelain was sent to China from abroad is a list of articles of tribute sent to the court of the Ming emperors by the king of Bengal (such tribute missions are stated to have gone forward from Bengal in A.D. 1408, 1414 and 1436). The *Hsi-yang-kung-tien-lu* (西洋貢典錄), ch. 2, p. 11, enumerates among others presents: horses, saddles, glass-ware and "white porcelain with blue (green?) ornaments" (青花白磁).

63 "Die Martabâni-Seladon-Frage," *ibid*, p. 29 *seqq.*

Egypt, Arabia, Persia, the East Coast of Africa; also in India, Borneo, Ceram and other islands of the Archipelago. Dr. A. B. Meyer, a few years ago, drew my attention to this fact, and in order to enable me to make enquiries in China regarding the origin of these porcelains, gave me the following description of what may be considered their characteristics:

"The céladon porcelain is extremely heavy. It is of a light green colour, and I believe that, in selecting this hue, the makers intended to imitate the colour of jadestone, and that this was the reason why it was so much appreciated. The articles which have been found in various countries between the island of Ceram[64] on the one hand and Africa on the other consist in dishes measuring up to about half a metre, covered by green enamel all over with the exception of a ring on the bottom, 1 to 2 centimetres in breadth and holding from about 10 to 15 centimetres in diameter, and being red-brown in colour. The paste consists of white porcelain, but it appears that the red-brown colour of the ring has its origin in certain changes of colour produced on the surface of the paste in such parts as are not covered by the enamel, that is, the ring on which the vessel stood, while being fired. The ring on the bottom is characteristic of these old céladons, and so is the heaviness and the colour. The musters are of all possible kinds. Thus, for instance, the fluted pattern is often seen.[65] It is, like all ornaments

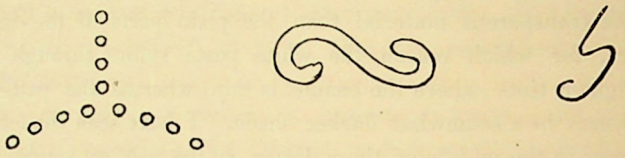
64 Chinese porcelain has been lately discovered in tombs as far east and south as the Key Islands. See *Verhandlungen der Berliner Ges. f. Anthrop., Ethnol. u. Urgeschichte*, 1887, p. 328.

65 Prof. Karabacek in his second paper, *l.c.*, p. 34, is at some pains to show that this fluted pattern (Radialstreifen) is a specific ornament of Siamese civilisation. It is a peculiar coincidence that, when I began my search for céladons in China, the very first dish that fell into my hands showed the fluted pattern. I have since seen numbers of them with the identical decoration; nor is the fluted pattern confined to céladons or even porcelains in general. The ancient copper vessels of the Chou dynasty have it as well as the Greek pattern. Its very simplicity makes it the natural beginning of all ornamental art.

shown in these porcelains, produced by first impressing or engraving it on the paste previous to the enamelling. By putting on the enamel, the concave parts of the surface, representing the pattern, were filled up deeper with this semi-transparent material than the plain parts of the surface, for which reason the white paste shines through in brighter tints where the enamel is thin, whereas the pattern appears in a somewhat darker shade. I have seen the lotus flower in the middle of these dishes, or the fish ornament, or some sort of a checkered pattern spread over the whole surface. These dishes never bear a mark underneath the enamel; it appears therefrom that they were made at a time when the custom of marking the period of manufacture did not yet exist. I daresay you will be able to tell me which is the earliest date when such marks were used."[66] Dr. Meyer

[66] The custom of placing on record the date or period when a work of art had seen the light is probably nearly as old as art itself in China. The oldest sacrificial vessels, a description of which has been preserved in the *Po-ku-t'u-lu*, *viz.*, the bronze vases, tripods, etc., of the Shang dynasty (B.C. 1766 to 1122) contained inscriptions, some of which represented the names of monarchs. *Cf.* Thoms, "Description of Ancient Chinese Vases, etc.," in *J. R. A. S.*, Vol. I, p. 57 *seqq.* and 213 *seqq.* Date inscriptions were quite common during the Han dynasty. I have seen bricks containing a clearly defined date of the Han dynasty. Bricks of city walls will often be found to contain dates. I saw numbers of them recently immured in the city wall of Kia-ting near Shanghai; they were marked with the reign of Kia-tsing of the Ming dynasty (A.D. 1522 to 1567) and looked very well preserved. Since that city had been destroyed and burned by the Japanese in 1552, as I learned from a memorial tablet in one of the Kia-ting temples, the mark on these bricks suggests the date of one of the several renovations the wall has undergone in the course of centuries. I have no doubt that marks were not confined to bricks during the Han dynasty, and that, if we possessed a number of earthen vessels of that period, some of the better ones would also bear marks. Unfortunately, my experience in this respect is very limited. The oldest date I have seen on a piece of porcelain is that on a pot of crackled Chün-yao of very ancient looks and declared a Sung manufacture, at all events by the Chinese connoisseurs to whom I have shown it. The inscription is chiselled into the bottom, which is, of course, not covered by the enamel, and reads 大宋仁宗, *ta-sung-jên-chung*, referring to the Emperor Jên-chung of the Sung dynasty, whose reign extends from A.D. 1023 to 1064. I bought it out of a collection said to have come from the estate of the late banker Hu Sin-yang at Hangchow. Julien's authorities mention the Ching-tê period (A.D. 1004 to 1008) as a mark used in King-tê-chên, but it seems doubtful whether the custom

goes on to speak of certain marks which were seen engraved on the bottom of some of the céladon dishes, which Prof. Karabacek had declared to be of Siamese origin. The three marks communicated by Karabacek are the following:



Of these the first is admitted to strongly resemble the sign used in the Chinese running hand style for 六 *liu*, six. The third one has a decided similarity to Chinese 𝄞, the running hand sign for 五 *wu*, five. The middle one is explained by Prof. Karabacek as representing the letter L in the Peguan alphabet; however, this says not much, since the mark is specially described as "tief eingegraben, mit ausgezackten Rändern,"[67] which seems to be a strong hint as to its having nothing to do with the manufacture of the dish, since an owner's mark drilled or chiselled into the hard paste after the completion of a vessel, may have been made at any time and in any country.

Such is the position of the céladon controversy. Whether the vessels referred to are, or are not, of Chinese origin, I will not attempt to decide, and I publish these notes with the distinct reserve that I wish not by any means to be rash in my judgment. What I am going to suggest, however, is this, *viz.*:

actually originates at that time so far as other porcelains are concerned. I may mention that Graesse (*Guide de l'amateur de porcelaines et de poteries*, ed. 1880, p. 108 *seq.*) gives 21 marks of the Northern Sung dynasty, which I must assume have been copied from the original vessels, either by himself or by the authors of the catalogues from which he has compiled his guide-book. In no case, however, may the absence of a mark be considered as indicating great age. Monochrome porcelains especially are seldom marked, no matter in what century they were made.

67 *Monatschrift*, etc., Vol. XI, p. 33. An interesting paper, recapitulating the whole question, has since been published by Mr. George Müller-Beeck in the *Mittheilungen der Deutschen Gesellschaft f. Natur-u. Völkerkunde Ostasiens.*

1.—That thick and heavy céladon porcelains possessing all the characteristics of the vessels, which I am informed by Dr. Meyer were found in the former Arab possessions and colonies, India and the Indian Archipelago, are to be found in quantities in China at the present day;

2.—That although imitated in China, Japan and other countries at present, specimens possessing the true characteristics are declared by the Chinese familiar with the local tradition to be several centuries old, some of them dating as far back as the 12th century A.D.;

3.—That the place where originally nearly all these céladons were made was at the city of Lung-ch'üan (Lat. 28° 08′, Long. 119° 09′) during the Sung and Yüan dynasties, and at Ch'u-chou-fu (Lat. 28° 26′, Long. 119° 57′) since the beginning of the Ming dynasty, say about A.D. 1400; both these cities being situated in the south-west of the province of Chêkiang;

4.—That in all probability the Lung-ch'üan porcelains were brought by river to Zaitun, one of the ports in Amoy waters frequented by foreign traders, for exportation abroad during the Sung, Yüan and Ming dynasties, the period when Arab trade flourished at this port;

5.—That céladon porcelain, as Chinese porcelain generally, was carried from China to Japan, Borneo, Sumatra, and Arabian countries at least as early as the thirteenth century as an article of trade, thus accounting for the comparatively large number of specimens discovered there.

When Dr. Meyer wrote to me about the céladon question in 1885, I had not yet paid any attention to this class of article, which is not only of ceramic interest, but also of a certain importance in the elucidation of commercial relations of the East during the Marco Polo period. I began then to search for specimens in Shanghai, and since, after the death of Hu Sin-yang, the well-known financial operator at Hang-chow and the owner of vast ceramic treasures, a number of curious objects, including many ancient porcelains, had reached the Shanghai market through various channels, the difficulty of obtaining specimens was not great. I soon discovered that porcelains, consisting of dishes, bowls, cups, vases, censers, indeed almost every class of object which is usually represented by this material in China, and possessing all the qualities attributed to the céladons found in Western Asia and Africa, *viz.*, thickness, heaviness, rich olive or sea-green enamel, the white paste and the characteristic ferruginous ring on the bottom, are well known among the Chinese; that they are all of them credited with great age, a few specimens being agreed by all natives who are supposed to take interest in the matter to have been made during the Sung dynasty. My enquiries among the natives have convinced me in one respect, *viz.*, that, whereas with regard to many other antiquities it is often difficult to find two Chinese that agree, a most decided uniformity of opinion prevails about this class of porcelain. There is not an intelligent native student in China who is not able to pick out a piece of *Lung-ch'üan-yao*, or a *Lung-ch'üan-ti*,[68] for such is the colloquial designation in the north, from a large collection of similar objects without the slightest hesitation. Further, there is only one opinion as to the age of those specimens which are not wanting in any of the characteristics. For, since the paste is originally white,

[68] 龍泉的.

which may be proved by examining a broken specimen, whereas all parts of the surface which were not covered by enamel have turned red or brown in the fire, we have before us an earth possessing a natural quality not possessed by the produce of other kilns, *viz.*, that of changing colour in the fire. I understand from my Chinese informants that this peculiarity cannot be imitated, not even at King-tê-chên, and that in order to produce the ferruginous ring in other white porcelains the bottom must be coloured artificially. This is one of the chief characteristics, and one of the tests applied by the natives consists in looking for accidental patches or little spots where the enamel for some reason or other has allowed the raw paste to look out, these spots coming forward against the intentions of the manufacturer, since they reduce the value of the vessel; if the colour of these patches is genuine like that of the ring, it helps to increase the confidence in its age, which, in all cases, must be of a date prior to the closing of the factories at Lung-ch'üan and Ch'u-chou, the original *provenance*. About this last point I have not yet found any literary data, and it appears that we are entirely dependent upon native tradition, by which no porcelain of this class was made in that district since the beginning of this dynasty, say the 17th century. To confirm or contradict this important fact, careful local enquiry will be necessary.

The characteristics of this Lung-ch'üan-yao are also peculiar to some specimens of another class of porcelain known as *Ko-yao*. Under this name the greater part of all Chinese crackled porcelain is sold; but we have to distinguish between real or old Ko-yao[69] and the Ko-yao of King-tê-chên. The former is made of the same material as the Lung-ch'üan-yao, is also as a rule thick and heavy, has the ferruginous ring, the paste being white inside, but the

[69] 古哥窯.

enamel is crackled and has a greenish (céladon) tint.[70] Since both classes of porcelain were made in the same locality and at the same periods, they should be treated together. The Lung-ch'üan-yao and the Ko-yao, in other words the plain and the crackled old céladon, are a pair of twin brothers, very much alike in bone and flesh and offering none but superficial differences. This fact has been well expressed in a legend preserved in old Chinese records, which may or may not be based on matter of fact, *viz.*, that a pair of brothers, Chang the elder and Chang the younger, were the fathers of the two industries. In submitting a translation of what the *T'ao-shuo* has to say on the two kinds of céladon, I am guided by the idea that they are practically different branches of the same industry. I would recommend the student to compare by way of supplement the translations of Julien and Eitel,[71] but to remember that in either version the word *ch'ing* has been rendered by "blue" or "azure" instead of "green."

Extracts from the *T'ao-shuo* (ch. 2, p. 10 *seqq.*)

1.—"The Ko-yao of the Sung Dynasty."

"The porcelain factories of Liu-t'ien at Lung-ch'üan[72] were originally in the hands of two brothers, natives of Ch'u-chou, whose surname was Chang, the elder of whom was called Shêng-i (*i.e.*, the first born), whereas the younger brother's name was Shêng-êrh (*i.e.*, the second born).

70 I am in doubt whether the "rice-coloured" specimens were made at Lung-ch'üan, although some Chinese records say that this was the case. Julien, p. 70: "On n'en estimait que deux sortes, celles qui étaient couleur de riz, et celles d'un bleu [*i.e.* green, *ch'ing*] pâle dont l'émail était parfaitement pur."

71 *China Review*, Vol. X, p. 309 *seqq.*, and Vol. XI, p. 177 *seq.*

72 龍泉琉田.

Either of the two brothers owned a factory, and the porcelain which came from the factory of the elder brother [in Chinese *Ko*] was called Ko-yao or Elder Brother's Porcelain, to distinguish it from the produce of the other factory."

2.—"The *Ko-ku-yao-lun* [A.D. 1387] says of the old Ko-yao: 'Its colour is *ch'ing*-green of various shades, and and it comprises porcelains which have "the iron foot and the red mouth,"[73] of which specimens having a good colour may be classed with Tung-yao,[74] though there are few to be found at present.'"

3.—"The *P'ai-shih-lei-p'ien*[75] says: 'when its paste is fine and thin, and the enamel pure and clear, this porcelain is highly valued. Ko-yao will then have short cracks which are called Pai-chi-sui.'"[76]

4.—"The *Ch'un-fêng-t'ang-sui-p'i*,[77] says: 'Ko-yao is of a flat white and has short cracks.'"

5.—"The *Po-wu-yao-lan* says: 'The characteristic feature of Kuan-yao consists in its having cracks underneath the glaze[78] resembling the claws of a crab,[79] that of Ko-yao in its having cracks like fish-spawn;[80] with the difference that its enamel does not come up to that of Kuan-yao.'"

6.—"The *Wu-ts'a-tsu*[81] says: 'Apart from Ch'ai-yao, the porcelains of the Sung dynasty, *viz.*, those of Ting, Ju,

[73] *See* Note 56. [74] 董窯. *Cf.* Julien, p. 67 *seq.* [75] 稗史類編.

[76] 百坂碎 (坂 = 岆, K'ang-hi), *lit.* "the crackle of the hundred dangers," probably on account of the difficulties found in its manufacture.

[77] 春風堂隨筆.

[78] 隱紋, *lit.* a concealed, or covered pattern. [79] *See* note 55.

[80] 魚子. It appears that the crab-claw pattern consisted of long irregular cracks, whereas the fish spawn pattern represents what French collectors call "truité." Small objects with these fine crackles were made in various colours since the Ming dynasty, as for instance the *Yü-tzŭ-lü*, a well-known class of a finely crackled fresh green surface, and the *Yü-tzŭ-huang*, having a similar surface in yellow.

[81] 五雜俎, a work of the Ming dynasty. Bretschneider, *Bot. Sin.*, p. 209.

Kuan and Ko have been preserved to the present day, but it is only the Ko-yao, of which it is not too difficult to obtain specimens, owing to their peculiar heaviness, which enables them to keep well, whereas it was difficult to preserve the Ting and Ju porcelains for such a length of time.'

7.—"The *Lung-ch'üan-yao* of the Sung Dynasty. This is the pottery made by Chang Shêng-êrh, *i.e.* Chang the younger, and since the porcelain made by the elder brother was already called Ko-yao, while the younger brother continued his factory at Lung-ch'üan, the old name of this porcelain was Lung-ch'üan-yao.'

8.—"The *Pai-shih-lei-p'ien* says: 'The porcelain of Lung-ch'üan is up to the present day called Chang-yao [*i.e.* Chang's Porcelain] by the people of Wên-chow and Ch'u-chow.'

9.—"The *Ko-ku-yao-lun* (A.D. 1387) says: 'The old Lung-ch'üan-yao is now called Ch'u-ch'i [Ware of Ch'u-chou-fu] or Ch'ing-ch'i [Green Ware]. Old Ch'ing-ch'i [Green Ware], if fine and thin in paste and of *ts'ui-ch'ing*-green colour[82] is highly valued. There are specimens which are of a pale *ch'ing*-green colour,[83] and there is a variety consisting of basins which have a pair of fishes at the bottom or have on the outer side brass rings serving as handles; they are of thick and heavy make and not very superior.'

10.—"The *Po-wu-yao-lan* says: 'The better specimens of Lung-ch'üan porcelain are able to compete with Kuan-yao and Ko-yao; but there is not much in the way of a crackled surface or a brown paste; and owing to their being thick and

[82] 翠青, *lit.* Kingfisher's green. It is the green of luxuriant foliage, as I conclude from a quotation in the *P'ei-wên-yün-fu*, under this head: 葉萋萋兮翠青. The green jadestone earrings, hairpins and other ornaments worn by Chinese women are of the stone called *fei-ts'ui-yü* 翡翠玉, *lit.* Kingfisher's jade.

[83] 粉青色者, *lit.* a mealy or mellow green.

solid in make, they can stand a very good deal of wear and tear and will not easily spoil.'

11.—"The *Ch'ing-pi-tsang*[84] says: 'Old Lung-ch'üan porcelain is fine in paste, thick in make, and has an intense onion-green or tree-green colour.[85] The better specimens may compete with the Kuan-yao; but there is not much in the way of a crackled surface, a brown paste and an iron foot. Moreover, they can stand a very good deal of wear and tear and will not easily spoil. But as the manufacturers were somewhat clumsy, the workmanship shown in these porcelains cannot be classed as representing the ancient elegance in style. When the white paste is so covered with green enamel that, at the places where it is not put on thick, white patches will shine through,—this is the porcelain burned by Chang Shêng of the Sung dynasty and therefore called Chang-yao; when compared to the [ordinary] Lung-ch'üan it displays greater delicacy of workmanship.'

12.—"The *Ch'un-fêng-t'ang-sui-p'i*[86] says: 'The green porcelain made by the younger brother was pure and clear like fine jadestone and much valued by the world; it resembled the Kuan-yao in make. The porcelain made by the elder brother was of a fainter colour.'"

The author of the *T'ao-shuo* remarks with reference to the above extracts:

13.—"If the *P'ai-shih-lei-p'ien* says with regard to the manufactures of Chang the elder and Chang the younger that their colour was green, though of different shades, that their bottoms were iron coloured and that this colour was

[84] 清秘藏. [85] 葱翠. [86] 春風堂隨筆.

also of different shades, that in olden times red bottoms were heard of, though these were now seldom seen; and if the *Ko-ku-yao-lun* also says that the colour of the old Ko-yao was green of various shades; that it had iron coloured bottoms with red mouths, and that the ancient Lung-ch'üan green ware was of fine and thin paste, that leaf-green specimens were valuable; and if the expressions "old" and "ancient" in these remarks refer to the manufactures of Chang the elder and Chang the younger,—there should have been no great difference between the two kinds from the outset. The distinction mainly lies therein that the elder brother made crackled porcelain, whereas the younger worked uncrackled musters. The remark that the elder brother made pale coloured specimens, the younger brother thick and heavy porcelain, does certainly not refer to the early time of the Chang family. Imitations of Ko-yao were made at the end of the Yüan dynasty [in the middle of the 14th century]; the paste of which they were made was coarse and scorched, and the colour was not good.[87] The Lung-ch'üan factories were moved to Ch'u-chou-fu[88] at the beginning of the Ming dynasty [A.D. 1368]. The porcelains made here were also green in colour, but the porcelain earth while being burned would gradually not come up to what it was before. It is said in the *T'ung-ya* of Fang Mi-chih[89] that, to imitate the Ko-yao crackle it is impossible to make the iron coloured bottom; if the imitated article yet has this characteristic, the porcelain will not ring; and in the like manner it is impossible to imitate the pale [céladon?] colour[90] of the Lung-ch'üan porcelain; if the imitation is yet

87 This remark occurs in the *Ko-ku-yao-lun* quoted in *Ko-chih-ch'ing-yüan*, ch. 36, p. 16.

88 處州府, about 75 miles down river in an easterly direction, half way between Lang-ch'üan and Wên-chow.

89 *See* above note 51.

90 淡色.

pale coloured, it will not ring. This is one of the points in which the superiority of the old becomes apparent.

"Further, the *Po-wu-yao-lan* says: 'Of Kuan-yao as well as of Ko-yao vessels there are at this time pieces which have changed colour during the firing (Yao-p'ien) and exhibit figures resembling butterflies, birds, fishes, unicorns, or leopards inasmuch as the colour in part of the original enamel has by some unaccountable process during the firing, undergone a transmutation into light brown or red brown." [The remainder of the text quotes poetry and anecdote.]

The above records, translated from the *T'ao-shuo* may be supplemented in some details from other records; but on the whole the student will find that, on reading them together with what he finds on Lung-ch'üan and Ko-yao, porcelains in Julien's work and Dr. Eitel's renderings, he is in the possession of nearly all the Chinese have to say on the subject. The *Ché-chiang-t'ung-chih*[91] contains an extract from the local chronicle of the place, the *Lung-ch'üan-hsien-chih*,[92] which speaks of the brothers Chang as the creators of the well-known factories, "whose life-time is unknown." The article produced by the younger brother is described as "unsurpassed in its greenish lustre and pure and flawless like handsome jadestone;" indeed, "any vase or dish made of this material changed hands at the price of upwards of ten taels." The articles produced by the two brothers, *i.e.* the oldest specimens known of the two classes of pottery, it is stated, "are found among the household treasures of the present generation, and are all the more difficult to be got." According to another source, quoted in the work just mentioned, the *Ch'i-hsiu-lei-k'ao*,[93] the brothers Chang lived

[91] 浙江通志, ch. 107, p. 28. [92] 龍泉縣志.

[93] 七修類稿. Cf. the *P'ai-shih-lei-p'ien* quoted in *Ko-chih-ch'ing-yüan*, ch. 36, p. 15.

during the Southern Sung dynasty (A.D. 1127 to 1280), so that we may be justified in assuming the Lung-ch'üan céladon industry to date from some time in the twelfth century A.D. A further quotation from a work called the *Shu-yüan-tsa-chi*[94] reveals the fact that there were two factories at Lung-ch'üan; that the best *ch'ing-tz'ŭ* or green (céladon) porcelain was produced in Liu-t'ien[95] sixty li away from Lung-ch'üan, and that an inferior article came from a village called Chin-ts'un.[96] The former place, we learn from the *Kuang-yü-chi*,[97] was situated at the foot of a hill called Liu-hua-shan,[98] on the top of which there was a lake of unsoundable depth, and the inhabitants of Liu-t'ien formerly made their livings of the pottery trade.

11.—Mediæval Trade in Porcelain.

To understand the position which a place of such importance as the Lung-ch'üan district held in the porcelain trade of the thirteenth century, we must consider what channels of traffic led away from it to the leading coast-ports of the time. These were during the Arab period Hang-chow, the present capital of Chê-kiang, the Quinsai of Marco Polo, and the port known as Zaitun, whether we may decide to look for this crux of sinologues at Ch'üan-chou-fu, the site selected by Klaproth and others before him, or at Chang-chou-fu with its harbour at Geh-kong,[99] or whether we follow the late Dr. Douglas,[100] in making a compromise between the two

[94] 菽園雜記, by Lu Wên-liang of the Ming dynasty. *See* Bretschneider, *Bot. Sin.*, p. 189.

[95] 劉田. [96] 金村.

[97] 廣輿記, ch. 11, p. 2. This is the work from which Biot drew his information in compiling his "Dictionnaire des villes, etc., de l'empire chinois." [98] 琉華山.

[99] *See* Phillips in *J.R.G.S.*, Vol. XLIV, p. 97 *seqq.*, and *Chinese Recorder*, Vol. V, p. 327 *seqq.*, and Vol. VI, p. 31 *seqq.* [100] J.R.G.S., Vol. XLIV.

extremes by declaring that Zaitun meant as much as "Amoy waters" generally. So much seems certain that, during the Sung dynasty, traffic from Lung-ch'üan to either place did not move to the east down to Wên-chow, but north and south overland by river. The journey to Lung-ch'üan has been lately performed by Mr. E. H. Parker, from whose account[101] it seems that the Wên-chow River which, on the map, appears as the nearest outlet to the sea, is not favourable to navigation owing to its shallowness and the obstruction of rapids, and that there is hardly any traffic to be met with except in the most miserable local craft. Mr. Parker gives us a different idea of the river leading from the north of Lung-ch'üan, beyond the hills, past Yen-chou to Hang-chow. Its trade in junks was equal to half that between Ch'ung-k'ing and Sha-shih on the Yangtze. In order to reach Amoy from Hang-chow overland, a traveller leaves his boat and the last branch of the Hang-chow River, in the neighbourhood of Lung-ch'üan; after a short passage across the hills he hires a boat again and, starting on the river of P'u-ch'êng on the boundary of Fukien,[102] may continue his journey by water, with only one interruption, as far as Chang-chou or Amoy. In crossing the provincial frontier from the Fukien side near P'u-ch'êng, Mr. Parker abandoned the standard route leading north to connect with Hang-chow waters, but, in order to reach Wên-chow, went east to Lung-ch'üan. Between P'u-ch'êng and Lung-ch'üan he "found a thickly populated and prosperous country, and an excellent level road through the mountains." Everywhere in the neighbourhood of that city traces of wealth were seen in the shape of public works, such as "a beautifully paved, roofed and pavelled bridge," etc., although nowadays "the district produces almost nothing for export beyond

101 *Journal of the C.B. of the R.A.S.*, Vol. XIX, p. 27 *seqq.*

102 Parker, *l.c.*, p. 87.

lumber and bamboo, the latter being sent to Shao-hsing near Hangchow for use in the manufacture of fans."

It may be concluded from all this that the district of Lung-ch'üan, which is now as poor as its neighbours, has had ample resources in former centuries; the account of a level road cut through the hills to P'u-ch-êng sounds like a wonder in such an out-of-the way corner of a Chinese province; and it leaves little doubt that the outward traffic of the district followed the main route down the Fu-kien rivers to the great markets on the coast of that province. This main route of overland traffic, connecting at Hang-chow with the southern end of the Grand Canal, follows the Ch'ien-tang River up to beyond Ch'ü-chou-fu; north of P'u-ch'êng-hsien in Fu-kien the Southern Range is crossed, whence river passage is continued by way of Yen-p'ing-fu to Yung-an hsien; there, after a short trip by land, the river of Chang-chou-fu is joined at Ning-yang-hsien.[103] This route, which is used at the present day by travellers fearing the perils of a sea voyage, was of much greater importance in the days of Marco Polo, who performed the same journey either wholly or partly in A.D. 1288; for, as we learn from the historical records respecting "grain transport"[104] it was only a few years previous to this that the taxes paid in kind by the coast provinces to the Mongol Court were entrusted to sea-going junks, *viz.*, in the 19th year of Chih-yüan, *i.e.* A.D. 1282; the river passage, we may conclude therefrom, was then considered a safer conveyance for merchandize; and if we are at all entitled to assume that céladon porcelain was shipped abroad

103 *See* the Chinese itinerary *Shih-wo-chou-hsing* (示我周行), Vol. II. p. 43: Chang-chou-fu to Yen-p'ing-fu; Vol. I. pp. 3 to 6: Yen-p'ing-fu to P'u-ch'êng-hsien; Vol. I. pp. 7 to 12: P'u-ch'êng-hsien to Ch'ü-chou-fu on the Ch'ien-t'ang River. I would ask the reader to trace this route on any detailed map of China.

104 漕運. See *Yüan-chien-lei-han*, ch. 135, p. 17.

by Arab traders at Zaitun, it seems natural that the Lung-ch'üan cargoes joined the main route, from Hang-chow to Amoy waters at P'u-ch'êng-hsien.

Now let us examine the facts relating to the porcelain trade as stated by Marco Polo, the oldest of the European writers who have at all mentioned this remarkable product in their accounts. Speaking of the port of Zaitun, he says:

"The river that flows by the port of Zaitun is large and rapid, and is a branch of that which passes the city of Kinsai [Hangchow]. At the place where it separates from the principal channel stands the city of Tingui.[105] Of this place there is nothing further to be observed, than that cups or bowls and dishes of porcelain ware are there manufactured. They collect a certain kind of earth, etc., etc."

One has to know the style of Marco Polo's sketches, in order to realise what he means by this passage. To him, the two short trips by land, which may have detained the river passage by a day or so, do not count in a boat journey of several weeks; so far as his memory goes, he travelled by river all the distance; but he recollects that, having started on the river of Kinsai (Hangchow) which he describes as the principal channel, he has to leave that river, to cross the hills, and to join the river branch, for such it is in his eyes, that leads to Zaitun. In this part of his journey, at P'u-ch'êng-hsien, he found himself within a few miles of the porcelain factories of Lung-ch'üan, and if the "excellent level road through the hills" tried by Mr. Parker existed in those days, the traveller must have been aware of his having passed the place where all the céladon porcelains were made which he afterwards found on the Zaitun market, awaiting exportation

105 *Tiunguy*, Pauthier, p. 532; *Tyunju*, Yule, Vol. II. p. 218. The above quotation is from Ramusio's text as translated by Marsden, regarding which *see* Yule, Vol. I, pp. 94 *seqq*. Yule's own version, though differently worded, is entirely identical in the sense. I have not seen the Italian text.

through Arab traders to the various countries to which Arab trade extended.

It seems to me that all this is very much in favour of my identification of Marco Polo's *Tingui* with the city of Lung-ch'üan. Colonel Yule,[106] who unfortunately was not in the possession of these details of the Chinese side of the question, is at some pains to show that the place referred to by Polo must have been the porcelain city of King-tê-chên. A river connection between this place and the Amoy or Zaitun waters would not have been an impossibility, if we allow for interruption by short overland passages; moreover, since porcelain was not too many years ago taken in great quantities from King-tê-chên by river across the Mei-ling Pass to Canton, where it was painted for the European market, nothing could prevent us to assume that a similar route may have existed for transport to Zaitun; but I cannot see what, in this case, could have possibly induced the traveller to allude to its connection with the river of Kinsai. And if we enquire into the relative importance of the two places just at that time, it seems to me that Lung-ch'üan was very much ahead of its rival. I have every reason to believe that the King-tê-chên factories have in no way participated in the porcelain export trade described by Marco Polo. The varieties which came to the market of Zaitun were according to Ibn Batuta "exported all over the world," and were according to Marco Polo very cheap; the porcelain of King-tê-chên was of high finish and, therefore, dear if at all obtainable, and trade in it was not encouraged. This is the natural conclusion we have to arrive at after the perusal of the passages which tell us that during the Sung and Yüan dynasties (*i.e.* since the beginning of the industry up to about A.D. 1368) no porcelain was there made except by

[106] Following Hugh Murray, Vol. II, p. 225.

Imperial order and for the court.[107] The *Ko-ku-yao-lun* (A.D. 1387), as quoted in the *T'ao-shuo*, tells us in this connection that "the Imperial King-tê-chên porcelain" of the Sung dynasty was thin and smooth, that it was white in colour and had *ch'ing* (blue?) ornaments on it, and that it was but slightly inferior to Ting porcelain. Moreover, the encyclopædic works compiled soon after the Sung dynasty mostly contain passages similar to the one I have quoted above from the *P'ing-hua-p'u*, in which the standard porcelains of the Sung dynasty are enumerated; but I have nowhere seen the King-tê-chên produce mentioned by the side of the porcelains called Ch'ai, Ju, Ting, Kuan, Ko, Lung-ch'üan and Chün.[108] Although existing as a domain of the court, the factories destined to afterwards obtain proverbial fame in the history of porcelain are not likely to have played a conspicuous part in the world's trade during the period preceding the Ming dynasty.

The only place which may be said to have entered into competition with Lung-ch'üan as a factory in the immediate neighbourhood of Zaitun is the Tê-hua district,[109] which formed part of the Ch'üan-chou (Chinchew) prefecture and belongs now to the independent district of Yung-ch'un.

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107 *T'ao-shuo*, ch. 3, p. 1: 宋元皆有命則供否則止. According to another authority, quoted by Julien, p. 85, a register was kept in each factory, in which the articles manufactured were entered; clandestine manufacture was severely punished. The Chinese author conjectures therefrom that private factories were allowed on payment of a tax. But the *Chiang-hsi-ta-chih* (江西大志), quoted in *Ko-chih-ch'ing-yüan*, ch. 36, p. 18, is more explicit on this point in adding that "the factories were not thrown open till the 35th year of Hung-wu (*sic* in my edition, where 35 is apparently a misprint, since the Hung-wu period extends from A.D. 1368 to 1399)."

108 None of the extracts translated by Eitel from Yüan and Ming authors contains any mention of King-tê-chên porcelains except that of the Hsüan-tê period (A.D. 1426–36) which has, of course, nothing to do with ante-Ming porcelains.

109 德化縣.

This is the place which Pauthier[110] thought should be identified with *Tingui*. It is true that Tê-hua is only within about sixty miles from Ch'üan-chou-fu; yet it seems to be out of the question, since the factories there did not exist at the time of Marco Polo, for "c'est depuis les *Ming* qu'on a commencé à fabriquer des porcelaines à *Te-hoa*."[111] Tê-hua has since the Ming dynasty furnished porcelains of a fascinating creamy white, a distinct class, which I believe constitutes together with the Ting-chou white pottery the article known as "blanc de Chine," and which is *now* known as Kien-yao (*i.e.*, Fu-kien porcelain); but the term Kien-yao has, like the term Kuan-yao, more than one meaning: the Kien-yao of the Sung dynasty was made at Chien-an[112] of Chien-ning-fu, and later on in Chien-yang-hsien in the north of Fu-kien,[113] a place which is not much nearer to the probable site of Zaitun than Lung-ch'üan. The author of the *T'ao-shuo*, like Pauthier, apparently confounds the two places, forgetting to distinguish between the Kien-yao now in the trade, which came from Tê-hua, and the Kien-yao of the Sung dynasty.[114]

If we consider that the porcelains made at Lung-ch'üan, *viz.*, the plain and crackled céladons, are in all old Chinese records mentioned among the standard kinds beside the Ting, Chün, Kuan and Ju potteries; and that specimens corresponding in every respect not only with the description of Lung-ch'üan ware furnished in the earliest books on record, such as the *Ko-ku-yao-lun*, but also with the numerous relics still

110 *Le livre de Marco Polo*, p. 532, note 4. Pauthier quotes Ibn Batuta, who says: "On ne fabrique pas en Chine la porcelaine, si ce n'est dans les villes de Zeïtoun et *Sin-calân* (Canton)." We know for certain that neither of the two places, taking it for granted that the second name stands for Canton, contained porcelain factories at the time, but that potteries existed in various other parts of the empire; and there can be no doubt that the Arab traveller confounds the places of manufacture with those of exportation. 111 Julien, p. 29. 112 建安.

113 Julien, p. 18. 114 *T'ao-shuo*, ch. 2, p. 15.

existing, have been found in nearly all the countries to which Arab trade extended; Marco Polo's remarks as to the site of his porcelain town of Tingui seem to contain a broad hint regarding the identification of this mysterious name.

So far about facts. To explain the name we cannot expect Marco Polo's ear to have been more successful in catching the exact sound of this as of most other names which occur in his work, especially since he had to pass through regions where dialects quite different from the northern idiom were spoken.[115] During the Sung dynasty Lung-ch'üan was called Chien-ch'uan.[116] The first of these two syllables belongs to a group of sounds which may be pronounced *dji*^{n} in the Shang-hai dialect; and *tien*, *tin* or *tiun* for *chien* or *kien* would by no means be an impossibility in these parts of China; the vulgar pronunciation in the Fukien dialect of the second syllable is *ch'ui*^{ng} (Medhurst, p. 132). It is hardly necessary to say more to those who are acquainted with the spelling of Chinese names as handed down in the texts of Marco Polo's Travels.

If once we have realised the fact that the céladon vessels of the Sung and Yüan dynasties were to be found on the market of Zaitun, there is little difficulty in showing how their appearance in the Arab possessions and other foreign countries may be accounted for. The Western sources describing or alluding to that lively trade carried on by the Arabs between Zaitun and Arabia with the intermedial countries are well known, and in order to avoid repetition, I confine myself to referring the reader to such works as Yule's *Cathay* and *Marco Polo*, Heyd's *Histoire du commerce du levant au moyen âge* and

115 Mr. Parker, *l.c.*, p. 29, says: "The dialects of Ts'ing-t'ien and Ch'u-chow [the prefecture in which Lung-ch'üan is situated] differ from that of Wênchow about as much as the broad Hunan dialects differ from ordinary *Kwan-hwa*. The dialect of Wênchow is the broadest, and the divergencies of the Ts'ing-t'ien or Ch'u-chow dialects are generally nearer approaches to the standard sounds."

