JOURNAL

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PREFACE.

In presenting the 2nd number of the New Series of the Journal the Committee trust that it will be found to contain papers of considerable value. They have laboured during the past year under some disadvantages as during the period which intervened before the resuscitation of the Society, the interest in its operations had of course died out. At the close of the second year however, increased attention has been bestowed upon its labours. Many distinguished men of science at home have sought for membership; and the promises of instructive papers are more numerous than they have hitherto been. The Society endeavour to keep in mind how very vague and uncertain are the impressions which prevail in the West about the manners, customs, natural history and geography of Eastern countries and therefore they are careful to publish anything which comes from an authentic source and is likely to throw light on these important subjects, assured that the cause of science is not advanced by showy generalization or theory building but by the exact registration and patient collection of minute facts.

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ARTICLE I.

NOTES ON THE GEOLOGY OF THE GREAT PLAIN.

By Dr. Lamprey, Surgeon H.M'S. 67th Regiment.

By drawing a line along the margin of the mountainous and hilly portion of the continent of China, we find it separates an area of considerable extent though somewhat irregular in outline,* such a line would run along the northern limit of the province of Chi-li a little south of the great wall and north of Pekin, passing to the westward it would skirt the western hills, and so turning almost due south, pass through the province of Ho-nan, till guided to the eastward by a spur of hills which separates the province of Ho-nan from Hu-peh it would reach the valley of the Yang-tse, and turn eastward, passing along the northern portion of Hu-peh till it reached Ho-nan again—then bending southward it would pass round the Tong-ting lake, and so continue almost due east till it reached the sea at Hang-chow, having made a detour in this part of its course to include the area of the Po-yang lake. This would include a great part of the continent of China, extending from Pekin to Hang-chow, a distance of 10 degrees of Latitude, and reaching as

* This outline was obtained from Danville's maps of the provinces of China, compiled from the survey made by the Jesuits, whose accuracy is unquestioned, also from the Admiralty charts of the Yang-tse, from the survey of the Su-chow district, lately completed by Colonel Gordon and Major Edwards, and from my own exploration of the north-western portion of Chi-li and the Su-chow district.

far westward as the west of the province of Hu-peh; including, in short, nearly the whole of Pe-chi-li, a considerable portion of the west of Shan-tung, half of Ho-nan and Hu-quang and nearly the whole of Keang-nan, constituting the area of Great Plain, or that level alluvial portion of the continent which is distinguished from the hilly and mountainous country of the other provinces.

In this area are numerous lakes of considerable extent, many rivers, including two of the first magnitude, the Yellow river and the Yang-tse Keang, besides many artificial canals, and creeks made for purposes of irrigation or drainage, and occasionally isolated hills or groups of low mountains, as seen on the map of the recent survey of the southern portion of the province of Keang-soo made by Colonel Gordon and Major Edwards of the Royal Engineers.

A superficial view of the country around Shanghai, which constitutes a portion of this area, cannot fail to impress us with its character of extreme flatness, for with the exception of a small hill or two, barely discernible, on a clear day, in the south western horizon, (Tsing-poo hills) apparently no undulation of the surface is any where visible. If we ascend a Pagoda or any other high structure, we see a highly cultivated country, intersected in all directions with canals and creeks communicating with the Whang-poo, a wide and tortuous river wending its way to the Yang-tse. If we travel up the Whang-poo to the southward we enter a series of wide creeks and shallow lakes, which at length conduct us to a large expanse of water called the Tai-hoo, estimated at 60 miles long by 30 miles wide. The Tai-hoo lake is very shallow, being generally about 5 feet in depth—Along its whole circumference there are but few landing places, the margin of the lake being of a marshy character, so that small boats cannot reach nearer than 300 yards of the land. Here while the country passed over wears the common flatness, we notice ranges and isolated groups of hills of no great elevation, which are continuous with the mountainous districts running through the south and far west of the continent.

It appears from the ancient records of the Chinese* that the drainage of these lakes was formerly effected by a large river named the Woo-sung whose course has been obliterated to a great extent, though formerly, it is said to have been several miles wide, and to have been, at one time, one of the channels by which the Yang-tse reached the sea; the present Su-chow creek would indicate the former course of this river, which appears to have bifurcated at some remote period, one branch turning eastward and the other passing to the

* See CHINESE MISCELLANY No. IV. p. 2 (Shanghai mission press 1850) and Rev. J. Edkins' paper on the ancient mouths of the Yang-tze published in Transactions Vol. II No. I p. 79.

northward, where it entered the sea or rather estuary of the Yang-tse at Woo-sung, in short the present river communication between the entrance to the Su-chow creek and Woo-sung would be the direction of one of its ancient beds. In the 14th century this portion of the river became so shallow by the deposition of alluvial matter, that it was necessary to deepen its bed, at the same time, a deep channel was dug to connect the waters of the Woo-sung with the Whang-poo, which previous to this period appears to have been more a series of expanded sheets of water, (the Chinese word 浦 *poo* having this signification) than a regular river course as it is at present. These records also inform us that the channel of the Woo-sung has been frequently choked up since then, by alluvial matter, and that it has required a considerable amount of labour and expense to keep it sufficiently open for traffic, and that previous to the union of the waters of the Whang-poo with the Woo-sung (A. D. 1402) there was a small creek running in the direction of the present river bed, which at one time was only a bow shot in width.

Turning northward by the course of the Whang-poo for a distance of about 12 miles from Shanghai, we are lead to the great Yang-tse-keang which rises in the mountains of the far interior, and passing through the middle of the continent divides it as it were into two great portions, receiving in its course the waters of many tributaries, and at length enters the sea not many miles distant from Shanghai.

It is stated in the Chinese records* that the Yang-tse Keang, formerly entered the sea by three channels, designated the northern, southern, and middle Keang; the first took the course of the present Yang-tse, the second entered the sea at Yu-yau, 餘姚 passing by Hang-chow city, this was closed in the 3rd century, the middle mouth was either at Cân-pu 澉浦 or Woo-sung, in short, follwing the course of the old Woo-sung river. The subject of the ancient mouths of the Yang-tse Keang, as described in old Chinese records, has been ably treated by the Rev. Mr. Edkins in the published transactions of the North China Branch of the Royal Asiatic Society, in the Journal for 1850, in which he shows that there has been much controversy among Chinese scholars, as to the course of the middle *keang* and southern *keang*, the northern *keang* having maintained its original position throughout.

An important feature of the character of the Yang-tse is that it is subject to a tidal influence, for a considerable distance from its mouth, the flood stream being felt as high as Nan-kin and a rise and fall of a few inches being noticed at Kiu-hien a distance of 80 miles further up the river.

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* Rev. J. Edkins' ante p. 77.

At the entrance of the river from the sea, there appears to be little periodical variation in the depth of the water, beyond what occurs at spring and neap tides, though at Han-kow a distance of 604 miles from the sea it rises in summer to a height of 34 feet above its lowest level, at Kiu-kiang it rises to a height of 22 feet, and at Nan-kin 12 feet showing a gradual decline of the height of the annual rise towards the mouth of the river.

The annual rise in the waters of the Yang-tse resembles the same phenomenon as observed in the Nile, where the rise is only 4 feet higher, and in the Ganges where it is 7 feet lower; in all these rivers the inundation presents much the same appearance of a broad expanse of water covering the surrounding country for miles, with occasional island-like clusters of trees appearing here and there on the surface. In the case of the Yang-tse these inundations are said to attain a higher level, every fourth year, when the population inhabiting the plains are obliged to remove to higher ground and wait for the subsidence of the flood, which commences to descend gradually in August, unless the occurrrence of rain would cause some variation, till the river reaches it lowest level in winter. The following observations were made on board the Algerine Gun-boat, which was stationed at Han-kow, in 1863-4, when a daily record of the level of the river was carefully kept.

After the weather had become sufficiently warm in February to melt the snow of the lower ranges of hills and some rain had fallen, a rise of 4 feet was observed, this again subsided to 2 feet in March, and rose again to 9 feet in April, from this date it gradually rose to its fullest height of 34 feet in July, and after the first week of August, it as gradually descended to its lowest level in December.

The water of the river is of the same muddy colour noticed further down its course, and in addition to carrying a large proportion of this material, in a mixed state, the water when at its highest level, moves with such velocity that it carries with it 4 feet of the mud of the bed of the river in a continuous stream.

The number and extent of the shoals and banks that are found in the entrance of the river, and in many parts of its course, are similar to what has been observed in other deltas of great rivers and render the navigation an intricate matter. These shoals and banks appear to be in a state of growth at the rate of about a foot in height in 12 to 15 months, for instance the "Blonde shoal which in 1842 had 2¼ fathoms of water on it has since grown up and now shows in several places at low water," (China Pilot).

The North Branch has been growing one foot per year since 1842 (China Pilot).

Another instance of the rapid growth of these banks is the Beacon about 15 miles below Woo-sung which was built in 1855, at that time the water washed round it, it is now about 1200 yards distant from the water's edge, 500 yards of which distance is now perfectly dry.

The Tsung-ming Island in the estuary of the Yang-tse is 32 miles long by 10 miles broad, it has been formed since the 14th century; it would be a matter of some interest to examine a section of it's soil.

The surface of the soil around Shanghai is but little elevated above the water level, 4 to 5 feet being the general height of the water side banks of the canals and creeks, and water is generally reached at this depth from the surface, though during wet weather and spring tides, the water in the wells of the city of Shanghai has been frequently noticed to be on a level with the surface of the ground. In many instances embankments are required to preserve the fields from inundation, especially in the vicinity of the river Whang-poo and the creeks subject to tidal influence.

One of these embankments (塘 *tang* as they are called in Chinese,) may be seen on either side of the river in the vicinity of the settlement, where it is 6 to 8 feet above the level of the cultivated fields in some localities, and far above the level of the ground floors and store house built on the river sides.

Another evidence of the low lying surface of the soil, is the Hai-tang or bund found along the sea shore eastward of Shanghai; it extends along the northern coast line of Hang-chow bay, commencing at a short distance from Woo-sung and reaching to Hang-chow city; it is an earthen mound 20 feet in height throughout the greatest part of its course, and in some places is protected by an outer bund, while between Hang-chow city and Can-pu it takes the form of a stone embankment to resist the velocity of the tides, especially the flood, which comes in, in the form of a bore several feet in height, the height to which the tide rises being 40 feet. This portion of the embankment has lately given way in several places and the country is now flooded with sea water over an area of 60 square miles, and the water in the principal canals in the vicinity has become brackish for some distance.

This work appears to have been commenced in the 7th Century though it was not till after 1747, after the occurrence of a great flood which devasted the country to a considerable extent along the coast, that the work was completed by closing up several apertures, which had been allowed to remain open to drain the surface after the higher tides.

The formation of this bund finally closed the middle mouth of the Yang-tse at Can-pu, which is believed to have been for a long

period the principal entrance to the river and the one resorted to by the Arab merchants.*

Without this bund the whole of Poo-tung to the northern coast line of Hang-chow would be subject to inundations which might reach, as far as, the Tai-hoo lake.—That the sea must have washed a considerable portion of this area is proved by the fact that marine species of shells are found in strata under the surface, which occasionally form high ridges; one of these may be seen at a village called *Fa-Fa-Cheou*, 化化喬 and not more than a mile distant from the bund where there is a remarkable rise in the level of the ground or ridge extending for about 2 miles in a north and south direction, portion of which is upwards of 30 feet above the level of the country; on examination of its structure it is found to be composed of horizontal layers of comminuted shells of marine species, some of these laminæ are loose and composed of tolerably perfect shells though somewhat water worn, other layers are more compact, these shells belong to *Cerythium*, (Fig, 3.) *Buccinium*, (Fig, 2.) *Cardium*, (Fig, 1.) and 2 Species resembling *Corbula*, (Fig, 4.) and *Grateloupia irregularis*, (Fig, 5.)* the latter forming the bulk of the mass. There is no sand, or other ingredient mixed with the shells. There are ample facilities for examining the structure throughout its whole extent, as it is largely quarried for making lime and in the course of time will no doubt disappear.

Fig. 1. Fig. 2. Fig. 3.

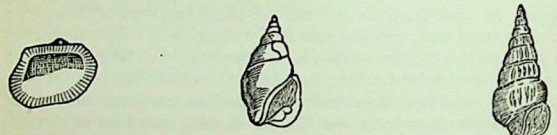
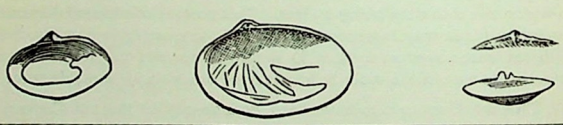


Fig. 4. Fig. 5. Fig. 4.



* Note. The description of the voyage to Can-pu given in the accounts of the early voyages of the Arabs in China, would not be supported by the present Geography of this locality. Mr. Wylie informs us that the Ancient City of Can-pu is washed away or submerged by the encroachment of the tides, if so, probably, a great extent of dry land, which formerly occupied the area of the present estuary of the Tsien-tang, and a great portion of Hang-chow bay has shared the same fate.

** Shells similar to 4 and 5 are now found in a recent state, where the shell bank reaches the sea shore.

This shell formation may be seen in the banks of the creeks in the vicinity, where there appears to be a very shallow depth of soil. Similar banks are found in other localities. Near Ca-jow (高喬) there is a quarry of similar kind, and I find, in the Chinese Miscellany the following (page 36) "There are three ridges in the district (Shanghai) called the So-kong, 沙岡 Chuk-kong 竹岡 on the south side, near Sung-kiang, and the Tse-kong 紫岡 a little to the north of these, these ridges are upwards of 30 miles in length. The tradition is that they were thrown up by the waves of the sea, they are found to be full of shells to an unknown depth. In the statistical account of Su-chow it is said that near the sea there are long ridges of land joined to one another, which form a natural barrier to keep out the sea and thus preserve the people of Su-chow in safety."

In the Whang-poo the tidal influence becomes much modified by distance from its confluence with the Yang-tse, the rise at Woo-sung is 12 feet at spring tides, at Shanghai it is 10 feet and at Min-hong 30 miles further inland it is 5 feet and still further as at Tai-tsan it is limited to a few inches. The velocity of the flood tide is much greater than that of the ebb, the time from low to high water being some hours shorter than from high to low water. We find also that the tint of the water which is of a dirty brown colour opposite Shanghai, gradually clears as we ascend the river and that where there is least rise and fall of the tide the water is found quite transparent.

On analyzing some of the water drawn from the Whang-poo opposite Shanghai, an hour before Spring tide in December last, I found 27 grains of deposit which was equal to 59 minims in bulk while moist, in a gallon of water; this deposit took about 6 hours to form, and the first particles which settled to the bottom corresponded with the gray sand to be noticed hereafter, while the bulk of the deposit had the same appearance as the loam of the surface of the soil. Underlying the loam which varies in thickness in different localities, there is a stratum of grayish sand so deep that specimens have been brought up from a depth of 248 feet from the surface, in boring an Artesian well in Messrs. Russell & Co's. compound in the Foreign Settlement, the same sand is found forming the vast shoals that skirt the coast, the growing banks of the Yang-tse and the islands of its estuary.

The difference of the loam and sand is at once seen on agitating some of each with water in test tubes, the one containing the loam remains turbid, for a considerable time, while the one containing the sand becomes clear almost immediately, showing that the slightest modification of the velocity of the water will cause a deposit of the coarser particles of sand, and that it requires a period of complete repose to deposit the loam, which forms the upper stratum.

The loam contains a large proportion of alumina which can be readily detected on breathing on a dry specimen. The sand has mixed with it a large proportion of mica, the shining particles being easily detected. It appears to be largely composed of calcareous matter, as it effervesces strongly in contact with an acid.

The relative position of the loam and sand is seen in the following section of the artesian boring just referred to (Fig. 6.)

The first ten feet of the boring passed through a stratum of yellow Loam, beneath which was found a stratum of the gray micaceous sand similar to that found in the mud flats of the river, of an uniform character, and extending to a depth of 248 feet from the surface, where a stratum of rounded pebbles was met with, which was penetrated to the depth of 4 feet, when at this depth (252 feet) from the surface, the instrument broke and the boring was discontinued.

From 45 feet below the surface to a depth of 60 feet, fragments of shells were found; this would correspond to the present level of the river bed, due east of the position of the Artesian well, where probably the same shells may be found. At a depth of 140 feet from the surface portions of plants were met with; they appeared on examination with a microscope to be chips of Bamboo and Grass. At a depth of 180 feet, portion of the bark of a tree, apparently of a branch of fir, one inch in diameter was brought up, and a shell resembling a *Cyrena;* this shell, was not water worn. At a depth of 240 feet, a fragment of lime stone rock was met with.

The accompanying diagram, (Fig. 6) which has been drawn to scale, shows the relative bearings of the depth of the adjacent river bed, and high and low water mark, to the position of the various objects found at particular depths in boring the well.

Another instance may be seen about a mile distant from, and north of the Su-chow Bridge, (Wills') on the Hong-que side of the creek, where I observed the following stratification to exist in a section of an Earth Pit (Fig. 7.)

Fig. 8.



Fig. 9.



The surface soil consisted of a stratum of yellow Loam 6 feet in thickness, beneath this there appeared the same gray sand which

was found in boring the Artesian well in the settlement, both these strata were laminated and where the loam met the sand, there were alternate layers of loam and sand for a distance of a few inches.

Fig. 6.

Section of the Artesian Well.

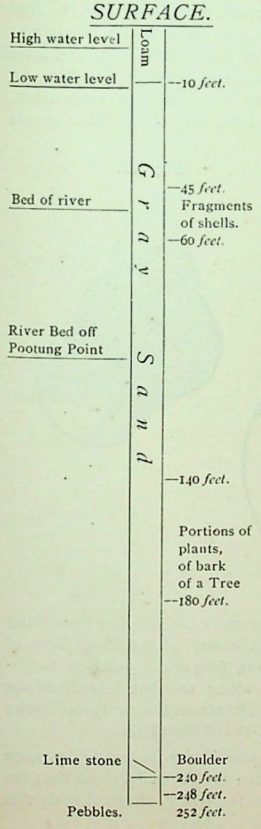
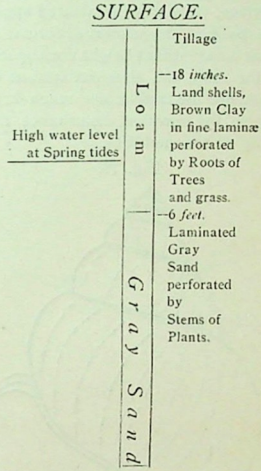


Fig. 7.

Section of an Earth Pit.



The loam to a depth of 18 inches from the surface was not laminated, the soil being subjected to tillage, the laminæ for that distance were destroyed, beneath this the laminæ were distinctly seen, also the perforations made by roots of trees, reeds, &c., which were also apparent in the stratum of sand beneath.

At about 2 feet from the surface there were fossil shells, of *Paludina*, (Fig. 8, 9,) which were not met with lower down.

The diagram shows the high water level to be only 4 feet from the surface. The same laminated appearance may be seen in the mud of the bank in the process of formation near the British Consulate, it has now attained that height corresponding with the union of the loam with the sand, the alternate laminæ being easily distinguishable. In this instance the laminæ are much broken and run into each other, owing to the constant disturbance there are subject to, from people walking on the mud bank.

Fig. 10.

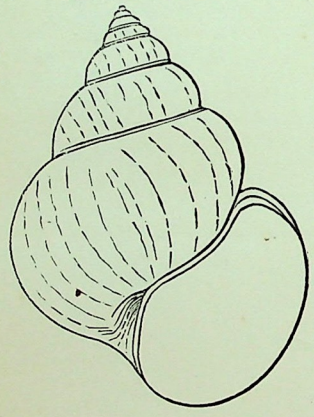
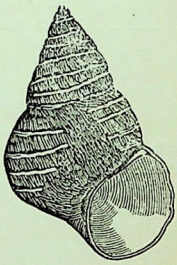
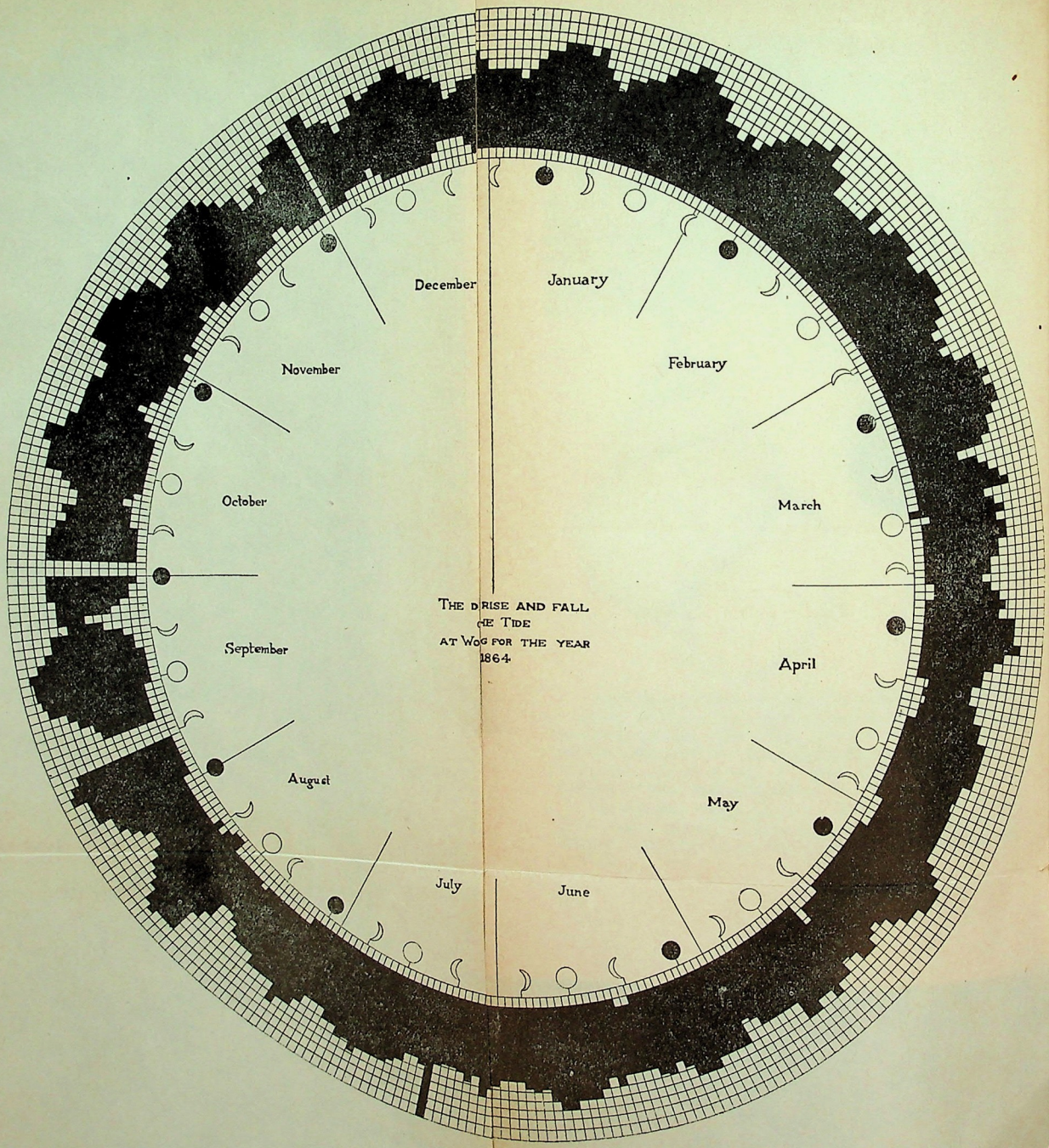


Fig. 11.



I found the same laminated appearance in the soil dug in making a well near the Fu-tai's Camp, about a mile west of the South Gate of the City of Shanghai. This locality was frequently subject to inundation until a bund was constructed along the north bank of the Whang-poo south of the city. A similar structure of the soil was observed at Tsing-poo about 25 miles S. W. of Shanghai.

The laminated appearance of the soil, in the foregoing instance is the result of tidal deposition, as we can readily understand that the slightest modification of the velocity of the water, charged with this



THE RISE AND FALL
OF THE TIDE
AT WOOLWICH FOR THE YEAR
1864.

mud, will cause a deposit. The velocity of the flood tide being greater than the ebb, the heavier particles carried with the rise of the water, are deposited during the slower movement of the ebb, and hence every tide must tend to fill up the river and creeks, which is precisely what we find taking place around us.

Fig. 12.

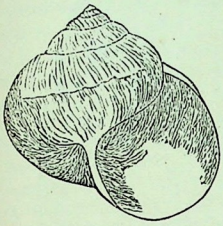
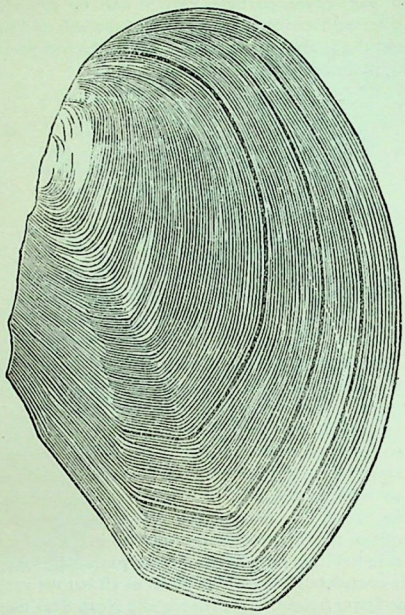


Fig. 13.



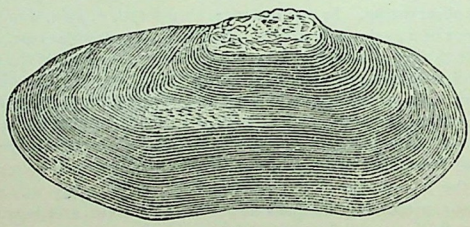
The rapidity with which deposition takes place may most readily be seen in the mud banks now in process of formation in the front of the Consulate, and on the Poo-tung point, on the opposite side of the river; six years ago, there was 6 feet of water found over these banks which are now only covered at high tides, the banks having now reached that stage of their growth where the clay and sand are in alternate layers, as seen in the portion taken from the surface. In the course of time, aided by the creeping rush, growing on the surface, a further deposit of the finer particles suspended in the water will take place, and being held together by the fibrous roots, will increase until the surface is completely beyond the reach of all but the very highest tides. The ordinary height of the Spring and Neap tides may be seen in the accompanying diagram illustrative of the tides, as they occurred, in the year 1864, at the place of observation at Woo-sung. The spaces between the radii represent days, and the spaces between the concentric circles are intended to represent feet, commencing with the innermost circle as 11 feet, which was the least depth of water at the place of observation. In one instance, on the 15th of July, during the prevalence of a cyclone, it will be observed that the tides reached the height af 25 feet, whereas 23 feet was the average height of the spring tides, and the average rise and fall, about 12 feet. By this diagram the occurrence of Spring and Neap tides in relation to the phases of the moon may also be seen. All who are connected with the trade of the Port of Shanghai, must feel the deepest interest in this rapid growth of these mud banks which in the course of time may seriously impede the navigation of the river. I fear the remedy will not be attained by projecting the bund further into the river, as it is proposed but rather by removing the obstructions to the freer ingress and egress,

Fig. 14.



Anodonta

Fig. 15.



Unio

of the water of the Yang-tse, caused by the bars at the mouth of the river, and by inducing a greater flow of water into the Whang-poo from the lakes and tributary creeks, so as to give a greater velocity to the ebb tide. The channels of all the tidal creeks in our vicinity are being choked up to a great extent, and the soundings of the river are much less in depth than they were a few years ago; in short, the growth of the bank in front of the Consulate is a measure of the general deposition of alluvial matter throughout the tidal area of the Whang-poo.

That there is a less volume of water in the river than formerly, is evidenced by the high bunds, it was found necessary to construct to keep out the high water, which in former days overflowed the districts east and west of the city; such floods apparently do not now occur. It ought to be borne in mind too, that the river in front of the settlements, from Su-chow creek to Tong-ka-du, is artificial and that it would be as easy to obliterate its course by gradual encroachments on its width, as it was to enlarge the shallow creek which previously connected the Whang-poo with the Woo-sung.

Fig. 16.