116 劍川. *See* Playfair, No. 4650.

von Richthofen's *China*. Apart from Marco Polo's remarks on the subject, Ibn Batuta speaks of porcelain as an article which is in China of about the same value as earthenware is in Arabia, and he states distinctly that it is exported to India and elsewhere, passing from country to country till it reaches Morocco.[117] So far, Marco Polo seems to be the first Western author who alludes to the trade in this commodity. I am in the position to quote some remarks from a Chinese author who, in all probability, wrote some time before Marco.

At the beginning of the 15th century, Yung-lo, the second in the series of Ming Emperors, ordered the compilation of a gigantic work, similar to the *T'u-shu-chi-ch'êng* of the last century, and the manuscript known as the *Yung-lo-ta-tien*,[118] a copy of which, Mayers says, still exists in the Library of the Han-lin college, was accordingly submitted to the throne in A.D. 1407. The work being found too extensive, it has never been completely printed, but in the manuscript collection a number of rare works of periods preceding the Yüan dynasty has been preserved which would otherwise be lost; "and thus it has been possible to compile them afresh and re-edit their texts, which by this means have once more made their appearance in the world." The Emperor Kien-lung had reprints made of the more important texts, which have thus gone into circulation again on having been dormant in a manuscript collection for over three hundred years.

Among the works thus saved from oblivion is the *Chu-fan-chih* of Chao Ju-kua.[119] The original edition of this

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117 Yule, *Cathay*, p. 489.

118 永樂大典. *See* Wylie, p. 148 *seq.*; Mayers in *China Review*, Vol. VI, p. 215 *seqq.*; *Ssŭ-k'u-ch'üan-shu-tsung-mu*, ch. 137, p. 24 *seqq.*

119 趙汝适諸藩志, in two books. See *Ssŭ-k'u-ch'üan-shu-tsung-mu*, ch. 71, p. 10. The book is exceedingly rare, although it has been reprinted more than once. A copy is apparently contained in the

book had been lost long ago, when the manuscript copy contained in the *Yung-lo-ta-tien* was reprinted under Kien-lung. [120] The author, Chao Ju-kua, it is stated by his contemporary Ch'ên Chên-sun, held the post of Shih-po, [121] or Inspector of Foreign trade and shipping, in Fukien during the Sung dynasty. I conclude from internal evidence that the text is probably not older than the year A.D. 1205, since a tribute mission from the Arabs to the coast of China is mentioned in it as having taken place during the period K'ai-hsi (A.D. 1205 to 1208). In his description of Baghdad, Chao Ju-kua says that its kings are descendants of Mohammed; this shows that he knew nothing of the overthrow of the Abbassidan khalifate by the Mongols, which took place in A.D. 1258. The time of Mohammed is spoken of as "twenty-nine generations or six to seven hundred years ago." This would take us to some date not too long after the year 1221.

I have dwelled at some length on this digression from the subject in hand, as it seems necessary to prove the existence of porcelain export trade to distant countries early during the thirteenth century; for it is through Chao Ju-kua's work

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Bibliothèque nationale of Paris. Pauthier mentions it in a footnote on p. 53 of his *De l'authenticité de l'inscription de Si-ngan-fou:* "*Tchou-fan-tchi*, Biblioth. imp., nouv. fonds chinois, No. 696, t. VI," and L. de Rosny has made use of it to a small extent in his *Notices sur les îles de l'Asie orientale* (Paris, 1861).

120 *Ssŭ-k'u-ch'üan-shu-mu-lu*, ch. 7, p. 28.

121 市泊. *See* Ma Tuan-lin, ch. 206, p. 7. Ch'ên Chên-sun (陳振孫) a celebrated bibliophile, who published a *catalogue raisonné* of his own collection of books, is said to have held office during the period Tuan-p'ing (A.D. 1234–37). *See* the Imperial Catalogue, ch. 85, p. 10. Since he mentions the *Chu-fan-chih* in his catalogue, this fact may be used as an argument for Chao Ju-kua's work having existed about that time. Unfortunately, I am not able to ascertain the date of the bibliographical work referred to. It is not likely, though, that it appeared as late as A.D. 1277; for which reason I am now inclined to consider that author about half a century older than I did on a former occasion (*China and the Roman Orient*, p. 23 *seq.*)

that the only facts regarding this point which I have been able to gather from Chinese literature have been handed down to us.

It appears that Ch'üan-chou-fu was at this author's time the starting-point for commercial enterprise in China. For, whatever distances he gives for sea trips, that port is always mentioned as the place where vessels put to sea. This also seems to show that our author, as Shih-po or Inspector of Foreign Trade and Shipping, [122] collected his information on the Foreign countries he describes, from Indian and Arab traders who may have visited that port.

As regards the export of porcelain I am first going to speak of one of the nearest countries where old porcelains have been discovered, the island of Borneo.

It is well known that the Dyaks of Borneo have inherited from their forefathers a deep veneration of certain old vases or pots, and that porcelain vessels are among the most curious antiquities of the Island. Mr. Carl Bock[123] speaks of this feature of Dyak life in the following terms:

"Chairs and tables form no part of the furniture of an ordinary Dyak's house. . . In a corner, near the fireplace, will generally be found stored a collection of crockery ware, for the Dyak is something of a china-maniac, and belongs to the modern æsthetic school, setting great store by the china vessels which he procures in exchange for the various products of the country from the Malay merchants, who again have purchased them from the Chinese traders at Singapore or Macassar."

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122 This post must have existed even in Fukien much earlier than I formerly thought on the ground of a passage quoted from the *Hsü-wên-hsien-t'ung-k'ao* in the *Yüan-chien-lei-han* (see *China and the Rom. Or.*, p. 23), which says that it was first established in Fukien in A.D. 1277. Ma Tuan-lin (ch. 339, p. 24) at least mentions that an embassy from the Ta-shih (Arabs), who had arrived in A.D. 1168, were plundered and deprived of their presents in Chan-ch'êng (Cochinchina); and that the travellers reported this to the *shih-po* [Inspector of Trade] in Fukien.

123 *The Head-Hunters of Borneo.* London, 1881, p. 197 *seq.*

"The Dyak representative of the blue-china school, however, goes beyond the European devotee in his veneration of old crockery. Among his greatest treasures are a series of *gudji blanga*, a sort of glazed jar imported from China, in green, blue, or brown, ornamented with figures of lizards and serpents in relief. These pots are valued at from 100 florins to as much as 3,000 florins (8*l.* to 240*l.*) each, according to size, pattern, and above all, old age combined with good condition. According to the native legend, these precious vases are made of the remnants of the same clay from which "Mahatara" (the Almighty) made first the sun, and then the moon. Medicinal virtues are attributed to these urns, and they are regarded as affording complete protection from evil spirits to the house in which they are stored. A very full account of the various legends connected with these gudji blanga is given in Mr. W. T. H. Perelaer's most interesting work, "Ethnographische Beschrijving der Dajaks," pp. 112-120. That author, however, gives them different names, the nearest of approach to that by which I have always heard them called being *Balanga*."

"This china craze among the Dyaks has proved, as in England, an excellent opportunity for the exercise of John Chinaman's skill; and very clever imitations of old vases, with cracks, chips, age-stains, and other indications of antiquity, most exactly reproduced by them, are offered for sale at Samarinda at five florins each; but, unlike many London connoisseurs, your Dyak is never taken in by these spurious gudji blangas, preferring to give hundreds of guilders for a real specimen. Each true plastic relative of the sun and moon has its pedigree, which is passed down from generation to generation."

It appears that in some cases it is difficult to decide about the *provenance* of the old pieces of pottery found among the

Dyaks. Dr. Meyer, of Dresden, sent me a few years ago an old glazed porcelain vessel with fine crackles, somewhat resembling in shape the old céladon vessel described and represented on a reduced scale on p. 163 of Jagor's *Travels in the Philippines* (London, 1875), and which, as far as it is possible to judge from the description (salad-green glaze and crackled), may be a piece of crackled Lung-ch'üan or Ko-yao of the Sung or Yüan dynasty. Dr. Meyer's pot, however, is finely crackled, and the brown enamel as well as the general appearance of the vessel puzzled me and my Chinese friends for a long time, until certain analogies in the paste and the enamel led me to believe that it is an old Chün-yao, having lost its intended colour in the firing. I am bound to say, however, that such identifications of old pottery are often very problematic and as much dependent on individual judgment as similarities existing between two human faces which may strike one observer without being seen by another. Mr. Bock, whose remarks on porcelain among the Dyaks I have just quoted, has seen my collection, and informs me that vessels resembling my old Lung-ch'üan céladons exist among the Dyaks; but it appears that pieces of a surface which bears no resemblance to any of the classical Sung and Yüan monochrome vessels (Ting, Ju, Chün, Lung-ch'üan or Ko) are very common; I am inclined to conclude therefrom that they come from factories equally old, but less renowned, such as the place where the Kien-yao[124] of the Sung dynasty was made, the city of Chien-yang in the north of Fukien; this is all the more likely since Chao Ju-kua, in his description of trade with Borneo, specially mentions "brocades of Chien-yang"[125]

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[124] 建窯. *Cf.* Julien, p. 18, and p. 17, under the head of *Ou-ni-yao*, (Wu-ni-yao, 烏泥窯), the two kinds being described under one head in the *T'ao-shuo*.

[125] 建陽錦.

among the articles of import. Zaitun would have been as near a market for the Chien-yang manufactures as it was for those of Lung-ch'üan.

The relations between China and the island of Borneo are probably of ancient date. I am not sure whether we may not go beyond the author of the *Hai-kuo-t'u-chih*,[126] who is joined by Mr. Groeneveldt[127] in assuming that the first mention of Borneo is a short and doubtful passage in the *T'ang-shu* referring to a tribute mission in A.D. 669. The *Liang-shu*,[128] the historical record describing the period extending from A.D. 502 to 557, contains a detailed account of the country of Po-li[129] as situated on an island in the sea south-east of Canton, of which a translation will be found in Groeneveldt's "Notes" (p. 80 *seqq*). Although later Chinese writers refer it to Sumatra, this identification seems at least doubtful, and the possibility of its being a description of some region in Borneo deserves to be considered in spite of the traces of Buddhism contained in it.[130] Whatever our opinion on this particular problem may be, the industrious pen of Chao Ju-kua has placed on record an account of the kingdom of Brni,[131] which, like most of his ethnographical chapters, has furnished the basis of the account contained in the *Sung-shih*. We may conclude from this account that navigation existed at the beginning of the 13th century between Ch'üan-chou-fu in Fukien and the north-west coast

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[126] 海國圖志, ch. 9, p. 10.

[127] *Notes on the Malay Archipelago* (first edition), p. 101.

[128] 梁書, ch. 54 p. 15. [129] 婆利國.

[130] *Cf.* d'Hervey de Saint-Denys, *Ethnogr. des peuples étrangers à la Chine*, etc., Vol. II, p. 457, note 1, where several opinions regarding this country are mentioned. a Chinese scholar, Mr. Yang Wên-hui, being in favour of the north-west coast of Borneo.

[131] 勃泥, in Cantonese *Put-ni*. Regarding the linguistic identification of this name *see* my notes on "Chinese Equivalents of the letter '*R*' in Foreign names," in *J.C.B. of the R.A.S.*, Vol. XXI, p. 220.

of Borneo; that the city of Brni, wherever its site may have been in those days, contained over ten thousand inhabitants with a king, or chief, attended by a numerous suite and protected by a military force comprising over a hundred "fighting-boats," his soldiers wearing copper armour. Three days after the arrival of a Foreign vessel the king would come on board with a large suite "to enquire after the hardships of the journey;" the people on board would then connect the ship with the shore by means of a gangway covered with silk brocade to honour the illustrious guest, and provide for a rich repast and liberal presents for the king and the several grandees. Even then the question of trading on shore was not spoken of, but the king had to be further entertained with the delicacies with which those who wished to trade to this country had to freight their ship over and above their own provisions. This bestowal of civilities, calculated to secure the good-will of the monarch, lasted about a month, after which the court regulated the conditions under which trade could be carried on, the prices being agreed upon beforehand, and clandestine trading being strictly forbidden. The king gave a grand feast on his part when the vessel was about to return. But "the ship had to wait till the festival in honour of Buddha on the full-moon day of the sixth month, before leaving the anchorage; for, otherwise she would meet with bad weather on the journey." "The Buddha of these people has no [other] image; his dwelling consists of several storeys shaped like a pagoda; below there is a small shrine giving shelter to two pearls,—this is called the Sacred Buddha. The natives say that the two pearls were from the outset quite small, but that they have grown to the size of a thumb. On the Buddha's feast the king will in person offer flowers and fruits for three days, when all the inhabitants, both men and women, go there."

Among numerous other details regarding the manners and customs of these tribes, which may with a certain probability be regarded as the forefathers of the present Dyaks, Chao Ju-kua notices their habit of using bamboo joints and the leaves of the Palmyra palm[132] in lieu of dishes and cups, which were thrown away after the meal was finished. This seems to show that porcelain vessels were at the time not in vogue for ordinary household use. Yet, our author, in his list of articles of import, comprising foreign gold and silver coins, imitation silk brocades, brocades of Chien-yang and other silks, deers' horns, glass beads and glass bottles, bangles, rouge, lacquered bowls and plates, distinctly mentions GREEN PORCELAIN.[133] Chao Ju-kua knows nothing of the custom, for which the Dyaks became afterwards known, of burying the remains of their dead in earthen or porcelain jars, since we are distinctly told that "to bury their dead they have coffins which are brought to the hills where they are left in tombs made of bamboo work,[134] and that they offer sacrifice to the dead only once every year in the spring, when ploughing is commenced, for seven consecutive years, after which the sacrificing is given up." I may mention that white porcelain is stated by Chao Ju-kua among the articles of barter with which to buy incense, laka wood, yellow wax and tortoise-shell from the natives of a number of islands in the neighbourhood of Brni, the names of which I am not able to identify. Whatever the use of porcelain

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132 貝多葉, *pei-to* leaves. 133 *Ch'ing-tz'ŭ-ch'i* (青瓷器).

134 *Cf.* Bock, *op. cit.*, p. 78 *seq.* "There were two forms of graves generally adopted by the common people; one a small chamber, raised on posts from ten to twenty feet high, in which the corpse was placed; the other a somewhat similar structure built into a hole in the ground." Further, "the Rajahs and the rich Dyaks do not let the bodies of their deceased relatives remain in these burial places; but gather the bones, after all the impurities have disappeared, place them in jars, and hide them up far in the mountains—in caves." Mr. Bock says the Dyaks have abandoned this practice since the supremacy of the Dutch.

vessels may have been at the time, the two passages in Chao Ju-kua's work admit of no doubt as to its having been imported with a certain regularity early during the 13th century. It appears that the regular contact into which the inhabitants of this coast came with the traders of Fukien has tended to change their habits; for, we read in the *Tung-hsi-yang-k'ao*, a work describing the far-eastern sea trade of the 16th century and published in 1618, that "the people of Bandjermassing[135] at first used banana leaves in lieu of dishes, but that, since trade had been carried on with China, they had gradually adopted the use of porcelain; that they liked to bargain for porcelain jars, brought to them by the Chinese, having dragons represented on their outer surface;[136] and that they would keep the bodies of the dead

135 *Wên-chi-ma-shên* (文即馬神). Cf. *Tung-hsi-yang-k'ao* (東西洋考) ch. 4, p. 18; and Groeneveldt, *op. cit.*, p. 106, where a similar account is quoted from the *Ming-shih*, which in some instances copies the first-named work.

136 "Among the Dyaks are found jars held by them in high veneration, the manufacturers of which are forgotten; the smaller ones, among the land and sea Dyaks are common. They are called Nagas, from the Naga, or dragon, which is rudely traced upon them. They are glazed on the outside, and the current value of them is 40 dollars; but those which are found among the Kyan tribes, and those of South Borneo, and among the Kadyans and other tribes of the north, are valued so highly as to be altogether beyond the means of ordinary persons, and are the property of the Malayan Rajahs, or of the chiefs of the native tribes. I never had an opportunity of seeing one of these valued relics of antiquity, but am told that, like the Nagas, they are glazed, but larger. They have small handles round them, called ears, and figures of dragons are traced upon their surface; their value is about 2,000 dollars. In the houses of their owners they are a source of great profit, they are kept with pious care, being covered with beautiful cloths. Water is kept in them, which is sold to the tribe, and valued upon account of the virtues it is supposed to possess, and which it derives from the jar which has contained it. By what people these relics were made, and by what means they have been thus distributed and the veneration for them so widely spread, cannot be at this time determined. Some of the jars were sent from Banjor Massim to China by the Dutch, who hoped to make a profitable speculation by their credulity; but the artists of that country could not, though famed for their imitative powers, copy these with sufficient exactness to deceive the Dyaks, who immediately discovered they were not those they esteemed, and consequently set no value upon them. From their price, it is presumed that these jars are very rare." H. Low, *Sarawak*, quoted in J. Marryat, *A History of Pottery and Porcelain*, 2nd ed., London, 1857, p. 385, note 8.

in such jars instead of burying them." The use of porcelain jars in lieu of coffins reminds one of the "potted ancestors" so called by way of jest among foreign residents at Amoy and Foochow, and the Fukien province is the only part of China where, as far as my personal experience goes, the custom of this mode of preserving the relics of dead bodies prevails. Since the Chinese who traded to Borneo at Chao Ju-kua's time as well as later on came from Fukien, it looks as if this custom had been imported from that province together with the material necessary for its practice.

Chao Ju-kua, whose work was written at least a century prior to Ibn Batuta's, fully confirms for his own time what the last-named traveller says of the 14th century with regard to the trade in porcelain. In his accounts of the various trading countries of the East, which abound with details hitherto unknown, he generally gives us a list of either the articles of trade produced in the country, or the staple articles kept there for re-exportation; and in many cases he mentions a series of Chinese articles imported by the "Foreign traders."[137] These dates and the identifications of the several countries described by the Sung author, the results of which I hope to place before the public on a later occasion, have placed me in a position to mention certain localities to which porcelain was shipped soon after the year A.D. 1200, if not earlier. The nearest of the countries mentioned is Chan-ch'êng[138] comprising a portion of Cochinchina, where Chinese porcelain was exchanged in barter together with such goods as umbrellas,

[137] *Fan-shang* (番商). I have not come across any passage throwing positive light on this term, which means traders trading from China to Foreign countries without implying whether they are natives or Foreigners. Since the *fan-shang* are not mentioned in connection with the import and export of goods west of Lambri to the north of Sumatra, I am inclined to believe that they were Chinese merchants and that this island was at the time the western terminus of Chinese navigation.

[138] 占城.

gauze fans, lacquered ware, samshoo and sugar, against the produce of the country; under Chên-la,[139] or Cambodja, we find a similar list of Chinese imports. Borneo has been spoken of already. In the account of Shê-p'o,[140] or Java, the journey to whose ports was made with the setting-in of the north-east monsoon from Ch'üan-chou-fu within a little more than a month, we read that "the Foreign merchants import imitation gold and silver, and gold and silver vessels, silks, damasks, a kind of medicine from Szechuen, orris root, cinnabar, green and white alum, borax, arsenic, lacquered ware, iron tripods, and GREEN and WHITE PORCELAIN,[141] in exchange of the pepper produced in this foreign country, and the merchant ships assembled there derive much profit from this trade."

The most important place in the history of far-eastern trade in this epoch is, however, doubtlessly, the country described under the name of San-fo-ch'i.[142] As to Java, journeys were made to this port from Ch'üan-chou-fu in the beginning of the winter season, junks passing the Straits of Lingas on the way. The accounts furnished by Chao Ju-kua of this country, the greater part of which has been taken over into the *Sung-shih* (*see* the portion of that work translated by Groeneveldt) leave no doubt that it was the principal link in the commercial relations between Western and Eastern Asia all through the early part of the middle ages. All the produce of China and the countries south of it, such as Annam and the Malayan Islands, were stapled up there for sale to the Arab traders, who in their turn

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[139] 眞臘. [140] 闍婆. [141] 青白瓷器.

[142] 三佛齊, in Cantonese *Sam-fat-ts'ai*. This name has been successfully compared to the *Sarbaza* of the Arabs (*Serbeza : see* Renaudot, *Ancient Accounts*, etc., Engl. version of 1733, p. 61 *seqq.*). San-fo-ch'i is the present Palembang in Sumatra. The principal argument in favour of this identification is a passage from the *Ying-yai-shêng-lan*, in which *San-fo-ch'i* and *P'o-lin-pang* (浡淋邦) are said to be the same place. *See* Groeneveldt, *op. cit.*, p. 62 *seqq.* and p. 73, note 1.

imported the products of Europe, Western Asia, India, and Africa for re-exportation to China and the other countries of the Far East. Chao Ju-kua mentions as indigenous products of San-fo-ch'i: tortoise-shell, gum camphor, certain incenses, laka wood, cloves, sandalwood and cardamoms. Besides these, he says, the Arabs bring from the West: pearls, gum olibanum, rosewater, becho nut flowers, castoreum, myrrh, aloë, asa foetida, putchuck, liquid storax, ivory, corals, cats' eyes, amber, foreign cloths and foreign sword-blades. These were bought up by the "Foreign (Chinese?) Traders," who exchanged them against: gold, silver, PORCELAIN, silk piece goods, sugar, iron, samshoo, ginger and galangal, rhubarb and camphor. "As this country," our author remarks, "has the control of the general thoroughfare which all foreign sea traffic has to pass [*viz.*, the Straits of Banca], they make use of an iron rope as a bar, which gives them an instrument for stopping at pleasure the pirates of other countries. When a merchant ship goes there, they will let her pass, etc." The relations with China are stated to date from the period T'ien-yu of the T'ang dynasty (A.D. 904-907), and since the name *Sarbaza* was known to the Arab travellers of that period, translated by Renaudot and Reinaud, we may assume that trade similar to that described by Chao Ju-kua has existed in this emporium centuries before this author. The possibility to carry porcelain as well as any other goods of Chinese origin to any part of the Arab empire or to the Arab colonies has certainly existed from the time that Arab trade began to extend to the East.

A position similar to that of *San-fo-ch'i* was held in the Eastern trade by a place called Lambri[143] in the north-west of

143 *Lan-wu-li* (藍無里), Amoy Dialect *Lam-bu-li*, apparently the same place which in later Chinese records is called *Nan-po-li* (南渤里). *See* Groeneveldt, *op. cit.*, p. 98, and Phillips, "The Seaports of India and Ceylon" in *J.C.B. of the R.A.S.*, Vol. xx, p. 211. I quite agree with Mr.

Sumatra. It is the last station before one enters the Indian Ocean, in order to reach Ceylon from Sumatra, and the country is tributary to San-fo-ch'i. In his account of Coilom,[144] a well-known sea-port on the coast of Malabar, the present Quilon, Chao Ju-kua says: "It will take a Chinchew junk[145] over forty days to arrive at Lambri; there the winter is spent and, in the following year, a further journey of a month will take her to Coilam." I am not sure whether we may conclude from this passage that Chinese junks actually sailed from Chinchew (Ch'üan-chou-fu) as far as Coilam *viâ* Lambri; certainly it contains the positive statement that Lambri was visited by Chinchew junks at Chao Ju-kua's time, and that the journey was continued to India, either in the same ships or after transhipment to Arab vessels. The "hills" of Lambri furnish cats' eyes, red glass, camphor, blue and red pearls, and in the country cardomoms, tree bark, coarse and fine incense is produced; the "Foreign Merchants" import, in exchange of these products: sandal-wood, cloves, camphor (!), gold, silver, PORCELAIN, horses, elephants and silk stuffs." Since the inhabitants are, in another passage, stated to "use their hands in taking in meals," and "use household vessels made of copper,"

Groeneveldt who places this country with Marco Polo's Lambri on the coast of the present Atchin. The inhabitants at Chao Ju-kua's time were black and more or less savage; his account contains no traces of Arab civilisation. The *Hsi-yang-ch'ao-kung-tien-lu* (西洋朝貢典錄) by Huang Shêng-ts'êng (黃省曾), an account of Western countries chiefly based on the reports of Ch'êng Ho's expedition under the Emperor Yung-lo, a portion of which has been translated and published by the late Mr. Mayers in the *China Review* (Vol. III, pp. 219–225 and 321–331, and Vol. IV, pp. 61–67 and 173–190), contains some notes on *Nan-po-li* (Lambri). At that time, *i.e.* during the beginning of the 15th century, the king and the people were Mahommedans. An island on the north-west coast was called *Mao-shan* (帽山; *Cf.* Phillips, *l.c.*) consisting of a hill with a flat top which serves as a land mark. The inhabitants, not more than 20 or 30 families, all style themselves "King," for if you ask anyone for his name, he will reply: *Aku Rajah* (阿孤喇楂, "I am a Rajah").

[144] 故臨, Canton Dial, *Ku-lam.*

[145] 泉舶.

it must be assumed that the porcelain was imported either for sacrificial purposes or, which is more likely, for re-exportation by the Arabs. If we follow the tracks of mediæval trade farther west, we come to the next important station, the coast of Malabar, which is by our author described under the name *Nan-p'i*.[146] Our author says of Nan-p'i: "This country is very far, and the Foreign vessels [*i.e.*, vessels trading to Foreign countries] rarely go thither."[147] He thereupon mentions the name of a Foreign family (father and son), who lived in the southern suburb of Ch'üan-chou-fu and were natives of Nan-p'i. "The products of the country are brought to San-fo-ch'i, and the following goods are returned in barter against them: lotus flower tanks,[148] silks, PORCELAIN, camphor, rhubarb, cloves, camphor-drops, sandal-wood, cardamoms and eagle-wood."

Chao Ju-kua's work places us in the position to trace the export trade in porcelain even as far as the coast of Zanzibar; for, this must be the country described by him under the name of *Ts'êng-po*.[149] "The country of Ts'êng-po," he

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[146] 南吧, Nampi, Lampi. I shall avail myself of another opportunity to prove the identity of this name with the coast of Malabar, including Guzerate and Malwa. Of the localities specially mentioned by Chao Ju-kua as belonging to this country it is easy to recognise without much trouble: Coilam (故臨, *see* above), Guzerate (胡茶辣, *Hu-ch'a-la*), Cambay or Cambaet (甘琶逸, Canton Dial. *Kom-pa-yat*), and Malwa (麻囉華, *Ma-lo-hua*).

[147] This passage may be interpreted to mean that Chinese junks came to Malabar in exceptional cases.

[148] 荷池, *ho-ch'ih*. I am not able to say what they were made of, but from an ancient passage quoted in the *P'ing-tzŭ-lei-p'ien* I conclude that they were used in growing lotus flowers, and since for this purpose a pretty large reservoir must be required, it seems that they were made of earthenware.

[149] 層拔, Canton Dial. *Ts'ang-pat*; the *t* representing *r* in the sound Zangbar. *See* "Chinese Equivalents of the Letter *R*," etc., *l.c.*, p. 217.

says, "is on an island in the south of *Hu-ch'a-la*.[150] In the west it bounds on large hills; its inhabitants are of Arab descent and observe the rites of the Mahommedan religion; they wear blue cotton cloth and shoes of red leather; their daily food consists of rice or flour cakes and roasted mutton. Their villages are mostly built terrace-shape in the ravines of their wooded hills. The climate is warm, and there is no cold season. The products are elephants' teeth, raw gold, ambergris, and yellow sandal-wood. Every year the country of Hu-ch'a-la (Guzerate) and the settlements on the sea-coast of Arabia send out ships to barter with this country, the articles of exchange being white cloth, PORCELAIN, copper, and red cotton." The porcelain, we have seen above, was brought to Guzerate as part of the country of Nan-p'i by way of San-fo-ch'i in Sumatra, and was thence sent south to the Arab colony in Zanzibar.[151] If the accounts given by

150 Guzerate. The direction of the compass as given in Chinese ancient and mediæval authors is often quite as much at variance with reality as that we find on the maps which have been left to us by the old Arab geographers. Edrisi's map (A.D. 1154; Peschel, *Gesch. d. Erdk.*, ed. Ruge. 1877, p. 145) shows the coast of Zendsch about due south of that part of India where Guzerate was situated, and Marino Sanuto's compiled from Arab sources (A.D. 1320; *ibid.* p. 210) shows a similar disfiguration of the southern part of the African east coast. An explanation of this error may be found in the prevalence of eastern currents in the Indian Ocean which would have caused sailers to steer a southern course instead of proceeding due south-west.

151 There can be but little doubt that the east coast of Africa was known to the Chinese in its main characteristics during a comparatively early period. I have already suggested the identity of the name *Po-pa-li* (撥拔力), which occurs in the *Hsin-t'ang-shu* (ch. 221 B), with the Somali of the coast of Berbera (see *J.C.B. of the R.A.S.*, Vol. XXI, p. 219); and the term *K'un-lun-ts'êng-ssŭ* (崑崙層斯) in the sense of black slaves which has lately been discussed by Prof. Terrien de Lacouperie ("Formosa Notes" in *J.R.A.S.*, Vol. XIX. p. 446 *seqq.*) has been connected years ago by Mr. Phillips (*China Review*, Vol. VIII, p. 188 *seqq.*) with the east coast of Africa especially the coast of Zanzibar, an identification which I am glad to endorse. Chao Ju-kua, too, furnishes an account of these tribes, from which the notes quoted by Bretschneider (*Arabs*, p. 14) from the *San-ts'ai-t'u-hui* are merely an abbreviated transcription. This account which, like nearly all the other information given by him, must have reached our author through the Arab traders at the beginning of the 13th century, reads as follows: "The *K'un-lun-ts'êng-ssŭ* occupy a country which lies on the sea in the south-west. It is connected

Chao Ju-kua of the exchange of produce between the Far East and the west of Asia furnish sufficient evidence for the existence of Chinese porcelain on the Indian and Arab markets during the 13th century, the period which follows was still more adapted to entertain such traffic. We need hardly dwell on the fact that Mongol rulers were masters of Bagdad as well as of Peking, and that constant intercourse took place through Central Asia between the east and the west of that gigantic empire. The journeys of Marco Polo and Ibn Batuta are witnesses to the continuation of the sea trade between the coast of China and Arab provinces, the latter stating distinctly, as regards porcelain, that "it is exported to India and elsewhere, passing from country to country till it reaches us in Morocco."[152] The Chinese themselves were during the Mongol period pervaded by a desire to extend their power by maritime warfare, and whatever the success of Khublai Khan's expeditions against Japan, Java and other southern islands may have been, they show that maritime enterprise had not declined among his subjects on the coast of China.

This tendency to extend the native navigation has certainly never been greater than it was under the ambitious Ming Emperor Yung-lo, whose celebrated delegate, the eunuch

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with a large island. There are constantly large P'êng birds (鵬, a fabulous bird; the *Rukh; cf.* Mayers, *Manual*, No 560) who, in their flight, eclipse the sun so as to remove the shadow of a gnomon. If one of these birds comes across a wild camel, he will swallow it, and if one can get hold of one of its wings one can make water-casks by cutting off the quills. The country produces ivory and rhinoceros' horns. In the west there is an island of the sea with great numbers of savages of a colour resembling that of black lacquer and with curly hair. They are enticed with eatables and made prisoners, after which they are sold as slaves to the country of *Ta-shih* (Arabia). Since high prices are paid for catching them they are secured with locks. It is said that they do not know the affection usually existing between relatives."

152 Yule, *Cathay*, p. 478.

Chêng Ho,[153] successfully carried Chinese arms as far as Ceylon. The expeditions of his successor Hsüan-tê (A.D. 1426 to 1436) were of a more peaceful character, though not less enterprising as regards distance. "In the 6th month of the year 1430," we read in the *Ming-shih*,[154] "the Emperor considered that he had been on the throne so long now, but that those of the barbarians, who lived a little far away, had not yet appeared at court and brought tribute; upon this Chêng Ho and Wang Ching-hung again got orders to go to Hormus and sixteen other countries. From this voyage they came safely back."

This great expedition, which it appears from all we know about it bore an entirely peaceful, if not commercial, character, brought Chinese junks to several of the ports of India, the south coast of Arabia, the port of Magadoxu on the coast of Africa, and even as far as Djiddah on the eastern coast of the Red Sea, the sea-port of Mecca. The trip to Djiddah (Mecca, *T'ien-fang)* was made in company with a fleet of Indian ships starting just at that time for the Red Sea.[155]

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[153] 鄭和. *See* Mayers, "Chinese Explorations of the Indian Ocean," in *Chin. Rev.*, vol. III, p. 220 *seqq.*; Phillips, "The Seaports of India and Ceylon" in *J.C.B. of the R.A.S.*, vol. XX, p. 209 *seqq.*; and Groeneveldt, *Mal. Archip.*, p. 41, *seqq.*

[154] Extract translated by Groeneveldt, *l.c.*, p. 44. Cf. *Hai-kuo-t'u-chih*, ch. 14, p. 24.

[155] The *Ming-shih* (quoted in *Hai-kuo-t'u-chih*, ch. 14, p. 21) says: "When Chêng Ho was sent to the western seas in the 5th year of Hsüan-tê [A.D. 1430] he deputed one of his equals in rank to Ku-li (古里, Calicut on the coast of Malabar), who heard that Ku-li was going to send men to T'ien-fang (Mecca), and since the [Chinese] embassador's men had a surplus of cargo, he got his ships to accompany them there and back, waiting for the annual festival in order to purchase precious stones and other valuable things and giraffes, lions and ostriches for the return journey." This passage shows that the Chinese were supplied with cargoes of goods more than sufficient for the Indian market at Calicut, and that the expedition farther west to Arabia was undertaken rather for commercial, than for any other purposes. To what extent commercial enterprise was rife among the Chinese in those days may be gathered from the fact that

In Ceylon, we read in the records bearing on the traffic at Chêng Ho's time,[156] GREEN PORCELAIN was an article of import together with musk, silk, copper cash and camphor. Aden and the Red Sea were visited in the same period. In his last chapter the author of the *Hsi-yang-ch'ao-kung-tien-lu* gives an account of Mecca and Medina under the name of T'ien-fang[157] with a detailed description of the Kaaba,[158] in which mention is made of the fact that "when the annual term has come, the Mahommedans of all countries will proceed to this temple in pilgrimage, even though they may have to undergo a sea journey lasting one or two years." The following passage occurs in the same account (ch. 3, p. 11): "During the reign of Hsüan-tê [A.D. 1426-1436], when Chêng Ho went on an expedition to the western countries, he sent seven interpreters[159] to T'ien-fang with supplies of musk, PORCELAIN and silk piece goods. They went together with our *(i.e.*

"a number of Chinese emigrants had settled down in Ispahan (*Yi-ssŭ-pa-han*, 亦思把罕), where they established shops, the goods they sold being drawn by way of Samarkand (*Sa-ma-êrh-han*, 撒馬兒罕)." The fact is mentioned in connection with a tribute mission from Ispahan having arrived in China under Yang-lo (A.D. 1403 to 1425). See *Yüan-chien-lei-han*, ch. 337. p. 25.

156 The only one now accessible to me is the *Hsi-yang-ch'ao-kung-tien-lu* (*see* above, Note 143); but regarding this list of Ceylon imports, *see* Phillips, *l.c.*, p. 214, whose translation from the *Ying-yai-shêng-lan* covers the same ground. Phillips' rendering "blue porcelain basins and cups" (青磁) should, for the reasons explained above, read "*green* porcelain," etc.

157 天方.

158 愷阿白 *K'ai-a-pai*. *Cf.* the account extracted from the *Ming-shih* by Bretschneider, "Chinese Intercourse with the Countries of Asia," *China Review*, vol. v, p. 175, and the more detailed paper, compiled from later sources, by Mr. H. Kopsch, "The Kaaba or Great Shrine at Mecca," *ibid.*, vol. XIV, p. 95 *seqq.*

159 通事, *t'ung-shih*. This is apparently the same class of employés which are so well known from the old Canton factory times under the name of "Linguists," this being the modern translation of the term. "The linguists, so called, hold the rank of interpreters; they procure permits for delivering and taking in cargo, transact all business at the custom-house, keep account of the duties, etc." (*Chinese Repos.*, vol. II, p. 302).

Chinese) ships [160] as far as that country, and after a year they came back with return cargoes consisting of all sorts of precious stones, giraffes, lions, ostriches and the like; and they drew a plan of the Kaaba which they brought to the Chinese capital; and the king of T'ien-fang also sent his subject Sha-hsien [161] and others who brought produce of the country along with the seven interpreters to our court as tribute."