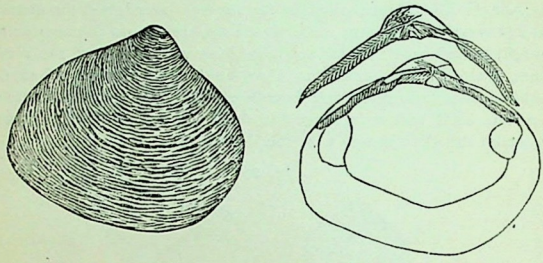


Scattered over the surface of the soil both in Kiang-su and Pe-chi-li, and buried in it at various depths, we find the remains of shells belonging to *Paludina*, (Fig. 8, 9, 10, 11.) *Planorbus*, (Fig. 12, 13) *Unio*, (Fig. 14) *Anodonta*, (Fig. 15) and *Cyrena fluminalis** (Fig. 16, 17.) All these figures are of natural size. These shells are still found in a living state, the *Paludina*, inhabiting the pools swamps and reedy banks of rivers, the *Planorbus* the drier ground of mounds &c., and the bivalves the mud of the creeks and streams, these species whether collected in the vicinity of Peking or Shanghai being the same. I have found in the vicinity of Tai-tsan, the shells of a larger species of *Anodonta* and *Unio* than those met with in the smaller creeks in our vicinity, and in the north, the dimensions of these shells are as follows: *Anodonta*, 10 inches by 6½ inches—*Unio* 8 inches by 5½, sufficiently large to be used as dishes or plates by the Chinese, who commonly employ them for this purpose. I have met with *Succinea Amphibia* (Fig. 18) and a *Cerythium* (Fig. 19) in the Shanghai district, the latter are generally found with the extremity broken off, which is

* *Cyrena fluminalis* though now found living throughout the Great plain is only found in a fossil state in Europe, see Lyell's, " Antiquity of man." page 123.

done, in order to get the animal out of the shell, being as highly esteemed by the Chinese as periwinkles are by us. *Paludina*, *Cyrena*, *Unio* and *Anodonta* are also used as food by the poorer people. *Helix plebeum* is also found. Of marine species of bivalves 2 species of *Citherea*, a *Cardium* and *Solen* are largely consumed. *Cerythium Cinctum* and a *Bulla*, both marine species and obtained from the neighbouring sea coast and estuary of the Yang-tse, are also found in the market.

Fig. 17.



In the Shanghai district the remains of a *Thelphusa* are frequently met with. These crabs abound in all directions especially in the vicinity of water. They are a burrowing-crab, and show great agility in reaching their burrows when in danger, they are also very active in climbing rough walls, and occasionally, they may be seen ascending the reeds on the river on the river bank. They hybernate in their burrows during the cold season, and make their appearance after the first few warm days of spring. They are eaten by the poorer people.

Amongst the remains of bivalves found in the northern district, I have met with a form (Fig. 20) which appears to be a marine species, it is to be found in a fossil state in the low swampy ground at the south side of Tien-tsin City, within the defence ditch. In the mud of the embankment the same fossil shell is also to be found. The soil hereabouts supports a scanty vegetation of which *Salsola*, forms the chief portion, showing its marshy character. I have recently found on the sea shore of Hang-chow Bay, not far from Cholim, the recent shells of the same species of fossil, with which it corresponds in every particular, showing that the sea at one time had access, to the walls of Tien-tsin, or to the locality on which the city now stands.

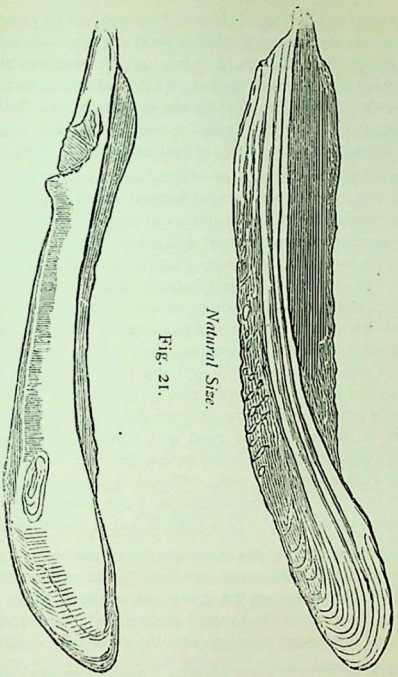


Fig. 20. *Natural Size.*

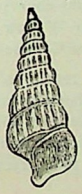
Fig. 21. Fig. 21 *represents the interior of this bivalve.*

The remains of a *Solen* so slender in structure that I could not preserve it, was noticed in the mud thrown up from the bottom (15 feet deep) of the boundary ditch at the English Settlement at Tien-tsin, this mud being similar in character to what we notice in the soil about Shanghai.

Fig. 18.



Fig. 19.



The aspect of the alluvial plain in Pe-chi-li gives one the idea of an interminable level country, no hills or rising grounds are to be met with for miles from the sea, a few sluggish streams and irregular expanses of water, forming shallow lakes and marshes are met with near Tien-tsin; passing further to the westward we find it slightly undulating, here it is chiefly formed of sand, but it is not till a considerable distance is passed that the outlines of hills become apparent.

Having had the opportunity of making an excursion in this direction I was able to notice the general features of the country in the north western extremity and central portions of the province of Pe-chi-li, the following extract from my journal will serve to give some idea of the aspect of this portion of the plain—"Still the country continued flat, further on however at a distance of about 30 miles from Tien-tsin the surface became slightly undulating and at length our road passed on to an embankment which one would suppose was originally constructed for a railroad, further on, this embankment had more the appearance of being at one time a sea cliff or deep river bank, having on the southern aspect a declivity of about 60 feet, while on the northern side a small bund separated the summit from the country which was on a level with it, on leaving the road and turning to the north, to see more of the upper plateau, I found at the distance of about a mile the dry bed of a river 150 yards wide, which I learned was the When-ho the waters of which had been turned into the Shang-shi-ho or upper western river, by means of a dam built across it some distance off."

During the melting of the snow and ice in the hills of the north, at the commencement of the warm weather, the water overflows this dam and boats are able to sail up the river for a short time; there were a few boats observed on the banks, but they had much the appearance of being used in ferrying people across the river when full of water.

On looking over the lower plateau, I noticed several smaller bunds extending some little distance from the embankment, and fancied they had been constructed for the purpose of reclaiming land, the aspect of the lower plateau had much the appearance of being the dry bed of a great river, ten or twelve miles in width, the country for that distance to the southward appearing to be arid sand with insular patches of cultivation and willow plantations, it preserved this character for some miles along the course of the embankment. Could this be the original channel of the Yellow river which tradition and the topographical records of the Chinese say, once flowed into the Gulph of Pe-chi-li?

On my return to Tien-tsin the road lead me further along the course of this embankment, which I found gradually lessened in height, till it approached within a few miles of Tien-tsin where it sloped off to the level of the surrounding country. There was one part of its course I observed to be recently constructed, it was in a place where the

When-ho approached it and burst a way through to the country lying south, doing considerable damage. About this part of its course, there was no doubt that it was artificial, but in other places I could get no information from the country people further than "it was always there."

On reaching the Western hills I was struck with the abrupt manner they appeared to rise from the plain, and on passing through some of the valleys I visited, the thought that at one time they formed bays and inlets of the sea, immediately suggested itself.

In some of these valleys there was a great scarcity of water some villages being dependant on wells 4 or 5 miles distant although the dry beds of large rivers were met with Occasionally heavy torrents flow down those river beds and the chief of the Buddhist Monastery at Shan-fong-shan informed me that "formerly the rivers had plenty of water but now there were rivers without water."

A view from the summit of those hills* over the plain is very striking:—although containing no water the river beds could be traced for a long distance flowing as it were to the eastward, and the great plain itself looked not unlike the ocean, with island like patches of trees and villages, whose outlines became less and less distinct in the distant horizon.

A striking object on entering the valley leading to the Shan-fong-shan monastery, was the appearance presented by a road side cutting of a few feet in height; there was first a layer of clay about 2 feet in depth, and beneath this a stratum of large rounded stones some of which were 6 to 8 lbs. in weight, in depth this stratum was about 18 inches, underlying this there was a stratum of clay about the same thickness, and beneath this another stratum of rounded stones, beneath which there was another bed of clay. In the further end of the valley about 8 miles off, I noticed people digging for clay to fertilize their fields. The clay was underlying a stratum of rounded stones which formed the dry bed of a river.

Within a short distance of Pou-ting-foo I crossed the dry bed of a river about 2 miles in width, concerning which I could get no information, though no doubt it lead from similar dry water courses in the ranges of hills to the westward. All these rivers may have been at one time full of water supplied by constant rain falls or melting snow in the mountain ranges, while clothed with trees, which was the case formerly, though they are now completely destitute of timber.

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* Note. The Si-shan or Western hills belong to the carboniferous series, being chiefly marble, they contain coal also,—and slate, the stratification of the mountains is easily seen, the southern aspect being precipitous for a great portion of their extent. This stratification is wonderfully horizontal, almost throughout its course, the road from Shan-fung-san to Si-ling is bounded by a natural wall, as it were, upwards of 1,500 feet high.

The houses and villages of the plain about Tien-tsin are all built on ground raised 4 or 5 feet above the level of the plain, this is owing to the inundations that are liable to occur, and though no inundations occurred in 1860-61, while I was in the north of China, I noticed the outlines of the fishing gins in different parts of the plain outside the Treaty-joss house and other places. These inundations carry with them the material of large deposits, and so tend to raise the surface of the soil over which they spread, and convey to the sea the materials with which the tides are continually building up and extending the longitudinal width of the coast, which like that of the coast in our vicinity is in a state of growth.

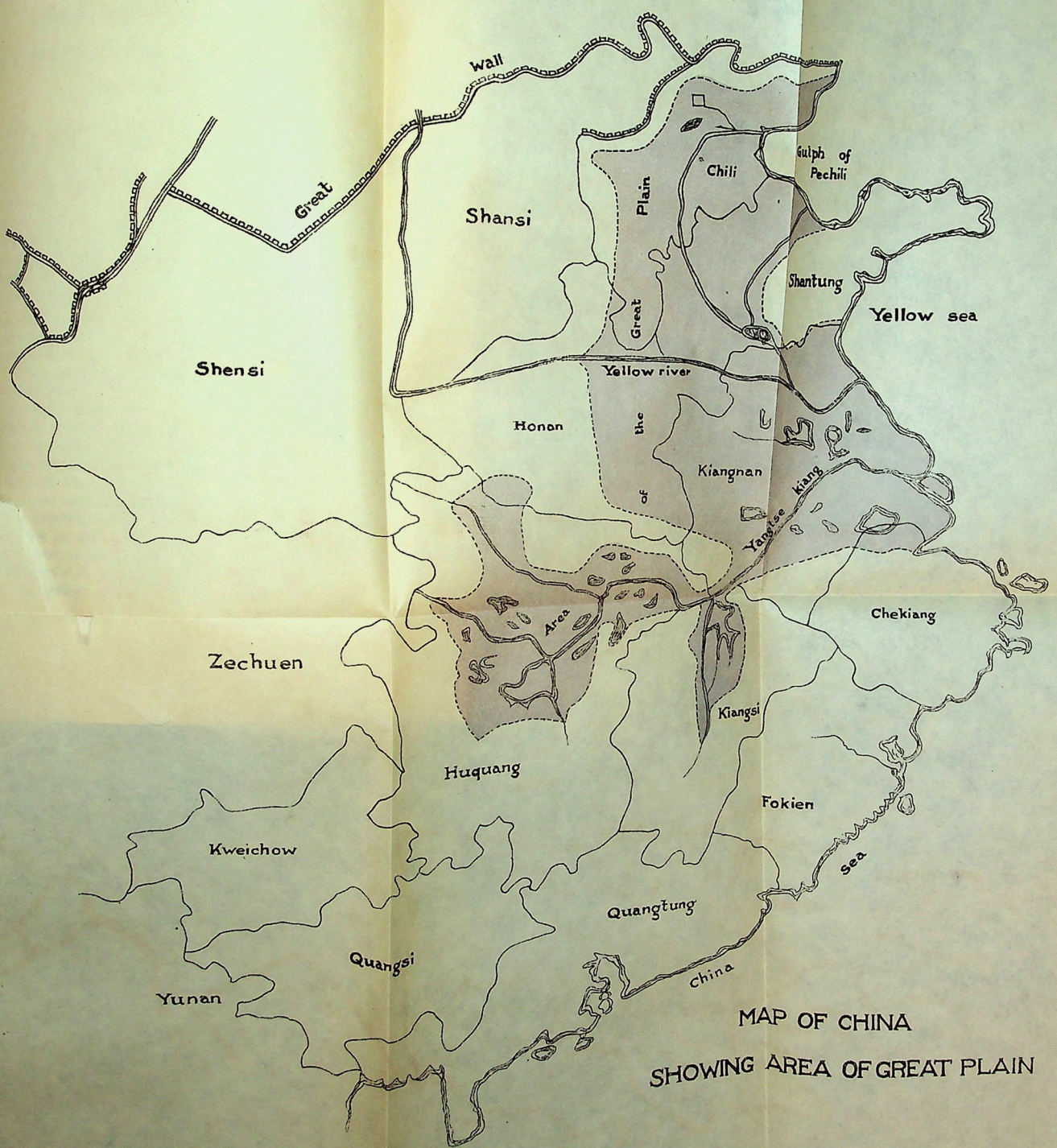
There are other sources however by which the soil is elevated and marshy places made dry land, of these the dust storms are the most active agents. Those who have passed a year in the north of China can form some idea of the enormous amount of material conveyed by these storms, from place to place and their capability of choking up canals and rivers and filling up swamps and in time altering the physical geography of the plain.

High winds produce almost similar results in localities where the surface is loose and sandy. The dust storms depending on Electrical phenomena appear to have a wide range, being noticed so far south as Shanghai, and west, as far as Han-kow, in short extending over the area of the Great Plain. These dust storms have much the character of the "Tebbad" described by Vambery as occurring in the plains of Central Asia. *

In conclusion, there can be no doubt, after a study of the geology of those two portions, the northern and southern limits of the great plain, that the remainder is similarly circumstanced as to its formation by alluvial deposition, and that there was a period, when the whole of this great area was covered with water, a period when the water of the Gulph of Pe-chi-li extended from the western hills of Chi-li to its present eastern limit, and the Shan-tung promontory with the contiguous mountainous portion of the province was an Island, and the province of Keang-su had no existence.

To determine the precise time when this was the case would be a difficult matter, but when the ancient writings of the Chinese speak of floods and mention the name of an individual Ta-Yu who directed the course of the rivers into permament beds, and reclaimed the land from the inundations 4000 years ago, or that we are told that the Yang-tse entered the sea at Quin-san 2000 years ago, when Shanghai and the numerous cities and towns in the district had no existence whatever, we should not discredit these records but should rather examine with attention the matter they contain.

* "Travels in Central Asia" p. 161.



MAP OF CHINA

SHOWING AREA OF GREAT PLAIN

ARTICLE II.

A SKETCH OF THE GEOLOGY OF A PORTION OF QUANG-TUNG PROVINCE.

By Thos. W. Kingsmill

In laying these rough notes before the "North China Branch of the Royal Asiatic Society" the writer lays claim to no new discoveries, few of the observations having been made by himself, and his specimens having been mostly collected during short stays in Can-ton and Hong-kong; his aim is rather to throw into some shape the scattered notes of others, and to endeavour to form a connected sequence, for comparison with the rock formations of China and other parts of the world, and he will feel happy if these few remarks should call the attention of others, with better means of observation, and more time at their disposal, to this subject.