The expedition here spoken of must have been undertaken on a larger scale than we should expect of an ordinary tribute mission; so we may judge from all we know about it through Western sources. The reason why the Indian ships of Calicut were sent to T'ien-fang or Mecca with its port Djiddah will be found explained in Heyd's history of Oriental trade. It appears that a political crisis had just then affected the commercial relations between the chief ports of those waters. The Indian ships had previous to this time been in the habit of discharging Oriental cargoes at Aden, where they were transhipped to Egyptian craft and became the property of Egyptian merchants. Aden was until then the great staple place for the exchange of produce carried East and West. Since the year 1422, however, the prince of Yemen residing there tried to enforce the privilege to have all the Oriental goods arriving at Aden transported by caravan through his own possessions, thereby securing a certain revenue to himself, and in order to force the unwilling traders, would not allow the cargoes destined for Egypt to leave his port, thus creating demurrage and other losses. This act of violence caused the Indian captains to look out for another port of discharge, and in 1424 Djiddah, the port of Mecca, was selected. These two cities had just been taken possession of by the Sultan of Egypt, which implies that all the facilities

[160] 同本國船至國. [161] 沙獺.

which had been refused by the Prince of Aden were granted to the Egyptian trade at Djiddah. In 1426, we are told, over forty Indian and Persian vessels came to that port, and about five years after, the arrival of several Chinese junks is recorded.[162] The exact year, in which the envoys of "the King of T'ien-fang," who must have been a local governor under the Sultan of Egypt, brought tribute to China, is given in a Chinese account of T'ien-fang[163] as the year 1432. The Chinese ships must, to judge therefrom, have left the port of Djiddah in 1431.

It would be useless to speculate as to the kind of porcelain then imported at Djiddah, since it was just at that period that blue and white, manufactured at King-tê-chên, had come in vogue subsequent to the appearance on the Chinese market of certain new blue colours, called *Su-ni-po* and *Su-ma-li*,[164] the *provenance* of which is as yet a mystery to Foreign and Chinese students alike. But since Western

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162 "En 1431 ou 1432, on y vit même arriver plusieurs jonques chinoises qui n'avaient pas trouvé à écouler leurs marchandises à Aden dans de bonnes conditions. On les y reçut avec empressement, dans l'espoir que leur visite serait le début d'un traffic avec la Chine." Heyd, *Histoire du commerce du levant*, vol. II, p. 445, quoting Quatremère, *Mém. sur l'Egypte*, II, 291.

163 In the *Hsü-wên-hsien-t'ung-k'ao*, quoted in the *Yüan-chien-lei-han*, ch. 338. p. 25, where the year Jên-tzŭ (壬子) of the Hsüan-tê period is given as the time of arrival in China.

164 *Su-ni-po* 蘇泥勃 (*T'ao-shuo*, ch. 2, p. 9; *cf.* Julien, p. 93) and *Su-ma-li* 蘇麻離青. The second name, which reminds one of our *smalt*, derived from mediæval Latin *smaltum*, is stated to have been used in producing blue ornaments on King-tê-chên porcelains under Yung-lo and Hsüan-tê (*see* quotation from the *Shih-wu-kan-chu* (事物紺珠) in *Ko-chih-ch'ing-yüan*, ch. 36, p. 19); *Su-ni-po* is mentioned in connection with Hsüan-tê porcelain only, and it is specially stated that the supply of this material was exhausted under Ch'êng-hua (A.D. 1465). The name could be a truly Chinese transcription of the word "Schneeberg" under which name the Saxon cobalt blue became afterwards renowned all over the world. Unfortunately, the Schneeberg cobalt industry is probably out of the question during so early a period as 1426, the beginning of Hsüan-tê's reign. But research among Arab or Persian records may show that Chêng Ho's expeditions to the Far West of Asia had something to do with the importation of these dye-stuffs.

purchasers had been accustomed to appreciate céladon dishes from olden times, these being moreover much more adapted for exportation owing to their hardness than the delicate Hsüan-tê blue and white and other porcelains,[165] we may consider Chêng Ho's expedition as another opportunity by which heaps of these treasures may have reached Arab soil in any part of the world. For, once in Djiddah, the port where pilgrims from all the most distant places had to land in order to visit Mecca, they may be said to have reached THE market which had connections with more countries in the Mohammedan world than any other.

Being in the possession of so much evidence furnished by contemporaneous writers, we cannot possibly raise any doubt as to the existence of export trade in porcelain at these early periods. Now, if we combine this, the literary, evidence with the fact that porcelains resembling in all respects the heavy céladons known in China up to the present day as Lung-ch'üan-yao have been found in various countries formerly under Arab rule and in the former Arab colonies, does not this entitle us to assume that all these céladons have taken their way from Lung-ch'üan by river to Zaitun (Ch'üan-chou-fu, or thereabout), whence they were brought to Borneo, Java, Sumatra, India and Arabia?

Among the recipients of céladon porcelains I have not mentioned the name of a country where probably as many specimens exist now as in all the others taken together, China excepted, *viz.*, Japan.[166] The relations between China

165 Regarding the varieties then produced at King-tê-chên, *see* Julien, p. 90 *seqq.*

166 It is possible that, apart from Japan, numbers of Chinese antiquities will be found in the Loochoo Islands. For the *Hsi-yang-kung-tien-lu*, the information contained in which refers to the beginning of the 15th century, says (ch. 2, p. 15) of the Loochoo Islanders that "they are well read in the Chinese classics and fond of Chinese illustrated books and antiquities (好中國圖書古器)." Chao Ju-kua has a different tale to tell about the Loochooans of his time, the 13th century; according to him,

and Japan are, of course, much older than the céladon period I have described. At the time when Chao Ju-kua wrote, Chinese literature was eagerly studied in that country, and Chinese art was imitated in all its principal phases. Trading relations existed to a certain extent. Chao Ju-kua, speaking in his account of Japan of certain pine trees and the *Lo* tree,[167] trees "attaining heights of up to fourteen or fifteen *ch'ang*, and measuring fully four Chinese feet in diameter," goes on to say that "the natives cut them into boards, which they transport in large junks to our port of Ch'üan-chou (Chinchew) for sale;[168] but that the people of Ch'üan rarely go to this country."

The Japanese timber junks arriving at Ch'üan-chou-fu are sure not to have left that port without return cargoes, and since porcelain, especially green porcelain, was among the staple articles of the latter, we may conclude that shipments were made of it to Japan. In the case of Japan it is hardly necessary to look for literary evidence proving the importation of Chinese objects of art; foreign collectors must be aware that of certain Chinese antiquities Japan is as good a market as China herself. As regards Lung-ch'üan

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"they were given to robbery, for which reason the merchants of other countries did not go there." *Cf.* Léon de Rosny, *Notices sur les îles de l'Asie orientale*, Paris, 1861, p. 18.

[167] 杉木, *shan-mu*, Cunninghamia Sinensis; and 羅木, *lo-mu*, which may stand for 羅漢柏, *lo-han-po*, Japanese *hiba*, the Thujopsis dolobrata.

[168] 至吾泉貿易泉人罕至. M. Léon de Rosny, who has furnished a French version of Chao Ju-kua's accounts of Japan and of the Loo-choo Islands in his *Notices sur les îles de l'Asie orientale*, renders this passage by: "les indigènes les transportent dans de grands navires à Ou-tsiouen pour les vendre." The remark following, however, seems a sufficient hint regarding the place which is meant, *ch'üan* (泉) being the obsolete form for *Ch'üan-chou* (*see* Playfair, No. 1497,–3°); and the use of *wu* (吾) in the sense of "our," especially in that of "our Chinese" as opposed to what pertains to foreign countries, is quite common enough to fully justify my translation.

céladons especially I have seen as many old specimens in the curio shops of Osaka and Kioto as I have seen in those of Shanghai; thus, I bought at Kioto an onion-green céladon bottle answering in all respects, except in size, the description given of a Sung specimen in Bushell's illustrated Ming manuscript (No. 23). Chinese works of art, and among them ornamental antiquities, are as much appreciated by the Japanese as they are by the Chinese themselves, and Japan possesses a literature of its own regarding them.[169] As regards céladons, and especially the old Lung-ch'üan-yao, there is but one opinion among the Chinese dealers as to the unmistakeable craze existing in Japan for this class of porcelain. I have no doubt that these old, imperishable bowls and dishes would be less scarce in China but for the plundering of Japanese pirates, who infested the districts adjoining the coast of China on several occasions during the Ming dynasty. Thus, in A.D. 1411 and 1417, many towns in Chêkiang where, according to a passage in the provincial annals, Lung-ch'üan céladons were among the household treasures handed down from ancient times (*see* above, p. 165) were pillaged by the Japanese. Similar raids were committed on the Chinese coast in 1421, 1426, and 1439.[170] But on no occasion it appears the country has been more systematically robbed than during the thirty or forty years in the second half of the 16th century when Japanese buccaneers, aided by large numbers of discontented Chinese subjects, became the terror of the coast provinces. On this

169 I mention as an instance a work written in Chinese, but published in Japan and treating on Chinese antiquities of all ages up to the present dynasty, the *Shu-hua-wên-fang-t'u* (書畫文房圖), treating in ten volumes on paintings, manuscripts, bronzes, jadestone ornaments, etc., with critical reasoning, a feature we often miss in similar works published in China.

170 H. J. Allen, "Early Relations of China and Japan," in *China Review*, Vol. III, p. 57 *seqq.*

occasion they pillaged all the richest cities on and near the coast, such as Hangchow, Soochow, Ningpo, Wênchow, Changchow, and many of the second-rate cities in Fukien and Kuang-tung; once they even marched from Hangchow through the interior to Wuhu and threatened to take Nanking, though with ill success on this occasion.[171] It is very likely that the greater part of the treasures in old Chinese porcelain as well as in bronzes and other branches of Chinese art now found in Japan were sold there out of the plunder made during that period, a period which for this very reason must have greatly influenced the development of art in Japan itself.

12.—Céladon Imitations.

As regards céladons especially, the Japanese were not only among the early admirers, but also soon became clever imitators of the Lung-ch'üan style, in which respect they have become rivals to the genius of King-tê-chên artisans. I am not prepared to say where and when céladons were first made in Japan, and to what degree the oldest imitations resemble the originals. I was told in Kioto that céladon porcelains were made at *Shikone* about a hundred years ago, and I saw a specimen in the Exhibition held in that city in June 1886. Its paste was heavy and thick like that of the Lung-ch'üan porcelain, but the enamel was thin and not so rich as that of old Chinese specimens, the bottom pale, almost rose coloured; the edges and corners, where the enamel was still thinner than on the plain surfaces, was almost white in colour. The specimen referred to was marked 湖東.[172] My Japanese informant

171 *Hai-kuo-t'u-chih* (海國圖志), ch. 12, quoting the *Ming-shih*; for English version by Sir T. F. Wade, see *Chinese Repository*, Vol. XIX, p. 135 *seqq*.

172 *Hu-tung*, "east of the Lake," in Japanese *Koto*, whence this class of porcelain is called *Koto-yaki* (湖東窯). The Shikone district occupies the eastern shore of Lake Biwa, whence the name *Koto* is derived.

further told me that céladons had been made by *Yeïraku*[173] of Kioto, whose factory was closed about 25 years ago. Of his work I saw at Kioto a handsome tripod, with pale enamel and white bottom containing the maker's name in seal characters. Imitations are, or were, also made at *Imari* near Nagasaki. Poor stuff of modern manufacture comes from a place called Santa, said to be 7 *ri* distant from Kobé. I saw it sold at Arima under the name of "Santa Pottery."[174] Its paste is light and sandy, more like earthenware than porcelain, and the bottom coloured with a yellowish pink, the enamel thin, but brilliant, and in some specimens showing delicate cracks. Numerous objects are made of this ware, such as censers, candlesticks, josses, plates, bowls, cups, flower-pots and vases, all of which are given an elegant and pleasant form, though their extreme cheapness is in proportion with the labour bestowed on their perfection. None of the Japan céladons, however, which I have seen could be confounded with the Lung-ch'üan-yao of China, whatever their pretensions as works of art might be otherwise; nor am I under the impression that even the best and most expensive pieces made in Japan were made for the purpose of deceiving the purchaser. The real Chinese old céladon is easily recognised by those who have seen them in China, and as to imitating them, the labour which it would cost to produce an exact facsimile would hardly repay the maker in a country where genuine specimens have been preserved in such numbers. Celebrated

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[173] 永樂, in Chinese *Yung-lo*. "Le plus étonnant pasticheur qu'ait produit l'art céramique." Gonse, *l'Art Japonais*, small edition, Paris, 1886, p. 304. His real name was *Zengoro Riozen*, but when he had produced an imitation of a certain specimen of Chinese porcelain of the period Yung-lo (A.D. 1403 to 1425), the prince of Kiushiu presented him with a golden seal bearing the above characters, and from this time his family adopted the name *Yeïraku* (Yung-lo), the two characters being used as a mark on their manufactures. Gonse, *l'Art Japonais*, large edition, Paris 1883, vol. II, p. 291.

[174] 三田陶器.

makers both at King-tê-chên and in Japan frequently take a variety of ancient porcelain as a pattern; if they actually succeed in deceiving a connoisseur this must be considered an achievement which not many can bring about; and fraud of this kind cannot possibly have flourished on a large scale. Great artists, and such are the only ones who will rise above the gross impostures calculated to deceive the masses, soon become the founders of independent schools by creating a new pattern based on the imitative study of the old.

This has been prominently the case in China with several of the artists who were given to the imitation of works of former periods. Those who flourished at King-tê-chên have apparently succeeded better in imitating the white Ting and the early King-tê-chên porcelains than the works of other factories such as the Chün-yao or the Lung-ch'üan céladons. Among the celebrated imitators of old porcelain Chinese records have preserved the memory of several artists of special renown. Ts'ui Kung,[175] who lived during the middle of the 16th century, imitated Hsüan-tê and Ch'êng-hua porcelains; Chou Tan-ch'üan,[176] a contemporary of the former, but reaching into the 17th century, is said to have excelled in the imitation of ancient porcelains. Tradition says that he was in the habit of selling his own manufactures to the rich amateurs at Soochow, Sungkiang, and Ch'ang-chow in the neighbourhood of Shanghai, and that connoisseurs were deceived by him. His strength consisted chiefly in the imitation of old white Ting-yao, a variety of porcelain which it must have been much easier to counterfeit with King-tê-chên materials than the more heterogeneal Lung-ch'üan produce. One of the first imitators of old céladons must have been, if ever there was such a personage, Hu-kung, "Mr. Pots," also known under the name of Hu-yin-tao-jên, *i.e.*, "the Taoist

[175] 崔公. Julien, p. 102. [176] 周丹泉. *Ibid*, p. 103.

hidden in a pot,"[177] who is said to have lived during the Wan-li period (A.D. 1573 to 1619). These names are apparently nicknames given to a clever artisan in allusion to an old legend, preserved in the *Shên-hsien-chuan*, an ancient work on Taoist immortals.[178] According to this legend Hu-kung was a fairy in Annam who carried with him an empty pot, by entering which he could render himself invisible.[179] Hu-kung's imitative strength consisted in the manufacture of pale green pots resembling the Kuan-yao and Ko-yao of the Sung dynasty; but they were different in the crackle, ("ils n'étaient pas fendillés comme la glace," Julien). To a certain extent it may be said that even the legitimate efforts of the later ceramic schools began by the imitation of the works of earlier periods. The workmen of the later Ming periods tried to produce the Hsüan-tê colours; those of K'ang-hi's time reproduced Ming colours and Ming patterns, etc. If we see an ancient mark on a later specimen, therefore, this does not always mean that its manufacturer wished to deceive his contemporaries; he merely impressed the name of the period the style of which he tried to represent as a matter of sport; for if he actually succeeded in deceiving the eye of a connoisseur he would gain considerably in reputation by this being known, and his work would be more valuable by his confessing himself to the fathership than by selling it

[177] 壺公; 壺隱道人. *See* Julien, p. 104, where the first character is wrongly printed 壼 (*K'un*). [178] Wylie, p. 175.

[179] *P'ei-wên-yün-fu*, ch. 1, p. 28; cf. *T'u-shu-chi-ch'êng* III, 14, ch. 99. The mark which this unknown artist placed on the bottom of his vases reads *Hu-yin-lao-jên* (壺隱老人; *cf.* Graesse, ed. 1880, No. 161 a) and is explained by Julien as meaning "le vieillard *Ou*, qui vit dans la retraite." It seems to me, however, that these four characters have rather an epigrammatic sense and, if translated into Latin verse would be among the most delicious of Martial's Apophoreta; for, "the old man," as the clever maker styles himself, "is concealed in the pot" like the fairy Hu-kung was in his, and although invisible, he himself, that is, his inventive genius, is contained in it. It impresses me as the most sympathetic device a ceramic artist could select as a mark.

as an old relic. This explanation of the principle on which imitations were made in former centuries and up to the present day may not hold good in all cases, perhaps not even in many; but it seems to apply to the céladons of Lung-ch'üan. What I wish to say is that, even supposing that it were possible to produce at a later period, in a different locality and with different materials, specimens resembling in all details the heavy, old Lung-ch'üan-yao, it could not possibly have paid the manufacturer to do so, since owing to their extreme hardness old specimens of these are by no means rare when compared to other porcelains made at the same period; and since prices are in proportion therewith, the imitator, who would have to bestow great skill and endless trouble on his work, could scarcely compete with the originals. Still, the attempt has been made, if not by way of fraud, at least by way of study, and with the result of creating new branches of the art.

It is in this light that I look upon the celebrated works of Nien Hsi-yao, *alias* Nien-kung, which are known in the market as *Nien-yao*,[180] and those of T'ang Ying, which are known as *T'ang-yao*.[181] The former was superintendent of the King-tê-chên factories under Yung-ch'êng (A.D. 1723 to 1735), and the monochrome porcelains made by him may be called céladons in a certain sense, though it appears to me that they originate from an attempt to imitate Chün-yao rather than Lung-ch'üan-yao. T'ang Ying, whose first connection with the King-tê-chên manufacture dates from the year 1727, became the successor of Nien-kung under Kien-lung, and his works are often found to bear the Kien-lung mark.

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[180] 年窯. Julien, p. 108.

[181] 唐窯. The manufacturer, T'ang Ying (唐英), occupies a similar position in the history of Chinese pottery as Yeïraku does in Japanese ceramics.

Among the many imitations of ancient porcelains manufactured under his name[182] we find a large number of céladons. But although distinguished by workmanship surpassing the original pattern in finish, the T'ang-yao céladons I have seen exhibited a certain mannerism by combining some of the old characteristics with the new material. In them, the enamel will be found faultless, but rather thinner than the Lung-ch'üan enamel; the red ring, where it appears at all, is carefully drawn as with a pair of compasses, and artificially coloured; and there is no trace of the ancient clumsiness, or even heaviness, to be noticed in the paste. These at least may be called characteristics of the céladons professedly known as T'ang-yao. They were apparently never made for purposes of fraud. Whether, besides these, T'ang Ying made imitations resembling the originals closely enough to deceive the eye of a connoisseur, I am not able to say; if anyone has ever succeeded in this work, we must assume, from the reputation he enjoys as an imitator, that he possessed the necessary knowledge and skill for it.

182 "Il savait imiter toutes les porcelaines antiques les plus renommées et ne manquait jamais de leur donner le même degré d'élégance et de beauté." Julien, p. 109.

THE CHINESE ORIENTAL COLLEGE.

By F. HIRTH, PH.D.

In the 5th year of Yung-lo (A.D. 1407) an office was revived which had existed under various names and as a sub-department of larger offices ever since embassies from foreign states were received in China, *i.e.* since the Chou dynasty. The new Office initiated by the enterprising emperor Yung-lo was styled the Ssŭ-yi-kuan[1] and was placed under the superintendence of the Han-lin-yüan or Academy of Sciences. It was entirely entrusted with the intercourse the Chinese Court then held with foreign nations, and one of its principal duties was to superintend the training of interpreters who were able to speak with the foreign ambassadors and to read their credentials and other documents. It may be called a linguistic school for Asiatic languages, or an Oriental college, though not exactly in the modern European sense.

The new school, as it was organised in 1407, was divided into eight divisions, each representing one of the languages then considered important from a Chinese point of view. The languages taught in these eight classes were Tartaric, Ju-chih, Tibetan, Sanscrit, Arabo-Persian, Pa-yi, a language written and spoken by the Shan tribes on the Yünnan frontier,

[1] 四夷館 under Yung-lo; but 四譯館 under the present dynasty. The original style of writing this name, which then meant "the Office of *all* foreigners" will help to explain the appearance of the character 四 *ssŭ* (four) in the modern name, which in view of the fact that ten, and not four, languages were taught in the College, would seem quite unjustifiable.

Uiguric, and Burmese.[2] Thirty-eight directors were then selected out of the educational department of the Board of Ceremonies (Kuo-tzŭ-chien) and these as well as the students were provided with a monthly allowance of rice as a stipend; annual examinations were held, when rewards in the shape of promotion were given, while utterly inefficient students were expelled from the college. In 1436 the Office of Official Interpreter was created as a reward for the most successful student. A regular system of rewards it seems was introduced in 1453, when an ordinance appeared by which triennial examinations were to be held; a student having succeeded in a first term received a monthly stipend of a picul of rice; the second degree, after six years' study, gave him the rank of a Translator; and a further term gave him a similar, still better Office. Unsuccessful students were allowed a second trial after another term of three years. A student who had failed on three successive terms was expelled, etc. These rules were modified by the succeding Governments, but the college appears to have flourished throughout the Ming period. In 1579 the Siamese language was added to the number of languages taught, and it is on this occasion that we first read that natives (in this case Siamese) were employed in teaching their language.

Details regarding the history of this institution during the Ming dynasty will be found in the *Ming-hui-tien*,[3] the chief

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[2] These were the languages taught at Yung-lo's time according to the *T'u-shu-chi-ch'êng*. In the *Wu-pei-chih*, ch. 227, p. 1 *seq.*, a larger list of languages is given as taught in the Ssŭ-yi-kuan, comprising, besides the above, Annamese, Japanese, Cambodjan, Javanese, Corean, Loochooan, a language spoken in Sumatra, one of Malacca, Siamese and others. But since Siamese is distinctly stated to have been introduced in the 16th century, this cannot be the list of languages on the programme at the beginning of the College.

[3] 明會典. *See* Wylie, p. 56. The above notes have been extracted, as far as the time preceding the Kanghi period is concerned, from the *T'u-shu-chi-ch'êng*. A similar account will be found in Rémusat's "De l'étude des langues étrangères chez les Chinois" in *Mél. Asiat.*, Vol. II.

source for the study of Chinese Government administration during that period.

When the present dynasty began to reign in China, the college initiated two centuries before was by no means neglected, and under Shun-chih, the first Ts'ing Emperor (A.D. 1644 to 1662), a new system of rewards was introduced; examinations were held twice a year, in April and in November, and the specimens of written translations were laid before the Academy of Sciences, who it appears had to decide about the expulsion of inefficient students. One of the College rules implied the suspension of the monthly stipend issued to a student, whenever anyone had to apply to the Board for leave on account of the death of one of his parents.

According to the *Ta-ts'ing-hui-tien* the College was formally re-opened in the year 1644 as a State department serving the purpose of "translating the credentials and other documents presented to the Court by the tribute-bearers coming from distant countries." The following ten langnages were then to be taught: Tartaric, Ju-chih, Arabo-Persian, Burmese, the Pa-yi Shan language, Tibetan, Uiguric, Sanskrit, the Pa-pai Shan language, and Siamese. The college was also placed under the supervision of the Academy of Sciences. In 1658 the Tartar and Ju-chih languages were abandoned as branches of the College, the former probably because since the accession to the throne of a Manchu family there was less difficulty in respect of them than there was under the Ming; the latter because its literature was then extinct.

Under Kang-hi, it appears, a new impetus was given to the study of these languages, for it was under his reign that a work comprising vocabularies of the languages taught at the College was written.[4] Short specimens of this book have

and in Wylie's paper "On an Aucient Inscription in the Neu-chih language" in *J.R.A.S.*, Vol. XVII, 1860, p. 335 *seqq.*

[4] *See* Rémusat, *op. cit.*, p. 249. As I shall show hereafter, it is very

been published under the title of *Yi-shih-chi-yü* (譯史紀餘) in Section IX of the well-known collection of reprints, the *Lung-wei-pi-shu* (龍威秘書). Short vocabularies will be found there of Arabo-Persian, the Pa-yi language of the Shans in Yünnan, Uiguric, Burmese, the Pa-pai Shan language, Tartaric and Sanskrit. How poor this collection is, however, even in quantity may be gathered from the fact that the last-named language is represented by merely 42 Devanágarí letters; the quality of the native characters given in connection with these glossaries being still more unsatisfactory owing to the difficulty no doubt experienced by the woodcutter having to deal with material with which he was necessarily unfamiliar. A much more complete vocabulary appears in the same collection of the Tibetan language in two fascicules under the name *Hsi-fan-yi-yü* (西番譯語).

All such prints are necessarily very imperfect; it would be a mistake, therefore, to be guided by them in judging of the state of linguistic studies in China. We receive a much more favourable impression from the manuscript literature on the subject. Unfortunately, it appears that manuscript glossaries containing Chinese and foreign writing are exceedingly rare, at least as regards certain languages. For, there is no lack of Chinese and Manchu, or Chinese and Mongol dictionaries. The most celebrated one, and I believe the only complete one, which has become accessible to the learned world in Europe, is the Manuscript sent to Paris by the Jesuit Father Amiot, and described by Rémusat in his paper on the study of Foreign languages in China.[5] Two incomplete copies of a similar Manuscript were said by Rémusat (in 1826) to exist in St. Petersburg. I do not know whether any further copies

probable that this was by no means the first work of the kind emanating from the Oriental College.

[5] *op. cit.*, p. 249 *seqq.*

of this most valuable book have since been discovered. I presume not, since Prof. de Lacouperie, in speaking of the Pa-yi and Pa-pai Vocabularies of the Shan languages[6] draws his information entirely from the Paris copy, which it appears bears the number 986 among the manuscripts of the Bibliothèque Nationale, and since, if important matter had been procurable in London or elsewhere, this author, who is usually very careful in collecting the literature required for his work, would have referred to it.

It seems, therefore, a matter of congratulation to the writer of this note that he succeeded some time ago in procuring a similar manuscript work, *viz.* a set of vocabularies of the principal languages taught at the Ssŭ-yi-kuan College, with a number of texts written in the native character.

The manuscript referred to is entitled *Hua-i-yi-yŭ*,[7] and such as it is, appears in 24 volumes or *pên*. I give the contents so far as I am able to judge about them at present.

Vol. 1.—A Mongol Vocabulary arranged according to categories, containing for each word the Chinese meaning in the middle, the Mongol writing on the right, and the approximate sound in Chinese characters on the left. All other vocabularies are similarly arranged.

Vol. 2.—A Burmese Vocabulary. If this is identical with the Burmese volume of the Paris manuscript, it belongs to a language spoken in Eastern Pegu. Rémusat says of the Paris manuscript: "il existe une identité parfaite entre ce vocabulaire et l'un des dialectes des Birmans."

Vol. 3.—By far the most important to us, is a vocabulary of 881 words belonging to the language of the Ju-chih (Nü-chih or Nü-chên) Tartars, who occupied the country adjoining the sea-coast between the boundary of Corea and the Amoor.

6 *The Languages of China before the Chinese*, London, 1887, p. 66 *seq.*

7 華夷譯語.

They are considered the ancestors of the present Manchoo race. After successful warfare with their northern neighbours, the Kitan Tartars, they had become strong enough to attack China, and, after a few struggles with the corrupt Chinese soldiery, succeded in establishing their rulers, who are known as the Kin dynasty, as masters of the north of China until they had to make room for still more powerful conquerors, the Mongols. The Ju-chih or Nü-chên Tartars had no alphabetic writing of their own up to a comparatively recent period. Klaproth (*Verzeichniss*, etc., p. 90) informs us that, previous to the invention of the Manchoo alphabet, about the year A.D. 1600, Mongol characters were resorted to for the purpose of representing Manchoo sounds, but that it was found impracticable to express thereby all that was required. There can be no doubt that a nation like the Kin Tartars could not have anything approaching organisation in their army, the one great feature of civilisation which they certainly possessed, without a written language. And, on examining the history of these bold conquerors as laid down in Chinese records, we find that, no sooner had they established themselves as a nation destined to rule over other nations than they felt the necessity of inventing the written character so much wanted for their further development. Rémusat, seventy years ago, was fully aware of this fact. When Akuta, he says,[8] the founder of the Kin dynasty and the first emperor of the Nü-chên, reigning under the dynastic title Tai-tsu [A.D. 1115 to 1123], adopted a system of writing for his nation, he was guided by the same motives as several Tartar rulers before him who had simply imitated Chinese writing as the only style then known among them. Akuta had to choose between the Chinese characters and those already adopted by the Kitan Tartars,

8 *Recherches sur les langues tartares*, etc. Paris, 1820, p. 75 *seqq.*

whose institutions he copied in many other respects. Rémusat quotes the *T'ung-chien-kang-mu*, the annals of China, which under the year A.D. 1119, contain the following entry: "In this year the Kin Tartars invented the Ju-chih writing," and this passage is accompanied by the following gloss: "The Ju-chih had no written character from the beginning. After they had become acquainted with the Kitan and the Chinese, they began to make use of the characters used by those two nations. But the ruler of the Kin (Akuta or Tai-tsu) gave order to a scholar named Ku-shên to imitate the *ch'iai-tzŭ* style of the Chinese in a manner similar to that in which the Kitan style had been invented, and to apply it to the spoken language of the Kin Tartars. It was thus that the Ju-chih written characters first came into use. In the sequel a smaller [*i.e.* abbreviated] style of writing the same language was invented; the characters invented by Ku-shên being known as the 'large' style." A comparison of these facts with the extracts furnished by Mr. Parker from the *Kin-shih*, or History of the Kin Tartars, and other Chinese records[9] contain further details on this question. Rémusat justly regrets not being in the possession of any specimens of Ju-chih writing: "Si l'on trouvait," he says, "quelqu'une de ces inscriptions en caractères des *Liao* ou des *Kin*, on pourrait en parler avec connaissance de cause, décider si les Tartares avaient adopté les caractères Chinois purement et simplement," etc.

I have no doubt that the characters explained in this Ju-chih Vocabulary are the same as those contained in an impression from a lapidary inscription at Keu-yung-kwan, on the great wall near Peking, laid before this Society by

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9 *See* Appendix I. The matter of fact of these extracts was known to Mr. Wylie, who, in the paper quoted above (Note 3) refers to the works from which Mr. Parker translates extracts as contained in the *P'ei-wén-yün-fu*.

Mr. Wylie in 1864 (see *Journal of the C.B.R.A.S.*, Vol. I, New Series, p. 134).[10] Mr. Wylie then considered the inscription referred to "the only veritable specimen which has yet reached us of a long lost language, and of which a very few specimens are known to be in existence." On having made some remarks regarding the knowledge we possess of the existence of this old written language of the Ju-chih Tartars, he adds the following remarks: "A note to Ma Tuan-lin's 'Antiquarian Researches' states that the Classics and Histories of China were translated in this character.[11] There is little probability, however, that they were ever printed, and the slightest chance of now meeting with such a rare and curious literary treasure is too feeble to be entertained. Among a number of books in this character, in one of the imperial libraries in Peking, the catalogue names one on the Neu-chih alphabet. The importance of such an aid is obvious; but the stringent and unrelaxing jealousy with which every foreigner is kept without the dragon walls, effectually excludes the hope of any assistance in that quarter."

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10 I understand that rubbings of this stone inscription were sent to Europe at the time. Mr. Haas, the Austrian Consul at Shanghai, informs me that he sent a copy to the late Professor Pfizmaier, of Vienna.

11 In a previous paper ("On an Ancient Inscription in the Neu-chih Language" in *J.R.A.S.*, Vol. XVII, 1860, p. 335) Mr. Wylie gives the *Hsü-wên-hsien-t'ung-k'ao* as his authority for this statement, and adds: "These are most probably lost past recovery, but in a catalogue of the books in the Imperial Library at Peking during the Ming dynasty we have a list of fifteen books in the Neu-chih character." The list as communicated by Mr. Wylie comprises the *P'an-ku-shu* (盤古書), the *Chia-yü* (家語) and several other well-known titles of Chinese books. It is quite possible that sooner or later some of these Ju-chih texts will be discovered. The Chinese are faithful guardians of literary curiosities inherited from their forefathers, and I feel confident that volumes of Ju-chih writing are still kept in public and private libraries. Yet, whatever trouble we may take in order to hunt them up will be in vain in this vast empire, and all we may hope for is that, by some lucky accident, they may fall into the hands of a foreigner. The ample use which the Chinese now make of the art of photolithography in publishing facsimile editions of rare books may lead to making such hidden treasures more accessible to the general public than they have hitherto been.

Now this written language has been carefully placed on record in the manuscript volume before us. It is by no means connected with the system of Bashpa, the Tibetan lama who invented the Mongol alphabet in 1269, but based on the principles described in Chinese records. The system as laid down in this volume is decidedly not alphabetical. Its main principle appears to be the representation of the meaning of a word by a conventional sign, in other words, the ideographic system of the Chinese applied to Ju-chih or Manchoo roots. The phonetic element has been combined with it, but merely for grammatical purposes. That part of the Ju-chih word which contains the meaning apart from any grammatical termination will generally be found to be expressed by a character which has no relation to its sound except that in a few cases it seems that a distant relation exists between the sound of a Ju-chih syllable and the sound of a Chinese character which may have been used as a model in forming the new Ju-chih sign. The first character in the word for "sea," *mederin*, may be said to represent the syllable *med*, since the second part may be shown from other examples to represent the sound *erin*. The character referred to somewhat reminds us of Chinese 戚, in Cantonese *mít*. But such similarities are apparently not the rule. Generally speaking, the Ju-chih characters seem to have been arbitrarily invented in a similar manner as nowadays code words are coined for telegraphic purposes by using actually existing words in a mutilated shape with an entirely new meaning. In the majority of cases one character will be found to answer to one syllable; but in many cases, too, one sign is used to represent a word of several syllables, just as a Chinese character represents polysyllabic words in Japanese. Thus the word for thunder, which is pronounced *akdshan*, is represented by a character resembling Chinese 老 *lao*, old, but having an

additional horizontal line with a dot, thus 老, and no trace of phonetic description may be discovered on comparing this sign with any others. In other words, a Chinese character has been substituted with either an omission or an addition, if not both. In a few cases a Chinese character of the corresponding sense has been made the basis of the new sign. Thus the Chinese character for "moon" or "month" has been used for the corresponding Ju-chih and Manchoo word *biya*, but in order to distinguish it from the Chinese character, a slight mark is added in the shape of a point, thus 月. *Inenki*, the word for "day," appears as 日. The phonetic element, as I have remarked, seems to be principally employed for terminations. The suffix of the infinitive of certain verbs, *me*, will be found to be appended to the character or characters representing the root of the word. It resembles the Chinese character for "right," 右, *yu*, which in this case has apparently been adopted without any mutilation whatever. The character 土 (Chinese 士, *t'u*, with a point on the right) will be found to represent the syllable *ûn*, *e.g.* in *menggûn*, silver, or *gûn*, jadestone; however, it requires a much closer examination of the writing than I have bestowed on it, and specially a certain knowledge of the Manchu language, which, to my regret, I do not possess, to speak with authority on this point. The vocabulary as represented in the Chinese transcriptions of this manuscript seems to show that a large number of words are identical with the corresponding Manchu words; but it does not seem to confirm the complete identity of the Ju-chih and Manchu idioms which has been assumed to exist by Visdelou and Langlès on the ground of a Ju-chih vocabulary derived from a Chinese printed work.[12] So much seems certain, that the principle of Ju-chih writing is not syllabic in the majority of examples contained in our Vocabulary.

12 Rémusat, *op. cit.*, p. 257.

Vol. 4.—A Sifan or Tibetan Vocabulary.

Vol. 5.—Uiguric (with the supplement in Vol. 10, in all 988 words). Klaproth's essay, "Sprache und Schrift der Uiguren," once the only source for the knowledge of this language, was based on the corresponding portion of the Paris manuscript.

Vol. 6.—Arabo-Persian in exceedingly well written characters. According to Rémusat, the corresponding volume in the Paris Manuscript represents Persian words in Arabic writing. I do not dare to say anything about this volume without the opinion of a competent Arabist.

Vol. 7.—A vocabulary of the Pa-yi (巴夷), a Shan or Lolo tribe on the Yünnan frontier, with native writing based on an alphabet of probably Indian origin.

Vol. 8.—A vocabulary of the Pa-pai (八百), also a Shan or Lolo tribe, with writings based on an alphabet similar to the Burmese style, and possibly derived from the Pâli alphabet. In reading the words of this, as well as the Pa-yi language, it is important to first decipher the alphabet, since the sound given in Chinese characters must necessarily be an imperfect representation of the native word. Thus the sound of the word meaning "cloud" is described by the Chinese 莫, *mo*, the Papai transliteration reads *mog*; the sound of the word meaning "flower-bud" (in Chinese 蕾) is given as 敦, *tun*, but the alphabetic writing describes it as *dum*; "a melon" is represented by the Chinese sound 定, *ting*, which corresponds to alphabetical *dïeng*. Professor de Lacouperie, who in his recent work *The Languages of China before the Chinese*, p. 66, gives a short list of these words from the Paris Manuscript, merely transcribes the Chinese equivalents added by the editor of the manuscript. I avail myself of this opportunity to say that by deciphering the alphabet we shall not only obtain sounds much more

approximate than the Chinese syllables appearing on the left side of each word, but we may also possibly succeed in tracing some of the syntactical features of the language through the texts in Vol. 21. The numbers are in this language represented by the following words (as transliterated from the Pa-pai text): one, *ning;* two, *sung;* three, *sam;* four, *si;* five, *ha;* six, *lug;* seven, *chil;* eight, *piel* (?); nine, *kau;* ten, *sob;* hundred, *lai.* The Chinese origin of some of these numerals seems obvious. But it is not in numbers it appears that we have to look for the relics of the primitive vocabulary of these originally probably very uncivilised nations, who may be indebted for all they know of arithmetics to the Chinese, but in the names for objects of aboriginal existence, such as bamboo, *maignung;* tree *d'nmai;* woman, *lugyong*, etc. The alphabet seems very simple and is not encumbered by ligatures. The text runs like Chinese writing from top to bottom in columns read from the right to the left; but it seems possible that this arrangement has been made to please the Chinese, in order to have an opportunity to raise the column when speaking of the Emperor in the addresses to the Chinese Court. For the vowels *a*, *o* and *i* appear on the right side of the preceding consonant, corresponding to the top; the vowel *u* appears on the left side, corresponding to the bottom in the kindred alphabetical systems.

Vol. 9.—A Siamese Vocabulary.

Vol. 10 is a supplement to Vol. 5 (Uiguric).

Vol. 11 is a supplement to Vol. 4 (Sifan).

Vol. 12 is a supplement to Vol. 6 (Arabo-Persian).

Vol. 13 is a supplement to Vol. 7 (Pa-yi).

Vol. 14 is a supplement to Vol. 2 (Burmese).

Vol. 15 is a supplement to Vol. 8 (Pa-pai).

Vol. 16 is a Sankrit syllabary, probably a fragment taken from a Purâna, as has been suggested by Rémusat in connection with the corresponding portion of the Paris manuscript. From what I am able to see now on comparing these with the identifications extracted by Julien from a number of larger Glossaries,[13] I doubt whether this volume will reveal anything new on the subject treated upon by Julien.

Vol. 17 is a collection of forty bilingual texts,[14] being credentials presented by Central-Asiatic tribute missions to the Court of China, each document being represented by a Chinese and an Uiguric version. They were probably written during the Ming dynasty, since they are addressed to the Ta-ming-huang-ti (大明皇帝), though too much stress need not be laid on this argument, if we consider that, according to Ma Tuan-lin's account, the Ju-chih Tartars stipulated, among other conditions of peace with the Chinese in A.D. 1117, that the Chinese Court should recognise the style *ta-ming-huang-ti*[15] as that of the Ju-chih ruler. The mention of certain official districts having existed under the Ming, and not under the present dynasty, seems, however, of indisputable weight. The forty addresses contained in this volume came from Khamil, Ho-chou, Turfan, Kao-ch'ang, and other places in Central Asia. The greater part of these credentials contain an enumeration of the tribute gifts offered; but they also reveal a fact not generally known, *viz.*, that, in the address to the Emperor, the return

13 *Méthode pour déchiffrer et transcrire les noms sanscrits*, etc. Paris, 1861, p. 25 *seqq.*

14 According to Klaproth ("Sprache u. Schrift der Uiguren" in *Verzeichniss*, etc., p. 5) the Paris collection contains only fifteen of these documents.

15 *Ta-chin-kuo ta-shêng ta-ming-huang-ti* (大金國 大聖 大明 皇帝), which may be rendered by "Imperator sanctissimus et illustrissimus imperii Kin." *Cf.* d'Hervais de St. Denys, *Ethnographie des peuples étrangers à la Chine*, Vol. I, p. 449.

gifts are named which the ambassadors desire to receive from the Chinese Court for their monarchs.

Vol. 18 is a similar collection of memorials in Chinese and Mongolian.

Vol. 19, one of the most interesting in the whole work, contains twenty memorials in Chinese and Ju-chih. In these texts I find mention made of several years in the 15th and 16th century, and one address speaks of the 60 or 70 years which have elapsed since the reign of Chêng-t'ung (A.D. 1436 to 1450).

Vol. 20 is a collection of similar texts in Chinese and Tibetan.

Vol. 21 shows us thirty memorials, in Chinese and in the native character, from some of the chiefs, mostly bearing a Chinese feudal title, of the Pa-pai tribes, perhaps also neighbouring tribes making use of the Pa-pai writing. Some of these addresses came from the Pa-pai-ta-tien,[16] another from a tribe on the Kin-sha-kiang of Yünnan and Mêng-yang.[17] Apart from revealing the mysteries of one of the Shan languages, these texts will help to elucidate the historical phases of the ethnography of South-Western China.

Vol. 22 contains eighteen bilingual documents similarly illustrating the language of the Pa-yi tribes in Yünnan.

Vol. 23 contains tribute addresses, in Chinese and Persian (?), from Samarkand, Turfan, Khamil and Mecca. To show what these addresses are like, I select one as the type of the majority, the Chinese version of which has the following sense: "Ta-chu-ting, envoy from the country of T'ienfang (Mecca) respectfully lays before his Majesty the Great Ming Emperor the following articles of tribute, *viz.*, 150 catties jadestone and forty Western horses, and requests as a gift of Imperial favour supplies of gauze, satin, tea,

[16] 八百大甸. [17] 雲南孟養金沙江.

porcelain bowls and porcelain dishes. On receipt of this Memorial an Imperial Rescript was received saying that the matter has been noted by His Majesty."[18] It is a curious fact that, from these memorials, tea, which was first brought to Europe towards the end of the 16th century, appears to have been in demand in Arabia long before that period.

Vol. 24 is a collection of Siamese texts, each accompanied by a Chinese version. They are written as introductory letters to gifts of tribute delivered to the Provincial Treasurer of Canton, though the letters are addressed to the Emperor. The gifts are usually divided, so much for the Emperor, so much for the Empress. Some time after the year 1570, for instance, of certain articles half the quantity offered to the Emperor himself was added as a special gift for the Empress. These gifts included on another occasion 200 catties of Opium *(ya-p'ien)* for the Emperor and 100 catties for His Majesty's consort. Opium (*a-fu-yung*)[19] was also sent to Court as tribute by the Pa-pai tribes of Yünnan.

I place these details at the disposal of those who may be interested in the matter with all due reserve, and I wish to

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18 The Chinese text is probably a mere rendering from the Persian with the omission of all the ceremonial by-work usually encumbering such documents. It reads as follows :—

天方國使臣主丁
大明皇帝前進貢玉石
一百五十斤西馬
十匹求討羅叚茶
葉磁碗磁盤望乞
恩賜奏得
聖旨知道

19 阿芙蓉.

refrain from any further remarks for the present until I have seen, or at least learned some more particulars about, the Paris and St. Petersburg manuscripts. I understand from Rémusat's description of the Paris collection that it was the work of emissaries who had been sent by the Emperor Kang-hi to the various countries represented at the Interpreters' College, in order to study the languages, literature, manners and customs, etc., on the spot. This is probably correct, and the copy sent to France may be one of the copies prepared after the return of the Emperor's emissaries under Kang-hi; but Rémusat fails to give us any reasons why he places the manuscript in this period. My own manuscript bears no traces, so far as I can see at present, of having originated during the present dynasty, and whatever dates or facts may be utilised in determining the age of at least the texts placed on record, seem to show that it is a Ming work of the 16th century. Discrepancies in detail are also sure to be discovered. To mention one, Rémusat (p. 253) states the number of words in the Uigur vocabulary of the Paris manuscript to be 914. Mine contains 988 Uigur words. Moreover, the number of volumes and their arrangements differ considerably.

I possess no particular proofs for the fact of the manuscript having originated with the Oriental College referred to in the introduction to this paper, except the great probability of it being so and the existence of a few old volume labels of paper covered with yellow silk which I found kept between the leaves of certain volumes. One of these bears the inscription 回回館, *Hui-hui-kuan*, meaning "The Mahommedan College;" another reads 西番館 *Hsi-fan-kuan*, meaning "The Tibetan College," etc. These labels, I must assume, were detached from former covers having at some time or other to be replaced by new ones, and, not being complete,

were simply thrown into the book for keeping; and as representing the sub-titles, which are nowhere given, it being left to the intelligence of the reader to find out what each volume contains, they clearly refer to sub-divisions of the *Ssŭ-yi-kuan*, the only college (*kuan* 館) of the kind so called. The numbering of the volumes appears on the back in running-hand numerals and may be quite accidental; indeed, the sequence chosen shows that it was not done by an expert. But the foreign characters, such as the Persian, Uiguric and other texts, are written with such decision that, whatever their value will be found to be on having been examined by experts in those languages, a mere glance at them shows that they cannot be the work of purely Chinese copyists. They look very much as if they had been written by natives of each country, or at least by Chinese students who had made very careful and long studies of the native writing.

Over and above the arguments, already mentioned, for the work dating from the Ming dynasty, the following considerations seem to throw some light on the age when this collection was probably made. We have learned that Siamese was first added to the number of languages taught at the College in A.D. 1579. Since our Manuscript contains a Siamese Vocabulary, it is therefore probable that the whole work is not of a date earlier than this. On the other hand, the collection contains Ju-chih texts, and since the Ju-chih language is stated to have been abandoned at the College in A.D. 1658, it is not likely that the Ju-chih Vocabulary would appear in our collection if it had been compiled, or even copied, after this date. Since none of the texts contained in the work contain memorials addressed to an emperor of the present dynasty, whereas a number of them may be proved to belong to the Ming period, it is very probable that the year 1644 is the latest date when they were collected.

APPENDIX I.

EXTRACTS FROM CHINESE WORKS, REGARDING THE WRITING OF THE JU-CHIH AND KITAN TARTARS.

By E. H. Parker.

1. *Extract from the Chapter on Wan-yen Hi-yin* (完顏希尹) in the Kin History (金史, A.D. 1115–1234):

"The Emperor T'ai Tsu (太祖, *i.e.* Wan-yen Akutêng, founder of the Ju-chih, 女直, dynasty; 完顏阿骨打), ordered Hi-yin (希尹) to invent a character for the (new) state, to serve as a standard. Hi-yin thereupon imitated the *K'iai-tzŭ* (or square form) characters of China, and, following the Kitan standard, collected together native expressions, and formed the Ju-chih character. When the book was completed, T'ai Tsu was overjoyed, and ordered its general circulation."

2. *Extract from the Shu-shih Hwei-yao* (書史會要):

"T'ai Tsu employed a number of Chinese, and taught them how to take the *Li Shu* (隸書) character in halves, and add to or mutilate it, and thus fashioned 1,000 Kitan characters, to take the place of carved wooden message tallies."

3. *Extract from the above Chapter on Wan-yen Hi-yin* (*see* Extract 1):

"The Emperor Hi Tsung (熙宗, A.D. 1135–1149) made the Ju-chih character, which ran concurrently with the character fashioned by Wan-yen Hi-yin. Hi-yin's were called the "Greater Ju-chih character," and those made by Hi Tsung were called "THE Ju-chih character."

4. *Extracts from Yüan Hao-wên's Funeral Tablet to Lord Yelü* (Ch'u-ts'ai?: 元好問耶律公神道碑).

"The (Kitan?) Emperor Shih Tsung (世宗, A.D. 947–951) was a very ardent student of history, and commanded that the T'ang History should be translated into the small character. When this was done, he then separately circulated it in the Ju-chih character for convenience of readers."

"The clerks of the History Department (國史院) were appointed because practised in the greater and lesser Kitan character, into which they translated the classics, and they put glosses upon the original language, their style being clear and intelligible."

5. *Extract from the Liao Shih*, (遼史皇子表), *Genealogical Table:*

"Ch'ang-wurh (長汶), Prince of Ning (寧), third son of the Emperor Shih Tsung, (世宗, A.D. 947–951), was clever and studious. He understood the Kitan and Chinese character, and could make poetry."

6. *Extract from the Chapter on Chang Tsung* (章宗, 1190-1209) *in the Kin Shï* (金史):

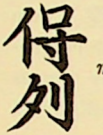
"He was versed in the [Ju-chih] dynasty's language and writing, and also in the Chinese written classics."

7. *Extract from the Mêng-tah Pei-Luh* (蒙韃備錄), *or History of the Mongol Tartars:*

"Their habits are simple, and they have the Uigurs as neighbours. In their official correspondence with other states they always use the Uigur character, which resembles the Chinese Flute Music; but in their intercourse with the Kin states they use the Chinese character."

APPENDIX II.

SPECIMENS OF JU-CHIH WRITING.



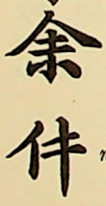
morin, a horse.



mudur, a dragon.



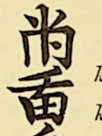
gurun-ni wang, a king.



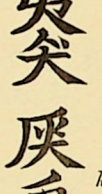
niyalma, man.



tumen, ten thousand.



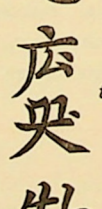
khôdashale=
khôdashame, to sell.



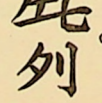
khashale, to tell, to inform.



abkhai, heaven, sky.



tugi, cloud.



arin, hill.


mederin, sea.


erin, the seasons.


khalkhun, hot.


mengun, silver.


akhûn, elder brother.


kulime, to select.


uchebime, to respect.


chikha, money: a mace (?).


khakha, a duck.

NOTES AND QUERIES.

THE MIRYEKS, OR "STONE MEN" OF COREA.

The word *miryek*, pronounced *miryök*, is, as stated by M. de Lacouperie, described in the Dictionnaire Coréen-Français as "Statue de pierre. Grande idole de pierre." Under the head *syek in*, pronounced *syök in*, or *sök in*, the definition is "Homme de pierre: statue de pierre représentant un homme." In both cases the Chinese characters 石人, or "stone man," are given as the respective equivalents of *miryêk* and *syêk in*. The Corean word for "stone" is tōl, (pronounced long, as in the English word *told*), and the Corean word for "man" is *sarăm;* but the Dictionnaire gives no such word as *tōl-sarăm*. The Corean word *tōl* may, however, be joined to Chinese words, e.g. *tōl pi*, *tōl htap (t'ap)*, 石碑, 石塔. M. de Lacouperie suggests that the word *miryêk* existed in Corea previous to the adoption of the Chinese characters, in its special adaptation to stone statues; and he implies that the religion which caused the erection of the statues was forgotten or in the shade at the time. It is a fact, however, certified to by Lieutenant Foulk, that the same statues are described by the Chinese characters *mi lêk*, 彌勒, which, in Corean-Chinese, are pronounced *mireuk*, or *mirīk;* and, as the Corean vowels which the Dictionnaire writes *ê* and *eu* [ĭ] are much interchanged; whilst, moreover, the *y* is frequently elided both in speech and writing; there is evidently no necessity for M. de Lacouperie's suggestion, and thus the further implication also falls to the ground.

Eitel's Sanskrit-Chinese Dictionary says that statues were erected in memory of Mâitrêya in India as early as B.C. 350; and there can be no doubt that M. de Lacouperie's next suggestion is

correct, namely, that *miryek* is a foreign word,—in fact Mâitrêya [Buddha], 彌勒佛, which, in Corean, would be *miryêk poul (pul)*. In Japanese the three characters become *mirokubutsu;* in Cantonese *nilêkfêt (nilăkfăt);* in Pekingese *milêfu* (or *fo*); in Foochow *milœ-huk* (vulgar for *milêkhuk*); etc., etc. The great Concordance, or *P'ei-wên Yün-fu*, says that during the year A.D. 610 a riot was caused at the capital of Sui Yang-Ti [隋煬帝], by a number of men rushing through one of the gates dressed as *mi-lêh-fuh*. Another extract says that *Milêhfuh* was born at Benares. Still another extract says that in Hu Kwang (previous to the Sui dynasty) the 8th day of the 4th moon was observed as *Milêh's* birthday, under the style of Lung-hwa Festival, 龍華會, when the images of Buddha were all washed in scented water.

M. de Lacouperie says that the double cap of the Corean *Miryêk* is "highly suggestive of two of the currents of tradition which are met with in Corea;" but he leaves us to guess what he means. The slab and pendents on the cap, he says with some apparent show of reason, are suggested by the Indian Pagoda-umbrella, and justly adds that the *Miryêk* of Unjin is Buddhist.

There is still another way of accounting for the *Miryêks*. On page 303 of the *Chinese Recorder* for 1885, it is explained that the state of T'ai-fêng, 泰封, was founded by the Shinra priest-prince Kung-i, 弓裔, who, in A.D. 911, called himself *Miryêk Pul*, 彌勒佛, and always wore a golden turban and a square robe when he went out. His capital was 20 *li* north of T'ieh-yüan Fu in the Kiang-yuen (Kangwŏn) Province. Curiously enough the same name was, according Dr. Hirth's *China and the Roman Orient*, given to the king of Fulim at about the same date.

M. de Lacouperie says that the Coreans have the only real alphabet of East Asia, and quotes Klaproth as an authority (without source) for the statement that it was introduced into Paktsi or Hiaksai in A.D. 374. The Grammaire Coréenne puts it down to Syel Chong in the 8th or 9th century; but I never succeeded in finding a Corean who knew anything about it.

It seems very certain, however, that the Corean alphabet is modified from the Sanskrit, as the following comparison will shew.

Sanskrit.	Corean.	English.
क	ㄱ	K
ख	ㅋ	KH
ग	ㄱ	G
ज	ㅈ	J, CH
ट	ㄷ	T
त	ㅅ	T
ध	ㅂ	P
म	ㅁ	M
र	ㄹ	R
ह	ㅎ	H
न	ㄴ	N

The above consonants are selected each as being reasonably like the approximate English sound.

(understood.)		
ा	ㅏ	Ă
ी	ㅣ	Ā
ु	ㅜ	I (EE)
ृ	ㅗ	O
ॅ	ㅛ	AU YO
े	ㅓ	E Ê
ै	ㅕ	AI YÊ
ॉ	ㅖ	YÊI (YE)

The vowels in the two languages are almost entirely different, but the above examples shew that much the same way of differentiating them exists.

NOTE ON THE EPHTHALITES A.D. 450.

In the "Journal" for March 1887 I stated that this nation, mentioned by late Greek writers, was in Chinese history the same with the race called 挹怛, and added that these characters were formerly called *Eptar* or *Eptat*. I now remark that in the Wei-shu the name is given as 厌噠, *ep-tar*. In the Kwang-yün 挹 is spelled 伊入, *yip*. The final *t* of 達, as of other characters where it occurs, was during the Tang dynasty sounded as *r** so that *tar* is the pronunciation for Kwang-yün 當割. In southern dialects, as at Canton and Amoy, *tat* is the sound.

The Ephthalites are stated in the Wei-shu to have been kinsmen of the Yue-ti (月氏) or Getæ, the Massagetæ of Herodotus. They are also said to be a branch of the Ko-ku (高車) race, and to have sprung from the Sacæ (塞). From the south of the Altai mountains (金山) they stretch to the westward of Khoten. This information was obtained about the year A.D. 435 by Tung-wan and Kau-ming, sent as ambassadors to the western kingdoms by the Wei Emperor. Tung-wan went as far as the Usun country, the modern Ili, Lat. 44° Lon. 81°. The Prince of the Usun said to him that the Palakna 破洛那 and Cha-zhar 者舌 people desired to become subjects of the Wei dynasty and send tribute. In consequence Tung-wan went to the Palakna nation and Kau-ming to the Cha-zhar. Both were assisted by interpreters sent by the Usun king. As the account makes plain in the beginning of the chapter 102, on western countries in the Wei-shu, Tung-wan came back by a route which lay eastward to the Usun country. In Wei-yuen's map to the Wei-shu, printed in Hai-kwo-t'u-chï, the nation Palakna is placed north-east of Khokand and east of the Aral on a north branch of the Jaxartes, by which is meant the River Sary-su, Lon. 68° lat. 47°. Sary-su is Turkish for Yellow Water. The same author places the Eptar nation between the Jaxartes and Oxus, while the Yue-ti nation,

* *See* Hirth, "Chinese Equivalents of the letter R in Foreign Names," *J.C.B. of the R.A.S.*, Vol. XXI, p. 217 *seqq*.

their suzerain, is located on the south of the Oxus. As the result of the mission of Tung-wan, sixteen kingdoms in these parts entered into peaceful relations with the Northern Wei dynasty in the 5th century, and sent tribute.

The Koku race is said, in the Wei-shu, ch. 103, p. 14, to belong to the Red Dik race (赤狄), which we must regard as Turkish. The Red Dik race in B.C. 605* are noticed as invading the Tsi kingdom in Shantung. This was a thousand years earlier. It could then be no other than the great Turkish race which thus preserved its vitality through so long a period. We have a monosyllabic base *Dik* for the name Turk, without the insertion of *r*. In the opinion of the native historian, the Koku, the Eptar, the Getæ and the Sakai are all to be viewed as Turkish.

The Eptar nation, after the year 455, sent embassies regularly to the Tai capital (Ta-t'ung-fu) in Shansi. In the year 524 they sent a lion. At this time there were thirty small kingdoms subject to them. The Eptar sovereigns intermarried with the Nonnon (蠕蠕) race, a Manchu nation then powerful in Tartary. The Eptar nation was at that time the supreme power to which on its north Kong-ku, and across the Tsungling range the Khoten and Shalak (Cashgar) kingdoms were in subordination. Hence we do not wonder that the Ephthalites, as the Greeks called them, were mentioned in the Byzantine contemporary histories. Procopius, who wrote an account of the Persian wars, A.D. 408 to 553, calls them the White Huns, to distinguish them from the ordinary Huns of Attila. The fact that they were known as Huns by the Greeks and Armenians shows that they were of the Ural Altaic race. Girard de Rialle arrives at this conclusion in regard to the ethnological position of the Ephthalites in his *Memoire sur l'Asie Centrale.*

From the earliest times the extension of the Turks is a fact most remarkable. No race among all the Ural Altai nations can be compared with them in permanence and vitality. For three

* Legge's *Tsochwen*, pp. 291, 293.

thousand years they have wrought powerful effects on the stream of human history, and during nearly all that time they have had a wide extension and have ruled many subject races.

J. EDKINS.

"KANGAROOS IN CENTRAL ASIA."

Reply to Query (*in Vol. XXII J. Ch. Br. R. A. S.*, p. 105). The animal *t'iao-tu*, the description of which is quoted by H. D. F. from the *Mêng-chi-pi-tan*, is the Mongolian Gerboa (*Dipus annulatus*, A. M. EDW.,) discovered by P. A. DAVID in Mongolia and Northern Chihli. This Rodent is closely allied to the Siberian Alactaga *(Dipus jaculus Pall)*. Other Gerboas or jumping rats are known, from Egypt, Arabia, Central Asia, also from North America. H. D. F. will find some remarks upon the Chinese species in my paper on the Vertebrata of Chihli (*J. N. Ch. Br. R. As. Soc.* Vol. XI, 1877, p. 55) and an excellent figure of it in Professor A. MILNE EDWARDS' *Recherches pour servir à l'histoire naturelle des Mammifères*," Paris, 1868-1874, Atlas, pt. x. A specimen existed up to 1877 in the Petang Museum, Peking.

O. F. VON MÖLLENDORFF.

MANILA, *14th March 1888.*

LITERARY NOTES.

A New Historical Work.

In the work 聖訓 *Sheng hiün*, now published, there is a selection of imperial edicts published during each reign. In the whole work there are 250 volumes divided into 40 yellow fasciculi; the distribution is irregular. Shun-chih and his father and grandfather have assigned to them eight thin volumes. The greatest of the Emperors, Kang-hi, (聖祖仁) has 12 volumes, and his son Yun-cheng ten. Chien-lung has 72 volumes; Chia-c'hing 40, Tau-kwang 36, Hien-feng 24, and Tung-chih 48. The work is arranged under thirty headings for one Emperor, under thirty-six for another, under forty for a third, the number varying. The edicts in the reign Tung-chih are the most voluminous in the whole collection. This is an account of the rebellions, the edicts in regard to which, under one heading only, occupy 16 volumes. Throughout this work the emperor is the nominal historian, but many edicts are composed for him by the cabinet ministers, and when he is a minor this is always the case. Each emperor has his name as a title to his own collection of edicts. Thus 大清高宗純皇帝聖訓 is the title to the 72 volumes of the Chien-lung collection. It must have been the Emperor Chia-ching's thought to expand the Sheng hiün to their present size, and it was probably on account of his filial regard for his father. It seems too bad that the Emperor Kang-hi should have only one-sixth of the space which is in this collection assigned to Chien-lung. But in the 實錄, *Shih-lu*, Kang-hi has 1,000 chapters, and this is the full chronicle from which both the Sheng-hiün and the Tung-hwa-lu are selected. The Sheng-hiün collection is charged 32 taels by the Peking booksellers. They paid a sum

for the copy (said to be three hundred taels) and printed it at their own expense. Consequently there are printers' errors. The Shih-lu is printed in the palace for the use of the emperor and his friends and relatives. Foreigners cannot see it.

J. EDKINS.

KELLY & WALSH, LIMITED, PRINTERS, SHANGHAI.

CHINESE NAMES OF PLANTS.

By Augustine Henry, M.A., L.R.C.P. Ed.

PART I.

The following is a list of names in colloquial use at Ichang and in the mountainous region to the south, indicated by "Patung," in which district and that of Changyang I have had a native collecting for the past three years. "Nanto" is a village at the western end of the Ichang Gorge, where I have also had a collector, who made excursions from there into the mountains to the northward. The scientific names, except in three or four instances, are copied from lists received from Kew. "*Ch.*" signifies the *Cheh wu ming*, and "*P.*" the *Pên ts'ao kang mu*, two Chinese works, which are described by Dr. Bretschneider in *Botanicon Sinicum*, *Journal R.A.S.* for 1881. I have also referred to Williams' *Syllabic Dictionary*, so that corrections may be made where the identifications given there are wrong. In a second part I intend to add to this list and to make further notes concerning the plant-names that occur in Chinese books on Botany.

1. *Ai chiang*, 崖薑, *Polypodium Fortunei*, *Ksze.* A common fern growing on the surface of rocks and on trees. The rhizome is used as a drug for making children's hair strong and black. 猴薑 is a synonym of 骨碎補 in *P.* xx. 2; and the figure in *Ch.* xvii. 31 agrees with our *Ai-chiang*.

2. *Ai chiang ts'ao*, 崖薑草, *Monotropa uniflora*, *L.* Patung.

3. *Ai hu tzu ts'ao*, 崖鬍子草, or *Yang* (羊) *hu-tzŭ ts'ao*, *Eriophorum comosum*, *Wall.* This grass grows on the cliffs in the Gorges, and hangs down in tufts, whence the native name.

4. *Ai hua tzŭ*, 崖花子, *Pittosporum pauciflorum*, *H. & A.*

5. *Ai pai ts'ai*, 崖白菜, *Rehmannia sp. nova?* A striking plant in summer in the Gorges, where it may be seen with its large flowers high up on the cliffs. It may be the plant figured in *Ch.* XVI. 30, where this name is given as a synonym.

6. *Ai lo tzu*, 矮樂子; also known as *Suan p'an tzu*, 算盤子, from the shape of the fruit. *Phyllanthus puberus M. Arg.* The second Chinese name is given in *Ch.* X. 12, where the plant is well figured.

7. *Ai hao*, 艾蒿, *Artemisia vulgaris*, *L.*

8. *Cha pao yeh*, 爹包葉, *Alchornea Davidi*, *Fr.*

9. *Ch'ing* (青) *cha pao yeh*, *Alchornea rufescens*, *Fr.*

10. *Ch'a*, 茶, *Camellia Thea*, *Link.* The best native tea is produced in the *Lo T'ien ch'i* neighbourhood. Tea for the foreign market is produced in the districts to the south. *See* No. 565.

11. *Yeh ch'a*, 野茶, *Eurya Japonica*, *Thbg.*

12. *Ch'a lan k'o-tzŭ*, 茶藍棵子, *Cratægus pyracantha*, *Pers.* This hawthorn, with small leaves and pretty red berries, is common on the hills, and sometimes is termed *Ch'a kuo*, 茶果.

13. *Ch'a kuo*, 茶果, *Ardisia Japonica*, *Bl.* This little plant, with red berries remaining even in winter, is figured in *Ch.* XIV. 48, where the names 小青 and 矮茶 are given.

14. *Ch'a hua*, 茶花, *ch'a chin t'iao*, 茶金條. Common names at Ichang of *Hibiscus Syriacus*, *L.* The book name, 木槿, is also known. Two varieties, one with white and the other with reddish flowers, occur.

15. *Tz'u ch'a*, 刺茶, a name sometimes given to the thorny shrub *Celastrus variabilis*, *Hemsl.*, the red fruit of which is conspicuous in the winter months.

16. *Ch'ai hao*, 柴蒿, *Boltonia indica*, *Benth. var.* and *B. integrifolia*, *Turcz.* Under the name 大柴胡 a plant resembling these species is figured in *Ch.* VII. 29.

17. *Chang*, 樟, *Cinnamomum Camphora*, *N.* The wood is considered excellent for furniture. No camphor is prepared here that I ever heard of.

18. *Ch'ang pu*, 菖蒲, *Acorus Calamus*, *L.*

19. *Chê*, 柘, *Cudrania triloba*, *Hance.* See *Williams*, p. 39, where it is erroneously termed an oak. At Ichang, and also in Szechwan, this character is pronounced invariably *tsa*^{4}. The tree is thorny and grows about 15 feet in height; it bears orange-coloured fruit, an inch or more in diameter, with a milky juice. In this neighbourhood, when mulberry-leaves become scarce, it is used for feeding silk-worms. In Szechwan, according to HOSIE, if young silk-worms are not fed with the chopped leaves of this tree, the output of silk is less and the quality inferior. A figure of this tree is given in the Customs' publication on Silk, where it is erroneously spoken of as the *shih* tree. The Nanking pronunciation is *chê*.

20. *Ch'ê ch'ien ts'ao*, 車前草, *Plantago major*, *L.* The seeds enter into the composition of *liang fên*, a jelly used in summer.

21. *Chi mu*, 機木, *Loropetalum chinense*, *Br.* A common shrub on the hills. See *Williams*, p. 338. A figure and description are given in *Ch.* XXXVIII. 20.

22. *Chi kai so*, 急改索. This plant is figured in *Ch.* XXI. 11, where the native name used here is given as a synonym. It is used as a *ts'ao yo* (草藥) and is *Polygonum perfoliatum*, *L.*

23. *Chi huo shu*, 雞火樹, *Acer oblongum*, *Wall.* This maple is common at Ichang, and is known also by the name *Fei-wo-tzu*, *q.v.*

24. *Chi kung hua*, 雞公花, *Celosia argentea*, *L.*

25. *Chi shih t'éng*, 雞尿藤, *Pœderia tomentosa*, *Bl.*

26. *Chi t'ui tzŭ*, 雞腿子, *Potentilla discolor*, *Bge.*

27. *Mao chi t'ui*, 毛雞腿, *Potentilla multifida*, *L.* The root of these two species is sometimes eaten. In *Ch.* XII. 1, *chi-t'ui* occurs as a synonym of *fan pai ts'ao*, 翻白草, and the figure given resembles *P. discolor*.

28. *Chi wo lan*, 雞窩亂, *Batratherum echinatum*, *H.* (now referred to *Arthraxon*), a grass very good for feeding horses. It is apparently the 莠竹 of *Ch.* XIV. 63, where the figure represents our plant, and mention is made of horses being fond of it.

29. *Chi yen ts'ao*, 雞眼草, "corn" herb, so called from being used in cases of sore feet. *Sedum spectabile*, *Boreau.* It is a kind of *ching-tien*, 景天.

30. *Ch'i shu*, 漆樹, *Rhus vernicifera*, *D.C.* Extensively cultivated in the higher mountainous districts here. It grows about 20 feet high, and the varnish is obtained by making incisions, about one foot apart, in the bark of the tree, during the Chinese 6th and 7th months. Mussel-shells or bits of bamboo are placed in these incisions; the sap flows out during the night, and next morning is collected. It speedily becomes black on exposure to the air, and constitutes the common Chinese black varnish used for lacquer work, varnishing coffins, etc.

Another species of *Rhus*, not yet identified, occurs near Etu, which yields similarly a varnish; but this is much paler in colour than that obtained from the common tree. Neither of these species corresponds with the figure given in *Ch.* XXXIII. 22, and specimens from Ningpo, Foochow, etc., are very desirable.

31. *Shan ch'i*, 山漆, *Rhus sylvestris, S. & Z.* Probably the tree figured as *yeh ch'i*, wild varnish, in *Ch.* XXXVIII. 16. A specimen was brought to me of another tree, called by the same name, which seems to be *Rhus toxicodendron, L.*

32. *Mao ch'i*, 毛漆, Patung name for *Spiræa sorbifolia, L.*

33. *Ch'i yeh i chih hua*, 七葉一枝花. *See* No. 168.

34. *Ch'i hsin*, in Ichang a vulgar corruption of *Hsi hsin*, which is an important drug-name. *See* under the latter heading, No. 151, *seq.*

35. *Chi shêng*, 寄生. Parasitic plants belonging to the genera *Loranthus* and *Viscum* are called by this term, thus:—

Sang chi-shêng, 桑寄生, *Loranthum Jadoriki, Sieb*, more common on other trees, *oak*, etc., than on the mulberry. *See* the figure under this name in *Ch.* XXXIII. 35.

Viscum articulatum, B. Occurs here on *Dalbergia Rupeana, Hance*, and it is perhaps the 栗寄生 of *Ch.* XXXVI. 24.

Viscum album, common mistletoe. May be represented in *Ch.* XXXVI. 41.

36. *Ch'iang huo*, 羌活, *Peucedanum decursivum, Max.*, the variety with red flowers. This drug is exported from Szechwan, and is referred to in *Ch., descriptive part*, VI. 48. The variety with white flowers is termed *tu-huo, q.v.*

37. *Liang chiang*, 良薑, the name at Ichang of *Polygonatum sibiricum, Red.* This is the officinal drug *huang ching*, 黃精, and as such is recognized by some.

38. *Huang chiang*, 黃薑. See *Shan-yao.*

39. *Chiao t'êng*, 徼藤, *Wistaria chinensis, D.C.*

40. *Ch'ai chiao t'êng*, 柴徼藤, *Millettia reticulata, Benth.* Another species, probably new, of *Millettia* is called here by the same name. The latter is discriminated by my Patung collector as *yeh wan tou. See* No. 519.

41. *Chiao lü-tzu tz'u*, 叫驢子刺, *Rhamnus parvifolius, Bge.* The name is sometimes also applied to *Rhamnus rugulosus, Hemsl.*

42. *Hua chiao*, 花椒, *Zanthoxylum Bungei*, *Pl.* Occurs both in wild and cultivated states.

43. *Kou hua chiao*, 狗花椒, *Zanthoxylum alatum*, *Roxb.*

44. *Yeh hua chiao*, 野花椒, *Zanthoxylum setosum*, *Hemsl.*

45. *Shan hu chiao*, 山胡椒, *Lindera glauca*, *Bl.?* The fruit is eaten by the peasants. Another name for this shrub is *mu chiang tzu*, 木薑子.

46. *K'u ch'iao mê*, 苦蕎麥, *Fagopyrum tataricum*, *Gaertn.*

47. *T'ien ch'iao mê*, 甜蕎麥, *Fagopyrum esculentum*, *Moench.* These two kinds of buckwheat are cultivated at Ichang. At Patung, a variety of the last, an autumn crop, is named *fu ch'iao* 伏蕎. See *Williams*, 374.

48. *Ch'iao tang kuei*, 蕎當歸, Patung name for *Fagopyrum cymosum*, *Meissn.*, which occurs wild in the glens about Ichang; but I have not heard any Ichang native name for it. It is, in great probability, the *T'ien ch'iao mê*, 天蕎麥, of *Ch.* XXII. 71, where the figure corroborates the identification. See *descriptive part* of *Ch.* X. 70.

49. *Ch'iao mê han*, 蕎麥莧, *Polygonum nepalensis*, *Meiss.*

50. *Yeh ch'iao t'ou tzŭ*, 野藠頭子, *Allium Bakeri*, *Regel.*

51. *Chieh ts'ao*, 節草, *chieh ku ts'ao*, 節枯草, *Equisetum ramosissimum*, *Desf.*

52. *Chieh kéng*, 桔梗, of *Ch.* VIII. 11, is *Platycodon grandiflorum*, *A.D.C.* Common plant on the barren hills here, with blue, bell-like flowers.

53. *Chien tao tzŭ ts'ao*, 尖刀子草, "*Lactuca versicolor*" *D.C.*

54. *Chien chung hsiao*, 見腫消, a name for *Gynura pinnatifida*, *D.C.* See *San ch'i.*

55. *Chien féng kan*, 見風乾, *Evodia meliæfolia*, *Bth.*

56. *Chien hsüeh fei*, 見血飛, *Mezoneurum sinense*, *Hemsl.*

57. *Ch'ien ts'ao*, 茜草, *Rubia cordifolia*, *L.* This is the source of "Indian madder;" but in this neighbourhood I have not heard of any dye being extracted from the root. See *Williams*, p. 983.

58. *Ch'ien li kuang*, 千里光, *Senecio chinensis*, *D.C.* This plant is also known as *huang hua chih ts'ao*, 黃花枝草. It is a *ts'ao yao*, and is described and figured in *Ch.* xx. 7.