Lying as China does between the parallels of 20° and 40° North Latitude, and between 100° and 120° East Longitude, considerable diversity in its Geological structure and Physical Geography might be expected. The general character of the whole, to the south at least of the Yellow River, is however very persistent, consisting of plains slightly elevated above the sea level, occasionally of large extent, bounded by irregular ranges of mountains, seldom within these limits much exceeding 3000 or 4000 feet in height. The usual division of China into Hill Country and Plain, though partially true is much exaggerated, few of the plains continuing uninterrupted by eminences for any considerable distance, whilst in most instances the ridges of the bounding hills can be seen from most intermediate points, at one side or the other. The entire country is rather divided into several isolated basins, any one of which can be studied by itself, whilst in most instances the lines of demarcation follow roughly the political divisions of the Empire.

Amongst these natural divisions of the country we may adduce the provinces of the Two Quangs, Kiang-si, Fuh-kien and Che-kiang, Ngan-whui, Kwei-chau, Kiang-su, &c. all forming separate districts divided by ranges of mountains, and distinguished each by peculiar geological characteristics, as well as by a diversity of natural productions, and a general aspect differing from its neighbours.

Of these districts the central and eastern portion of Quang-tung is especially interesting, not only as being best known to us, but as containing within a limited area a connected sequence of formations ranging upwards from the early Palæozoic rocks of Hong-kong and the adjacent coast and islands, to the New Red Sandstone of Can-ton and the Delta of the Pearl river, intermixed with some traces of still later formations, and being accompanied by masses of rocks of igneous origin extending probably over a still more prolonged epoch.

This portion of the province is intersected by ranges of mountains running from about N. N. E. to S. S. W. paralled with the coast chain, which commencing in the islands to the south of Hong-kong runs with one or two breaks to the Chu-san Archipelago. Almost at right angles with this, taking an approxinate E. and W. direction runs another chain, forming, at the Northern extremity of this district, the Mei-ling Mountains, parallel with which the elevatory forces, having acted across the first system, have produced a number of short ranges and secondary valleys and given a general strike of E. and W. or thereabouts to the latest formations. Through these valleys run three rivers which unite not far from Can-ton city, their mingled waters flowing to the sea by numerous branches, forming the Delta of the Can-ton river, the best known branch of which, the Chu-kiang, after flowing past the City of Can-ton enters the Bay of Lin-tin at the Bogue; their names are respectively the Peh-kiang or North River, formed by the confluence at Shau-chau of two streams flowing respectively east and west from the flanks of the Mei-ling Mountains, and thence taking a S. S. W. course to San-shui, where it meets with the Si-kiang or West River, the most important of the three. This river rising in the Mountains of Yun-nan flows in a general easterly direction though a portion of that province, and thence though Quang-si to Quang-tung which it enters at Wu-chau; continuing in a general easterly course it flows past Shao-king to San-shui where as before mentioned it joins the Peh-kiang; a portion of their united waters flow thence to the S. S. E. entering the sea to the west of the Island of Hiang-shan, whilst the remainder, passing by numerous channels through the Delta, mix their waters with those of the Tung-kiang or East River, which rising in the North East of the Province flows for some distance nearly parallel with the North River, receiving the

drainage of the western slopes of the Coast chain, and arrived at Hwai-chau, takes a westerly course, joining the Chu-kiang by many mouths some 30 miles below Can-ton.

As a convenient starting point and one where the lowest formations can be studied with advantage, we will begin with the Island of Hong-kong, which small as it is will well repay attentive examination. Landing at the City of Victoria and observing the buildings, the masses of rock lying about the exposed surfaces of the Mountain, as well as casually looking at the quarries deeply sunk into the hill a stranger would most likely conclude that the whole was one solid mass of granite. A minute investigation in the water courses worn into the sides of the hill, and a walk to Aberdeen and the other districts at the south side of the Island, will however show that other causes besides igneous have been at work, and that the igneous rocks themselves are by no means confined to granite, slate and quartz as well as trappean rocks presenting themselves in many localities.

Before passing on to describe the other rocks, the granites found here will merit our attention for some little time, as stone of a similar quality occurs along the coast line far into Fuh-kien province, and differs much in composition from the granites of the inland ranges, From the large amount of Mica they contain, as well as from the excess of Alkaline materials in the Felspar, forming one of their components, they are readily decomposed and have yielded to the disintegrating action of the atmosphere, in these regions impregnated with water for a large portion of the year, to an enormous extent, leaving behind a mass of soft unctuous clay surrounding the grains of unaltered quartz. The granite is however very concretionary in its structure and irregular in characters, and here and there are to be seen large masses of solid stone which have resisted decomposition, and lie like enormous boulders imbedded in the surrounding matrix; in places exposed to the wear and tear of the tropical rains this matrix has been washed away, and the undecomposed masses, left far and wide over the surfaces of the hills, have more than once been referred to as the results of glacial action corresponding with the boulder drift of more northern latitudes.* Along the coast this decomposed rock annually washed by the rains assumes a most barren aspect, giving a bleak and desolate appearance to the coasts of the Southern provinces of China as approached from the sea, often hiding exceeding fertility within, whilst the deep channels worn by the mountain torrents and the detached masses of rock of every size and form scattered about, give the whole an air of utter confusion, and render walking amongst these ruins of nature's handiwork no easy task.

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* Elementary Course of Geology, Ansted. 2nd Edition p. 42.

Associated with these granites in an inextricable tangle occur the slate and quartz rocks mentioned above. In the island of Hong-kong which we have taken as the type of these lower rocks, stretching from the neighbourhood of West-point to a little to the north of Stanley, parallel with the south coast of the island, and from three quarters of a mile to a mile broad, may be noticed a band of highly altered slate and quartz rocks; the line of demarcation between these and the granite may be very well seen at Stanley, where the southern portion of one of the hills jutting out into the sea consists of granite, covered with numerous detached pseudo boulders, whilst the surface of the slate rocks, disintegrated in a different manner by atmospheric influence, assumes a rounded swelling outline. The numerous headlands on this coast are all composed of granite, whilst the sea has intruded to a considerable extent on the softer clay rocks forming the recesses of Deep Bay, Ti-tum Bay and others. These rocks are however by no means confined to this district but occur in irregular masses in several localities, more especially about the mountains to the south of the Ly-ü-mun pass, where they form the characteristic formation, they are throughout distinguished by a large admixture of quartz rock, sometimes stratified, but more frequently massive, and utterly broken up by joints and cleavage plains, the states vary in composition from soft shales to hard purple slates and everywhere present the same aspect as the quartz rocks, being subdivided by joints into small fragments, and being utterly useless for any economic purpose.

Intermingled with the granite and slate rocks occurs a third system; masses of intrusive traps and trachytic Porphyries appearing in many localities, occasionally in large masses. Near the reservoir for the new water works and stretching some distance both sides, the general direction being apparently W. S. W. crossing the shoulder of the hill, and forming near Pak-foo-lum a promontory running out some distance into the sea, occurs a mass of a porphyritic character, consisting of a dark felspathic rock with crystals of quartz through the mass. At Deep Bay another outburst of igneous rock may be noticed, here it partakes of a prismatic structure, and at the side of the road leading to Stanley may be noticed forming irregular cubic masses, in some places much disintegrated; similar rocks appear to occur near the Ly-ü-mun and in other localities.

Patches of an overlying stratified deposit formed from the debris of these several rocks may be noticed at several places in the Island, but as these appear to belong to a much more modern formation, we shall leave them for the present, while we proceed to follow the earlier formations along the coast and into the interior.

Proceeding from Hong-kong northerly, the mountains are found to be mainly composed of the same formations as those already

described, the masses of granite however become less frequent, and the slates and quartz rocks with enclosed igneous protrusions take their place; travelling into the interior the associated granites die gradually away, this rock being now found in large protrusive masses as the Lo-fu-shan north of Hwai-chau-fu while its composition also alters, its structure being much finer, the enclosed plates of mica much smaller and less frequent, and the whole of a much more durable character.

In the north of the province the traps of Hong-kong change to green stones and porphyries, the former much preponderating, and passing into Fuh-kien province, we meet with large masses of hornblende rock of a greenish gray colour; as may be expected the slate rocks accompanying these masses of igneous origin are much altered and contorted and nowhere does the slightest trace of organic life present itself. These formations extend from the east coast to the dividing ridge between the East and North rivers, and probably at intervals through the entire of the province, in the valley of the East River however detached formations of a latter date occur, corresponding with those hereafter described.

Next in antiquity to the Hong-kong series appear to come the Shau-king slates and grits, a fine opportunity for studying which is afforded at the pass locally called the Shu-hing-hap a few miles below Shau-king-fu. These rocks consist of slates and grits of various degrees of fineness, from the fine grained inkstone for which this locality is famous throughout China, to grits sufficiently coarse to form grind-stones. It is difficult to assign these rocks a true position in the chronological scale but the internal evidence points them out as subsequent to the coast series, and it would well repay the time and trouble spent if some one resident at Can-ton would make an investigation into these interesting formations on the spot.

These grits appear to occur in a range of hills which cross the West river at Shau-king in a N. N. E. direction nearly parellel with the North river, the banks of which they appear to strike not far from Tsing-yuen. In close juxta-position to these slates and grits, if not belonging to the same series, occur the well known Shau-king marbles. It is difficult from descriptions to form a proper idea of these rocks, but a group called the seven stars (Ts'ih-sing), rises abruptly in lofty needles from the alluvial plain surrounding the city of Shau-king; at intervals along the course of the West river similar rocks occur, as at Cockscomb hill, near Yue-shing, and at other places; those near Yue-shing, known locally as the Kai-yik-koon, contain an immense cavern; similar caves occur in the neighbourhood of Shau-king and would doubtless repay the trouble of investigation, at a time when the latest geological deposits, connected as they are with the early

history of man, are exciting so much interest. But to return to our more immediate subject, ascending the East River above Ho-yuen occur also these limestone rocks bearing the same character of isolated fantastic masses, as for instance at Peh-mien-shih the "white faced rock" and Peh-ma the "White horses." A rock apparently similar is described as occurring near Wu-ma-t'au about 90 li below Nan-hiung on the head waters of the North river. Mr. Ellis describes them as below.* "We passed the rocks last mentioned called by the boatmen Chen-tun or Lo-shu-shan, rising abruptly to a height of 200 feet from the river, the base pudding stone with lime-stone or rather marble resting on it." A similar description is given of the rocks near Yue-shing which rest on a "yellow sandstone." From all these descriptions it will be seen how difficult it is to assign a position to these rocks without further examination, they are all highly crystalline, masses of igneous rocks in most places being found in the immediate neighbourhood, granite occurring near Shau-king on the West river and also in the neighbourhood of the Mei-ling pass, as well as in the hills of the East river, they are also devoid of traces of stratification, and the Shau-king rocks, at least, are marked with veins of graphite in zigzag lines, this mineral itself being sometimes found in these veins, but more usually visible only from the dark colour it gives to the stone, and being probably derived from the carbonaceous matter of fossils, formerly imbedded in the mass, but destroyed by the metamorphic action it has undergone.

These rocks underlie the Limestone formation to be described afterwards and appear to represent the lower limestone formations of Kiang-su and Kiang-si; in both districts the limestone being highly metamorphic and accompanied with quartzose and slatey formations, in Kiang-si these formations, as at Kiu-kiang and the Lu-shan appear to be unconformable with the succeeding upper carboniferous series, near Hang-chow they appear to be fossiliferous, the writer having found an Euomphalus and some remains of brachiopodous shells; they probably therefore represent the lowest beds of the Carboniferous Limestone; or possibly the Upper Old Red Sandstone. A careful examination of the beds along the lower portion of the north river would probably afford much light as to their exact position.

Leaving these detached masses for future investigation, we come to the proper limestone formations of the district, and here, for the first time, we arrive at a series of rocks whose position in the geological scale can be inferred with any attempt at accuracy. These

* Ellis's account of Lord Amherst's Embassy Vol. II p. 158.

limestone rocks, always preserving the same lithological character and the same relative position, lying uniformally on the subjacent rocks, are to be met with in very different localities in China, of their positions in this province we shall defer for a while speaking, whilst we notice their occurrence in other portions of China.

They are to be found in many of the provinces and occasionally rise into mountains; hills of this description form the boundary lines between the provinces of Hu-peh and Sze-chuen, where through a mighty cleft—the gorge of I-ching—the Yang-tsze forces its way from its upper to its lower course, and they also occur along the boundary line between Kiang-si and Hu-peh abutting on the river Yang-tsze between Kiu-kiang and Han-kow, where for a distance of many miles, from the Pwan-pien-shan to Ke-t'ou, the river runs between high limestone hills. The rocks here are stratified, dipping at high angles, the beds vary from a few inches to 5 or 6 feet in thickness, the thicker strata being much fractured, in some places the rock becomes almost massive, but the colour is generally much darker, the strata more marked, and the metamorphism less complete than in the earlier rocks, as at Ke-t'ow, a description of which from Oliphant's account of Lord Elgin's embassy is appended.* "We ascended" he says, "the hill to an elevation of 700 or 800 feet and revelled in the prospect spread out before us. The flourishing town of Whang-shih-kang, presenting a favourable contrast to the demolished cities in its neighbourhood, lay basking in the sun a few miles distant.—Broad blue lakes and grassy plains extended northward to a purple range in the dim distance; while behind us were wooded valleys and wild rugged hills, with spars jutting into the great river; and rising in abrupt crags from its yellow waters. We descended into a valley where some excavations into the hill sides with blackened edges gave promise of coal; none of the pits into which we entered were deep, the people said they had not been worked for fifty years, but that previous to that period coal had been extracted from them."

But we are departing from this series which immediately concerns us, this rock at Ke-tow immediately underlies the coal formations, as may be seen from the description just given, the coal formations here beginning at the village of Hwang-shih-kang or "Yellow stone ridge," in this district the accompanying rock being a hard quartzose grit interstratified with shales containing traces of fossil plants corresponding with those of the Carboniferous era in other parts of the world.

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* Lord Elgin's Mission to China and Japan, Oliphant, Vol. II. p. 438.

These limestone rocks so clearly too, in composition and appearance, resemble the Carboniferous limestone of Europe and America, that on these grounds alone one might feel justified in looking upon them as their representatives; fossils too though scarce do not appear to be altogether absent, and the writer has seen some orthocerites, a very common carboniferous form, in slabs of limestone said to have come from the North river. In the province of Hu-nan similar rock fossils are also said to occur, but their almost entire absence in rocks of this and earlier ages, throughout a country so extensive as China, is a most remarkable occurrence. The effect of metamorphic action is not a sufficient explanation for this, as we often meet with slabs even in metamorphic districts where the slightest ripple mark is distinctly visible, and where at least we might expect to meet with the burrows of annelids or the tracks of mollusca.