59. *Ch'ien hu*, 前胡, *Angelica sp. No.* 10 *of Index Floræ Sinensis*, p. 334, locally also known as *ai-hu*, 崖胡. *See* No. 507.

60. *Ch'ien niu*, 牽牛, *Pharbitis hederacea*, *Chy.* Occurs here as a weed in gardens, and it resembles the plant described by this name in *Ch.* xxii. 61.

61. *Shan chih ma*, 山脂麻, *Linum usitatissimum*, *L.* Flax is cultivated in the mountains of the Patung district, not for the fibre, but for the oil which the seed yields. It is figured in *Ch.* ii. 31. *Linum perenne*, *L.*, is also known by the same name.

62. *Yen chih ma*, 煙脂麻, *Patrinia villosa*, *Juss.*

63. *Chih chia ts'ao*, 指甲草, *Impatiens balsamina*, *L.* Several wild species of Balsam also occur in the glens, which are sometimes termed *yeh* (野) *chih chia ts'ao*.

64. *Chih-tzŭ hua*, 梔子花, *Gardenia florida*, *L.* In Szechwan this character is pronounced *tzŭ*^{4}, in Ichang *tzu*^{1}.

65. *Chin pa tou*, 金巴篼, at Ichang: *Ting pa tou*, 釘, at Patung: *Smilax china*, *L.* This common creeper is not, as supposed by some, the source of *t'u-fu-ling* (*q.v.*) or China-root. The *Pa chi*, 菝葜, of *Ch.* xxii. 55, is probably *Smilax china*, *L.*

66. *Chin yin hua*, 金銀花, applied to *Lonicera Japonica*, *Thbg.*, and other climbing species of *Lonicera*.

67. *Shui ch'in ts'ai*, 水芹菜, *Œnanthe stolonifera*, *D.C.* A weed growing on the sides of rice-fields. It is probably the *shui ch'in*, 水勤, of books. Also *Œnanthe sp.* of *Index Floræ Sinensis*, p. 332.

68. *Chia ch'in ts'ai*, 假芹菜, *Cardamine macrophylla*, *W.* A Patung name.

69. *Yeh ch'in ts'ai*, 野芹菜, *Cardamine hirsuta*, *L.* A common weed at Ichang.

70. *Ching chieh*, 荆芥; applied to various plants, as *Phtheirospermum chinense*, *Bge.* (which is the *t'u* (土) *ching-chieh*, figured in *Ch.* XXIII. 57), *Mosla dianthera*, *Max.*, an *Elsholtzia aff. E. incisæ Bth.*, *Melampyrum sp.*

71. *Ch'ing t'éng*, 青藤, *Cocculus Thunbergii*, *D.C.*: *Cocculus sp.*: and also *Pericampylus incanus*, *Miq.*

72. *Ch'ing ming ts'ao*, 清明草, *Gnaphelium multiceps*, *Wall*, a Szechwan name.

73. *Ch'io pu t'a*, 雀不踏, at Ichang applied to a very thorny creeper occurring on the cliffs; *Pterolobium punctatum*, *Hemsl.* This species is figured in *Ch.* XXIII. 56, with the name 老虎刺. At Patung *ch'io pu t'a* is a synonym of *Tz'u pao-t'ou*, *q.v.*

74. *Chiu ts'ai*, 韭菜, *Allium tuberosum*, *Reg.*, (= *A. odorum*, *L.*), cultivated at Ichang.

75. *Yeh chiu ts'ai*, 野韭菜, *Allium Thunbergii*, *Don.*

76. *Chiu lung hsü*, 九龍鬚. *Clematis Benthamiana*, *Hemsl.*, and other similar species. A Patung name.

77. *Chiu kang shu*, 九岡樹, "*an Quercus phillyræoides A. Gr.?*" An evergreen oak with very small leaves, common on the tops of the cliffs at Ichang; and it may generally be seen at the temples in the mountains.

78. *Ch'iu shu*, 楸樹, often, on account of the long pods, named *ch'iu kang tou tzu*, 楸豇豆子, *Catalpa Kæmpferi*, *S. & Z.* *Ch'iu* (*Williams*, 1001) includes also *C. Bungei*, *C. A. Mey.*, which occurs in the north; and according to the figure in *Ch.* XXXIII. 47, *Tzŭ*, 梓, also means *Catalpa*, *Williams*, p. 1031.

79. *Tz'u ch'iu*, 刺楸, *Acanthopanax ricinifolium*, *Seem.*, a large, very thorny tree with leaves resembling somewhat the Catalpa, whence the Chinese name. It is figured in *Ch.* XXXIV. 16. See *Williams*, 1001. This name is also sometimes applied to another thorny tree, *Zanthoxylum ailanthoides*, *S. & Z.?*

80. *Ch'o ch'o miao*, 猤猤苗, *Sambucus chinensis, Ldl.* This is the 陸英 or 蒴藋 of books. See *Ch.* XI. 75.

81. *Ch'o shu*, 猤樹, *Sambucus Sieboldianus, Bl.*, which may be the 接骨木 of *Ch.* XXV. 15.

82. *Chou shu*, 椆樹, more commonly *t'ieh chou*, 鐵椆, *Quercus glauca, Thbg.* See *Williams*, p. 48. A variety of this species with smaller leaves is sometimes distinguished as the small-leaved *t'ieh chou.* At Patung, in addition to *Q. glauca*, another species of evergreen oak (which on the Kew list is marked "Quercus sp., has not been identified, very different from the other *Chou* tree") is called by the name *T'ieh chou.* The wood of these oaks is very hard, and is, I believe, known in Hankow to foreigners as "white oak." See *Ch.* XXXVII. 1.

83. *Ch'ou mou tan*, 臭牡丹, *Clerodendron fœtidum, Don.*, figured in *Ch.* XV. 46. A common, well-known plant at Ichang.

84. *Ch'ou mou tan shu*, 臭牡丹樹, *Clerodendron trichotomum, Thbg.*

85. *Ch'ou ch'un*, 臭椿, *Ailantus glandulosa, Desf.*

86. *Ch'ou liang-tzŭ*, 臭粱子, *Premna microphylla, Turcz?*

87. *Ch'ou kên tzŭ ts'ao*, 臭根子草, a common grass, *Andropogon Vachellii, Nees?*

88. *Chü hua*, 菊花, *Chrysanthemum sinense, Sab.*

89. *Chü la ts'ao*, 鋸拉草, at Hankow named *chü-tzŭ ts'ao*, 鋸子草, *Galium aparine, L.*, and other species as *G. tricorne, With.*, *G. trachyspermum, Gray.* With the name 拉拉藤, a *Galium* is figured in *Ch.* XXI. 37. See also *Ch.* XXIII. 31.

90. *Chüeh yüeh t'êng*, 鈌月藤, *Bauhinia glauca, Wall.*

91. *Chüeh*, 蕨, *Pteris aquilina, L.* An arrow-root like substance named *chüeh fen* is prepared from the rhizome at Ichang, Patung, etc., where this fern is cultivated. See *Ch.* IV. 17. *Williams*, p. 446, and *Zottoli's Cursus*, III., give incorrect identifications.

92. *Lêng chüeh*, 冷蕨, a term sometimes applied to other large ferns, as *Nephrodium filix-mas*, etc.

93. *Shui chu tzŭ*, 水竹子, *Phyllostachys nigra*, *Munro*, a common, small bamboo, which flowers annually.

94. *Chu yeh ts'ai*, 竹葉菜, *Commelyna communis*, *L.*, and *C. Benghalensis*, *L.*

95. *Chu li.* The characters are given in the Ichang Gazetteer as 栜栗, but properly should be 櫧櫟. *Quercus sclerophylla*, *Lindl.* This evergreen oak occurs about Ichang. The acorns are used to make a substance resembling bean-curd, named 橡子豆腐. This oak is described in *Ch.* XXXII. 44, where mention is also made of the *tou-fu* got from the acorns. At Patung an evergreen oak, possibly a different species, occurs with the same name. See *Williams*, p. 87.

96. *Chu yū*, 茱萸, *Evodia rutæcarpa*, *Bth.* This is the *Wu chu yū*, 吳茱萸, of books. See *Williams*, p. 86, and under the heading *La-tzu* (Nos. 212 and 213), the more common name at Ichang.

97. *Chu êrh to*, 猪耳朵, *Monochoria vaginalis*, *Presl.*

98. *Ch'u ma*, 苧麻, *Bœhmeria nivea*, *H. & A.* The cultivated kind is often termed here *hsien ma*, 線麻.

99. *Shui ch'u ma*, 水苧麻, loosely applied to other species of *Bœhmeria*, as *B. platyphylla*, *Don.*, *B. diffusa*, *Wed.*, and other similar plants, as *Pilea*.

100. *Ch'ai ch'u ma*, 柴苧蕨, *Villebrunea frutescens*, *Bl.*

101. *Fei wo tzu shu*, 飛蛾子樹, *Acer oblongum*, *Wall.*

102. *Fêng hsiang*, 楓香, *Liquidambar formosana*, *Hance.* Tea-chests at Hankow are made from the wood of this tree, and from that of another species not yet named.

103. *Fêng t'ang kuan*, 蜂糖罐, *Rehmannia glutinosa*, *Lib.*

104. *Fu yang*, 麩楊, or *hung* (紅) *fu-yang*, the Chinese nutgall tree, *Rhus semi-alata*, *Murr.* See *Ch.* XXXV. 38.

105. *Ch'ing fu yang*, 青麩楊, *Rhus sp.?* This occurs in the Patung district, and also produces nutgalls. Specimens

lately sent to Kew will enable the specific name to be determined. The Patung collector distinguishes the galls from this tree as *wu p'ei tzŭ*, those from the preceding tree, as *ch'i pei tzu* (七棓子); but at Ichang the galls of *Rhus semi-alata* are known as 五棓子.

106. *Fu yung hua*, 芙蓉花, *Hibiscus mutabilis*, *L.* See *Ch.* xxxv. 59.

107. *Hao*, 蒿. At Ichang *Artemisia*, and sometimes species of *Chrysanthemum*, *Anaphalis*, etc., are indicated by this general name.

108. *Peh hao tzu*, 白蒿子, *Artemisia vulgaris*, *L.* See *Ai-hao*, which is another name for this variable species.

109. *Ch'ou hao*, 臭蒿, *Artemisia annua*, *L.* The name occurs in *Ch.* xi. 92, where the plant is figured.

110. *Ch'i t'ou hao*, 齊頭蒿, *Artemisia Japonica*, *Thbg.* This name occurs in *Ch.* xiv. 9, as a synonym of 牡蒿, and the figure corresponds to our plant.

111. *T'ung hao*, 茼蒿, *Chrysanthemum coronarium*, *L.* Cultivated. See *Ch.* iv. 35.

112. *Hê tzu yeh*, 黑子葉, *Symplocos cratægoides*, *Don.*

113. *Hê kan t'iao*, 黑桿條, *Viburnum sp. nova?*

114. *Ch'ing ho yeh*, 清荷葉, Patung name for two species of *Ligularia*. The identification of *Ligularia* with *Tu-hêng* is a mistake. *See* No. 152.

115. *Ho shou wu*, 何首烏, *Polygonum multiflorum*, *Thbg.* When the root assumes a likeness to the human figure, it sells for a very large sum, and is deemed an invaluable drug.

116. *Ho hsiang*, 藿香, *Lophantus rugosus*, *T. & May.* The name is also applied, at Patung, to a plant "*near Dracocephalum urticifolia*, *Miq.*"

117. *Hou pao ts'ao*, 餱包草, *i.e.*, "asthma" grass. *Hou*[1] *ping* is an Ichang term for "asthma." See *Williams*, p. 174. At Patung is *Epimedium macranthum*, *M. & D.* See under the heading *Yin Yang Ho*, No. 556.

118. *Hou chua tzu*, 猴抓子, *Cratægus cuneata*, *S. & Z.*, and *C. pinnatifida*. See *Shan-cha*.

119. *Hou erh tsao*, 猴兒皂, *Sapindus Mukorossi*, *Gaert.* The *Wu huan tzu*, 無患子, or *p'ien*, 楩, of books. See *Ch.* XXXV. 35, and *Williams*, pp. 246, 248, 690. The fruit is used as soap. For the other soap-trees at Ichang, see under *Tsao-chio*.

120. *Hou p'o*, 厚樸, *Magnolia sp. nova*. The bark of this tree is a famous Chinese drug, largely exported from Szechwan. Two varieties, one with red and the other with white flowers, are cultivated in the mountains of the Patung district. The leaves are very large, some being 16 inches long. This seems to be the tree figured in *Ch.* XXXVIII. 4, with the name *t'u hou p'o* (土厚樸). The description in *Ch.* XXXIII. 30 seems to point to another tree. Specimens from Szechwan, especially of the wild tree that is said to yield a bark much superior in price, would be very valuable. Enquiries ought also to be made whether there is more than one tree known by the name *hou p'o*. See the heading *P'o*, No. 377, and *Williams*, p. 711.

121. *Hu erh ts'ao*, 虎耳草, *Saxifraga sarmentosa*, *L.*

122. *Hu lo po*, 胡蘿蔔, *Daucus carota*, *L.* The wild plant, which is very common, is known as *yeh* (野) *hu lo po*.

123. *Shan hu lo po*, 山胡蘿蔔. At Patung the name for *Senecio* (*Cacalia*) *sp. nova?*

124. *Hu lu pao yeh*, 胡蘆包葉, *Petastites Japonica*, *S. & Z.?* In Japan this plant is *K'uan tung hua*, 款冬花; but at Ichang the dried flowers of *Eriobotrya Japonica* are known by this name. The source of the Chinese drug *tung hua*, 冬花, that is exported from Szechwan and also, I believe, from Tientsin, is unknown.

125. *Hu li*, 槲櫟, *Quercus aliena*, *Bl.* See *Williams*, p. 241, and also the heading *Li*, No. 229.

126. *Hua shêng*, 花生, *Arachis hypogœa*, *L.*

127. *Yeh hua-shêng*, 野花生, *Crotalaria ferruginea*, *Grah.*

128. *Hua ko shu*, 樺閣, the *Hua*, 樺, of books. *Betula cylindrostachya?* Occurs in the mountains to the south. See *Ch.* XXXV. 36 and *Ch.* XXXVII. 41, and *Williams*, p. 241.

129. *Huai t'ung*, 淮通, Patung name for *Clematis puberula*, *Hk. f. & T.*, and similar species.

Ta huai t'ung, 大淮通, is a name for *Clematis montana*, *D.C.*, a lovely species, hitherto only recorded from the Himalayas, which occurs in the mountains south of Ichang.

130. *Huai shu*, 槐樹, *Sophora Japonica*, *L.*

131. *Huan hsiang shu*, 換香樹, *Platycarya strobilacea*, *S. & Z.* *Hua hsiang*, 花香, and *Huai hsiang*, 櫰香, are also names given to it in other districts. By the second name it is described in *Ch.* XXXVIII. 3, where there is an excellent figure. This is the *tou-lu*, 兜櫨, of ancient writers. *Huai*, 櫰, is also given as a synonym in *Ch.* XXXIV. 10. The various names above are based upon the last-named. The cones are used at Ichang for dyeing.

132. *Huang ching*, 黃荆, *Vitex negundo*, *L.*

133. *Huang hua ts'ai*, 黃花菜, *Hemerocallis flava*, *L.*

134. *Huang kua ts'ai*, 黃瓜菜, and *huang-hua-ts'ai*, 黃花菜, *Crepis Japonica*, *D.C.* A small weed, very variable, the leaves of which are eaten. See *Ch.* IV. 48.

135. *Huang hua chih.* See *Ch'ien li kuang*, No. 58.

136. *Huang tou pan*, 黃豆瓣, *Celastrus articulatus*, *Thbg.*

137. *Ai huang lien*, 崖黃連, *Corydalis sp. nova?* A conspicuous plant, with yellow flowers in Spring, growing on the ledges of the cliffs in the gorges, etc. The root is used locally as a drug.

Huang lien or *shui lien* (水連), a medicine largely exported from Szechwan, is probably *Coptis teeta*, *Wall.* CHRISTY, *Commercial Plants*, IV., says the specimens of Dr. PORTER SMITH, in the museum of the Pharmaceutical Society, London, are certainly rhizomes of *Coptis teeta.*

138. *Yeh huang lien*, 野黃連, *Corydalis incisa*, *Pers.*

139. *Huang lien ya*, 黃蓮芽, often sounded as if *huang-ni-a*, *Pistacia chinensis*, *Bge.* The leaf-buds of this tree are eaten in the same way as those of the *cedrela*, and are by some considered better. This tree is described in *Ch.* XXXVII. 3 as 黃連木, and in the same work, XXXIV. 2, as 黃楝樹.

140. *Huang tsa tz'u*, 黃柘刺, Patung name for *Berberis Wallichiana*, *D.C.* This is perhaps the 大黃連 of *Ch.* XXXVI. 54. The description and figure correspond, except that at Patung it is a shrub, not a large tree.

141. *Huang ch'in*, 黃芩, Patung name for *Berberis nepalensis*, *Spr.*, at Ichang sometimes termed *huang-lien*. It is probably the shrub figured in *Ch.* XXXVIII. 28, while that on p. 29 is perhaps *Berberis Fortunei*, *Lindl.*

142. *Huang ts'ao*, 荒草, *Heteropogon hirtus*, *Pers.* This is the "spear-grass" of foreign sportsmen. At Ichang it is much used for thatch, being preferred for that purpose to straw. It is the 黃茅 or 地筋 of *Ch.* VIII. 10. Another spear-grass is known as *pao tzŭ ts'ao*, *q.v.*

143. *Hui hsiang*, 茴香, *Fœniculum vulgare*, *Gaert.*

144. *Hui t'ou ch'ing*, 回頭青, *Cyperus rotundus*, *L.* In the Ching-chou Fu Gazetteer this name is given as a synonym of 莎草, and the identification is correct according to the figure in *Ch.* XXV. 35. Another name is 香附子. Other species of Cyperus are occasionally named *Hui t'ou ch'ing*. *Cyperus Iria*, *L.*, is the 荊三棱 of *Ch.* XXV. 55. See *Williams*, p. 814.

145. *Hui t'ien han*, 灰天莧, *Chenopodium album*, *L.* The 灰藋 of books. See *Ch.* IV. 39 and *Williams*, p. 890.

146. *Hung liang*, 紅粱, *Euscaphis Staphyleoides*, *S. & Z.*

147. *Huo yen ts'ao*, 火燄草, *Sedum drymariodes*, *Hance.* This name is given as a synonym of 景天 in *Ch.* XI. 34; but the figure there represents a different species of *Sedum*.

148. *Huo tan ts'ao*, 火百草. See *Pa ko ts'ao*.

149. *Huo lien ts'ao*, 火連草, *Sedum sarmentosum, Bge.*

150. *Hsi tsao hua*, 洗澡花, *Mirabilis jalapa, L.*, so called because the flowers open, during the summer, in the evening, the usual time for Chinese to take a bath. It is also named *fên t'ang hua*, 粉糖花.

151. *Hsi hsin*, 細辛, vulgarly in Ichang pronounced *ch'i hsin*. Used alone these characters probably indicate *Asarum Sieboldii*, but as I have been unable to procure flowering specimens, the specific name is uncertain. See *Williams*, p. 734.

152. *Ma ti hsi hsin*, 馬蹄細辛, or 馬蹄香, *Ma-ti-hsiang*. This is the *Tu-hêng*, 杜衡, of *P.* XIII. 54, and is probably *Asarum Blumei*, but as I have not yet heard from Kew concerning this plant, the specific name is uncertain. It flowers early in spring and occurs in shaded places on the cliffs. See *Williams*, p. 169, where the identification is incorrect.

153. *Ssŭ yeh hsi hsin*, 四葉細辛, *Chloranthus Japonicus, Sieb.*, and perhaps another species, not yet identified, are thus named. This is given in *Ch.* VIII. 29, as a synonym of *chi-i*, 乃己, and the figure is probably meant for *Chloranthus Japonicus*. At Ichang two other species also occur—*C. Fortunei, Solms*, and *C. angustifolius, Oliv.*, often known as *ch'i-hsin*.

154. *Chu yeh hsi hsin*, 竹葉細辛, *Pycnostelma chinensis, Bge.* In *Ch.* VII. 21, where 土細辛 is given as a synonym, the description undoubtedly applies to this plant, which bears the officinal name of 徐長卿; but the figure represents some other plant. In Japan, the last Chinese name signifies *Pycnostelma chinensis*.

155. *Hsien*, 莧, in Hupeh, etc., pronounced *han*. See *Hui t'ien han* and the following.

156. *Tung han ts'ai*, 冬莧菜, *Malva verticillata, L.*, probably the 冬葵 of *Ch.* III. 1, where the synonym 冬寒菜

is given; but Hunan people tell me that the second character is wrong here, and should be 莧. Cultivated and wild at Ichang.

In Hongkong, *tung ku'ei tzu*, 冬葵子, apparently indicates *Abutilon indicum*, *G. Don.* See *China Review*, XVI. 8.

In *Ch.* III. 7, by 兎葵, *Malva verticillata*, *L.*, in the wild state, is probably meant. The synonym given there, *ch'i p'an ts'ai*, 棋盤菜, is, I am told, used in Ching-chou Fu for Wild Malva.

157. *Mao tung han ts'ai*, 毛冬莧菜, *Malva parviflora*, *L.* Cultivated at Ichang.

158. *Yeh han ts'ai*, 野莧菜, *Malva verticillata*, *L.*, and also *Acroglochin chenopodioides*, *Schr.*

159. *T'ieh han ts'ai*, 鐵莧菜, *Acalypha gemina*, *Spr.* Compare *Ch.* III. 11.

160. *Tz'u han*, 刺莧, *Amarantus spinosus*, *L.*

161. *Hsia ku ts'ao*, 夏枯草, *Brunella vulgaris*, *L.*, which is also termed *ku-niu-t'ou*, 牯牛頭. *Ajuga decumbens*, *Thbg.*, is also named *hsia ku ts'ao* by some at Ichang.

162. *Hsia-tzu ts'ao*, 蝦子草, *Aneilema nudiflorum*, *Br.*

163. *Hsiu ku*, 泗穀, *Setaria sp.* Cultivated in the mountainous districts near Ichang. The first sound may be a vulgar pronunciation of *su*, 粟.

164. *Hsü tuan*, 續斷, *Dipsacus asper*, *Wall.* This plant, which is used as a drug, is well figured in *Ch.* XI. 32. See *Williams*, p. 823 and *Porter Smith*, p. 64, where the identifications are wrong.

165. *Hsueh hu t'eng*, 血糊藤, or *Hsiao hsueh t'eng*, 小血藤. *Schizandra propinqua*, *Hk. f. & T.*, *var. sinenis*, *Oliv.*, known at Patung as *T'ieh ku san*. *See* No. 458.

166. *Hsün ku fêng*, 尋骨風, *Aristolochia aff. A. Kaempferi*, *W.* A common plant on the barren hills behind the city. It is figured under this name in *Ch.* XXI. 3.

167. The last, at Patung, is a name for *Eupatorium Wallichii, D.C.* Compare *Ch.* XIII. 17.

168. *I chih hua,* 一枝花, or *ch'i yeh i chih hua,* 七葉一枝花, *Paris polyphylla, Sm.* The last name is given in *Ch.* XXIV. 34 as a synonym of 蚤休; and the figure represents a species of *Paris.*

169. *I tzŭ ts'ao,* 譽子草, *Euphorbia humifusa, W.* A little plant, which grows in the dry, gravelly beds of streams; used locally in eye-diseases.

170. *Jua⁴ ku,* (the first character unknown), *Amarantus paniculatus, L. Ya ku,* 亞穀, is another name for the same cultivated plant.

171. *K'ai kou chien,* 開口箭, *Campylandra sp. nova.* Root is used in mouth and throat diseases. This species is known at Patung as *ti liao yeh. See* No. 455.

In *Ch.* XV. 25 開口劍 is given as a synonym of *Wan n'ien ch'ing,* 萬年青, and is said to be used for curing snake-bite at Kiukiang. *Wan nien ch'ing* at Ichang is applied to a similar but smaller plant, which is cultivated in pots. It is also a new species of *Campylandra.*

172. *Kan han ts'ao,* 乾汗草, *Mosla dianthera, Max.*

173. *Kan yen* (乾菸) *wu-tzu:* name at Patung for *Polygonum cuspidatum, S. & Z.,* the root of which is said to be used for dyeing yellow. *Wu⁴-tzu* is the phrase at Ichang for stem and leaves of an herb or undershrub, and there is no character apparently for *wu⁴.* This plant is named also *kang-yo-t'ai,* 剛藥台, *tuan yang* (端陽) *wu-tzŭ,* and *kao-liang-sun-tzu,* (No. 175).

174. *Kan hsiang t'êng,* 杠香藤, *Mallotus repandus, Marg.,* also named *tao kua ch'a.* The leaves are said to be used for adulterating tea. *See* No. 448.

175. *Kao-liang sun tzu,* 高粱笋子. *See* No. 173.

176. *Ko t'êng,* 葛藤, *Pueraria Thunbergiana, Bth.* The root is made into *ko-fên,* an arrowroot like preparation;

from the finer twigs, strings and gun-fuses (火繩) are made. In Ichang the cloth, *ko-pu*, is not made, but I learn it is produced in other parts of the province, Wuch'ang, etc.

177. *Kê shan hsiao*, 隔山消, *Cynanchum Wilfordii, Max.?*

178. *Kê tung ch'ing*, 隔冬青, *Ilex sp.*

179. *Kou*, 構. *Broussonetia papyrifera, Vent.* In *K'ang Hi*, a distinction is made between this and *ch'u*, 楮, but they signify the same tree. In Ichang, *kou* is alone used, and the paper made from the bark is known as *kou p'i chih* or *p'i chih* simply.

At Patung, a species of "*Broussonetia near B. Sieboldii, Bl.?*" occurs, named *hsiao-kou*, 小構. The bark is used to make paper, like that of the preceding tree.

180. *Kou wei tzŭ*, 狗尾子, *Setaria glauca, Beauv.*, and *S. viridis, Beauv.* See *Ch.* XII. 4, under 莠, and *Williams*, p. 1114.

181. *Kou wei pa*, 狗尾巴, or *mao* (毛) *kou wei pa*, *Lysimachia clethroides, Duby.* At Ichang, the fox is known as *mao-kou.*

182. *Kou ya kên*, 狗牙根, *Cynodon dactylon, Pers.*

183. *Kou lan ma*, 狗藍蘇, *Mallotus chinensis, Juss.*

184. *Kou erh ch'a*, 勾兒茶, Patung name for *Berchemia racemosa, S. & Z.*, and *B. lineata, D.C.*

185. *Kou ch'i tzu*, 枸杞子, *Lycium chinense, Mill.* See *Williams*, p. 329, where it is wrongly identified as *Berberis.*

186. *Ku êrh t'êng*, 鼓兒藤, Patung name for *Cocculus Thunbergii, D.C.* See No. 71.

187. *Ku ching ts'ao*, 穀精草, *Eriocaulon truncatum, Hance?* This name in China is applied to the genus *Eriocaulon.* See *Ch.* XIV. 38.

188. *K'u wo ma*, 苦萵蘇, at Ichang is *Lactuca denticulata, Houtt*, at Patung *Sonchus arvensis, L.* and *S. oleraceus, L.*

189. *K'u ts'ai*, 苦菜, *Lactuca squarrosa, Miq., L. amurensis, Regel.*, and sometimes at Ichang *Taraxacum officinale, Wg.*, is so called.

190. *K'u shen*, 苦參, *Sophora Kronei*, *Hance*. Used at Ichang as a veterinary medicine. The figure in *Ch.* VIII. 5 is not good, but from the description and mention made of it as a drug for cattle, I have no doubt that the Ichang plant is intended. See *Williams*, p. 735.

191. *K'u li tzu*, 苦李子, *Prunus Japonica*, *Thbg.*

192. *K'u t'ao*, 苦桃, *Prunus Ssiori*, *F. & S.*

193. *Hua k'u kua*, 花苦瓜, *Trichosanthes multiloba*, *Miq.* and *T. Kirilowii*, *Max.*, which occur at Ichang. The fruit is used as a drug. Also known as *T'ien hua fén* and *Kua-lou-t'éng*. See *Ch.* XXII. 28, where different plants are figured.

194. *Yeh k'u kua*, 野苦瓜, applied to the last and also to *Cucumis trigonis*, *Roxb.*

195. *Mao k'u kua*, 毛苦瓜, *Thladiantha nudiflora*, *Hemsl.* This resembles the *Wang kua*, 王瓜, of *Ch.* XXII. 30.

196. *Kua lou t'éng*, 瓜縷藤, *Thladiantha? Henryi*, *Hemsl.* It may be one of the plants figured in *Ch.* XXII. 28.

197. *Kuai tsao*, 枴棗, *Hovenia dulcis*, *Thbg.*

198. *Kuan yin ts'ao*, 觀音草, *Peristrophe tinctoria*, *Nees.* This looks like the figure in *Ch.* X. 22.

199. *Kuan chung*, 貫仲, *Woodwardia radicans*, *Sm.* The rhizome of this large fern is used as a drug, and is also necessary in the preparation of *ko-fén*, 葛粉. The *Paris Exhibition Catalogue* erroneously gives *Aspidium falcatum*. The figure in *Ch.* VIII. 16 represents young plants, not bipinnate as in older specimens.

200. *Mao kuan chung*, 毛貫仲, *Onoclea orientalis*, *Hook.*, and *Nephrodium filix-mas*, *Rich*, which occur in the mountains.

201. *Kuan t'ou chien*, 貫頭尖, *Viola Patrinii*, *D.C.*, *V. variegata*, *F.*, and *V. canina*, *L.* At Ichang, *kuan*^{4}-*t'ou* signifies a plough-share. *See* No. 225.

202. *Kuei p'i*, 桂皮, *Cinnamomum, sp.* This bark comes from a Patung tree, and is used as a drug, serving as a kind of cassia-bark.

203. *Kuei hua*, 桂花, *Osmanthus fragrans, Lour.*

204. *Kuo-lu-huang*, 過路黃, figured in *Ch.* XIII. 13. "An *Lysimachia Christinæ, Hance?*"

205. *La shu*, 蠟樹, *Ligustrum lucidum, Ait.* A common evergreen tree at Ichang. This tree is the *nü-chên*, 女貞, of books. See *Ch.* XXXVI. 49 and *P.* XXXVI. 37. The wax-insect occurs on this tree in Szechwan, according to HOSIE, but at Ichang it occurs on a *Fraxinus* only.

206. *Shan la shu*, 山蠟樹, *Ligustrum chinense, Lour.* This is figured, in *Ch.* XXXVII. 18, as the *hsiao-la*, 小蠟. *Ligustrum ibota, S. & Z.*, which occurs in the Patung district on the mountains, may also be indicated by these names.

207. *Shui la shu*, 水蠟樹. Name at Patung, and in *Ch.* XXXVII. 18, of *Ligustrum lucidum, Ait.*

208. *Peh la shu*, 白蠟樹, *Fraxinus sp.* On this tree, at Ichang, the wax-insect occurs; and insect-wax is a local product, of no importance commercially. In Szechwan the wax-insect is transferred from *Ligustrum lucidum* and placed on a species of *Fraxinus.*

209. *Yu la shu*, 油蠟樹, *Photinia serrulata, Lindl.* A beautiful, large evergreen tree, occurring in the Monastery valley.

210. *La mei hua*, 蠟梅花, *Chimonanthus fragrans, Lindl.* Occurs wild in ravines near Wên Fo Shan.

211. *Yeh la mei hua*, 野蠟梅花, *Chimonanthus rutens, Oliv.* A new species. It is a small evergreen shrub occurring in some of the glens off the Ichang Gorge. The flowers are white, and bloom in October.

212. *La tzŭ*, 辣子, *Evodia rutæcarpa, Benth.* This is named *chu-yü* (corruptly pronounced *shu yü*), 茱萸, at

Patung. In *P.* XXXII. 19, *la-tzŭ* is given as a synonym of *shih chu yü*, 食茱萸.

213. *Yeh la tzu*, 野辣子, *Evodia sp. nova? aff. E. rutæcarpæ.* A small shrub, wild on the hills at Patung and Nant'o. The fruit is used as a drug like the last.

214. *P'ao la tzŭ*, 拋辣子, *Evodia Danielli, Hemsl.* The word *p'ao* signifies worthless; and the fruit of this tree is not used.

215. *Yeh lan chih-tzŭ*, 野藍枝子, *Indigofera Bungeana, Steud*, and *Indigofera tinctoria, L.* Small, wild shrubs, not used, so far I know, for dyeing at Ichang.

216. *Yeh lan ts'ao*, 野蘭草, *Liriope graminifolia, Baker, Ophiopogon spicatus, Ker.*

217. *Lang*, 榔, *Ulmus parvifolia, Jacq.* See *Williams*, p. 504. This is the common elm at Ichang, where the word *yü*, 榆, is not used. *Lang-yü* is mentioned in *Ch.* XXXIII. 21. See also *Ch.* XXXVII. 11, 13.

218. *Lao hu hua*, 老虎花, *Rhododendron* (*Azalea*) *sinense, Sw.* An azalea with yellow flowers, reputed dangerous to cattle that browse on it. This is the *Yang chih chu*, 羊躑躅, of *Ch.* XXIV. 19, where the local name is given as a synonym. See *Ying shan hung.*

219. *Lao hu hua*, at Patung, is a name for *Halenia sp. nova.*

220. *Lao shu tz'u*, 老鼠刺, the name at Ichang for Holly. *Ilex cornuta, Lindl*, occurs on low ground; and another species, supposed to be a variety of *Ilex aquifolium, L.*, is common on the hills. The same Chinese name is also applied to *Itea ilicifolia, Oliv.*, a common shrub in the glens, which has spiny leaves. See *Mao erh t'zŭ.*

221. *Lao shê pan*, 老蛇盤, *Rodgersia sp. nova?* An interesting plant which occurs on the Patung mountains.

222. The last name is also at Patung applied to the root of *Hsüeh-hu t'eng*, No. 165.

223. *Lei pa tou*, 耒八兜. Patung name for *Pennisetum cenchroides*, *W.*, a common grass.

224. *Lêng ts'ao hua*, 冷草花, *Impatiens sp.* A Patung name.

225. *Li t'ou chien*, 犁頭尖, *Viola Patrinii*, *D.C.* *See* No. 201, and also *Ch.* XII. 10, where it is figured.

226. *Pan li*, 板栗, *Castanea vulgaris*, *Lam.*

227. *Mao pan li*, 毛板栗. A Patung shrub, which bears small chesnuts, which are good to eat. *Castanea vulgaris*, *Lam.*, *var?* This is the *mao-li*, 茅栗, of *Ch.* XXXII. 16 and the 栭 栭 of ancient books. See *Williams*, pp. 305, 719, 539.

228. *Ch'ui li*, 錐栗, *Castanopsis an C. chinensis*, *Hance?* See *Williams*, p. 539. In *Ch.* XXXII. 43, a Castanopsis like this is figured with the same name. The 鉤栗 of *P.* XXX. 52, is probably the same tree.

229. *Li*, 櫪 and 櫟. These two characters signify oak trees; but 栗, which has the same sound, is often used. Various species of *Quercus* are distinguished here as follows:—

230. *Hu li*, 槲櫟, *Quercus aliena*, *Bl.* A name used at Patung and Nant'o, but at Ichang more often *peh fan*^{3} *li*, 白反櫟. The second character may be a corruption of *fan*^{2}, 杋, which signifies a cork tree. *Williams*, p. 126.

231. *Peh fan li.* See the last. This name is also given to *Quercus glandulifera*, *Bl.*

232. *Hsiao peh fan li*, 小白反櫟, *Quercus Fabri*, *Hance.*

233. *Hsiao hsiang-tzŭ shu*, 小橡子樹, *Quercus sp. an aff. Q. Fabri.??* A scrubby oak, not one foot high.

234. *Hua li*, 花櫟; *hung* (紅) *hua li.* *Quercus chinensis*, *Bge.* The "chesnut oak" of foreigners. The acorn-cups are used in dyeing.

235. *Hou k'o li*, 厚殼栗. Identified at Kew as *Quercus chinensis*, *Bge.*, but at Patung, where it occurs, it is popularly

distinguished from the foregoing, which also occurs there. The bark is very thick and cork-like, and the leaves are larger.

236. For other oaks, see *Chiu-kang, chou, chu li.*

237. *Lia, liao p'i,* 了皮, (first character unknown). *Hydrangea aspera, Don.* This is probably the 土常山 of *Ch.* x. 8. *Lia* differs slightly from *lieh,* 裂, in Ichang colloquial.

238. *Liao chien kan tzu,* 聊箭桿子, *Arundo Madagascariensis, Kth.* The stems of this reed are used as bobbins for silk.