That fossils are not altogether absent we may conclude from remarks in Chinese writings, and it is worthy of note that Chu Fu-tsze, a philosopher of note in the eleventh century, calls attention to these remains of former existence, and reasons therefore that the world must have undergone great changes in a geological point of view, since the remains of fishes and shells are to be found even on the summits of the highest mountains; a fact from which he advances, that at some former period these hills must have been submerged under the sea; a conclusion at which European philosophers with far better opportunities were long in arriving. We may however assume that fossils are rare in China generally from the high price set on the fossil crustuceans of Hai-nan, to which wonderful medicinal effects are popularly ascribed, which would scarcely be the case were similar remains to be generally met with in other parts.

But to return from this digression to the province whence we started; we find mountains composed of limestone of similar character, rising from the plain of Wha-hien (or to use the local pronuncation Fa-yune) some 20 miles north of Can-ton, the stone here is of a gray colour, compact and partially crystalline, the hills rise abruptly from the plain, and their sky line is broken into fantastic masses very different from that assumed by either slate or igneous rocks. Limestone of similar nature but more highly crystalline occurs in large masses also in the west of the province, especially to the south of the West river; at Tung-an it becomes a fine white marble exhibiting in its crystallization a peculiar flakey appearance, at Lo-ting marble of many colours is to be obtained, while on the border of Quang-si it in some places assumes a brecciated appearance. In these western districts it appears to be associated with gneiss showing that a large amount of metamorphic action has taken place since its deposition.

Limestone is also to be found in the Mei-ling Mountains, the celebrated Mei-ling pass having been cut through this rock, associated here with granite, which appears too from the axis of the range, the limestone being apparently much altered, as Ellis describes it as resembling in the distance columnar basalt. Above Ying-tuh occurs another mass of limestone, the Kwan-yin-shan, which is described as being composed of dark coloured stone of vesicular surface. No observations of the dip or stratification of these masses appear to have been made, but a probably favourable opportunity is afforded in the Peh-shih-k'ow, a pass though the lofty range before described, forming the main road between the cities of Wha and Tsung-wha hiens, both being easily accessible from Can-ton.

The observer in this district would have also the opportunity of studying the superincumbent coal measures, as well as on one side the early grits and slates of the Peh-yun-shan, or White Cloud hill, belonging to the coast series of rocks before described, and on the other side of the north river, the probable prolongation of the Shao-king series. In the bottom of the plain too be would find rocks of still later formation, the New Red Sandstone, whilst not far off the newer plutonic rocks of the province might be studied with advantage. It would be difficult to name a portion of country of so small an area affording so many opportunities to the geological explorer, and nothing would conduce more to our knowledge of the structure of the whole province, and reasoning from this to that of the whole of China than a carefuily executed geological map of the district, bounded on the west by the North river, on the east by the White cloud hill, on the north by the range of hills before described as lying north of Fa-yune, and on the south by the Fuh-shan creek.

Overlying immediately these limestone formations we arrive at the coal measures. Three coal fields are known to occur in Quang-tung province. These coal fields respectively are those of Shau-chau, of Fa-yune, and of the West Coast, of the two former neither is extensive, nor is the quality of coal to be obtained good, to the geologist however a formation of this nature is always interesting, often the more so from its small size and isolated position.

The coal field of Fa-yune, as before described, is bounded on all sides by hills of earlier formations, the measures themselves consist of shaley rock rising in low hills associated apparently with bands of limestone, the coal is found in the beds inclined at an angle to the horizon, in some places so near the surface as to be worked from pits, whilst in others spiral shafts have been sunk to enable the materials to be carried to the surface, some of these beds are fossiliferous and would probably afford many characteristic remains.

Leaving Can-ton by the North East Gate, thin beds of coal, associated with a red shaley rock, are described as cropping out; about

Kong-tsun, a village 12 miles distant, limestone shales appear to occur and a few miles further at Le-shan the first coal workings are met with; further on, at a low hill called Chang-shan, 5 miles S. S. E. of Fa-yune, the mines are worked more extensively. To the westward in Cum-shan hill coal is also worked, the beds here being inclined at a rather steep angle; crossing a low range of hills into the valley of the North river coal appears again but here the mines are not worked, or at least not to any extent, probably on account of the want of water communication.

All through this coal field the coal is of very inferior quality, it is either soft and friable, or hard as a stone, and burns with difficulty, leaving a large amount of ashes, the natives do not make any use of it for domestic purposes, it however appears to form an important article of export, boats loaded with coal being constantly found in the Fa-ti creek, which appears to be the headquarters of the trade.

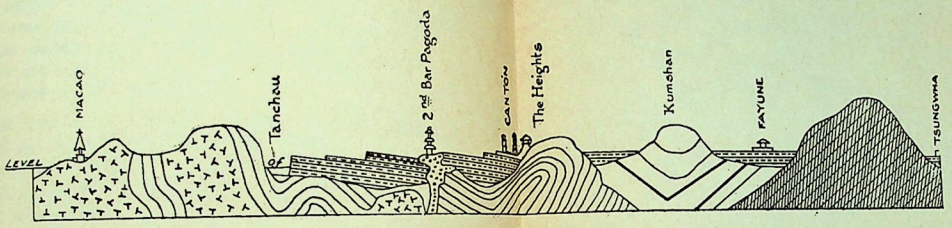
Similarly situated with regard to the underlying rocks, and extending from the neighbourhood of the Kwan-yin-shan before mentioned, to the foot of the Meiling Mountains, is the Shau-chau coal field. This field differing in many respects from that before described, is probably to be viewed rather as an outlier of the great Hu-nan coal field, the superincumbent strata appearing to be connected without a break.

The coal measures of this district may be seen on the eastern branch of the North river a few miles above Shau-chau, they appear to occur in nearly horizontal strata; the coal beds cropping out on the river, and being worked by horizontal shafts driven in from the bank. The coal here is soft and friable and is principally used in the manufacture of sulphate of iron. The accompanying rock is described as an argillaceous schist, deeply coloured with oxide of iron, very soft and much decomposed. Similar deposits are also spoken of in connection with the coal field of the southern portion of Kiang-si.

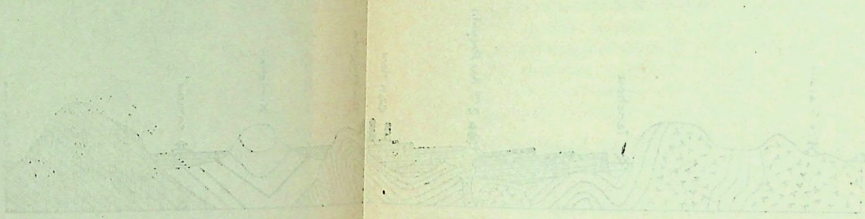
To the west of Shau-chau for some distance coal is described as occurring; the mines are situated some four miles from the bank of the river, and shafts are sunk to a depth of 40 or 50 feet. No notice of its quality has been given nor of the associated beds, it probably is of a similar nature, as coal for ordinary purposes appears to come from Hu-nan province or the head waters of the river.

None of these coal fields are likely to prove valuable in an economic point of view, but being all more or less readily accessible, they are well worthy of study as throwing some light on the larger coal fields of China, which occupy no inconsiderable portion of its surface, and will doubtless before long have an important effect on the commerce of the country.

IDEAL SECTION -- MACAO TO TSUNGWHA



Granite
Slates & Schists
Carboniferous Limestone
Coal Measures
New Red Sandstone
Volcanic Rocks



The last coal field (that of the West Coast) has not, so far as the writer is aware, been visited by any Europeans, it is described as covering a very considerable district to the South of the West River. It stretches along the coast from Tien-peh to the western embouchure of the Can-ton River, and thence to Sai-chu in the department of Nan-hai, and includes the whole or portions of the departments of Kei-ping. Yen-ping, Sin-ming, Sin-whei, Kau-ming, Hoh-shan, Tien-peh and part of Nan-hai west of the Can-ton River.

The coal in this district is not much worked partly because opposition is offered to its extraction by the officials, but principally owing to the unsettled state of these districts, which are the scene of a perpetual contest between the Pun-ti and Hak-ka factions; mines however are said to be worked to a small extent near Saichu, Shui-tung, Yang-chen, and Tien-peh.

The coast here is but imperfectly known, but contains many safe harbours, and the existence of a coal field so near the colony of Hong-kong may yet be found of considerable industrial importance.

The coal is described as of good quality, but its geological position and stratigraphic relations remain still to be investigated; dark sandstone rocks, probably of the coal measures, occur however in the district of Sin-whui, forming a chain of low hills parallel with the western area of the Can-ton river.

Leaving the coal measures we arrive at a rock probably the representation of the New Red Sandstone of England, from which it does not differ much in lithological character.

Ascending the Can-ton river from the sea, we first meet with this formation above the Bogue forts at Tiger Island; here it dips at an angle of about 15 towards the N. N. W., lying unconformably on the slate and grit rocks of which the hills to the south of this are composed, the edges of the beds here and in other places in the plain are much denuded, while the slopes parallel with the bedding have suffered but little waste, giving these rocks much the apppearance, when viewed from distance, of couchant wild beasts, the probable origin of the name. The rock here is composed of a dark coloured coarse red sandstone; at Tan-chau to the S. W. of Tiger island this rock is largely quarried, the texture varies here from a coarse dark red sandstone, to a coarse conglomerete containing fragments of rocks of the coast chain, granite micaceous schist, quartz &c; a white grit is also found here much used for the purpose of making mill stones, for which from the tonghness of its texture it is well suited; passing northwards it forms the basis of the greater portion of the delta of the Can-ton river, still preserving its character and structure; at Tung-kwan to the east of the Chu-kiang it is found of a lighter shade and finer texture; it underlies the alluvial plain

at the mouths of the East river, and is represented as being found in the valley of the river as far as Ho-yuen, the mountains at each side belonging to the earlier formations before described.

To the north of Can-ton it appears to thin out, leaving the coal measures of the Fa-yune district exposed, entering the Tsing-yuen district it is again found on the east side of the North river, here it has suffered much denudation and rises from the plain in bold isolated masses 100 or 200 feet in height, the stratification strongly marked and forming as it were a number of islets. Throughout these districts it preserves much the same character, consisting of sandstones finer or coarser, mixed with beds of conglomerates and coarse white grits, in no instance does it appear to have afforded fossils.

Sandstone rocks, of apparently the same age, are to be met with on the banks of the upper branch of the North river westwards from Shau-chau, forming precipitous crags overhanging the stream ; on the eastern branch of the same river, known locally as the Ts'ing-kiang, sandstone apparently similar with beds of conglomerate interstratified occurs, immediately succeeding the coal measures before described; this formation occasionally rises into high crags overhanging the water, and in some places the conglomerate is described as consisting of fragments of limestone, similar to that at the Mei-ling pass, mixed with the remains of other early formations, the edges of the enclosed fragments in most places exhibiting few remains of of abrasion.

Sandstone is also described as occurring on the West river, near the borders of Quang-si, but it most probably is to be referred to the same age as that already described as underlying the limestone masses at Yue-shing and other places.

Near the Mei-ling pass about the City of Nan-hiung a very peculiar formation is represented as occurring, the following account of it by Dr. Abel is copied from the Chinese Repository Vol. XX "During our second day's progress the hills which formed the banks of the river exhibited a breccial formation at their base, covered with beds of ferruginous clay giving to the soil throughout a great extent of country a remarkable redness, bricks were making of this in kilns spread over the surface, which came from the furnace of a blueish colour."—"Towards evening we occasionally passed rocks in an undecomposed state that exhibited the same colour as the beds of clay, their strata were sometimes inclined and had beds of fine gravel interposed between them. On anchoring in the evening and examining some rocks similar to those we had passed over, we found they changed their red colour below the surface and became of a blueish grey, when decomposed we found the clay soil before mentioned. Those rocks which near to the surface might be said to be composed of argillaceous

sandstone of a coarse grain, passed lower down into pudding stone, containing fragments of quartz and decomposed felspar."

It is very difficult from this description to arrive at any satisfactory conclusion as to the age or position of this deposit, but crossing the Mei-ling into Kiang-si we meet with a similar deposit in a like position about 30 miles above Kih-ngan, for Ellis describes the hills here as being "in a state of great disintegration," the soil of a deep red colour, with granite in large blocks at the bottom, these formations he appears erroneously to ascribe to decomposed sandstone, that rock when disintegrated producing nothing but sand; he mentions near Ngan-nan that the rocks were chiefly "red sandstone, with alternate layers of clay slate in places that seemed to have either been situated out of the reach of, or to have resisted the degrading process," probably again confusing two formations.

It is probable we may obtain a date to these deposits, from comparing these remarks with his description of a remarkable deposit near Ta-tung in Ngan-whui province, on the river Yang-tsze, "Pudding stone and Sandstone," he informs us, "composed the greater part of the hills we crossed to-day, they are all in a rapid state of disintegration." Passing up the river, near Ta-tung we find that the country at the foot of the Wild-boar mountains assumes an undulating character, low swelling hills stretching to the commencement of the mountain ranges, which thence rise abruptly to a height of from 2000 to 3000 feet, a very fine section of this formation is exposed near the entrance of the Ta-tung river, the beds here dip North at an inclination of about 10°, and are composed of semi-indurated red clay in thick beds, mixed with bands of coarse gravel, and alternating with strata of soft fine sand. In the Province of Hu-peh immediately west of Hwang-shih-kang a perfectly similar deposit is also found, which appears to give a clue to its stratigraphical relations. At a place call Kai-shih-chow the Coal measures are seen dipping at an angle of about 20° E; they here consist of hard grit and quartzose rock interstratified with coarse conglomerate; following the river we shortly arrive at these beds above described, they are found dipping at a precisely similar angle towards the same quarter, and appear as if removed from their original position by a fault; following them up the Yang-tsze towards Han-kow, we find them rising over the lower rocks at some places, forming hills, and in one or two spots assuming the character of a nodular red sandstone, with traces of fossil stems.

From these observations the writer is disposed to refer them to the Trias of Europe, as well from their position as from their composition, consisting as they do of alternating beds of gravel, ferruginous clay and sandstone; their composition differs much from the Sandstone of the Delta and neighbourhood of Can-ton, but they probably will be found representatives of nearly the same epoch.

Above the New Red Sandstone no sedimentary formation of any great extent occurs in this district, instead we meet with an extensive outburst of igneous rocks occupying a considerable portion of the Delta of the Can-ton river; these rocks are readily distinguished from the similar productions of the first epoch treated of, consisting principally of basalts, generally columnar; whilst the former were composed of green stones, porphyries, and other rocks, indicating a more deeply seated agency.

The principal seat of these eruptions appears to have been the Si-chu-shan, a range of hills to the S. W. of Fat-shan, running in a direction from N.N.W., to S.S.E., the rocks at the western side of the embouchure of the North and West rivers also appear to be of similar composition; in the hills immediately to the westward of Can-ton basaltic outbursts may also be noticed in many places, one mass at the Second Bar pagoda is very conspicuous to the traveller proceeding up the river; the rock here being exposed in cubical masses rising like steps of stairs from the river's edge, the adjacent rocks at both sides being red sandstone; mention is also made of basaltic rocks near where the west river enters the province from Quang-si, and doutbless they will be discovered in many other localities.

In the Si-chu-shan the rock rises into bold masses from a level country, this district being celebrated for the beauty of its scenery, the valleys being richly clothed with bamboos while a lofty water fall issuing from the higher slopes tumbles into the valley below in a mass of spray.

The composition of these basalts does not offer any peculiarity very worthy of remark in this paper, and we shall therefore pass on to the later sedimentary deposits.

Returning to our starting point in the Island of Hong-kong, we may notice patches of a soft, light coloured, semi-indurated, deposit, fringing the foot of the cliffs near the extremities of the larger valleys in the island, and rising to a height of from 60 to 100 feet, this deposit on examination we shall find composed of a fine clay half solidified, and from its composition evidently derived from the ruin of the igneous rocks of the neighbourhood. Mingled with this in varying proportions according to the abundance of one or other rock in the locality, we shall find beds of quartzose sand with a feldspathic matrix, the debris of the disintegrated granite before described; the lines of stratification are confused, but appear to be horizontal or nearly so, while the masses are in many places much affected by cleavage planes. One of these deposits we find at the extremity of the "Happy Valley," at one side forming a low range of hills stretching down to East-point and at the other the projecting mass of "Morrison's Hill." Another patch of the same description may be noticed at Aberdeen, exactly

opposite the extremity of the new dock. A patch may also be noticed near Little Hong-kong and probably in many other parts of the island. The manner of formation of these fringing deposits is easily explained by a partial submergence of the island: the fine sand and debris from the disintegrating rocks were carried down and deposited in still water at the extremities of the valleys, which latter on the elevation of the land were again hollowed out leaving at their sides the remains.

Of their age we can only form an opinion from contained fossils their complete insulation preventing a comparison from position; they have yielded an echinoderm of the family Spatangidae and some obscure bivalves apparently related to Pholadomya; from these we may probably class them as Secondary, though it is possible they might belong to an early Tertiary formation. Possibly other fossils may be discovered which will throw light on this subject, the formation both at Morrison's Hill and Aberdeen is easily accessible, and at both places good sections have been exposed in forming the new roads.

With these our description of the geological formations of the province must end, merely giving a passing glance at the modern alluvial deposits of the plains, and the caverns in the numerous masses of limestone, both objects attracting much interest at home, from their bearing on the early history of the human species, the former deposits having in other portions of China afforded remains of extinct Mammalia.

Further observation will doubtless discover remains of many other formations in this province, and fill up many of the breaks already noticed, it will also doubtless be found that many of the conclusions we have arrived at are altogether erroneous, and that the sequence set forth above must be altered, possibly throughout. A few facts with reference to the Geology of the district may here be reviewed; one of these is the prominent position occupied by the early igneous rocks, both along the coast chain and in the west of the province, these occur in enormous masses, assuming the nature of granite as along the sea coast, and in some island districts, trachytic as shown all along the coast chain from Hong-kong to Chu-san, green stone as in the north western districts and on the borders of Fuh-kien, and porphyry as found in many districts associated with limestone.

Next in importance to these come the metamorphic rocks of different composition, and probably also differing in age, the slate and grits of the coast and allied formations and the limestones of the central and northern districts. Thirdly we have the coal measures forming three well marked fields of considerable geological interest, even if not likely to prove economically valuable, and fourthly we have the sandstones of the lower plains, and the Delta of the Canton river associated with an accompanying outburst of igneous rocks. These

form the most marked features of the district, and though difficult to unravel, it may be hoped that the puzzle is not quite impracticable; the subject for its own sake is an interesting one, but bearing as it does immediately on the industrial resources of this great country, so lately opened to European enterprise, it is scarcely presumptuous to look forward to the date when these studies shall be pursued, with a view to the profitable investment of capital, and when the mineral resources of the country, worked in an enlightened manner, shall draw wealth to her treasuries, and peace and prosperity to her teeming millions.

Note:—Since the above was written the writer's attention has been drawn to the similarity of the upper formations in the neighbourhood of Nan-hiung to the Laterite of India; these resemblances consist in its highly ferruginous nature, its cellular structure, and its occurrence with beds of gravel. This formation is very characteristic in the neighbourhood of Kiu-kiang where it forms the surface beds, being overlaid only by the modern alluvial deposits of the Yang-tsze; on beds of lignite are however known to accompany it.

In India it has been referred to an epoch varying from Miocene to Pliocene but apparently without any very conclusive evidence. In China it appears to cover an enormous extent of surface, being found in Quang-tung, Kiang-si, Cheh-kiang, Hu-peh, Ngan-whui and probably other provinces; it is apparently succeeded by beds of gravel and a red clay with calcareous nodules, the representative apparently of the Kun-kur of South India, which may be seen forming low hills outside Chiu-kiang and in the City of Nan-king.

Under the circumstances the text has been left as it originally stood till more satisfactory data for judging of its age can be arrived at.


MAP OF PORTION OF
QUANGTUNG
Coast series Quartz Schist & Granite
Lower Limestone, Limestone & Slates & Grits
Upper Limestone,
Coal measures
New Red Sandstone & Trias Clays & Gravels
Igneous, Basalts Porphyries & Green Stones
The Geological Coloring ismostly hypothetical
Longitude East from Greenwich
North Latitude
MEILING MTS
MEILING PASS
SIAU MEILING PASS
CANTON
MACAO
WUCHAU fu
SHUKING fu
WHEICHAU fu
CHAUCHAU fu
KAOCHAU fu
Yangchun
Yangkiang
Sinnung
Keiping
Loting
Kwangyin Shan
Chwangmung
Lienping chau
Lungmun
Hoyuon
Kiaying
Yuenan
Kiehyang
Chanyang
Hmlung
Lukrung
Whaitai
Namoai
The Lamecks
Sinnan
The Bouge
Tsingyuen
Tsungwha
Hwaileth
Quangnung
Fungchuen
Tungwan
Shamteh
Shihlung
Lo fu shan
Pohlo
Bias Bay
Mirs Bay
Faug Hé
Lemas
Ladnor
Pedro Branco
Whale R
Pakai Pt
Hai chi chin R.
Chelang P.
Shangchuen
S. Juan I.
Tinnpch
Wuchuan
Yenping
Sinyo
Quongha
Tycek
Hiashuen
Nampang
Coalmines
Sinthing
Hohsing
Sirheiwai
Hiangshan
Kwangmun
Tungan
Keiyikoon
Tsih Sing
Shuking
Kumshan
Fatsod
Tsungshing
Yenwha
Nanhang
Shaouchau
(Wu motou)
Shauchau fu
Lienchau
Inyuen
Yang Shun
Mangtsenap
FaKang
Lungchuen
Whibehakses
Peh mai)
HAN RIVER
PEARL OR CANTON RIVER
TUNGKIANG GREAT RIVER
WEST RIVER
Lchang
QUILIN
Coal mines
Coal mines

MAP OF PORTION OF
GUANGTUNG

ARTICLE III.

鳥獸 *NEAU-SHOW.* BIRDS AND BEASTS (OF FORMOSA).

FROM THE 18th CHAPTER OF THE REVISED EDITION OF THE 臺灣府志 *Tai-wan foo-che*, STATISTICS OF TAIWAN.
TRANSLATED BY ROBERT SWINHOE, ESQ., H. B. M. CONSUL AT TAIWAN, WITH CRITICAL NOTES AND OBSERVATIONS.

鳶 YUEN. Kite. (*Milvus melanotis*, Schlegel. Found from Canton to Amoorland, in Japan and in Formosa. It is called at Amoy and Formosa *Bah-heo* or *Nai-heo*.)

鴒 LING. Wagtail and Lark group, *Motacillinæ* and *Alaudinæ*. (鶺鴒 *Tsih-ling* means Pied Wagtail, of which there are three species found in China and Formosa, *Motacilla luzoniensis*, *M. japonica, and M. ocularis*. 百鴒 *Pih-ling*, is the Thick-billed Lark, *Menalocorypha mongolica*, found in the Western hills near Peking, and kept throughout China as a cage-bird for its song and mimic powers. 角鴒 *Koh-ling* is the Sky-lark usually called 半天飛 *Pwan-t'een-fei*, or Flying in mid sky. The species in Formosa, and from Foochow to Canton is the *Alauda cœlivox*, called at Amoy *Paw-tew-ah*. In North China to the Amoor the English Sky-lark, *A. arvensis* occurs. At Shanghai the species is intermediate to these two, and is identical with *A. cantarella* of South Europe. The authors probably intend to signify that lark-like birds are found in Formosa, without specifying any particular kind.)

鸛 KWAN. Herons. (*Ardeadoe*, exclusive of species. 烏鸛 *Woo-kwan* is the common Heron of general distribution, *Ardea cinerea*, called in Amoy 青絲 *Tche"-si* or

Grey Egret. 白鶴 *Pih-kwan* is the Great White Heron or Egret, *Egretta alba*. Europeans wrongly call these birds Cranes. The character for crane is 鶴 *Ho*.)

鴿鴿 TSIH-KO. Domestic Pigeon. (鴿 *Tsih* is also the specific appellation for the Pied Wagtail, [see above.] It means the bird of the roof or housetop.)

雉 CHE. Pheasant, *Phasianus torquatus;* the common Chinese species.

烏 WOO. Crow. (The coast towns of Formosa are singularly enough destitute of crows. In the Tammy mountain range and at Sawo harbour I found a black crow, which I have distinguished as the *Corvus colonorum*. The Chinese there have a great respect for it and object to its being shot, as they say the bird warns them against the approach of the savage, and sympathizes with them when any of their comrades are killed.)

燕 YEN. Swallow. (Of this there are three species in Formosa; the ordinary *Hirundo rustica*, or the Chimney Swallow, the Daurian Swallow, *Hirundo daurica*, and the Sand Martin, *Cotyle sinensis*.)

鳩 KEW. Dove:--that is 班鳩 *Pan-kew*. It differs from those on the Chinese main. Those of a grey and black colour are called *Pan-kew*. To this group belongs a chestnut-coloured (赤 chih) species called 火鳩 *Ho-kew*, Fire-dove, *Turtur humilis*. There is another with green body and entirely red (紅 hung) bill and legs, which is called the 金鳩 *Kin-kew*, Golden dove, *Chalchophaps formosanus*, but this species only occurs at Tanshuy. [Lower Tamsuy in the Fung-shan district is here meant]. (Names for the Dove in the Amoy and Formosan dialect are *Pan-ka* and *Ka-tsuy*, the latter term being more generally used.)

鷺 LOO. Egret, *Herodias garzetta*. (Commonly called 白鷺絲 *Pih-loo-sze;*—Amoy, Peh-hing-si. *Choo-loo* 朱鷺 is the Russet-headed small White-heron, *Bubulcus russata*. Both these are called by Europeans *Paddy* Birds; the former is the common White Egret which occurs in South China throughout the year; the latter is the Egret with reddish head and back, seen only in summer and often about cattle.)

畫眉 HWA-MEI. Amoy, *Hoe-bi;* Painted Eye-brow; same as the species of the Chinese main, but with no white on the eye-brow. (The Formosan Song thrush, *Leucodiopteron taiwanum*, differing as observed by the authors chiefly in the absence of the white eye-brow, from the Song thrush of South China, *L. sinense.*)

鵪鶉 KEU-KUH. This is the 八哥 *Pa-ko*, Eight brethren.

The Mainah, *Acridotheres cristatellus*, a black bird with a small frontal crest and a white wing spot).

布穀 POO-KUH. Cloth-grain. (The Crow Pheasant or Larkheel Cuckoo, *Centropus affinis*, vulgarly called *Bangking.* The large Crow Pheasant of South China, *Centropus sinensis*, does not occur in Formosa. The Cuckoo is called at Amoy the *Kat-suy-ieng* or Dove-hawk).

鳧 FOO. Wild Ducks. (Of these many species visit the Formosan shores and inner waters in winter. No species of duck to my knowledge is a constant resident in the island.)

鷗 NGAU Gulls and Terns, *Laridæ.* (A general term, including the many species of Gulls and Terns that occur.)

海鷄母 HAI-KE-MOO. Sea-fowl's dam,—of a black colour with green legs, and larger than the domestic fowl. It dwells amidst the islands of the sea, whence its name. The marrow of its bones has fine relish. (This description answers to the Black Albatross of the China seas, *Diomedea nigripes*, the younger birds of which have greenish feet. The term *Hai-koe-boo at* Amoy is usually applied to the large Grey Gull, *Larus occidentalis.*)

鴛鴦 YUEN-YANG. Mandarin Duck, *Aix galericulata.* (I do not believe that this bird occurs in Formosa in a wild state. It breeds in summer in Amoorland and is found in winter as a visitant to the lakes of Central China. I have never heard of its appearing on the coast, and do not see how it could well wander to Formosa. The Falcated Teal, *Anas falcata*, has probably been mistaken by the authors for it.)

翡翠 FEI-TSUY. Vulgar name, 釣魚翁 *T'o-he-âng* Fishing reverence. It is accustomed to sit on banks by

water and watch for fish, on which it feeds. (The *Fei-tsuy*, whose feathers are used for embroidery and ornament in China, are the *Halcyon smyrnensis* a beautiful species with blue-green upper parts, and the *H. pileata* with purple upper-parts, neither of which occurs in Formosa. The *Halcyon* here is the *H. coromanda*, a pink species. The small species called *To-he-ang* is the *King of the Shrimps* of Europeans, *Alcedo bengalensis*, closely allied to the English King-fisher, and found throughout the greater part of Asia.)

白鷴 PIH-HEEN. Silver Pheasant, *Euplocamus nycthemerus*. (Not found wild in Formosa. Its position is occupied by the handsome Pheasant *E. swinhoii*, known to the colonists as 畫鷄 *Wa-koe*, Flowered fowl.

長尾三娘 CHANG-WEI-SAN-NEANG. Long-tailed third maiden, (or third daughter of a family)—allied to the 鷴 *Heen*, Silver Pheasant, of a bluish-grey colour, reflecting a dazzling brilliancy. Another name for the same is 練雀 *Leentcheo*, Elegant Magpie. (This is the Long-tailed Blue Jay of Formosa, *Urocissa cærulea*, called in this dialect, *Tàng-be-swa^{n}-neuo^{ng}*. The allied form of China is the *U. sinensis*, called at Amoy, *Tàng-bi-ke^{n}*. Its stated affinity to the Silver Pheasant, to a European naturalist would appear ridiculous.)