239. *Liao-tzŭ,* 蓼子: *la liao tzŭ,* 辣蓼子, names for many species of Polygonum (excluding *P. cuspidatum, P. perfoliatum,* which have different names). Cultivated *la liao tzŭ* is *P. orientale, L.,* used in the preparation of wine ferment. It is the *hung ts'ao,* 荭草, of *Ch.* xi. 90. See *Williams,* pp. 236, 567, and under *P'ang-tzŭ.*

240. *Lien shu,* 楝樹, *Melia Azedarach, L.*

241. *K'u lien tzu,* 苦楝子. At Ichang applied to the last and also sometimes to *Picrasma quassioides, Benn.* The *K'u lien tzu* or *ch'uan lien tzu,* 川楝子, a drug largely exported from Szechwan, is the fruit of a species of *Melia* not yet identified. I have lately discovered this tree in one of the glens off the Ichang gorge, and hope this year to obtain specimens in flower, which can be identified.

242. *Ling erh ch'ai,* 鈴兒柴, *Sabia sp. nova?*

243. *Ling chio* (in Ichang *ling-ko*), 菱角, *Trapa bispinosa, Roxb.*

244. *Yeh* (野) *ling chio,* or *t'ieh* (鐵) *ling chio,* wild in ponds, with very small fruit, is a variety of the last. In the *Index Florœ Sinensis,* p. 311, all the Chinese varieties are referred to *Trapa natans, L.*

245. *T'ieh* (鐵) *ling chio.* A name sometimes given to *Trapella sinensis, Oliv.,* a plant occurring in ponds, which

constitutes a new genus, referred doubtfully to the natural order *Pedalineæ*. The figure in *Ch.* XVII. 43 resembles it, save that the leaves there are not opposite. The plant figured is said to occur in Chili with the name, 薺米; and in Hunan and Kiangsi 茶菱 and 藻心 are names given to it. As there may be other species of this interesting genus, ponds should be carefully scanned by those interested in botany, who may have an opportunity of travelling in these provinces.

246. *Ling chio ts'ao*, 菱角草, *Limnanthemum nymphæoides*, *Link.*

247. *Liu*, 柳. This name, which properly indicates the willow, is always at Ichang applied to *Pterocarya Stenoptera*, *C.D.C.*, a common tree on the banks of rivers and streams. In Szechwan it is known as the 麻柳. It is the *chü*, 櫸, of books, and is figured in *Ch.* XXXIII. 64, where the names 胖柳 and 鬼柳 are given as synonyms. See *Williams*, p. 439, where it is incorrectly identified as a kind of willow. At Ichang various species of willow occur, known in contradistinction as *yang-liu*, 楊柳.

248. *Shan liu*, 山柳, a doubtful Patung name for *Clethra barbinervis*, *S. & Z.?*

249. *Lo lo erh ts'ao*, 螺螺兒草, *Pennisetum cenchroides*, *Tr.*, and *Eriochloa villosa*, *Kth.*, two common grasses.

250. *Hung lo po*, 紅蘿蔔, *Raphanus sativus*, *L.* Cultivated.

251. *Shan lo po*, 山蘿蔔 and *T'ien lo po*, 天蘿蔔. Common names for *Phytolacca acinosa*, *Roxb.* The root is a drug, and is the *shang lu* 商陸 of *Ch.* XXIV. 3.

252. *Lo chiang shu*, 籮筐樹, *Cercis chinensis*, *Bge.* The second character is properly *k'uang*, but at Ichang, in this combination, meaning an "open basket," seems to be pronounced *chiang*. *See* No. 391.

253. *Lu ch'ai*, 蘆柴, *p'ao lu kên-tzu*, 抛蘆根子, *Phragmites Roxburghii*, *Kth.* *P'ao* at Ichang means "hollow," and the second name signifies "hollow reed stem."

254. *Lu mu*, 櫨木, *Rhus cotinus*, *L.* This is figured in *Ch.* XXXV. 44 as *huang-lu*, 黃櫨. See *Williams*, p. 555.

255. *Lu ts'ung*, 鹿葱, *Hemerocallis flava*, *L.*, known also as *huang hua ts'ai*, q.v. These names also include *H. minor*, *Miller*, which occurs wild in the glens.

256. *Lu pien hua*, 路邊花. Patung name for *Diervilla versicolor*, *S. & Z.*

257. *Lu mi k'o-tzŭ*, 綠米棵子, *Berchemia lineata*, *D.C.*

258. *Lu kuo ch'ing*, 綠果青. Patung name for *Camellia near C. Euryoides*, *Lindl.*

259. *Lu t'ou ch'ing*, 綠豆青, *Ilex aff. I. costatæ*, *Bl.* Another name for this tree is *kuei tou ch'ing*, 鬼兜青.

260. *Lu yueh ling*, 六月凌, *Euonymus Sieboldianus*, *Bl.*

261. *Luan ts'ao*, 亂草, *Eragrostis tenuissima*, *Sclr.*

262. *Luan-tzŭ-ts'ao*, 亂子草, *Muehlenbergia viridissima*, *Nees.*

263. *Lung chao hua*, 龍爪花. Name for the flowers of *Lycoris aurea*, *Herb.*, and *L. radiata*, *Herb.* See *Lao wa suan*, No. 398.

264. *Ma hu shao*, 馬胡燒, *Lespedeza tricolor*, *Turcz.*, *L. macrocarpa*, *Bge.*, and similar species.

265. *T'ieh* (鐵) *ma hu shao.* *Sophora viciifolia*, *Hance.*

266. *Ma ti hsiang*, 馬蹄香, *Asarum sp.* This name is given in *P.* XIII. 54, as the synonym of *tu hêng.* See No. 152.

267. *Ch'ing ma*, 青麻 or 檾麻 or 茼麻; frequently pronounced as *ch'ün ma* at Ichang. This is *Abutilon avicennæ*, *Gært.*, and the hemp exported from Szechwan is from this plant. See *Williams*, pp. 408, 422.

268. *T'ang ma*, 餹麻. Cultivated in mountainous districts for the oil from the seed, which has the property of not congealing in the coldest weather, and is used for lighting. The fibre from it, which is not much used, is locally known as 乾剝皮, and is used for making string.

269. *Shui ma*, 水麻, of *Ch.* XXXVIII. 33, is perhaps *Debregeasia edulis*, *S. & Z.*, which occurs here in the glens.

270. *Mao ho shang ts'ao.* 毛和尙草, *Solanum lyratum*, *Thbg.* See *T'ien pao-tzŭ.*

271. *Mao la chu*, 毛蠟燭, *Typha near T. Shuttleworthii*, *Sond.* Used as a styptic.

272. *Mao ts'ao*, 茅草, *Imperata arundinacea*, *Cyr.* This is the 白茅 of books. See *Ch.* VIII. 8, *P.* XIII. 45, *Williams*, p. 581.

273. *Mao erh t'ou*, 貓兒頭, *Osmunda regalis*, *L.* The name is also given at Patung to *Berberis Fortunei*, *Lind.* See No. 141. At Ichang the genus *Euphorbia* is called by this name.

274. *Mao erh tz'u*, 貓兒刺. At Patung *Ilex Pernyi*, *Fr.*; at Hankow, *Ilex cornuta*, *Ldb.* The latter is figured in *Ch.* XXXV. 50, where this name is given as a synonym of *Kou ku*, 枸骨.

275. *Mao erh luan*, 貓兒卵, *Vitis serjianæfolia*, *Bge.* and *Vitis*, No. 22 of the *Index Florœ sinensis.* Cf. *Ch.* XIX. 47.

276. *Hsiao mê tung*, 小麥冬, *Liriope graminifolia*, *Baker.*

277. *Mê wan tzŭ*, 麥豌子, *Pisum sativun*, *L.* Cultivated.

278. *Yeh mê wan-tzŭ*, 野麥豌子, *Vicia sativa*, *L.*

279. *Chin mê wan tzŭ*, 金麥豌子, *Ervum lens*, *L.* Lentils; cultivated in the glens and mountains near Ichang.

280. *Mê ka kung*, 麥家公, *Lithospermum arvensis*, *L.*

281. *Mên t'ou hua*, 悶頭花, *Daphne Genkwa*, *S. & Z.* This is the *yüan hua*, 芫花, of books. See *Williams*, p. 1135 and *Ch.* XXIV. 44. The figure on p. 46 of the latter probably

represents the same, and the name given there, 金腰帶, is also used at Ichang.

282. *Huang mên t'ou hua*, 黃悶頭花, *Wikstrœmia chamœdaphne*, *Meisn.* The 甘遂, of *Ch.* XXIV. 31 is perhaps this or an allied species.

283. *Mêng hua*, 蒙花, *Buddleia sp.* A Nanto name. A drug with this name or that of 密蒙花, is exported from Hankow. It is perhaps *Buddleia officinalis*, *Max.* In *Mélanges biologiques*, x. 676, MAXIMOWICZ says this occurs in Shensi and Kansu, and is brought from there to Hankow, and is officinal; *in Chinese* "*mun-chua.*" At Ichang *mêng-hua* is the name of a garden-shrub, not yet identified.

284. *Mi hua tzu*, 米花子, *Polygala Mariesii*, *Hemsl.*

285. *Mieh liang huang tz'u*, 篾梁黃刺. Patung name for *Rosa multiflora*, *Thbg.*

286. *Mien hu t'iao*, 麵糊条. Ichang name for several species of *Buddleia.*

287. *Mien ma t'êng*, 棉麻藤. Patung name for *Mucuna sempervirens*, *Hemsl.* *See* No. 313.

288. *Yeh mien hua*, 野棉花, *Anemone Japonica*, *Sieb.* A common flower in the glens in autumn. The name is due to the appearance of the fruit, which is woolly. See *Ch.* XXIII. 68, where an anemone, perhaps this species, is figured with the same native name.

289. *Mien t'êng*, 面藤, *Celastrus Hindsii*, *Bl.*

290. *Yeh mo li*, 野茉莉, and *mê li pao*, 茉莉包. Patung names for *Styrax Japonicum*, *S. & Z.*, and *S. Fortunei.*

291. *Hung mou tan*, 紅牡丹. Patung name for *Althœa rosea*, *Cav.*

292. *Mu chu yu*, 毋豬油, *Siegesbeckia orientalis*, *L.*

293. *Mu chu lai*, 毋豬癩, *Xanthium strumarium*, *L.*

294. *Ch'ing mu hsiang*, 青木香, *Aristolochia sp.*

295. *Mu kua*, 木瓜, *Pyrus Cathayensis*, *Hemsl.*

296. *Mu kua tz'u*, 木瓜刺, *Cratægus pyracantha*, *Pers.*

297. *Mu pi*, 木筆, *Magnolia yulan*, *Desf.* Occurs in the Patung mountains, where the flower is used as a drug.

298. *Mu tzu shu*, 木子樹. Colloquial name in Hupeh for the Vegetable Tallow tree, *Sapium sebiferum*, *Roxb.* This name is given in *Ch.* xxxv. 11. The vegetable tallow is known as *p'i yu*, 皮油. In *Stent*, *po-yu* (柏) is perhaps an error for *chiu* (桕) *yu*, though the latter is not colloquial.

299. *Mu t'ung*, 木通. Patung name for *Clematis grata*, *Wall.* The name is used at Ichang for two species of *Clematis*, not yet named. For other names for Clematis, see *huai-t'ung* and *wei ling hsien.*

300. *Nai shu*, 奶樹, of *Ch.* xxi. 1, is probably *Codonopsis lanceolata*, *S. & Z.*, which occurs at Ichang.

301. *Nai chiang pao*, 奶漿包, "*Ficus cf. F. erectum*," *Thbg.*

302. *Nan shan yeh*, 南山葉, *Celastrus latifolius*, *Hemsl.* A powder made out of the pounded leaves mixed with flour, is much used at Ichang, Patung, etc., as an application to growing cabbage, turnips, etc., to prevent the ravages of insects.

303. *Nan shu*, 楠樹, *Persea nanmu*, *Oliv.*, now referred to the genus *Machilus*. See *Williams*, p. 614. The wood of this tree, which is very good, is often erroneously spoken of as "*cedar*" by foreigners. Other species of *Machilus*, *Lindera*, etc., are often loosely spoken of as being kinds of *nan* tree.

304. *Ta yeh nan*, 大葉楠, *Litsœa* (?) *sp.*

305. *Nan t'ien chu*, 南天竹, *Nandina domestica*, *Thbg.* Occurs wild in the glens, and is also cultivated at temples, etc.

306. *Ni chiu ts'ai*, 泥鰍菜, or *ni chiu ch'üan* (串), *Boltonia indica*, *Benth.* See *Ch'ai hao.*

307. *Niu shé t'iao*, 牛舌条. Patung name for *Hydrangea aspera*, *Don.*, and *H. longipes*, *Hemsl.*

308. *Niu shê t'ou*, 牛舌頭, *Rumex acetosa, L.*

309. *Niu chin t'iao*, 牛筋条, *Lindera aff. L. glaucæ, Bl.* A small tree with very tough wood, common at Ichang.

310. *Niu mao chan*, 牛毛氈, *Eleocharis acicularis (L.)?*

311. *Niu shê tzŭ*, 牛虱子, *Jasminum floridum, Bge.*

312. *Niu p'ang tzŭ*, 牛蒡子, *Arctium* (*Lappa major, Gærtn*). Cultivated for the seeds, which are used as a drug, and known also by the name 大九子.

313. *Niu ma t'êng*, 牛馬藤, *Mucuna sempervirens, Hemsl.* An evergreen creeper, common in the glens. The stems sometimes attain a diameter of one foot, as at Tzŭyang, on the river-bank above Ichang, where two splendid specimens occur. It blooms in May, the large, fleshy red flowers occurring on the old wood; in winter, pods more than a foot in length may be seen hanging down. See *Yu-ma t'êng*, which is more commonly said. *See* No. 564.

314. *Niu hsi*, 牛膝, *Achyranthes bidentata, Bl.*

315. By the same name *Polygonum filiforme, Thbg.*, is also sometimes indicated; and this species is probably the plant figured in the Japanese book *So mo kou*, IV. 3, where the names 金線草 and 土牛膝 occur.

316. *No mi t'iao tzu*, 糯米条子, *Viburnum sp. nova?* Common at Ichang on the river-bank, with pretty, white flowers early in spring. It is used for making pipe-stems.

317. *No mi shu*, 糯米樹, *no shu*, 糯樹. Names given at Ichang and Patung to various species of *Viburnum*, as *V. tomentosum, Thbg., V. phlebostriclum, F. & S., V. aff. dilatato*, etc. I have little doubt that by the *chia-mi*, 荚蒾, of books, a *Viburnum* is meant. See *Ch.* XXXV. 6 and *Williams*, p. 589.

318. *No mi tuan erh*, 糯米團兒, *Pouzolzia hispida, Benn.*

319. *Nü erh hung*, 女兒紅. Patung name for *Polygala sibirica, L. var. Japonica.*

320. *Peh chieh ou*, 白節藕, *Saururus chinensis*, *Turcz.* In *Ch.*, *descriptive part*, IX. 94, this name is said to be wrongly applied to the plant, the proper name of which is *San peh ts'ao*. The latter name is also used at Ichang for this species, which is figured in *Ch.* XIV. 18.

Peh chieh ou, according to *Ch.* VIII. 3, is the synonym of *Wang sun*, 王孫. Whether the latter is *saururus* or not, it is difficult to determine from the figure.

321. *Pa shu*, 八樹, *Euonymus alatus*, *Thbg.* This is the *Wei mao*, 衛矛, of *Ch.* XXXIII. 42.

322. *Pa chio shu*, 八角樹, *Marlea begoniæfolia*, *Roxb.* This is well figured in *Ch.* XXXVII. 16, under the name by which it is known in Szechwan, viz., *Pa chio fêng*, 八角楓.

323. *Pa chio lien*, 八角蓮, *Diphylleia? sp. nova.* This curious plant, of which specimens in fruit only have been as yet obtained, occurs in shaded places in the mountains. It is the *kuei chiu*, 鬼臼, of books, and is figured in *Ch.* XXIV. 35, where the name used at Ichang is given as a synonym. *Porter Smith*, p. 46, wrongly says is *Caladium*. This error probably arose from the fact that *tu chio lien*, 獨脚蓮, which is given also as a synonym of *kuei chiu*, in Hupeh signifies *arisæma*.

324. *Pa chio hui*, 八角茴, *Illicium anisatum*, *L.* This shrub occurs in the glens near Ichang and in the Patung mountains. The fruit is not very fragrant, and commercially is of no importance.

325. The preceding name is also given at Patung to a tree, *aff. Pterostyrax corymboso*, *S. & Z.*

326. *Pa ti ma*, 拔地麻, *Valeriana officinalis*, *L.?* Used as a drug at Patung. Better specimens have since gone to Kew, and the identification may require alteration as regards the specific name.

327. *Pa yueh cha*, 八月檫, *Holboellia latifolia*, *Wall.*, and *Akebia quinata*, *Decne.* The fruit of these climbing shrubs is

large and edible. In *Ch.* XXXI. 62, where this name is given as a synonym of 野木瓜, *Akebia quinata* is figured.

328. *Pa ta wang*, 八大王, *Toddalia aculeata*, *Pers.*

329. *Pa wang ts'ao*, 八王草, *Erianthus Japonicus*, *Beauv.* It is figured in *Ch.* VIII. 32, as 芒. See *Williams*, p. 578. This large grass is sometimes, to distinguish it from the next, called *chi chao* (雞爪) *pa wang*.

330. *Ho pa wang*, 河八王, *Saccharum narenga*, *Nees.*

331. *Pa ko ts'ao*, 八哥草, *Eclipta alba*, *Haenk.* In the Ichang Gazetteer, this name is given as a synonym of 旱蓮草, and the pounded juice is said to be good for making the hair black. The latter name and 鱧腸 are given in *Ch.* XIV. 17, where this plant is figured.

332. *Alternanthera sessilis*, *Br.*, is also indicated at Ichang by the same name, *pa ko ts'ao*. It is depicted in *Ch.* XII. 31 as *man t'ien hsing*, 滿天星.

A local synonym of *Pa ko ts'ao* is *huo tan ts'ao*, q.v.

333. *P'a shan hu*, 爬山虎, *Hedera helix*, *L.* Common ivy, which occurs on the cliffs at Ichang and Patung.

334. *P'a ai hsiang*, 爬崖香, *Piper futokadsura*, *Sieb.?*

335. *Pai tzŭ ts'ao*, 稗子草, *Panicum crus galli*, *L.*

336. *Pai t'ou kên*, 排兜根, *Lespedeza macrocarpa*, *Bge.*

337. *Pan chiu* (斑鳩) *wu-tzŭ*: *Medicago denticulata*, *W.*, *M. lupulina*, *L.*, and *Lespedeza striata*, *H. & A.* In *Ch.* XV. 47 the name 斑珠科 occurs, and a *Lespedeza* is figured, said to be like *chi yen ts'ao*, 雞眼草. The figure of the latter, *Ch.* XII. 35, seems to represent *Lespedeza striata*.

338. *Pan chiu wang tzu*, 斑鳩網子, Patung name for *Nephrodium sophoroides*, *Desv.*, *N. decursivo-pinnatum*, *Baker*, and *N. Beddomei*, *Baker*.

339. *Pan chiu wo*, 斑鳩窩, *Aspidium deltodon*, *Baker.*

340. *Pan pien lien*, 半邊蓮, of *Ch.* XIV. 71, is *Lobelia radicans*, *Thbg.*, a common weed at Ichang, on the sides of rice-fields.

341. *Pang t'ou ts'ao*, 棒頭草, *Polypogon littoralis, Sm.*

342. *P'ang*^{3}*-tzu.* The character is unknown. A name for *Polygonum orientale, L.* Cultivated for its use in the preparation of the ferment balls which are used in making Chinese wine. See *Liao-tzŭ.*

343. *Pao tzŭ ts'ao*, 苞子草 or 寶子草: *Anthistiria ciliata, L.f.* A kind of "spear-grass," the *chien*, 菅, of *Ch.* VIII. 9, where it is figured. See *Williams*, p. 382.

344. *P'ao-tzŭ*, given in the Ichang Gazetteer as 拋子; perhaps a corruption of 藨, a character given in *P.* XVIII. 7, 9. At Ichang it signifies berries like those of *Rubus* and *Fragaria.*

345. *Ts'ai yang* (栽秧) *p'ao-tzŭ* at Ichang, *mao* (毛) *p'ao-tzŭ* at Patung, *Rubus parvifolius, L.* A raspberry, common on the hills and ditches near Ichang, and with red fruit, which ripens early. This is the 蘑田藨 of the *Pên Ts'ao.*

346. *Ch'iao mê* (蕎麥) *p'ao-tzu*, *Rubus coreanus, Miq.* This is the *fu p'ên tzŭ*, 覆盆子, of *Ch.* XXII. 11, and the 插田藨 of the *Pên Ts'ao.*

347. *Tsao ku* (早穀) *p'ao-tzu*, *Rubus Kuntzeanus, Hemsl.* This species is figured in *Ch.* XIX. 1 as 紅梅梢.

348. *Shan* (山) *p'ao-tzu*, at Ichang, and *ts'ai yang p'ao tzu* at Patung, *Rubus corchorifolius, L.f.* This is the *hsüan kou tzŭ*, 懸鉤子, of *Ch.* XX. 11.

349. *Tung* (冬) *p'ao tzŭ*, *Rubus Lambertianus, Ser., var.: glaber, Hemsl.*, and *R. ichangensis, Hemsl. & Kuntze*, are known by this name. These species bear fruit at the beginning of winter and have white flowers early in autumn. They may be the 蓬藟 of books; but the figure in *Ch.* XXII. 7 represents a different species or perhaps typical *R. Lambertianus.*

350. *Shê p'ao tzŭ*, 蛇拋子, *Fragaria indica, Andr.* A strawberry with yellow flowers and beautiful red fruit, which

has not the slightest flavour, and is believed by the Chinese to be poisonous. This species is the 蛇莓 of books. See *Ch.* XXII. 59.

Fragaria filipendula, *Hemsl.* A new species, very like the last, is also called by the same name.

351. *Ti* (地) *p'ao tzŭ*, *Fragaria elatior*, *Ehr.* The *Hautboy*. Occurs on the mountains in the Patung district. The flowers and fruit are both white, and the latter is good to eat.

352. *P'ao tung kên*, 抛筒根; at Patung, *Deutzia staminea*, *R. Br.*; at Nanto, *Lobelia pyramidalis*, *Wall.* The last-named plant is also known at Ichang as *yeh yen* 野菸.

353. *Peh shu*, 栢樹, *Cupressus funebris*, *End.?* A very common tree at Ichang. The wood is good.

354. *Ai peh*, 崖柏, *Biota?* Not yet determined. The roots of this tree are used in making incense.

355. *Tz'u peh*, 刺柏, *Juniperus taxifolius*, *H. & A.* Figured in *Ch.* XXXIII. 3. The three trees just named seem to be the three different kinds of *peh*, described in *Ch.* XXXIII. 1, 2, 3.

356. *Shui peh chih*, 水柏枝, *Myricaria Germanica*, *Desf.* Common on the banks of the Yangtze amongst the sand and rocks.

357. *Chia peh ho*, 家百合, *Lilium tigrinum*, *Gawl.* This lily, which is cultivated for its edible bulb, is the 卷丹 of books.

358. *Yeh peh ho*, 野百合, *Lilium Brownii*, *Mielle*, and one or two other species of wild lily not yet determined.

359. *Peh wa*, 白哇, *Lilium giganteum*, *Wall.?* Cultivated at Patung, and figured in *Ch.* III. 68 with the name 蕙荷. See *Williams*, p. 290.

360. *Peh pu kên*, 百部根, *Stemona tuberosa*, *Lour.* Figured in *Ch.* XXII. 32. The roots are used in medicine.

361. *Peh chi*, 百芰, *Bletia hyacinthina*, *R. Br.* Figured in *Ch.* VIII. 12. The bulbs are used at Ichang, as mentioned in *Williams*, p. 394, where the identification is wrong.

362. *Peh hui shu*, 白灰樹, *Buddleia sp. nova.* A tree at Patung.

363. *Peh yeh tzu*, 白葉子, "*Serratula pungens, Fr. & Lev.*"?

364. *Peh hua ts'ai*, 白花菜, of *Ch.* IV. 47 is probably *Gynandropsis pentaphylla, D.C.* A common weed at Ichang, where I have not heard any name for it. In the Ching Chou Fu Gazetteer, *peh hua ts'ai* is said to be eaten when salted, though the plant has a rank and unpleasant smell.

365. *Peh tz'u t'êng*, 百刺藤, *Mezoneurum sinense, Hemsl.*

366. *Pei mu*, 貝母, *Pleione sp. nova?* This plant occurs on the mountains in the Patung district, and the bulbs are sold as a drug. The Szechwan drug of the same name is not, I think, from the same plant.

367. *P'i pa*, 枇杷, *Eriobotrya Japonica, Ldl.* Occurs wild in the glens and is also cultivated.

368. *Yeh p'i pa*, 野枇杷, *Rhododendron Fortunei, Ldl.* This is probably the *Shan p'i pa* of the *Kuang ch'ün fang pu*, XXXIX. 8. See also *Ch., descriptive part*, XIV. 56.

369. *Pi kuan ts'ao*, 筆管草, *Scorzonera macrosperma, Turcz.*

370. *Pien chu*, 扁竹, *Belemcanda chinensis, Len.* Figured in *Ch.* XXIV. 37, where this name is given as a synonym of 射干.

371. *Pien tan k'o tzu*, 扁檐格子, *Grewia parviflora, Bge.*

372. *Yeh po ho*, 野薄荷, *Mentha arvensis, L., forma.* This name is also given sometimes to *Origanum vulgaris, L.*; and at Patung *Elsholtzia cristata, W.*, is termed *po-ho.*

373. *P'o tzŭ ts'ao*, 破子草, *Torilis Anthriscus, Gmel.*

374. *Yeh po ts'ai*, 野菠菜, *Acroglochin chenopodioides, Sch.*

375. *P'o p'o chên*, 婆婆針, *Bidens pilosa, L., and Bidens bipinnata, L.* In *Ch.* XIV. 29 a species of *Bidens* is represented with the name *Kuei chên*, 鬼針.

376. *Ta p'o chên*, 大婆針, at Patung, *Epilobium hirsutum, L.*, and *Siphonostegia chinensis, Bth.*

377. *P'o shu*, 朴樹, or 樸樹 at Patung, *Celtis sinensis*, *Pers.* At Ichang this tree is known as *Ch'ing t'an* 青檀. In Chinese books *Celtis* and the *Magnolia* which furnishes the *hou p'o* bark (*see* No. 120) seem to be confused. In *P.* XXXI. 7, where the fruit is described as being first green and then red, like that of the *Tung ch'ing* tree, *Celtis* is probably intended. See *Williams*, pp. 710, 711.

378. *P'u ti wu kung*, 鋪地蜈蚣, *Cotoneaster microphylla*, *Wall.* A shrub with pretty, red berries, occurring on the higher mountains, creeping prostrate on the ground.

379. *San huang*, 三黃, or sometimes *Shan huang*, 山黃, *Rhamnus crenatus*, *S. & Z.*, the root of which is used as a drug.

380. *San chia p'i*, 三加皮, *Acanthopanax aculeatum*, *Seem.*

381. *San peh ts'ao*, 三白草, *Saururus chinensis*, *Turcz.* Figured in *Ch.* XIV. 18. *See* No. 320.

382. *San peh pang*, 三百榜. Patung name for *Zanthoxylum dissitum*, *Hemsl.*

383. *San t'iao chin*, 三条筋, *Lindera* (*Daphnidium*) *sp.*

384. *San yueh huang tzu*, 三月黃子, *Elæagnus Glabra*, *Thbg.*

385. *San ch'i*, 三七, *Gynura pinnatifida*, *D.C.* Cultivated at Ichang, and also known as *chien chung hsiao*, q.v. This is the *t'u san ch'i*, 土三七, figured in *Ch.* IX. 37. The plant which is commonly cultivated in pots at Ichang as *san ch'i* is figured in *Ch.* IX. 40 as a kind of *t'u san ch'i*, and is a species of *Sedum*. The celebrated *san ch'i*, greatly esteemed as a drug in case of wounds, comes from Yunnan and Kuangsi, and the plant, which yields it, is as yet unknown to foreigners. See *Ch.* VIII. 69.

386. *Sang*, 桑, *Morus alba*, *L.*

387. *Hu lu sang*, 葫蘆桑, *Morus sp.* A wild Patung tree, the leaves of which are not used for feeding silk-worms.

388. *Ai sang*, 崖桑, *Morus?* A wild shrub on cliffs near Ichang. Not yet determined.

389. *Ma sang*, 馬桑, *Coriaria nepalensis*, *Wall.* A shrub with red flowers in early spring, very common on the hills. At Patung this is *hung* (紅) *ma sang*.

390. *Peh ma sang*, 白馬桑. A Patung name for *Buddleia sp. nova?*

391. *Lo chün sang*, 籮筐桑. Patung name for *Cercis sinensis*, *Bge.* See *Lo chiang tree.*

392. *Sang chi shêng*, 桑寄生, *Loranthus jadoriki*, *Sieb.*, and another species, probably *L. vestitus*, *Wall.* These parasites, when they occur on the mulberry, are valued very much as drugs.

393. *So yo*, 芍藥, *Pæonia albiflora*, *Pall.*

394. *Sou shan hu*, 搜山虎. Patung name for *Iris dichotoma*, *Pall.*

395. *Su ma*, 蘇麻, *Perilla ocymoides*, *L.* Cultivated at Patung for the excellent oil obtained from its seed. A variety of this plant is distinguished by the Chinese as *Tzu-su.* *See* No. 512.

396. *Suan mi ts'ao*, 酸米草, *Oxalis corniculata*, *L.* See *Ch.* XVI. 6.

397. *Ta* (大) *suan mi ts'ao*, *Lotus corniculatus*, *L.*, *var.*

398. *Lao wa suan*, 老鴉蒜, *Lycoris aurea*, *Herb.*, and *L. radiata*, *Herb.* This is the *shih suan*, 石蒜, of books. In Ichang a crow is named *lao-wa.*

399. *Suan p'an tzu*, 算盤子. *See* No. 6.

400. *Sung*, 松, *Pinus massoniana*, *Lamb.* The common pine about Ichang. It does not occur on the higher mountains.

401. *Ma wei sung*, 馬尾松, *Niu wei sung*, 牛尾松, *Abies Davidiana*, *Fr.* A fine fir tree with very large cones. It occurs in the mountains to the North. Sometimes *niu wei sung* is used for *niu wei sha*, No. 407.

402. *Kung ch'io sung*, 孔雀松, *Cryptomeria Japonica*, *Don.* This tree does not occur in this neighbourhood wild, but is brought in pots from Szechwan, and is called by this name.

403. *Peh sung*, 白松, *Pinus Bungeana*, *Zucc.* Remarkable for its white bark. Occurs near Nanto.

404. *Ti sung*, 地松, *Equisetum arvense*, *L.*

405. *Sha shên*, 沙参, *Adenophora polymorpha*, *Led.*, and other species.

406. *Sha*, 杉, *Cunninghamia sinensis*, *Br.*

407. *Niu wei sha*, 牛尾杉, *Torreya nucifera*, *S. & Z.* The *fei*, 榧, of books. See *Williams*, p. 138.

408. *San chien sha*, 三尖杉, *Cephalotaxus Fortunei*, *Hook.*

409. *Shan ts'ai*, 山菜. Another name at Ichang for *Adenophora*. *See* No. 405.

410. *Shan peh kuo*, 山白果. Patung name for *Corylus heterophylla*, *Fisch.* The Chinese hazel-nut. The book-name is *chên*, 榛. See *Ch.* XXXI. 4, and *Williams*, p. 16.

411. *Shan cha*, 山楂, *Cratægus pinnatifida*, *Bge.* A small tree. *Yo shan cha*, 藥山楂, is sometimes used to distinguish *Cratægus cuneata*, *S. & Z.*, a small, thorny shrub. See *Williams*, p. 3. The common name at Ichang is *hou chua tzu*, q.v.

412. *Shan yo*, 山藥, *Dioscorea quinqueloba*, *Thbg.* This name, or *yeh shao* (see No. 414), is also used for *Dioscorea Japonica*, *Thbg.* Another species of *Dioscorea*, the specific name of which is as yet uncertain, is known at Ichang by these names, or more commonly is termed *huang chiang*, 黃薑. The root is bitter, but considered to be cooling, and is eaten by the peasants in summer.

413. *Hung shao*, 紅薯, *Batatas edulis*, *Chois.* The sweet potato. Cultivated at Ichang on the hills. The second character is properly pronounced *shu;* but at Ichang, and in Szechwan, it is always *shao*.

414. *Yeh shao*, 野蕘. *See* No. 412.

415. *Shê kê ta*, 蛇疙瘩, *Agrimonia Eupatoria*, *L.* The root enters into the composition of wine-ferment.

416. *Shê p'ao tzu*. *See* No. 350.

417. *Shê ma ts'ao*, 蛇麻草, *Urtica Thunbergiana*, *S. & Z.* A stinging-nettle that occurs wild in the glens. It is the *t'an ma*, 蕁麻, of *Ch.*, *descriptive part*, XIV. 83. See *Williams*, p. 854.

At Patung, another stinging-nettle, *Girardinia aff. G. heterophyllæ*, *Don*, is known as *shê ma ts'ao*.

418. *Shê mao ts'ao*, 蛇毛草, *Pilea symmeria*, *Wedd?*

419. *Shên chin ts'ao*, 伸筋草, often pronounced *tsên chin ts'ao*, at Patung is *Lycopodium clavatum*, *L.*, and at Ichang, *L. cernuum*, *L.* See *Ch.* XVI. 46, where the name 小伸筋 is given.

420 *Shêng ma*, 升麻. Three species of *Astilbe* are known by this name in the Patung district. *Astilbe chinensis*, *Max.*, is known as red *shêng ma: Astilbe polyandra*, *Hemsl.*, is the white kind: and *Astilbe Thunbergii*, *Miq.*, is the wild kind. A figure of *shêng ma* is given in *Ch.* VII. 18, but it is very rude. In Japan, *Astilbe* and *Cimicifuga* are both known as *shêng ma;* but the latter, two species of which occur here, has no native name, and certainly does not furnish the drug in this district. *Poterium officinale*, *Bth. & Hook*, is sometimes known as *yeh* (wild) *shêng ma*.

421. *Shêng chi ts'ao*, 生肌草, *Sedum sp.*

422. *Shih hui*, 石灰, *Pourthiœa sp.*

423. *Shih pan ts'ai*, 石板菜, *Sedum Alfredi*, *Hance.*

424. *Shih hu*, 石斛, *Dendrobium nobile*, *Lindl.* Represented in *Ch.* XVI. 1 by the figure on the left-hand side of the folio. See *Williams*, p. 233. This plant is exported from Szechwan, as a drug, under the name *ya tou*, q.v.

425. *Yu shih tzu*, 油柿子, *Diospyros Kaki*, *L.f.* This is the *pei shih* 柹柿 of *Ch.* XXXI. 20, where there is a good

figure. See *Williams*, p. 668. The fruit is smaller and greener than the edible persimmon, of which this seems only to be a variety. An oil or varnish is obtained from the fruits by cutting them in halves and placing them in water to decompose. This varnish is used to make umbrellas, rain-hats, etc., water-proof.

426. *Kou shih tzu*, 狗柿子, Patung name for *Diospyros Lotus*, *L.*

427. *Shih t'ou k'o tzŭ*, 石頭棵子, *Distylium racemosum*, *S. & Z.*, *var. chinensis*, *Fr.* A low shrub, common on the sides of the river and streams.

428. *Shui ts'ai hua*, 水菜花, *Cardamine impatiens*, *L.*

429. *Shui chu ts'ao*, 水竹草, *Ophiopogon dracœnoides*, *Baker.*

430. *Shui chu yeh*, 水竹葉. Patung name for *Commelyna communis*, *L.*

431. *Shui tung kua*, 水冬瓜. At Ichang, a small tree on the hills, *Adina racemosa*, *S. & Z.* At Patung, *Edesia polycarpa*, *Max.*, which is said to grow to a large size. A tree of this name is described in *Ch.* XXXVI. 26, but from the figure it is apparently neither of the trees just mentioned.

432. *Shui ching k'o tzu*, 水晶棵子, *Wendlandia Henryi*, *Oliv.*

433. *Ssŭ mao ts'ao*, 絲茅草, *Imperata arundinacea*, *Cyr.* See under *Mao ts'ao.*

434. *Ssŭ chi ts'ai*, 四季菜, *Artemisia lactiflora*, *Wall.* Cultivated.

435. *Ssŭ li*, 私梨, *Corylus sp.* A Patung tree.

436. *Ssŭ pu lao*, 死不老, *Lactuca sp.* Cultivated in the mountains.

437. *Ta pu ssŭ*, 打不死, *Sedum sp.*

438. *Ta huang*, 大黃. A species of *Rheum*, not yet identified, is cultivated in the Patung district, with this name, which at Nanto is applied to *Bocconia cordata*, *W.*

439. *Ta wan tzŭ*, 大碗子, *Coix lachryma*, *L.*

440. *Ta wang tz'u*, 大王刺, *Berberis insignis*, *Hk. f. & T.*

441. *T'ai yang ts'ao*, 太陽草, *Aletris Japonica*, *Lamb.*

442. *T'an shu*, 檀樹, *Dalbergia hupeana*, *Hance.* This tree, which is figured in *Ch.* xxxv. 24, yields a good, hard wood, employed to make the pulleys and blocks that are used on junks, and the rammers of oil-presses. See *Williams*, p. 854, where a wrong identification is given.