烏鰲 WOO-TSEW. Amoy, *Aw-tsew*; the Drongo, *Dicrurus macrocercus*, with a black body and long tail, is smaller than a 鷹 *Ying*, Hawk, but is able to fight with hawks, fowls, kites, and all evil-disposed birds.

伯勞 PIH-LAOU. Amoy, *Pe-lo;* Shrike or Butcher-bird, *Lanius schach*, which is the 鵙 *Keué*.

黃鶯 HWANG-YING. Amoy, *Ng-ying;* the Oriole, *Oriolus chinensis*.

鷹 YING. Hawk. (Usually applied to the short-winged Hawks, *Accipiter*, but often to the Falcons as well.)

鸕鷀 LOO-TSZE. Amoy, *Law-tche;* Cormorant, *Phalacrocorax carbo*.

鵂鶹 HEW-LEW. Formosan Large Owl. *Syrnium caligatum;* that is the 鴟鴞 *Ch'e-hiau*, Eagle Owl, *Bubo maximus*. (The authors are wrong in confounding these two birds. The large owl of this island called by the colonists *Ham-hay*, is quite distinct from the Horned

Owl of China and of the greater part of the old continent.)

雀 TCHEO. Sparrow, *Passer montanus*, Amoy, *Chek-tcheaou-ah*, or Paddy bird.

白頭翁 PEH-T'OW-UNG. White-headed reverence. (The green Bulbul, *Ixos sinensis*, called in Amoy *Peh-t'aou-kok*.)

海鵝 HAI-GO. Sea Goose. Vulgar name, 南風癟 *Lam-hong-gong*, South-wind Booby; also called 布袋鵝 *Paw-tay-go*, Cloth-bag Goose. It is commonly found on the sea-shore, hunting fish. Its quills can be used for feathering arrows. (This is the White Albatros of the China seas, *Diomedea brachyura*, which usually comes up with the south-west monsoon. It is often caught in spring by fishermen, and brought into Amoy. In captivity it looks very stupid. The Cloth bag refers perhaps to the fact of small bags being made of its large webbed feet. I have never met the 鴈 *Yen*, Wild Goose, in its winter migration at Formosa.)

筆雀 PE-TCHEO. Pencil sparrow. Like a sparrow but smaller, of a (紫 *Tsze*) clay colour. Their twittering is pleasant to hear. Kept in a cage they will come and go of their own accord. (This is the *Munia*, of which there are three species in Formosa, the *To-pe-la M. topela*, the *Opela* or *Aw-tsew-pe-la*, *M. acuticauda*, and the *Ang-pe-la*. *M. formosana* of the mountains. These three are all kept in cages by the Chinese.)

白鳩 PEH-KEW. White Dove. It coos at the fifth watch, whence it is termed the bird that knows the watches.

竹鷄 CHUH-KE. Amoy, *Tëek-koe;* Bamboo fowl. (The Formosan Bamboo fowl or Partridge, *Bambusicola sonorivox*, is distinct from that found in South China, *B. thoracica*. Their cries however are very similar. They are caged by the Chinese, and prized for their noisy song, and fighting propensities.)

鷂 YAU. Harrier, *Circus* sp. (Of this Hawk several species occur.)

鷦鷯 TCHEAO-LEAO. The Grass-warblers; termed in the 通志 *Tunn-che*, General Statistics, 鷦鷯 *Tcheao-e*. 爾雅 *Urh-ya* calls it the 桃蟲鳥 *T'aou-chung-tcheao*, Peach-insect Wren, and its female the 鷯 *E*. Another

name for this bird is the 鶪雀 *Wâ-tcheo*, Stockinged Magpie. Another, the 巧婦 *Keaou-foo*, Skilful Housewife. The native foreigners go out to cut grass, and on hearing its voice go back. (There is much confusion of species here. These names are usually applied in South China to the Little Tailor-bird, *Orthotomus*, called at Amoy *Mang-tang-ah*, no species of which appears to exist in Formosa. They may in Formosa imply either the *Prinia sonitans*, the *Drymoica extensicauda*, the *D. flavirostris*, or the *Suya striata*.)

鬼車 KWEI-KEU. Demon's conveyance; vulgarly called 九頭烏 *Kaou-t'aôu-aw*, Nine-headed Crow. (This is the Goat-sucker *Caprimulgus stictomus*. The other bird of darkness that the Chinese have many fables about is the *Am-kong-tcheaou* or Night Heron, *Nycticorax griseus*.)

彩囊 TSAI-NANG. Coloured purse, *Gallicrex cristatus*. This and the five following species are not comprised in the old Statistics. They are now introduced into the present revised edition, in the *Foo-kaou*, or Appendix of descriptive quotations.

五鳴鷄 WOO-MING-KE. Fowl of five cries, *Coturnix* sp.

雷舞 LUY-WOO. Thunder dancer, *Ardetta cinnamomea*.

番筆 FAN-PE. Foreign pencil, *Motacilla boarala*.

鵲鸛 CHIH-KWAN. Chestnut Heron, *Gorsachius goisaki*.

倒掛 TAOU-KWA. Topsy-turvy hanger, *Loriculus puniculus* or Love bird. It is brought from the Chinese main.

The above species are of the *Feathered* class.

附考 *Foo-kaou*. APPENDIX OF DESCRIPTIVE QUOTATIONS.

長尾三娘 CHANG-WEI-SAN-NIANG has a vermilion bill and halcyon wings. Its dorsal mantle is shot with a lustrous tint. Its tail is long, surpassing one foot, whence the Tai-wan men have derived its name. It is found in the midst of the *Cho-lo* (Kia-e hien) hills, and is seldom seen in the plains. [Extracted from the 臺海采風圖 *Tai-hai-tsai-fung-too*.]

白 鳩 PIH-KEW. White Dove,— in blowy rainy weather dances its wings and moves in circles. It is clothed in a frost-like robe with snowy edgings. It may be approached and played with. By some it is called the 洋 鴿 *Yang-kô*, Foreign pigeon, and is said to come from Java. When Formosa was first opened (to emigrants), a pair were not purchaseable under $20, but now the young being frequently produced and reared in confinement, their valued does not exceed at most one tenth of that sum. (使 槎 錄 *She-chai-luh.*]

白 鳩 PIH-KEW. The white dove knows the times and seasons; and marks the limit of each period of time by several continuous coos. [臺 灣 志 略 *Tai-wan-che-leô.*] (This bird is usually known in South China among Europeans as the Pescadore Dove, people supposing that it is found wild on those flat-topped treeless islands. It is simply an albino of the Indian Dove, *Turtur risorius*, which is not found wild in China. The Laughing Dove is a common caged bird throughout Asia, and in many parts of Europe, breeding readily in confinement. In the wild state, it occurs throughout India and its archipelago. It seems probable that this domestic variety was originally introduced into Formosa as a caged bird, by the Dutch from Java.)

綠 鳩 LUH-KEW. Green Dove,—has a (紺 kan) violet bill, and (碧 peih) turquoise plumage, more brilliant than that of the 鸚 鵡 *Ying-woo*, Parrot; but possesses no fine voice, yielding in this respect to the White Dove. (This dove is not uncommon in the mountains of Fung-shan hien and Tai-wan hien, occasionally visiting the plains. It is a *Treronine* species, and has been named *Sphenocercus formosæ*.)

海 八 哥 HAI-PA-KO. Marine Eight brethren,—has a black body, a red crown, and green feet. It is otherwise called 田 鷄 *Tien-ke*, Field fowl, 烏 鬚 *Woo-seu*, Black-beard, and 鴉 烏 *Che-woo*, Falcon Crow. It can attack and beat others of the feathered tribe. Its tail is long and of a black colour. It may be seen at times in flocks sitting on the backs of cattle. [使 槎 錄 *She-chai-luh.*] (Several birds are sadly confounded together in this extract. The bird first meant is the *Tian-koe* or Field fowl, so-called at Amoy, the generally distributed Moor-hen, *Gallinula chloropus*. But this has a very short tail; and by the long black tail,

a bird of like haunts, the Leaf-walker, *Hydrophasianus chirurgus* is signified. The given habits of the species of attacking birds of prey and sitting on the backs of cattle, are not possessed by either of these water-birds. The only two black-birds to which such characters can be assigned are the true *Pa-ko, Acridotheres cristatellus*, and the *Woo-tsew, Dicrurus macrocercus*, alluded to above.)

烏鶖 WOO-TSEW. Drongo, *Dicrurus macrocercus*, is like a *Pa-ko*, Mainah, but has the whole body entirely black, the bill like an awl, and the tail long. It flies impetuously, sings like the 黃鶯 *Hwang-ying*, Oriole, and is excellent at imitating the notes of other birds. At night, according with the watches, it passes the cry from one to another. It can attack the 鷹 *Ying*, sparrow-hawk, and the 鴆 *Chen*, Kestrel. Meeting all evil birds, it flies into the air, and darting at them, pecks at their breasts and sides. Hawks and Kestrels fly slower and cannot catch it with their claws to inflict hurt. It flies away singing and returns to its perch. The evil birds dare not approach. [臺海采風圖 *Tai-hai-tsai-fung-too.*]

彩囊 TSAI-NANG. Coloured purse,—is like a fowl, but smaller; on its crown it has a purse of five colours; *Gallicrex cristatus.* [使槎錄 *She-chai-luh.*]

五鳴鷄 WOO-MING-KE. Fowl of five songs, is as large as a 鵪鶉 *Yen-chun*, Quail, with the nape white. At every watch by the clepsydra it utters a song. (An allusion to the ancient method of noting time by water dropping in a vessel.) [Ibid.] (This small Quail I do not know, but I suspect it to be either the *Coturnix sinensis*, kept as a cage bird at Canton, or a local variety of the same.)

雷舞 LUY-WOO. Thunder dancer,—is the name of a bird of a (蒼 tsang) greenish-brown and chestnut colour. On hearing thunder it dances; *Ardetta cinnamomea.* [Ibid.] White *Pa-ko*, Mainahs, and White *Hwa-mei*, Thrushes, we have never seen, but it is said that at 鹽水港 *Keen-shwuy-keang*, 統領埤 *Tung-ling-pei*, 加冬樹 *Kia-tung-shuh*, and 大數閣 *Ta-soo-wei*, every year white *Pa-ko*, Mainahs occur. The people of the neighbourhood watch them at breeding-time, and take and rear their young. [使槎錄 *She-chai-luh.*]

番鼆 FAN-PE. Foreign Pencil,—is in form like a Swallow, with an ashy-black back, yellow-coloured under-parts, and a long tail. It sings as it flies, and shakes as it walks. It belongs to the 鶺鴒 *Tsih-ling*, Pied Wagtail genus, *Motacilla boarula*. [諸羅志 *Cho-lo* statistics.]

鵚鶻 CHIH-KWAN is vulgarly called the Snake-eating bird. In appearance it is like the 鶴 *Ho*, Crane, but somewhat smaller. It has a short tail and bent body, and its plumage and wings are of an ashy-red colour. It feeds only on 蛇虺 *Shay-hwuy*, Snakes and Vipers. It understands finding out the holes of snakes. With its bill it pecks about the cavern's mouth, and induces the reptile to come out, when taking it with its bill, it flies into the air with it, the snake continuing to wriggle about its head and tail. [臺海采風圖 *Tai-hai-tsai-fung-too.*] (I think the bird here meant is the Tiger-bittern, *Gorsachius goisaki:* at least I know of no other to which the description can apply.)

倒掛烏 TAOU-KWA-NEAOU. Topsy-turvy-hanging Bird,—is like to 鸚鵡 *Ying-woo*, Parrot, but smaller. Its plumes and quills are of a fresh clear red alternating with green, and harmonize well with the green tree branches. The tip of its bill is like a hook, its feet are short, and its claws are long. It delights in hanging head downwards, and at night sleeps in the same way. This species comes from Japan and Luzon. [Ibid.] (Love-birds, *Loriculi*, are here meant, which are brought to Formosa in cages from the main by Chinese. No species of Parrot appears to be found in Formosa.)

DOMESTIC ANIMALS.

牛 NEW. Cattle. The 水牛 *Shwuy-new*, Water-cow or Buffalo comes from the Chinese main; and is used to crush sugar-cane for the preparation of sugar. The 黃牛 *Hwang-new*, Yellow cow, the neighbouring hills have in abundance. They are caught and tamed, and are trained for use in the ploughing of fields and drawing of carts.

馬 MA. Horse,—comes from the main. They have also at hand mares with which the stock is kept up.

狗 KOW. Dog.
猪 CHOO. Pig.
羊 YANG. Goat.
貓 MAOU. Cat.
鷄 KE. Fowl.
鵝 GO. Goose.
鴨 YA. Duck.

番鴨 FAN-YA. Foreign Duck (or Muscovy); like the duck but larger; feathers with less gloss; bill and legs vermilion colour; flesh coarse; taste inferior; comes from abroad.

番猪 FAN-CHOO. Foreign pig. Hair of a yellow colour.

The above are *Domestic* animals.

APPENDIX OF DESCRIPTIVE QUOTATIONS.

Formosa has an abundance of wild cattle, occurring in herds of hundreds and thousands. When it is desired to capture some, a wooden stockade is erected with four sides, in one of which is left a door. The cattle are driven towards it till they all enter, when the gate is shut on them and they are barred in and left to starve. Afterwards they are by degrees haltered and bridled, and treated to fodder and beans, until they become not different from domestic cattle. [臺海采風圖 *Tai-hai-tsai-fund-too.*] (In the Fung-shan district, the Chinese farmers have many of them large herds of cattle, which are driven out to feed on the hills every morning, and driven back to pen in the evening. They are small, extremely pretty animals, with short horns, and rather a wild look. They are mostly of a yellowish-brown colour, blackish-brown varieties also occur. They are straighter-backed and somewhat different from the Amoy cattle, and indeed look like miniatures of some of the cattle at home. These cattle are for the most part offspring of captured animals from the hilly interior, which from isolation, might be expected to differ from the wild stock of the ordinary yellow cow of South China, if we knew of the existence of such an animal, and had the opportunities of comparing the two together. The Formosan wild cow is new to science.)

The horses are small and weakly in strength, different from those of the Chinese main. The inner mountains have mountain horses. [Ibid.] (Horses, or rather ponies are very scarce in Formosa. Those I have seen may have been importations, but they did not appear to me to differ particularly from the ponies procurable at Amoy. What the mountain horses are I cannot make out, unless they be offspring of animals that the Dutch may have introduced.)