443. *Ch'ing t'an*, 青檀. Ichang name for *Celtis sinensis*, *Pers.* *See* No. 377.

444. *Peh t'an*, 白檀. Patung name for *Symplocos cratægoides*, *Don.*

445. *T'an chu hua*, 淡竹花. A doubtful name for *Disporum sessile*, *Don.*

446. *T'ang li*, 棠梨, *Pyrus betulæfolia*, *Bge.* See *Williams*, p. 861.

447. *Tao kua tz'u*, 倒掛刺, *Cæsalpinia sepiaria*, *Roxb.*

448. *Tao kua ch'a*, 倒掛茶. *See* No. 174.

449. *Tao pan lung*, 倒盤龍. A Nanto name for *Rubus Lambertianus*, *Ser.*, *var.* *See* No. 349.

450. *Têng ts'ao*, 燈草, *Juncus effusus*, *L.* Occurs wild, and is also occasionally cultivated here for the pith, which is used for lamp-wicks. Large quantities of this pith are exported from Szechwan, and come down river in bales, stacked on two or three boats lashed together. Mats, named *têng ts'ao hsi tzŭ*, are also made of this rush.

451. *Shui têng ts'ao*, 水燈草. Applied to the last and also to *Scirpus supinus*, *L.*, *var. juncoides.*

452. *T'êng erh wu*, 藤兒烏, *Aconitum volubile*, *Pall.*, and *Aconitum uncinatum*, *L.* The root is poisonous, but when prepared is a drug, locally known as *Yang ko ch'i*, 羊角七. In *Ch.* xxiii. 69, 70, species of Aconite resembling these are described with the names 月下參, and 小草烏.

453. *Ti mi ts'ai*, 地米菜, *Capsella bursa pastoris*, *Mœnch.*

454. *Ti kou yeh*, 地構葉. Doubtful name for *Speranskia Henryi*, *Oliv.*, and *Corchoropsis crenata*, *S. & Z.*

455. *Ti liao yeh*, 地遼葉, *Campylandra sp. nova.* A Patung name. *See* No. 171.

456. *Tiao lan hua*, 吊蘭花. A name for *Dendrobium nobile*, *Lindl.* *See* No. 424.

457. *T'ieh ma pien*, 鐵麻鞭, *Verbena officinalis*, *L.*

458. *T'ieh ku san*, 鐵梏散. Patung name for No. 165, *q.v.*

459. *T'ieh lu san*, 鐵爐散, *Ilex Oldhami*, *Miq.*

460. *T'ieh chou*, 鐵帚. *See* No. 82.

461. *T'ien ts'ai*, 甜菜, *Solanum lyratum*, *Thbg.*

462. *T'ien kên tzu ts'ao*, 甜根子草, *Saccharum spontaneum*, *L.*

463. *T'ien mén tung*, 天門冬, *Asparagus lucidus*, *Lindl.* Represented in *Ch.* XXII. 9. The *Melanthium* in *Williams*, p. 931 and elsewhere is a doubtful plant of LOUREIRO's, and the identification given here should be used.

464. *T'ien ma*, 天麻, "*Gastrodia near G.* (*Gamoplexis orobranchiodes, Falc.*)" Occurs at Patung; and a drug of this name is often exported from Szechwan, which has been identified wrongly as *Urtica, etc.* Other names are 赤箭 and 赤麻.

465. *T'ien p'ao tzu*, 天拋子, *Solanum lyratum*, *Thbg.*, *S. nigrum*, *L.*, and *S. dulcamare*, *L.* 天泡草 is a synonym of *lung k'uei*, 龍葵, in *P.* XVI. 31, and this is *Solanum nigrum.* Another species is represented in *Ch.* XXII. 18.

466. Two species of Physalis are also known by the preceding name, "*P. minima, L.?*" and "*P. aff P. angulatæ.*" In *Ch.* XI. 80, where the name 天泡果 is used, the latter species may be the one figured. The *chih* 酸, of *Kanghi's Dictionary* is also *Physalis.*

467. *Huang tou*, 黃豆, *Glycine hispida*, *Max.* Cultivated.

468. *Yeh huang tou*, 野黃豆. Patung name for *Desmodium floribundum*, *G. Don.*

469. *Man tou*, 蠻豆, *Phaseolus chrysanthus*, *Sav.* Cultivated.

470. *Yeh man tou*, 野蠻豆, *Vigna vexillata*, *Bth.*

471. *Pien tou*, 扁豆, *Dolichos lablab*, *L.* Cultivated.

472. *Yeh pien tou*, 野扁豆, of *Ch.* XIX. 14, is probably *Dunbarea subrhombea*, *Hemsl.*, which occurs at Ichang.

473. *Yeh mao pien tou*, 野毛扁豆, *Amphicarpæa Edgworthii*, *Benth.*, and *Rhynchosia volubilis*, *Lour.*

474. *Tou pan tzŭ ts'ai*, 豆瓣子菜, *Sedum sarmentosum*, *Bge.*

475. *Tu huo*, 獨活. At Patung, *Peucedanum decursivum*, *Max.*, *var.*, with white flowers. The variety with red flowers is named *ch'iang huo* (*see* No. 36) or *hung* (紅) *tu huo.*

476. *Tu chio lien*, 獨脚蓮, *Arisæma heterophylla*, *Bl.*

477. *Tu chung*, 杜仲, *Ulmus sp. nova.* A large tree, cultivated in the Patung district for its bark, which is a most valuable Chinese drug, often selling at a tael a catty. When a piece of the bark is broken in two and the ends drawn out, a silky fibre is displayed. This bark is largely exported from Szechwan, and the tree from which it is obtained has been hitherto unknown. Wrong identifications are given in *Williams*, p. 917, PORTER SMITH, 94, etc.

A different tree, 土杜仲, occurs in Wu chang district; specimens of this would be interesting.

478. *T'u fu ling*, 土茯苓, *Smilax sp.* The plant from which China-root is obtained has been often supposed to be *Smilax china*, *L.*, but this is very common at Ichang and Patung, and certainly is not the source of the drug. *See* No. 65.

It is to be noted that the drug exported from Szechwan as *chinaroot* is quite a different substance, *viz.*, *Pachyma cocos.* Both this and *Smilax* root pass through the Customs under the same name. In Chinese books the *Pachyma* is *fu ling* or *peh* (白) *fu ling*, while the *Smilax* is distinguished as *t'u fu ling.*

479. *T'u erh miao*, 兎兒苗, *Calystegia sepium*, *R. Br.* This is a synonym of 旋花 and is the plant figured in *Ch.* XXIII. 13.

480. *Tuan yang* (端陽) *wu tzu*, *Polygonum cuspidatum*, *S. & Z.*

481. *T'ui ching ts'ao*, 對經草, *Hypericum Sampsoni*, *Hance*, and *Saponaria vaccaria*, *L.*

482. *T'ui k'ou ts'ao*, 對口草, *Hypericum mutilum*, *L.*

483. *Tung ch'ing shu*, 凍青樹, *Xylosma racemosum*, *Miq.* A very common evergreen tree, bearing red fruit in the autumn, much planted at shrines and temples. The above name is given as a synonym of 冬青 in *P.* XXXVI. 39; and the Ichang tree is probably the species there meant. In other parts of China, the latter Chinese name is applied to *Ligustrum lucidum*, *Ait.*, and this corresponds with the confusion in some Chinese books made between the two trees. In the *Pén Ts'ao* the *Tung ch'ing* is said to have red fruit and the *nü-chen* black fruit; and this agrees with the identification of the former as *Xylosma* and the latter as *Ligustrum*. *See* No. 205.

484. *Tung lu*, 凍綠, *Rhamnus dahuricus*, *Pall.* The bark of this shrub is used for making a green dye. See *Ch.* XXXIII. 52, where this name is given as a synonym of *shu li*, 鼠李. Another species of *Rhamnus*, used for dyeing green, occurs in Yünnan, and is described in *Ch.* XXXVI, 56.

485. *T'ung tiao hua*, 通条花, *Helwingia rusciflora*, *Willd.*

486. *T'ung tiao yeh*, 通条葉, *Stachyurus præcox*, *S. & Z.*

487. *T'ung ch'ien ts'ao*, 銅錢草, *Androsace saxifragifolia*, *Bge.*

488. *T'ung ts'ao*, 通草, *Fatsia papyrifera*, *Benth. & Hook, f.* Occurs in the Patung district. The pith, used in the making of the so-called rice-paper, is exported from Szechwan. See *Williams*, p. 933.

489. *Hsiao t'ung ts'ao*, 小通草, *Kerria Japonica*, *D.C.* This shrub, with yellow flowers and dry fruit, not edible as stated in the *Index Floræ Sinensis*, p. 229, where the mistake is due to my native collector, occurs in some of the glens near Ichang, and is common on the higher mountains. This is the 棠棣 of books. See *Williams*, p. 861, where a wrong identification is made.

490. *P'ao t'ung*, 泡桐, *Pawlonia imperialis*, *S. & Z.* This is the *T'ung* of Chinese books. See *Ch.* XXXIII. 46, and *Williams*, p. 934.

491. *T'ung tzu shu*, 桐子樹, *Aleurites cordata*, *M. Arg.* This tree is common on the hills, and from the seeds is prepared *t'ung yu*, the "wood-oil" of foreigners. It is the 罌子桐 of books.

492. *T'ung ma*, 桐麻, *Sterculia platanifolia*, *Linn. f.* So called at Ichang from the use made of its young stems, which are steeped in water to disintegrate the bark, which is made into strings. It is the *Wu tung*, 梧桐, of books, and is also known at Ichang by this name. See *Williams*, p. 1060.

493. *Tsa kan shu*, 雜干樹. Patung name for *Spiræa Japonica*, *L.f.*

494. *Tsa ts'ao*, 薙草, *Scirpus chinensis*, *Munro.*

495. *Tsa*, Ichang pronunciation of 柘. *See* No. 19.

496. *Yeh ts'an yung tzŭ*, 野蠶蛹子, *Stachys oblongifolia*, *Wall.*, and another species not yet specifically named.

497. *Tsao tzŭ*, 棗子, *Zizyphus vulgaris*, *Lam.* See *Williams*, p. 953.

498. *Suan tsao*, 酸棗, *Diospyros Lotus*, *L.*

499. *Ch'ai tsao chio*, 柴皂角, *Gleditschia sp.* This tree is common at Ichang, and bears long, thin, flat, black pods, which are used as soap, but are inferior for that purpose to the next. It is the 皂莢, of *P.* XXXV. *Hsia* 4, which I take to include *G. sinensis*, *Lam.*, and the other species mentioned in the *Index Floræ Sinensis*, pp. 208, 209. See *Williams*, p. 954.

500. *Ju tsao chio*, 肉皂角, *Gymnocladus chinensis*, *Baill.* A handsome tree, with very fine leaflets, occurring in the neighbourhood of Nanto and the first rapids. It bears short, brown, thick pods, which are used as soap. This tree is the 肥皂莢 of *P.* XXXV. *Hsia*, 13.

501. *Yeh tsao chio*, 野皂角. Patung name for *Cæsalpinia sepiaria*, *Roxb.* This species is a very common, prickly, climbing shrub, bearing conspicuous yellow flowers in spring; and it is well figured in *Ch.* XXIV. 17, where *shui* (水) *tsao chio* is given as a synonym of *yün shih*, 雲實.

502. *Ts'ao tzŭ*, 草子, *Torilis Anthriscus*, *Gmel.*, and *Cynoglossum micranthum*, *Desf.*

503. *Hsiao ts'u kang shu*, 小粗糠樹, *Ehretia ovalifolia*, *Hassk.*

504. *Ta ts'u kang shu*, 大粗糠樹, *Ehretia sp.* These two trees occur in the glens and on the mountains. The wood is strong and light, and is used for carrying-poles, etc. In the Ching Chou Fu Gazetteer, *Ts'u kang* is given as the vulgar name of *tu chung*, 杜仲, but at Ichang and Patung the names indicate very different trees. *See* No. 477.

505. *Tsui lan ch'a*, 翠藍茶, *Spiræa Blumei*, *G. Don.*, *Spiræa dasyantha*, *Bunge*, and *Spiræa Henryi*, *Hemsl.* The leaves of these shrubs are sometimes used as a substitute for tea.

506. *Ts'ui hsin hua*, 醉心花, *Datura Stramonium*, *L.*

507. *Tsung pao t'ou*, 棕包頭. A Patung synonym for the *ch'ien hu*, 前胡, from that district. It is an *Umbellifera*, not yet determined.

508. *Tzŭ ts'ao*, 紫草, *Lithospermum erythrorhizon*, *S. & Z.* Figured in *Ch.* VII. 46. This plant occurs wild in the glens, and the root is used locally as a drug only. The dye-stuff, *Tzu p'i*, 紫皮, that is exported from Szechwan, is probably from the same plant.

509. *Tzŭ ching*, 紫荆. At Ichang popularly applied to *Lagerstrœmia indica, L.*, which is properly the *Tzŭ wei*, 紫薇, of books. See *Ch.* XXVI. 1. The name *tzŭ ching* is by some applied to a species of *Cercis* planted in gardens, and apparently different from the wild *Cercis sinensis*, known here as *lo chiang shu*. *See* No. 252. The *Tzu ching* of *Ch.* XXXV. 40 is a *Cercis*.

510. *Tzŭ wei*, 紫葳, of *Ch.* XXII. 25, is *Tecoma grandiflora, Del.*, which occurs here; but I have not heard any name for it. See *Williams*, p. 1047.

511. *Tzŭ mu*, 紫木. At Patung "*Lindera aff. L. trilobœ, Bl.*"

512. *Tzŭ su*, vulgarly *tzŭ ts'u*, 紫蘇, *Perilla ocymoides, L.* Variety with red flowers, which is cultivated as a drug. A variety, cultivated for the oil from its seed, is known as *su ma*, and has white flowers. *See* No. 395.

513. *Yeh tzu su*, 野紫蘇. Applied to a wild form of the last, also known as *yeh su ma*. The first name is also loosely given to *Salvia plebeia, B. Br.*, and to *Elsholtzia cristata, var.?*

514. *Tz'u ku*, 慈菇, *Sagittaria sagittifolia, L.* Occurs wild in ponds and ditches. There is said to be a cultivated kind, but I have not seen it. See *Williams*, pp. 432, 1033, where different characters are given.

515. *Tz'u kai*, 刺芥. Colloquial name at Ichang for thistle. In the Ching Chou Fu Gazetteer, 刺界, is given as a synonym of *hsiao chi*, 小薊.

Hsiao (小) *tzu kai, Cnicus segetum, Bge.*

Ma (馬) *tzu kai, Cnicus chinensis, G. & C.*

Ta (大) *tzu kai, Cnicus Japonicum, D.C., var?*

Peh (白) *tzu kai.* At Patung, *Cnicus sp.*

Mao (茅) *tzu kai.* At Patung, *Saussurea aff. S. grandiflorœ, Max.*

516. *Tz'u pao t'ou*, 刺包頭, and *Tz'u pang t'ou*, 刺棒頭. Names for *Aralia spinosa*, *L.*

517. *Tz'u lan k'o tzu*, 刺蘭棵子, *Rosa lævigata*, *Mich.*

518. *Wa sung*, 瓦松, *Cotyledon fimbriata*, *Turcz.*, *var.*, *C. ramosissima*, *Max.* Figured in *Ch.* XVI. 54, where this name is given as a synonym of 昨葉何草. It grows on old tile roofs of houses.

519. *Yeh wan tou*, 野豌豆. *See* No. 40.

520. *Wang pa chên ts'ao*, 王八針草. A name for *huang ts'ao*, No. 142.

521. *Wei ling hsien*, 葳靈仙, *Clematis hedysarifolia*, *D.C.*, *var. Armandi*, *Franchet* (*species*). This occurs on the higher mountains and bears beautiful flowers.

522. *Wei shên*, 尾參, *Polygonatum multiflorum*, *All.?* The name occurs in the Ichang Gazetteer, and is used colloquially. It may be the same as 萎蕤.

523. *Wêng ts'ai*, 甕菜, *Ipomœa reptans*, *Chy.* Cultivated. This is the *yung* (蕹) *ts'ai* of books. See *Williams*, p. 1145.

524. *Wo erh ch'ang*, 鵝兒腸, *Stellaria aquatica*, *Fries.*

525. *Wo pu shih ts'ao*, 鵝不食草, *Arenaria Serpyllifolia*, *L.*

526. *Wo chio pan*, 鵝脚板. A name for *Cryptotænia canadensis*, *D.C.* *See* No. 537.

527. *Wu wei tzu*, 五味子, *Schizandra chinensis*, *Bail*, *var. glauca an S. elongata? Hk. f. et T.*, *var.?* A Patung drug. See *Williams*, p. 1053.

528. *Wu yueh wu*, 五月五. At Patung, name for *Gynostemma? species nova* of *Index Floræ Sinensis*, p. 321. *Vitis Japonica*, *Thbg.*, is also there called by the same name.

At Ichang, applied to *Vitis aff. V. carnosæ*, *Wall.*

529. *Wu chia p'i*, 五加皮, *Eleutherococcus Henryi*, *Oliv.*, and *E. leucorrhizus*, *Oliv.* These are shrubs which grow on the cliffs at Patung. The root-bark is used as a drug, the former being distinguished as the red kind, and the latter as the white kind. This drug is exported from Szechwan.

A figure of *wu chia p'i* is given in *Ch.* XXXIII. 24, which may be intended for *Eleutherococcus Henryi*, or may be *Acanthopanax spinosum*, *Miq.*, which occurs at Ichang and is called by the same native name. The latter species is not used as a drug, so far as I can learn.

530. *Wu chao t'éng*, 五爪藤, *Vitis japonica*, *Thbg.*

531. *Wu chao lung*, 五爪龍, *Vitis Henryana*, *Hemsl.* This name is given at Nanto to *Vitis obtecta*, *Laws.?*

532. *Wu chao yeh*, 五爪葉, *Vitis Henryana*, *Hemsl.*, and *Vitis aff. V. serjianæfolia*, *Max.*

533. *Wu kuei shao*, 烏龜梢, *Stephania hernandifolia*, *W. & A.*, and another species, probably *S. tetrandra*, *S. Moore.* One of these is figured in *Ch.* XXI. 18. The root, supposed to resemble a tortoise, is used as a drug.

533A. *Wu wa tzŭ*, 烏娃子. A name for wild Vines with small, black fruit, as *Vitis labrusca*, *L.*, *V. flexuosa*, *Thbg.*, and *V. ficifolia*, *Bge.*

534. *Wu tu*, 烏獨, *Aconitum Fischeri*, *Rich.?* This species occurs wild on the mountains, and is used as a drug. My native collector says the tuberous root of the first year's growth is known as 烏獨; a secondary tuber, which comes in the second year, is called 附子; and a smaller tuber, which it is rare to find, appearing in the third year, is 天雄. See *Williams*, p. 148.

Large quantities of Aconite are exported from Szechwan under the names 川附, and 附片. Whether this, which is cultivated, is the same species or not, I have no means of determining.

535. *Wu niang t'éng*, 無娘藤, *Cuscuta reflexa*, *Roxb.*, *var?*

536. *Wu kung ts'ao*, 蜈蚣草, *Pteris longifolia*, *L.*

537. *Ya chio pan*, 鴨脚板, *Cryptotænia canadensis*, *D.C.* and *Sanicula Europæa*, *L.*

538. *Ya chio pan shu*, 鴨脚板樹. At Patung the name for *Marlea platanifolia*, *S. & Z.*

539. *Ya tou*, 雅斗, *Dendrobium nobile*, *Lindl.* Exported from Szechwan as a drug, both the plants with still living flowers and the young stems in a dried state. This is the same as *Shih hu*. *See* No. 424.

539A. *Ya hu*. *See* No. 170.

540. *Yang liu*, 楊柳. At Ichang the name given to several species of *Salix*.

541. *Huang yang*, 黃楊. This name, which is commonly given to a cultivated species of *Buxus*, is also applied to *Euonymus chinensis*, *Lindl.*

542. *Wu yang*, 烏楊, *Bischoffia Javanica*, *Bl.*, *var.* A very large tree, which may be seen on the road to Lung-wang-tung.

543. *Peh yang*, 白陽, *Populus tremula*, *var.*, *villosa*. This is a very large tree with good wood, used for building purposes, and said to be good for carving and for making furniture.

544. *Yang t'ao*, 楊桃, *Actinidia chinensis*, *Pl.* A climbing shrub which bears edible fruit about the size of a plum. It is well figured in *Ch.* XXXI. 21, where this name and 獼猴桃 are given. See *Williams*, pp. 590 and 870.

545. *Yang ko ch'i*, 羊角七. The root of the creeper *T'éng erh wu*, which is used as a drug. *See* No. 452.

546. *Yang mu nai tzu*, 羊母奶子, *Elæagnus glabra*, *Thbg.*, *E. pungens*, *Thbg.*, and *E. umbellata*, *Thbg.* The fruit is edible and resembles the teat of an animal, whence the Chinese name. The 胡顏子 of *Ch.* XXXV. 62 represents an *Elæagnus*.

547. *Yang hu tzŭ ts'ao*, 羊鬍子草, *Eriophorum comosum*, *Wall.* *See* No. 3.

548. *Yang yü*, 洋芋, *Solanum tuberosum*. The potato. Cultivated in the mountainous districts here and in Szechwan, where the same name is used. It is figured in *Ch.* VI. 33, where the first character is given as 陽.

549. *Yeh ho*, 夜合, *Albizzia Lebbek*, *Bth.* A small tree, wild on the hills near Ichang. *Albizzia Julibrissin*, *Durazz.*, occurs planted at temples, and it is perhaps the kind of *yeh ho* discriminated in *Ch.* XXXVI, 10 as having the leaflets small and the flowers fragrant, in which case the tree described in *Ch.* XXXIII. 32 would be *Albizzia Lebbek.*

550. *Yeh kuan men*, 夜關門, *Lespedeza juncea*, *Pers.*

551. *Yeh chi wei*, 野雞尾, *Pteris cretica*, *L.*

552. *Yeh wên tzŭ ts'ao*, 野蚊子草, *Silene Fortunei*, *Vis.*

553. *Yen*, 菸, *Nicotiana tabacum*, *L.* Cultivated at Ichang. For *Yeh yen*, see No. 352.

554. *Lan hua yen*, 藍花烟, *Nicotiana rustica*, *L.* Cultivated at Patung.

555. *Yen t'ai ts'ao*, 烟袋草, *Carpesium abrotanoides*, *L.*, and *C. cernuum*, *L.* The characters, which mean "pipe," in Ichang colloquial are pronounced *yen tan.*

556. *Yin yang ho*, 淫羊藿, *Epimedium sagittatum*, *Baker.* Figured in *Ch.* VIII. 1. This plant occurs in the glens near Ichang, and it is a drug exported from Hankow. The identification given in *Williams*, p. 257, and PORTER SMITH, 176, is wrong.

557. *Yin hua ts'ao*, 銀花草, *Selaginella Wallichii*, *Spreng.*

558. *Yin shan hung*, 映山紅, *Rhododendron* (*Azalea*) *indicum*, *Sev.*, *var.* This name, which is used at Ichang, occurs in the *Hua ching*, III. 25 as a synonym of *shan chih chu*, 山躑躅; and this red, flowering species is also known as *hung* (紅) *chih chu* and *hung tu chüan*, 紅杜鵑. *Huang* (黃) *tu chüan* is a name for the Azalea, known in Ichang as *lao lu hua.* *See* No. 218 and *Williams*, p. 988.

559. *Yo wang tz'u*, 藥王子. At Patung *Rosa multiflora*, *Thbg.*, and *Rosa moschata*, *Mill.* At Ichang this name is given to the thorny, creeping shrubs *Cæsalpinia sepiaria*, *Roxb.*, and *Mezoneurum sinense*, *Hemsl.*

560. *Yü hsing ts'ai*, 魚腥菜, *Houttuynia cordata*, *Thbg.* Figured in *Ch.* IV. 9, where this name is given as a synonym of *ch'i*, 薺. See *Williams*, p. 988.

561. *Yü tsan hua*, 玉簪花, *Funkia subcordata*, *Spreng*, which occurs wild on the cliffs, with beautiful white flowers in September. The name is also given to *Funkia ovata*, *Spreng*, and *Funkia obcordata*, *Spreng*. This is the *yü tsan hua* of Chinese books; but in the south *Polianthes tuberosa* is called by this name. See *Williams*, p. 945.

562. *Yüan sui*, 芫荽, *Conandrum sativum*, *L.* Cultivated. At Ichang pronounced *Yüan hsü*.

563. *Yu ts'ai*, 油菜, *Brassica juncea*, *Hk. f. and T.* Occurs wild, and is also much cultivated for the oil from its seeds, known as *ts'ai yu*, 菜油. It is the *rape* of foreigners. See *Ch.* IV. 10.

564. *Yu ma t'êng*, 油麻藤. See under *Niu ma t'éng*, No. 313.

565. In the *Index Florœ sinensis*, p. 258, a statement is made, on my authority, that "black tea" exported to foreign countries is produced from *Pyrus spectabilis*, *Ait.* This evident mistake arose from an error in one of the lists I sent to Kew. It appears there is a kind of tea named *hung ch'a*, which is gathered from probably *Pyrus spectabilis*, *Ait.*, a shrub growing wild on the hills at Patung; but this is exported to Etu and other places down river, for Chinese use only. The leaves of many shrubs, as various species of *Spirœa*, the crab-apple, etc., are used by the Chinese as substitutes for tea.

PROCEEDINGS.

MINUTES *of a* MEETING *held in the Society's Library, Museum Road, Shanghai, on Wednesday, 22nd February 1888, at 9 o'clock p.m.*

Dr. F. HIRTH, President, occupied the Chair, and about 50 members and visitors were present.

The CHAIRMAN announced that since the last Meeting the following gentlemen had been elected members of the Society:— Mr. E. G. Vouillemont as a Life Member; and as Ordinary Members, Rev. H. C. Hodges, M.A., Rev. V. C. Hart, B.D., and Messrs. D. S. Murray, Alex. Kenmure (Macao), A. W. Danforth, J. Mencarini, J. A. von Rosthorn, and J. W. Maclellan.

The Polyglot Manuscript in 24 volumes, recently purchased in Shanghai by Dr. Hirth, was exhibited at the Meeting, and extracts from the President's Paper explaining its contents were subsequently read. *(This Paper will be found, under the title "The Chinese Oriental College," on pp. 203–219 of this volume.)*

In the discussion which followed, General MESNY said that the Pa-yi language, referred to by Dr. Hirth, was, he believed, a language written and spoken in the South-west of China, on the borders of Burma. If he remembered rightly, it is written, like English, in horizontal lines, and has an alphabet of 19 letters, somewhat similar to the Siamese language, though the text is different. He himself had in his possession a number of manuscripts in the language of a people of Upper Kweichow, whose name he had forgotten—somewhat resembling Chinese characters, but differing from Chinese in many respects. Then again he had come across a tribe on the frontiers of Thibet and Yünnan, who have a written language of the hieroglyphic character of the Egyptains. In 1872 or 1873 he found a manuscript in the language of the Lolos in Upper Kweichow, somewhat resembling the Manuscript published by Mr. Baber. Some years ago he (General Mesny) discovered near the South Gate of the city of Soochow, just within

the territory of the Great Wall towards Kashgaria, two stone tablets engraved with characters which greatly resembled some of the characters contained in the President's discoveries. In Kashgaria he had once come across a tribe of people who said that they formerly had a written language which they had forgotten, but they could not produce any man able to read the writing found amongst them. Their oral language very much resembled that spoken between Yünnan and Burma.

The Chairman said that what General Mesny had stated about the languages of the south-west of China confirmed his conjectures about the Indian origin of some of his lately-discovered manuscripts, the writing being from left to right.

General Mesny further mentioned that he had discovered a Mahomedan College in Yünnan for the teaching of Arabic and a language which they called Pharsee, and which he thought was the same as Parsee.

The Rev. Dr. Williamson asked for some explanation of the very curious and striking resemblance between the Lolo language and that of an African tribe, which had been remarked by the great African philologist.

The Chairman replied that these resemblances were no more than mere lingual coincidences of speech, without implying any connexion between the languages themselves. If a person tried he could always find a similarity in the sound and meaning of certain words in any two languages, but there the connexion and similarity ended. There were some words, such as "papa" and "mamma," which were almost universal. The relationship between languages had been sought to be applied to almost every two languages, particularly whenever a new one was discovered, and this was always in the beginning of its study. Even when Manchu was first discovered, European scholars endeavoured to establish a connexion between it and Greek and Latin.

Dr. Williamson said that while quite appreciating the force of the President's remarks, he was greatly struck by the statement of the great African philologist upon the subject referred to.

Mr. Geo. Jamieson remarked that the Lolo language had never been deciphered, and even Mr. Baber, who published the manuscripts, said he knew nothing of their contents.

General Mesny said he had tried for a very long time to find a man to decipher his Lolo manuscripts, but was unsuccessful.

The Chairman thought it was not impossible that the manuscripts might yet be deciphered by men who were specially trained for the reading of foreign manuscripts, and who before now had penetrated these mysteries which at first sight appeared to be closed against human understanding.

Mr. Geo. Jamieson said the Meeting could not separate without giving a hearty vote of thanks to the President for the interesting paper they had heard that evening, and which it was a great pleasure to hear, whatever might be the origin of the manuscripts which Dr. Hirth had been lucky enough to discover. To him (Mr. Jamieson) they appeared to be a prehistoric example of the "Tzŭ Êrh Chi." The manuscripts were interesting in several ways, and for one thing they went to show how far the Chinese succeeded and how far they failed. If they succeeded in making a syllabary which did not go further than 800 or 900 words in the language dealt with, this would not carry the student to any proficiency in his studies, and it also showed what a difficulty the Chinese had in writing. With an alphabet it would have been comparatively easy to complete the task. The Society was under great obligations to Dr. Hirth for this paper, which would remain on the records of the Society, and he (Mr. Jamieson) congratulated him on his success.

The vote was carried by acclamation, and the Meeting adjourned.

MINUTES *of the* ANNUAL GENERAL MEETING *held in the Society's Library, Museum Road, Shanghai, on Wednesday, 4th April 1888, at 9 o'clock p.m.*

Dr. F. HIRTH, President, was in the Chair, and there were about 40 members and visitors present.

The CHAIRMAN, in opening the proceedings, stated that the following gentlemen had been elected members of the Society since the date of the last meeting:—General J. D. Kennedy, Dr. G. R. Underwood (Kiukiang), Ven. Archdeacon Moule, B.D., Mr. R. A. Mowat, Mr. R. Francis, Mr. H. B. Morse, and Mr. M. F. A. Fraser.

The Council's Report on the work of the Society during the past year, and the separate Reports from the Hon. Treasurer, the Hon. Librarian, and the Hon. Curator of the Museum, were duly passed. *(These Reports will be found on pp.* 290 *sqq. of this Volume.)*

The following gentlemen were elected to serve on the Council for the ensuing year:—

President:—Mr. GEO. JAMIESON.

Vice-Presidents { R. A. JAMIESON, M.A., M.D.
P. J. HUGHES, M.A.

Hon. Secretary:—Mr. H. B. MORSE.

Hon. Treasurer:—Mr. GEO. BROWN.

Hon. Librarian:—Mr. H. BECK.

Hon. Curator of Museum:—Mr. H. ELGAR HOBSON.

Councillors { Mr. WM. BRIGHT.
Mr. W. R. CARLES.
Rev. ERNST FABER.
J. H. FOCKE, DR. JUR.
Mr. T. W. KINGSMILL.
Ven. Archdeacon MOULE, B.D.

On the motion of Mr. P. J. HUGHES, seconded by Mr. W. R. Carles, a vote of thanks was unanimously accorded to Dr. Hirth for his valuable services to the Society for some years past.

The CHAIRMAN, in acknowledging the vote, stated that he was bound to sever his connexion with the Council of the Society owing to his approaching departure for Europe. It was painful to him thus to abandon the active work of the Society, for he had spent many pleasant evenings with the members. He could not, however, retire without sincerely thanking the Council and the members for the ready support and great kindness accorded to him during his Presidency. He then read extracts from his Paper on "Ancient Porcelain: a Study in Chinese Mediæval Industry and "Trade." *(This Paper is printed* in extenso *on pp. 129–202 of this Volume.)*

Mr. W. R. CARLES said that he felt he expressed the feeling of the whole Meeting in thanking the President for the learned and interesting paper which he had just read. To him (Mr. Carles) the paper had been full of special interest as he had been endeavouring to obtain information about some pieces of Corean céladon which he had obtained when in Corea. The larger of the pieces which he possessed were very similar to those on the table, except that the ewer had a twisted-rope handle, and on the base there was no ferruginous ring, but marks of the clay supports used to raise it when in the kiln. The ware also was somewhat lighter than that of China. The story of their origin which he had heard, and which he had received from very good sources, was that the Corean céladon was manufactured at Song-do (Kai-söng), the capital of the country, during the last Corean dynasty, and formed part of a set of 36 pieces buried in a tomb. On the close of that dynasty, the capital was removed to Seoul, and the manufacture died out for want of encouragement, as the manufacturers refused to follow the Court. It was during the time of that dynasty (A.D. 912-1392) that Arabs are supposed to have visited Corea, and it is possible that the manufacture may have felt their influence. At any rate, it seemed worthy of note that there were other places of manufacture in the Far East, than those mentioned in the extracts read by the President from his paper.

After a few remarks by Mr. T. W. Kingsmill, a vote of thanks was passed to the Chairman for his interesting paper, and on the motion of Mr. W. Bright, a like compliment was paid to Mr. J. A. Taylor for the loan of his valuable collection of céladons, which was exhibited at the Meeting.

COUNCIL'S REPORT FOR THE YEAR 1887.

1.—*The Council.*—The following Members of Council were elected at the last Annual General Meeting, held under the presidency of Dr. Hirth on the 6th May 1887 :—

F. Hirth, ph.d.,	*President.*
R. A. Jamieson, m.a., m.d.,	*Vice-Presidents.*
P. J. Hughes, m.a.,	
Wm. Bright, Esq.,	*Hon. Secretary.*
Geo. Jamieson, Esq.,	*Hon. Treasurer.*
H. Beck, Esq.,	*Hon. Librarian.*
H. Elgar Hobson, Esq.,	*Hon. Curator of Museum.*
W. R. Carles, Esq.,	*Councillors.*
Rev. Ernst Faber,	
T. W. Kingsmill, Esq.,	
A. J. Little, Esq.,	
Ernest Major, Esq.,	

2.—*Members of the Society.*—Since the issue of the last Council's Report, the Society has lost two of its most faithful members. The Nestor of Foreign residents in China, Mr. Gideon Nye, died

at Canton on the 25th January 1888 ; soon after, the news of the death of Mr. D. E. Kraetzer, late Consul General for France, and a former member of our Council, was received from Paris. The Society has been fortunate in losing fewer members during the past year than is usually the case, and it may be congratulated on having been increased by a considerable influx of new members. The list of members now consists of 10 Honorary, 25 Corresponding, and 219 Ordinary Members, which shows an increase of 38 names as compared with the list published in April 1887.

3.—*Meetings.*—Four meetings (including the present Annual Meeting) were held during the year, when Papers with the following titles were read :—

"Notes on the Mineral Resources of Eastern Shantung," by Mr. H. M. Becher. A collection of minerals was exhibited at this Meeting. The paper is printed on pp. 22 *sqq.* of Vol. XXII of the Journal ; a record of the Meeting and the discussion following, among the Proceedings at p. 116 of the same volume.

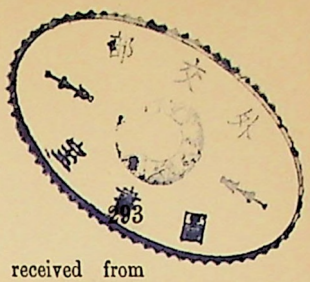
"The Military Organization of China prior to 1842," by Mr. E. H. Parker ; and "Chinese Partnerships : Liability of the Individual Members," the last being a series of short papers contributed by various members in reply to a proposition regarding the subject made by Mr. Geo. Jamieson. Mr. Parker's paper is published at p. 1, the "Chinese Partnerships" papers at p. 39, of the current volume of the Journal. The Proceedings of the Meeting will be found on p. 121 *sq.*

"The Oriental College of China," by Dr. F. Hirth, being a series of remarks on the College for the study of Asiatic languages founded early during the Ming dynasty. The author exhibited a manuscript in 24 volumes, dating probably from the 16th century A.D., and containing vocabularies of the most important foreign languages then known to the Chinese. The paper is printed at page 203 of the Journal, and the Proceedings appear at p. 285.

"Ancient Porcelain: a Study in Chinese Mediæval Industry and Trade," by Dr. F. Hirth. The paper is printed on page 129 of the Journal, and the Proceedings of the Meeting are given on pp. 288 *sqq.*

The Journal.—Besides the Papers read at these four Meetings, many contributions less likely to interest an audience or to give rise to a discussion were received, and published in the Journal. Besides some Notes and Queries and a few Literary Notices, the following Papers were printed: "Notes on the Early History of the Salt Monopoly in China," by Dr. F. Hirth; "The Salt Revenue of China," by Mr. E. H. Parker; "Remarks on the Production of Salt in China," by Mr. P. Zwehtkoff, translated for the Society by Mr. W. R. Carles; A "Genealogical Table of Corean Sovereigns," by Mr. L. Nocentini. The greater part of these Papers was issued in a Fascicule numbered Nos. 1 and 2; the second Fascicule, numbered Nos. 2 and 3, and containing Dr. Hirth's papers on Porcelain and the Oriental College, together with some short notes, will be ready for issue in a few days. The last Fascicule will contain the Proceedings of the last two Meetings and this Report with its Appendices, and a list of Members. A list of Members, corrected to 1st July 1887, was issued during the summer.

5.—From the Treasurer's Report (Appendix I) it will be seen that the Society may look with satisfaction at its financial position; though larger funds would be welcome, in order to enable the library to be increased and the Journal to be illustrated. The number of members should therefore be increased as much as possible, and every individual member will be able to further the welfare of the Society by interesting his friends in its work to such an extent as to cause them to participate in its financial burdens. The Librarian's Report (Appendix III) shows that our Journal has had a much wider circulation than in former years, and the regularity with which



applications for exchange of publications are received from scientific bodies in all parts of the world seems to show that our work is by no means despised by a large and intelligent class of readers.

Shanghai, 2nd April 1888.

Appendix I.—Treasurer's Report.

The funds of the Society continue to be in a satisfactory condition. The subscriptions collected during the year amount to $815, and there are a certain number, mostly from gentlemen temporarily absent, yet to be got in. The proceeds of the sale during the year of the Society's publications amount to Tls. 77.39. These include one complete set of the Journal and 25 copies of the Reprint of the Journal for the year 1858, which is referred to below. These sales were made direct from the Library, and do not include works disposed of by our booksellers, returns of which have not yet come in.

On the expenditure side of the account the item for printing Journals, Tls. 512.57, is a somewhat heavy one, but it is to be noted that it includes the Bill for reprinting the Journal for 1858, viz., Tls. 187.25. The first edition of this volume had become exhausted, and it was deemed necessary to reprint it so as to enable us to furnish complete sets of the Journal if required. It is satisfactory to note that two such have already been disposed of. The year ends with a balance of Tls. 390.18, against which, however, has to be set the cost of printing part of the Journal for this year.

Museum.—The usual Donations have been received from the English and French Municipal Councils, and carried to credit of this account. The receipts also include a sum of Tls. 40.23, paid over by the Curator as balance of moneys received for private work done in the museum by the Taxidermist. The items on the other side are of the usual kind, including the payment of Tls. 75 for interest on the Loan from the Recreation Fund. The balance in hand is Tls. 123.02.

G. JAMIESON,
Hon. Treasurer.

Shanghai, 15th February 1888.

THE HON. TREASURER IN ACCOUNT WITH THE CHINA BRANCH OF THE ROYAL ASIATIC SOCIETY,

Dr. YEAR 1887. *Cr.*

Receipts.	Tls.	cts.	Expenditure.	Tls.	cts.
To Balance from 1886...	382	54	By Printing Journals	512	57
„ Rent of Society's Rooms, paid by Literary and Debating Society	36	50	„ Postages	27	46
„ Subscriptions from members, $815	595	39	„ Advertising, Printing and Stationery	35	72
„ Sale of Society's publications :—			„ Municipal Taxes	12	67
25 copies Reprint, Vol. I	45	75	„ Furniture and Repairs	17	52
Sundry	31	64	„ Fire Insurance	17	50
„ Rent from Shanghai Library	100	00	„ Wages of Library Coolie	27	01
„ Bank Interest	5	06	„ Mrs. Gale, Honorarium for superintendence of Society's Library, 1886	60	00
			„ The like for 1887...	60	00
			„ Coals and Gas	6	14
			„ Books purchased, and binding	10	04
			„ Commission to Shroff, collecting Subscriptions	20	07
			„ Balance	390	18
Taels	1,196	88	Taels	1,196	88

E. & O. E.

Shanghai, 15th February 1888.

Compared with Vouchers and found correct,
George Brown.
W. R. Carles.

G. JAMIESON,
Hon. Treasurer.

THE HON. TREASURER IN ACCOUNT WITH THE SHANGHAI MUSEUM.

Dr. YEAR 1887. *Cr.*

RECEIPTS.	Tls.	cts.	EXPENDITURE.	Tls.	cts.
To Balance from 1886	49	06	By Taxidermist's Wages	313	90
„ Grant by Municipal Council	500	00	„ Municipal Council Taxes	12	67
„ „ „ French Municipal Council	100	00	„ Repairs	9	12
„ Returns by Taxidermist, profit on work done...	40	23	„ Fire Insurance	10	63
„ Bank Interest	5	05	„ Rent of Museum Rooms paid to Shanghai Library	150	00
			„ 1 year's Interest on Loan from Recreation Fund	75	00
			„ Balance at Credit	123	02
Taels	694	34	Taels	694	34

E. & O. E.

SHANGHAI, 15*th February* 1888.

G. JAMIESON,
Hon. Treasurer.

Compared with Vouchers and found correct,

GEORGE BROWN.
W. R. CARLES.

Appendix II.—Curator's Report.

Appended is a List of Contributions to the Museum during the year 1887. These, although interesting, were not so numerous as usual, and came chiefly from the outports. An attempt has been made to display more of the Lepidoptera sent in, but with partial success only, as the specimens are generally found to be in bad condition. The taxidermist was kept fairly busy, and some profit has accrued from outside work done. It is pleasing to have to record that the number of visitors to the Museum increased as compared with the previous season.

H. ELGAR HOBSON,
Hon. Curator.

Shanghai, 29th March 1888.

CONTRIBUTIONS TO THE SHANGHAI

Date.	Family.	Genus.	Species.	Conventional Name.
Feb.	Anatidæ ...	Casarca ...	Casarca Rutila	Ruddy Sheldrake ...
„	Scolopacidæ	Numenius ...	Numenius Lineatus	Eastern Curlew ... ...
„	Gruidæ ...	Grus	Grus Monachus.	Hooded Crane ... ...
„	Anatidæ ...	Cygnus ...	Cygnus Bewickii.	Bewick's Swan ... ...
March	Asionidæ ...	Lempigius ..	Lempigius Elegans.	Collared Owl ... ...
„	Corvidæ ...	Garrulus ...	Garrulus Sinensis.	Chinese Jay ... ...
„	Anatidæ ...	Tadorma ...	Tadorma Valpanser.	Sheldrake... ... ...
April	Fringillidæ	Pyrrhula ...	Pyrrhula Griseiventris.	Bullfinch ... ...
„	Fringillidæ	Loxia... ...	Loxia Curvirostra	Crossbill ... ...
„	...	...	...	Snake ... ...
May	Herodiones	Ardeola ...	Ardeola Prasinosceles	Red-necked Heron ...
„	Lepidoptera	...	...	Butterflies, etc. ... ...
„	...	...	...	Specimens of Coal, Rock formation, etc.
„	...	...	...	Specimen of Eel... ...
„	...	...	...	Othoceras... ... ...
				Ammonites (Kosmos stones).
				Fossils (Stone swallows).
				Iron Ore ... ... }
				Smelted Iron ... ... }
				Quartz with mica, syenite, granite, porphyry and unknown stone.
				Coal ... ...
				Stigmaria, or fossil root of the sigillaria.

MUSEUM DURING THE YEAR 1887.

Habitat.	By whom Presented.	How disposed of.
Wuhu	Mr. Consul B. C. G. Scott ...	Mounted.
"	" " ...	"
"	" " ...	"
Shanghai	Mr. G. T. Veitch.	
Hankow	Monsieur M. Frandin	Mounted at Hankow.
"	" "	" "
China Coast	Mr. A. J. M. Inverarity... ...	1 Mounted, 1 Skinned.
Chihli	Purchased...	Mounted.
"	"	"
Shanghai	Mr. L. O. Medicus.	
Shanghai	Mr. H. H. Joseph	Skinned.
Swatow	Mr. H. Sage.	
Upper Yangtsze ...	Mr. Consul Gardner.	
Gap Rock, Hongkong.	Capt. Anderson.	
Nan Chieh Ah, N.E. of Ichang	Mr. Consul Gardner.	
Ching Shin wan ...		
S. of Ichang		
Nanto, N. W. of Ichang.		
Han River, Ichang ...		
Yu Yang kwan, S. of Ichang.		

CONTRIBUTIONS TO THE SHANGHAI

Date.	Family.	Genus.	Species.	Conventional Name.
May	...	...	...	Iron Pyrites ... ...
				Iron Nodule associated with Coal.
				Red Oxide of Iron ...
				Slate ... ...
				Agate ... ...
				Syenite ... ...
				Quartz ... ...
				Carbonate of Lime ...
				Barytes ... ...
				Copper Ore ... ...
				Lead and Oolite ... ...
				Lead Ore ... ...
				Sundry ... ...
July	Lepidoptera.	...	...	Butterflies ... ...
Aug.	Caturidæ ...	Caturus? ...	...	Fossil Fish ... ...
Sept.	Lepidoptera.	...	...	Butterflies, etc. ... ...
„	Asionidæ ...	Bubo	Bubo Maximus	Eagle Owl (Great) ...
„	Oriolidæ ...	Oriolus ...	Oriolus Sinensis.	Black-naped Oriole ...
„	Sturdinæ ..	Temenuchus...	Temenuchus Sinensis.	Chinese little Starling ...
Nov.	Paridæ ...	Parus... ...	Parus Minor...	Lesser Tit... ... ...
„	Turdidæ ...	Copsychus ...	Copsychus Saularis.	Indian Dial-bird ... ...
„	Fringillidæ	Chrysomitris .	Chrysomitris Spinus.	Siskin ... ...
„	Turdidæ ...	Ruticilla ...	Ruticilla Aurorea.	Grey-headed Redstart ...

MUSEUM DURING THE YEAR 1887—*Continued.*

Habitat.	By whom Presented.	How disposed of.
Itu, S.E. of Ichang ...	Mr. Consul Gardner.	
Hsiangchi (Ichang)...		
Wan tan, S. by W. Ichang.		
Chu Pao shang ...		
Fêng Pao shang ...		
Upper Yangtsze ...		
Swatow	Mr. H. Sage.	
Shantung	Mr. H. M. Becher.	
Swatow	Mr. H. Sage.	
Chinkiang	Mr. H. Greyson.	
Chinkiang	Mr. H. Morris.	
Lammocks	Lieut. Cust, H.M.S. "Rambler."	
Shanghai	Purchased	Mounted.
„	„	„
„	„	„
„	Mr. F. W. Styan	„

CONTRIBUTIONS TO THE SHANGHAI

Date.	Family.	Genus.	Species.	Conventional Name.
Dec.	...	...	...	Snake ... ...
,,	...	...	...	Crab ... ...
,,	...	...	...	Shark (small) ... ...
,,	...	...	...	1 lot Fish specimens ...
,,	Fringillidæ	Cocothrastes .	Cocothrastes Melanurus.	Black-tailed Hawfinch ...
,,	Falconidæ .	Accipiter ...	Govinda ...	Kite ... ...
,,	Anatidæ ...	Mergus ...	Mergus Albellus.	Smew ... ...
,,	Scolopacidæ	Tringa ...	Tringa Alpina.	Dunlin ... ...
,,	Anatidæ ...	Aix	Aix Galericulata.	(3) Mandarin Duck ...

In addition to the above, 12 Photographs of Stone Implements, etc., from H.B.M. Consular Service; a Bruni Knife, from North Borneo, by Mr. C. Chinois, by the Rev. Père Heude, Zikawei.

MUSEUM DURING THE YEAR 1887—*Continued.*

Habitat.	By whom Presented.	How disposed of.
S. Formosa	Captain Andersen.	
„	„ „	
„	„ „	
Pescadores	„ „	
Shanghai	Mr. F. F. Ferris	Mounted.
„	Mr. F. W. Styan	„
„	Purchased	„
„	Mr. F. W. Styan	„
Ningpo	Mr. H. P. Wadman	„

Japan, were presented by Mr. Ayrton, from the Estate of T. R. McClatchie, Esq., McCaslin; and a volume of Mémoires concernant l'histoire naturelle de l'Empire

Appendix III.—Librarian's Report.

The Report for the year 1887–88, which I have now the honour to submit, comprises:—

(*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.

The number of Societies to which the China Branch of the Royal Asiatic Society is indebted for the donation of their publications, now exceeds 100, new applications for the Society's Journal, mostly by way of exchange, being constantly received.

The Reprint of *Journal Vol. I, June 1858*, which was undertaken this year, has been well received by many members as well as non-members, and a great number have been distributed or sold.

H. BECK,
Hon. Librarian.

Shanghai, 1st April 1888.

List of Works added to the Library of the China Branch of the Royal Asiatic Society from 1st April 1887 to 31st March 1888.

1°.—*Transactions of Learned Societies and Periodical Publications.*

ASIA.

CHINA.

Shanghai:

China Branch of the Royal Asiatic Society:

Journal:

Vol. xxi, fasc. 5, 6, 1886.
„ xxii, „ 1, 2, 1887.

Imperial Maritime Customs, Statistical Department:
Customs Gazette:

No. lxxiii, Jan.–March, 1887.
„ lxxiv, April–June, „
„ lxxv, July–Sept., „
„ lxxvi, Oct.–Dec., „

Medical Reports for the Half-year ended 31st March, 1887. 33rd Issue. Shanghai, 1887.

List of the Chinese Lighthouses, Light-Vessels, Buoys and Beacons for 1888. 16th Issue. Shanghai, 1888.

Do. do. do. (In Chinese).

Bulletin Mensuel de l'Observatoire Magnétique et Météorologique de Zi-ka-wei. Tome xii, Année 1886. Zi-ka-wei, 1887.

Observatoire de Zi-ka-wei: Les Variations de Température observées dans les cyclones. 2e Note. Zi-ka-wei, 1887.

Comparaison des Variations Magnétiques à Zi-ka-wei et Batavia.

Magnétisme Terrestre (Jan.-June, 1886).

The Chinese Recorder and Missionary Journal:

Vol. xviii, Nos. 4–12, 1887.
„ xix, „ 1–3, 1888.

INDIA.

Bombay:

Journal of the Bombay Branch of the Royal Asiatic Society:
Vol. xvii, 1887.
„ xviii (Extra Number) 1887.

Calcutta:

Proceedings of the Asiatic Society of Bengal:
No. 10, (Dec.), 1886.
„ 1–8, (Jan.–August), 1887.

Journal of the Asiatic Society of Bengal :

New Series, Vol. liii, Part ii, No. 4, 1884.
„ „ „ liv, „ ii, „ 4, 1885.
„ „ „ lv, „ ii, „ 4, 5, 1886.
„ „ „ lvi, „ i, „ 1, 1887.
„ „ „ lvi, „ ii, „ 1, 1887.

Memoirs of the Geological Survey of India. Vol. xxiv, Part 1. Calcutta, 1887.

Memoirs of the Geological Survey of India. Palæontologia Indica. Series xiv. Tertiary and Upper Cretaceous Fossils of Western Sind :

Vol. i, 3, and Fasc. v. Calcutta, 1885.
„ i, 3, and Fasc. vi. „ 1886.

Records of the Geological Survey of India. Vol. xx, Parts 2–4, 1887.

A Manual of the Geology of India. Part iv : Mineralogy. By F. R. Mallet, Superintendent, Geological Survey of India. Calcutta, 1887.

JAPAN.

Tokio :

Mittheilungen der deutschen Gesellschaft für Natur- und Völkerkunde Ostasiens :

Vol. iv, fasc. 36, July 1887.
„ iv, „ 37, Oct. 1887.

Rōmaji Zasshi (a Japanese Romanized Paper).—Files.

Memoirs of the Literature College, Imp. University of Japan. No. 1. Tokio, 1887.

Yokohama :

Transactions of the Asiatic Society of Japan. Vol. xv, Parts i–ii, 1887.

The Japan Weekly Mail.—Files.

The Japan Herald Mail Summary—Files.

JAVA.

Batavia:

Notulen van de Bataviaasch Genootschap van Kunsten en Wetenschappen:

Vol. xxiv, fasc. 4, 1886.
„ xxv, „ 1–3, 1887.

Tijdschrift voor de Indische Taal-, Land- en Volkenkunde.—(Published by the Bataviaasch Genootschap van Kunsten en Wetenschappen.)

Vol. xxxi, fasc. 5, 6, 1886.
„ xxxii, „ 1, 1887.
„ xxxii, „ 2, 1888.

Nederlandsch-Indisch Plakaatboek, 1602–1811. Part iv. By J. A. van der Chijs. Batavia, 1887.

Catalogus der Archeologische Verzameling van het Bataviaasch Genootschap van Kunsten en Wetenschappen. By W. P. Groeneveldt. Batavia, 1887.

STRAITS SETTLEMENTS.

Singapore:

Journal of the Straits Branch of the Royal Asiatic Society:
No. 18, Dec., 1886. Singapore, 1887.

EUROPE.

AUSTRIA-HUNGARY.

Vienna:

Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften:

Vol. cx, 1885, fasc. i, ii.
„ cxi, 1885, „ i, ii.
„ cxii, 1886, „ i, ii.
„ cxiii, 1886, „ i, ii.
„ cxiv, 1887, „ i.

Register zu Vol. ci–cx, xi, 1886.

Mittheilungen der K. K. Geographischen Gesellschaft:
Vol. xxix, 1886.
Jahrbuch der K. K. Geologischen Reichsanstalt:
Vol. xxxvi, fasc. 2–4, 1886.
„ xxxvii, „ 1, 1887.
Verhandlungen der K. K. Geologischen Reichsanstalt:
Nos. 6–12, 1886.
Verhandlungen der K. K. Zoologisch-Botanischen Gesellschaft. Vol. xxxvii, fasc. 1–4, 1887.
Oesterreichische Monatsschrift für den Orient:
13ter Jahrgang, Nos. 3–12, (März-Dec., 1887.)
14ter „ „ 1, (Jan., 1888.)
Annalen des K. K. Naturhistorischen Hofmuseums:
Vol. i, No. 4, 1886.
„ ii, „ 1–3, 1887.
Mittheilungen der Anthropologischen Gesellschaft:
Vol. xvii, fasc. 1–2, 1887.

Trieste:

Bollettino della Società Adriatica di Scienze Naturali in Trieste. Vol. x, 1887.

BELGIUM.

Brussels:

Bulletin de la Société Royale Belge de Géographie:
11ième Année, fasc. 1–6, 1887.

FRANCE.

Havre:

Bulletin de la Société de Géographie Commerciale. Mars-Oct., 1887, (4 fascicules).

Paris:

Compte-Rendu des Séances de la Société de Géographie:
Nos. 4–16, 1887.
No. 1, 1888.

Bulletin de la Société de Géographie. 7me Série, Tome viii. Nos. 1-3, 1887.

Bulletin de la Société de Géographie Commerciale:

Tome ix, fasc. 2-7, 1886-87.

„ x, „ 1, 1887-88.

Tours:

Revue de la Société de Géographie de Tours. Nos. 1-8, Jan.-Dec., 1887.

GERMANY.

Berlin:

Sitzungsberichte der Kgl. Preussischen Akademie der Wissenschaften zu Berlin:

Vol. xl-liii, (21 Oct.-16 Dec. 1886.)

„ i-xxxix, (6 Jan.-28 Juli, 1887.)

Philosophische und Historische Abhandlungen der Kgl. Akademie der Wissenschaften zu Berlin:

1884, 1 Vol.

1885, 2 „

1886, 1 „

Anhang zu 1886, 1 Vol.

Verhandlungen der Gesellschaft für Erdkunde zu Berlin:

Vol. xiv, fasc. 2-7, 1887.

Zeitschrift der Gesellschaft für Erdkunde zu Berlin:

Vol. xxii, fasc. 2-5, 1887.

Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte:

1886, Sitzungen vom 26 Juni, 17 Juli, 16 Oct., 20 Nov., 18 Dec.

1887, Sitzungen vom 15 Jan., 22 Jan., 11 Feb., 19 Feb., 26 Feb., 19 März, 23 Apr., 21 Mai.

Orientalische Bibliographie. Vol. i, fasc. 1, 1887. Herausgegeben von Prof. Dr. A. Müller in Königsberg.

Bremen :

Deutsche Geographische Blätter, herausgeg. von der Geographischen Gesellschaft in Bremen. Vol. x, fasc. 1–4, 1887.

Brunswick :

Fünfter Jahresbericht des Vereins für Naturwissenschaft zu Braunschweig für 1886–1887.

Frankfort on the Main :

Jahresbericht des Frankfurter Vereins für Geographie und Statistik. 50er Jahrgang, 1885–1886.

Frankfort on the Oder :

Monatliche Mittheilungen aus dem Gesammtgebiet der Naturwissenschaften. Vol. v, Nos. 1–3, 1887–1888.

Societatum Litteræ. Herausgeg. von Dr. Ernst Huth. Nos. 1–5 (Jan.–Mai) 1887.

Gotha :

Dr. A. Petermann's Mittheilungen :

Vol. 33, 1887. Nos. 1–12.

„ 34, 1888. „ 1.

Ergänzungshefte, Nos. 85–88.

Greifswald :

Geographische Gesellschaft zu Greifswald :

Jahresbericht i, 1882–83.

„ ii, 1883–84, Part i.

„ ii, 1883–86, „ ii.

Halle on the Saale :

Mittheilungen des Vereins für Erdkunde, 1887.

Kais. Leop.-Carol. Deutsche Akademie der Naturforscher :—

Copernicus als Arzt. By Dr. L. Prowe. Halle, 1881.

Ueber die zeitlichen Veränderungen des Erdmagnetismus. By Prof. Dr. A. Oberbeck. Halle, 1881.

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RUSSIA.

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SWEDEN.

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AMERICA.

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Salem, Mass.:

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AUSTRALASIA.

AUSTRALIA.

Brisbane (Queensland):

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AFRICA.

EGYPT.

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APPENDIX.

LIST OF OFFICERS OF THE SOCIETY FOR 1888.

President: Geo. Jamieson, Esq.

Vice-Presidents: R. A. Jamieson, M.A., M.D.
P. J. Hughes, M.A.

Hon. Secretary: H. B. Morse, Esq.

Hon. Treasurer: Geo. Brown, Esq.

Hon. Librarian: H. Beck, Esq.

Hon. Curator of Museum: Carl Bock, Esq.

Councillors:
Wm. Bright, Esq.
W. R. Carles, Esq.
Rev. Ernst Faber.
J. H. Focke, Dr.Jur.
T. W. Kingsmill, Esq.
Ven. Archdeacon Moule, B.D.

LIST OF MEMBERS.

(Corrected to 1st August, 1888.)

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

Honorary Protector.

His Majesty Leopold II, King of the Belgians.

Honorary Members.

Alcock, Sir Rutherford, K.C.B., D.C.L.	Athenæum Club, Pall Mall, London, S.W.	1864
Hart, Sir Robert, K.C.M.G., LL.D.	Inspectorate-General of Customs, Peking.	1864
Legge, Prof. James, D.D., LL.D.	University of Oxford...	1864
Prjevalsky, Major-General N...	St. Petersburg...	1880
Richthofen, Freiherr F. von ...	Berlin	1880
Schott, Prof. Wilhelm	12, Hallesche Strasse, Berlin, S.W....	1887
Seward, The Hon. George F. ...	Orange, Essex County, New Jersey, U.S.A.	1864
Wade, Sir Thomas F., K.C.B. ...	Athenæum Club, Pall Mall, London, S.W.	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

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
Cox, Rev. Josiah	Sandown, Isle of Wight, England ...	1864
†Edkins, Joseph, D.D.	Inspectorate-General of Customs, Peking.	1864
†Fritsche, H., PH.D.	Russian Legation, Peking	1877
†Fryer, John	Kiangnan Arsenal, Shanghai ..	1868
†Gabelentz, Prof. Georg von der	Grassistrasse, Leipzig	1884
†Giles, Herbert A.	British Consulate, Tamsui	1880
Happer, Rev. A. P.	Glenshaw, Allegheny Co., Pennsylvania, U.S.A.	1864
Hepburn, J. C., M.D., LL.D. ...	245, Bluff, Yokohama, Japan ..	1864
†John, Rev. Griffith	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, Wênchow	1864
†Martin, W. A. P., LL.D. ..	T'ung-wên 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, China	1864
†Muirhead, Rev. W.	London Mission, Shanghai	1864
Rondot, Natalis	C/o Chambre de Commerce, Lyons, France	1864
Schereschewsky, Right Rev. Bishop, D.D.	C/o 23, Bible House, New York City, U.S.A.	1864
Széchényi, Count Béla	Zinkendorff, Hungary	1880
†Williamson, Rev. A., LL.D. ..	3, Minghong Road, Shanghai ...	1864

Ordinary Members.

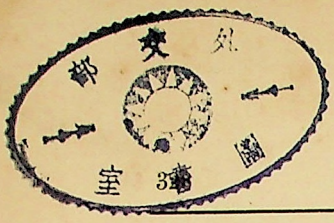
Name.	Address.	Year of Election
Aalst, Jules A. van	Custom House, Amoy	1888
§Abbott, R. J.	Custom House, Shanghai	1888
Acheson, James	Custom House, Canton	1880
Addis, Charles Stuart	Hongkong & Shanghai Bank, Hongkong.	1885
Adler, Max	Messrs. Reiss & Co., Shanghai ...	1885
†Allen, H. J.	C/o British Consulate-General, Shanghai.	1872
Andersen, N. P.	C/o Custom House, Shanghai ...	1883
†Anderson, G. C.	C/o Messrs. Jardine, Matheson & Co., Shanghai.	1880
Anding, W.	German Consulate-General, Shanghai	1887
Arnoux, Comte G. d'	C/o Custom House, Shanghai ...	1883
Baber, E. C.	C/o British Consulate-General, Shanghai	1877
Ball, J. Dyer	Supreme Court, Hongkong	1883
Bamford, Rev. A. J., B.A. ...	1, Soochow Road, Shanghai... ...	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
Bethge, C.	C/o German Consulate, Tientsin ...	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
Bourne, F. S. A.	British Consulate, Wuhu	1885
Brand, W.	Messrs. Brand Bros., Shanghai ..	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
Burrows, T. D.	Custom House, Kowloon	1886
†Bushell, S. W., M.D.	British Legation, Peking	1868
Butler, Count A. von	C/o Messrs. R. Telge & Co., Shanghai	1886
Butler, P. E. O'B.	British Consulate, Ningpo	1886
†Carles, W. R.	British Consulate-General, Shanghai	1887
Carrall, James W.	C/o Custom House, Shanghai ...	1885
Chalmers, James L.	Custom House, Tamsui	1885
†Clayson, W. H.	C/o Custom House, Canton	1885
Cocker, T.	Custom House, Canton	1885

Name.	Address.	Year of Election
Collin de Plancy, V.	C/o French Consulate-General, Shanghai.	1877
Cooper, W. M.	C/o British Consulate-General, Shanghai.	1877
Corder, G. A.	C/o Custom House, Canton	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, Foochow Road, Shanghai ...	1881
§†Drew, E. B.	C/o Custom House, Shanghai ...	1882
Ebbs, 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	3, Minghong Road, Shanghai ...	1886
Faragó, Edm.	C/o Post Office, Macao	1877
Fergusson, T. T.	Messrs. Fergusson & Co., Chefoo ...	1872
Finzi, Vito	C/o Italian Consulate, Shanghai ..	1885
Fisher, H. J.	Custom House, Shanghai	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
Fraser, 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
Gatti, Carlo	C/o Messrs. Jardine, Matheson & Co., Shanghai.	1886
Gebhardt, F.	Messrs. H. M. Schultz & 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
Gundlach, J. F. von	"Der Ostasiatische Lloyd," Shanghai	1886
†Guppy, H. B., M.B.	C/o "Admiralty," London	1880
†Haas, Joseph	Austro-Hungarian Consulate-General, Shanghai.	1869

Name.	Address.	Year of Election
Hall, J. C.	H.B.M.'S Supreme Court, Shanghai	1888
Hanbury, T.	C/o Messrs. Iveson & Co., Shanghai.	1868
Happer, Andrew P., Jr. ...	C/o Custom House, Shanghai ...	1885
Harding, 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., F.R.C.S.Ed.	2, Shantung Road, Shanghai ...	1876
Henningsen, J.	C/o Great Northern Telegraph Co., Shanghai.	1885
Henry, A., M.A., L.R.C.P. Ed. ...	Custom House, Ichang	1881
Hey, E.	8, Foochow Road, Shanghai... ...	1886
Hippisley, A. E.	C/o Custom House, Canton	1876
Hirsch, Emil Edler von ...	Austro-HungarianConsulate-General, Shanghai	1887
†Hirth, F., PH.D...	C/o Custom House, Shanghai ...	1877
Hjousbery, E	C/o Messrs. Mustard & Co., Shanghai	1880
†Hobson, H. E.	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.	Great Northern Telegraph Company, Shanghai	1886
†Hosie, Alex., M.A.	C/o British Consulate, Canton ...	1877
How, A. J.	1, Hongkong Road, Shanghai ...	1876
Hsü Chia-Kuang	1, Honan Road, Shanghai	1887
Hsü Ch'iu-i	1, Honan Road, Shanghai	1887
†Hughes, P. J., M.A.	British Consulate-General, Shanghai	1868
Hughes, T. F.	C/o Custom House, Shanghai ...	1885
†Imbault-Huart, C.	C/o French Consulate, Canton ...	1880
Jamieson, G.	Supreme Court, Yokohama	1868
†Jamieson,R.A.,M.A.,M.D.,M.R.C.P.	5, Kiukiang Road, Shanghai ...	1864
Jansen, D. C.	Astor House, Shanghai	1877
Kenmure, A.	British and Foreign Bible Society, Macao	1887
Kennedy, General J. D. ..	U. S. Consulate-General, Shanghai...	1888
Keswick, J. J.	C/o Messrs. Jardine, Matheson & Co., Shanghai.	1885
King, Paul H.	Custom House, Tientsin	1886
†Kingsmill, Thos. W.	28, Kiangse Road, Shanghai ...	1864
Kleinwächter, F.	Custom House, Ningpo	1868
†Kopsch, H.	C/o Custom House, Shanghai ...	1877
Korff, Adalbert...	Messrs. Melchers & Co., Shanghai ...	1886
Latham, T.	... ...	1886
Lenz, Ph., PH.D.	German Legation, Peking	1885
Lépissier, E.	Custom House, Shanghai	1885
Lieder, Ph.	Messrs. R. Telge & Co., Shanghai ...	1886
†Little, Archibald J.	C/o R. W. Little, Esq., 10, Kiukiang Road, Shanghai.	1868
Little, L. S., B.A., M.D., F.R.C.S.	10, Kiukiang Road, Shanghai ...	1879

Name.	Address.	Year of Election
Little, Robt. W.	10, Kiukiang Road, Shanghai ...	1886
Llorente, Conde de	Spanish Legation, Shanghai... ...	1886
Lockhart, J. H. Stewart ...	Hongkong	1885
Macgregor, John	Messrs. Jardine, Matheson & Co., Shanghai	1888
Macintyre, Rev. John	Newchwang	1880
Mackey, Jas.	Custom House, Amoy	1886
Maclellan, J. W.	"North-China Herald," Shanghai ...	1888
Major, E.	14, Hankow Road, Shanghai ...	1887
McDougal, H., M.B.	Amoy	1885
Medhurst, Rev. C. Spurgeon ...	C/o Messrs. Sietas & Co., Chefoo ...	1888
Melchers, W.	Messrs. Melchers & Co., Shanghai ...	1886
Mencarini, J.	C/o Custom House, Shanghai ...	1887
Mertz, C., PH.D.	German Consulate-General, Shanghai	1883
Metzger, E.	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, Shanghai	1887
†Möllendorff, O. F. von, PH.D....	German Consulate, Manila	1877
Möllendorff, P. G. von ...	Tientsin	1877
†Morrison, G. J., M.I.C.E., M.S.T.E.	Messrs. Morrison & Gratton, Shanghai	1880
Morse, H. B.	Inspectorate General of Customs, Shanghai.	1888
Mortimore, R. H.	C/o British Consulate-General, Shanghai.	1885
Moule, Ven. Archdeacon A. E., B.D.	Church Mission Society, Shanghai...	1888
Mowat, R. A.	H.B.M.'s Supreme Court, Shanghai	1888
Muller-Beeck, Geo.	C/o German Consulate-General, Yokohama, Japan	1886
Murray, D. S.	British and Foreign Bible Society, Shanghai.	1887
†Nocentini, L.	Via del Proconsolo 21, Firenze, Italy	1884
Novion, A.	Custom House, Chinkiang	1885
Nully, R. de	C/o Custom House, Shanghai ...	1884
Ohlmer, E.	C/o Custom House, Shanghai ...	1885
Ottomeier, P. A. W.	Messrs. Siemssen & Co., Shanghai ...	1886
Owen, Rev. G. S.	London Missionary Society, Peking	1872
Oxenham, E. L.	British Consulate, Chinkiang ...	1887
Palamountain, B.	Inspectorate-General of Customs, Shanghai.	1886
†Parker, E. H.	C/o British Consulate-General, Shanghai.	1877
Patersson, 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

Name.	Address.	Year of Election
Pichon, L., M.D.	16, Peking Road, Shanghai	1876
Piry, Théophile	Custom House, Fusan, Corea ...	1885
Phillips, Geo.	H.B.M. Consulate, Foochow ...	1888
†Playfair, G. M. H.	C/o British Consulate-General, Shanghai.	1885
Pollock, John, L.K.&Q.C.P. ..	C/o Custom House, Swatow ...	1881
Prentice, John	C/o Messrs. Boyd & Co., Shanghai...	1885
Price, G. U.	Messrs. Tait & Co., Amoy	1886
Pym, E. T.	Custom House, Takow	1885
Ramsay, H. F.	Hankow	1884
Rathsam, Th.	German Consulate, Canton	1887
Rayner, Charles	C/o Messrs. Carlowitz & Co., Tientsin	1886
Reinsdorf, F.	German Consulate, Canton	1883
Rémusat, J. L.	Custom House, Canton	1885
Rennie, Sir Richard T. ...	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 (Tongking)...	1877
Rocher, Louis	C/o Custom House, Canton	1884
Rockhill, W. W.	U. S. Legation, Peking	1885
Rosthorn, A. Edler von ..	C/o Custom House, Shanghai ...	1888
Ruhstrat, Ernst...	Custom House, Shanghai	1886
Russell, The Hon. 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
Samwer, Ernst	C/o German Consulate, Tientsin ...	1886
Saunders, W.	3, Whangpoo Road, Shanghai ...	1865
Schjöth, Fr.	Custom House, Chinkiang	1885
Schmacker, B.	Messrs. Carlowitz & Co., Shanghai...	1887
Schmidt, K.	Messrs. Carlowitz & Co., Shanghai ..	1888
Schröder, A.	Pharmacie de l'Union, Shanghai ...	1885
Schulze, F. W.	Shanghai	1879
Seckendorff, Baron Edm. von.	C/o German Consulate-General, Shanghai.	1880
Slevogt, M.	23, Szechuen Road, Shanghai ...	1879
Snethlage, H.	4, Canton Road, Shanghai	1885
Southey, T. S.	Custom House, Shanghai	1880
Spinney, W. F.	Custom House, Canton	1885
Stepharius, C.	1, Ningpo Road, Shanghai	1885
Stonehouse, Rev. John ...	London Mission, Peking	1886
Streich, K. I.	C/o German Consulate-General, Shanghai.	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. John Forster & Co., Foochow.	1876
Syburg, F. von	C/o German Consulate-General, Shanghai.	1886



Name.	Address.	Year of Election
Tanner, Paul von	Custom House Foochow	1881
Tata, D. B.	C/o Messrs Tata & Co., Shanghai ...	1874
†Taylor, C. H. B.	Foochow Arsenal, Pagoda Anchorage, Foochow.	1885
Taylor, F. E.	Inspectorate-General of Customs, Peking.	1885
Underwood, G.R., M.B.,CH.M....	Kiukiang	1888
Valdez, J. M. T.	Consulate of Portugal, Shanghai ..	1888
Vissière, A.	French Legation, Peking	1880
Voelkel, S.	Pharmacie de l'Union, Shanghai ...	1885
Volpicelli, Z. H.	Custom House, Hankow	1886
§Vouillemont, E. G.	Comptoir d'Escompte de Paris, 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, Jenchuan, Corea	1865
Wicking, H.	Club Chambers, Hongkong	1877
Wilcox, R. C.	"Daily Press," Hongkong	1877
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." *One payment of* $50 *entitles the Member to a* "Life Membership" *of the Society.*

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