水沙 *Shuy-sha*, as also 紅頭嶼 *Hung-tow-sew* (the Red-head island or Botel Tobago), produce yellow goats whose skins are sold for mattrasses. [Ibid.] (The domestic goats of South China and Formosa are black, small, short-haired, and bearded on the chin. Query? Is the animal here spoken of, the Formosan mountain goat antelope, *Capricornis Swinhoii*, in a state of domestication?)

The Foreign Duck is as big as a goose with small and delicate feet, and has its cheeks red like a cock's comb. The drake is a deep yellowish-brown colour. When released they are accustomed to fly about. People frequently take them to the Chinese main, but they are unwieldy stupid birds, and have nothing in them to afford amusement. [Ibid.] (The Muscovy Duck, *Cairina moschata*, or as the Chinese sometimes call it the 龍頭鴨 *Lung-tow-ya*, Dragon-headed Duck is here meant. It owes its introduction into Formosa as a domestic bird probably to the Japanese, or perhaps to the Dutch.)

WILD QUADRUPEDS.

艾葉豹 E-YEH-PAOU. Mint *(Artemisia)* leaf Leopard is a product of Formosa. It is somewhat larger than a dog and harmless towards man. It is otherwise called the 獐虎 *Chang-hoo*, Muntjak Tiger, *(Leopardus brachyurus*, a species allied to the *L. macroscelis* or Tiger Cat of the Straits, but remarkable for its short tail.)

熊 HEUNG. Bear.

麋 ME. Elk or Plain Brown Deer, *Rusa Swinhoii.*

鹿 LUH. Spotted Deer, *Cervus taiwanus.*

麂 KE. (Not known to me. The dictionary defines the animal "Stag-like, with feet resembling a dog has

a long tusk on each side of its mouth, and is fond of fighting.")

麞 KEUN or 麙 *Chang*, Muntjak. (Same as the small Chinese species *Cervulus Reevesii*.)

麙 YEW. (This character does not occur in Kanghe's Dictionary.) Like a 鹿 *Luh*, Spotted Deer, but larger. (Not known to me. The Elk, Spotted Deer, and the Muntjak I have procured, and sent to England, but it is hard to believe that there still remain two undiscovered species. Surely a small island like Formosa cannot contain *five* species of Deer!)

兎 T'OO. Hare, *Lepus sinensis*.

猴 HOW. Monkey, *Macacus cyclopis*. (Common on Ape's Hill, Takow.)

山貓 SHAN-MAOU. Hill Cat, *Felis viverrinus*. (Found throughout tropical Asia.)

獺 T'A. Otter. (A variety of *Lutra nair*, with white sides to under neck.)

山羊 SHAN-YANG. Hill goat,—can scale heights; breeds far amongst the mountains; skin suitable for making shoes. (*Capricornis Swinhoii*, allied to *C. crispus* of Japan. Half goat, half antelope.)

鼠 SHOO. Rats and Squirrels.

野豬 YEH-CHOO. Wild Boar, with tusks sharp as a reaping-hook. (*Sus taiwanus*, allied to, if not identical with, *S. leucomystax* of Japan.)

The above are of the *Furred* tribe.

APPENDIX OF DESCRIPTIVE QUOTATIONS.

The Formosan hills have no tigers, therefore deer are very numerous. In former years the whole country was given up to hunting-ground for deer by the aborigines. Now the Chinese have ploughed and sown, so that fair fields extend as far as the eye can reach, and the deer have betaken themselves to the mountains. They are there hunted and taken, but the horns of the Formosan species are thin and soft in the butt; and not equal to the sleek and plump branchers from *Kwan-tung* (Leaoutung). A hundred pairs when roasted will only

yield 20 or so pounds of hart-glue (used for medicine.) Though deer abound, you may seek a piece of venison in vain in the markets. At the winter and spring festivities however, the aborigines cut venison up into square blocks weighing over a pound each, and after steeping them in salt, forward them to the departmental and district cities. The colour of the venison so preserved is black, and its taste changed. It is not fit to pick up with chop-sticks, and yet its price is no trifle. [便 槎 錄 *She-chai-luh.*]

Deer by their horns record their years, each fork on the horn signifying one year, much as the age of horses is recorded by their teeth. The aborigines are in the constant habit of shooting deer with the bow for a livelihood, but no one has ever met with a buck carrying seven forks or more on the horn. It was formerly declared that the deer were fairy animals of great longevity; and it was stated that at the age of 500 they were white, and at the age of 1000, black. But these stories are fables; for the *Chuhtsan* [Tëek-cham near Tamsuy] aborigines shot with the bow a small deer with its entire body pure white, its horns at the time having only two forks each. This albinism cannot therefore be otherwise than due to an accidental variation in the colour of the hair. Books are by no means entirely to be believed in. The deer three years after birth commences to horn. The horns after the first year drop away much in the manner of human milk-teeth. Other horns appear in their place, which throughout its life-time it does not again lose; but every year an extra fork is added to them. [稗 海 記 遊 *Pai-hai-ke-yu.*]

The doe deer at the age of 4 months acquires teats. Before they make their appearance she gets extremely fat. When big with young, her skin is soft, smooth, spotted, and glossy, and very lovely. As soon as the doe that has finished suckling observes her roe getting to maturity, she deserts it and repairs to other hills, fearing that her own young might entertain an improper affection for herself. Animals do not confuse the ties of consanguinity, the horse excepted. The stallion however when he does commit incest with his mother, soon after dies. The doe deprives her offspring of such an opportunity, by setting a distance between herself and her young; for she deserts it and betakes herself afar. [Ibid.]

The Bear genus does not consist simply of one species. There are the Pig-bear, the Dog-bear, the Horse-bear, and the Man-bear, each differing in its peculiar form. All the bears have hair stiff as bristles, thick and shaggy. The arrow's head cannot enter their coat. Their paws are strong, and with their claws they can climb trees, on the summits of which they will sit cross-legged, or they will burrow into the earth and dwell there. People capture them by stratagem. Before they have carried young, their bellies contain much suet which is eatable; their paws however are the titbits (lit. the one of eight pearls.) Hashed and roasted they afford a true relish, but it is no easy matter to cook them properly. The cook extracts the juice from the paws, and boiling it into a soup with other kitchen stuff, it lends a delicious relish to the *potage;* one paw will serve for several boilings. If you get a mouthful at the cook-shop, it will induce a smile of appreciation to learn its taste. [Ibid.] (I do not think that more than one species of bear is found in Formosa; all the skins and paws that I have seen are of this black bear, *Helarctos formosanus*. It is black with a white crescent on the breast, and is allied to the Sun-bear of Japan, *H. japonicus*, and that of the Himalayas. *H. thibetanus*.)

The Hill Pig or 野彘 *Yay-che*, Wild sow has the ears and tail rather small, the hair bristly, of a (蒼 tsang) greenishbrown colour, and differs somewhat from the domestic pig. The largest are as big as a cow, with enormous tusks projecting beyond the lips. It gashes trees and can break them down. Its strength, can oppose the tiger. When enraged it will wound people with its tusks, abruptly breaking their ribs or goring their bellies. It rushes on its object like the wind. Hunters dare not shoot them. There is also the 豪猪 *Haou-choo*, Porcupine Pig, which is another species. It is covered with arrows, like the quills of the 猬 or 蝟 *Wei*, Hedgehog, which make a rustling noise when the creature walks. These arrows it can dart at people, but they do not carry to more than the length of a 尋 *tsin*, 8 feet, or a 丈 *chang*, 10 feet. [Ibid] (The Porcupine, *Hystrix* sp. will be, when discovered, a new animal to the Formosan list.)

Foochow 東島 *Tung-taou*, East Island is no great distance from the Pescadores. It only produces deer,

which occur in herds of from 100 to 1000. The islanders catch them, and taking out their intestines and stomach eat them mixed with the animal's ordure, as a great dainty; but the carcase they sell. All the dried venison and deer's sinews that the Foochow people now sell are procured from East Island. [玉堂脊記 *Yuh-tang-wai-ke.*]

山鼠 *Shan-choo,* Hill Rats are caught by the natives who stuff the rats' bellies with bits of sugar-cane, clear off the hair from the skin, and then roast lightly the carcases. Thus prepared and boiled with pork they make a palatable soup. [使槎錄 *She-chai-luo.*]

山貓 *Shan-maou,* Hill Cat. Its hair is used for binding into tufts for writing pencils, and is short, delicate, and pliant.

In the villages there are also those who catch 蟬 *Chin,* Cicadas, and rolling them up in paper roast them brown, and eat them as an accompaniment to wine. [Ibid.] (This last clause has without doubt been printed out of place It should have been inserted by the authors in the article on Insects and Fish that follows the one we have been working on.)

I must offer a few words in conclusion as to the intentions of this Paper. A friend a few weeks ago observed to me that in the course of his Chinese reading, he was constantly stumbling across Chinese names for birds and quadrupeds which with the help of the existing dictionaries he was totally at a loss to identify. He at the same time suggested, that if I translated the chapter on the Zoology of Formosa in the *Tai-wan-foo-che,* I might benefit both the students of Chinese and myself. Thus stimulated I set to work, and now offer the results of my labours to the Society at Shanghai. As regards myself, I have found a certain benefit to accrue, for I have learned that there are still several animals in the island, with which I am unacquainted, and I have been able to bring to light from this Chinese work, several facts and remarks which will much interest scientific men at home. Regarding however the Chinese work from a scientific point of view, it will be found to fall very far short of what might be expected in a book comprising, as it pretends to do, the entire statistics of Formosa. The notices of the animals are short and incomplete, and sometimes so imperfect as to render it

almost impossible to detect what creatures are intended; moreover only a very small proportion of the birds and beasts actually known to exist in the country are treated of. In fact it requires no great discernment to see that the authors are no naturalists, and in most cases have not seen themselves the animals that they describe, but have simply accepted hearsay evidence as to the existence and habits of this or that species. This will account in a measure for the confusion sometimes observable in their descriptions. I have done my best to render the Chinese text as simply and as plainly as possible, and have taken care not to swell the paper with too many notes.

ARTICLE IV

西洋紀聞 SEI YO KI-BUN, OR ANNALS OF THE WESTERN OCEAN.

TRANSLATED BY THE REV. S. R. BROWN.

PART I.

In the fifth year of Hó-ei, twenty-fifth of the cycle, (A. D. 1708) and on the 6th day of the 20th moon, while at my western residence, I heard officially, that on the 8th moon of the previous year, a foreigner had landed and stopped on one of the islands belonging to Ooszmi *(a part of Satszmà's territory, Tr.)* I was informed by the Government, that beyond the words Yedo, Nippon, Nagasaki, etc. his language was unintelligible. The man himself drew several maps on paper, on which he wrote, Namban, Rok'son, Casteira, Kiristan, etc. which words he pronounced as he pointed to them. At the word Roma, he pointed to himself.

These facts were officially reported to Nagasaki, and the government there made inquiries of the Hollanders. They said that Roma was the name of the place in Italy where the head of the religion of the Lord of Heaven, resided, but that they did not understand the meaning of Rok'son and Casteira. When the authorities inquired of the Chinese from Nanking, Amoy, Taiwan *(Formosa, Tr.)* and Canton, and also of the Tungkingese, and Siamese, they said they had heard that Kiristan *(Christian, Tr.)* was the designation of a corrupt religion. Further than this, they could give no information.

INTRODUCTORY NOTE BY THE TRANSLATOR:—

The following paper is a translation of an old Japanese manuscript found in a bookstore at Yeddo. The volume is divided into three parts, the 1st of which contains an account of the arrest of a Roman Catholic priest upon the Island called Yaku-shirna, off the southern coast of the territory of the Prince of Satszuma, in the year 1708;

On hearing these things, I told the government, it appeared certain that the foreigner was from some country in the Western Ocean *(Atlantic Tr.)* but I could not see why the Dutch and others at Nagasaki should say they could not understand the words in question. The government again did me the honour to consult me on the subject, and my reply was, as follows:

"I remember having heard an old man say, that the people of the Western countries, are very ready at acquiring all languages, and that when the Namban *(A general name for the nations of Europe, Tr.)* formerly came to this country they were able in a very short time to speak Japanese, and then they began to propagate their religion."

"That religion prevailed here many years, and foreigners were continually going and coming. When this religion was prohibited, great numbers of Japanese proselytes were banished. Europeans must therefore in all probability be able to understand the Japanese language. If those who come to this country, with some end to attain, did not understand Japanese, how could they accomplish their object? But the language is not the same in all parts of this country, and besides there are ancient and modern words. If then we discover what dialect this man speaks, among those that have been handed down from generation to generation, it should seem that we might understand what he says. If we question him through some one who is familiar with his dialect, we shall certainly be able to understand him. I am still more at a loss to understand what the Hollanders say. From the time of the So and Ngen dynasties [*The Chinese dynasties Sung and Yuen A. D. 1100 to 1366, Tr.*] to the present day, Rok'son, some times called Roson [*Luzon, Tr.*] has been the well known country, whence a kind of jar considered valuable for packing tea, has been imported into this country. Who has not known them by the name of "genuine Rosson jars."

Again Casteira [*Castilia in Spain. Sponge cakes were first brought to Japan in Spanish ships, and are now commonly known there under the name Casteira, Tr.*] is a country not far from far famed Italy, and thence a kind of cakes were imported into Japan. We have the same kind at this day. It certainly is inexplicable that such persons as

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his removal to Nagasaki, and examination there; and his subsequent arrival at Yeddo, imprisonment, trial and death. The writer was a learned man, whom the government employed to assist the officers in the examination of the prisoner. The name of the latter, as given in Japanese syllables, was Jean Baptista Shirotte. It is believed that he was the last Roman Catholic missionary, who landed on these shores, previous to the year 1859, and that he is referred to in the "Lettres Edificantes," as having landed there and having never been heard of afterwards.

The 2nd part contains the report of the prisoner's examination sent up from Nagasaki, and the information obtained from him at Yeddo, respecting the military and naval power, the wars and conquests of the Western Nations.

myself should have heard and remembered these things, whilst the men from those foreign countries know nothing about them."

Such was my report to the government.

The government replied that my suggestions were very reasonable. So I heard that the foreigner was to be punished capitally, according to the laws of the land.

Thus passed this year and the next came, viz. the 6th of Ho-ei, (1709); and from the 10th of the 1st moon, the country being in mourning, *(On account of the Taikun's death, Tr.)* I heard no more of this matter. As the year drew to a close, at the beginning of the 11th moon, the government informed me that the foreigner who had come and stopped at Ooszmi the last winter, would shortly arrive at Yeddo, and that my services would be required in investigating the case. They also said that they had not been able clearly to ascertain the circumstances of his case from the copy of the testimony taken last winter by the governor of Nagasaki. I also learned that the order for me to assist at the examination was occasioned by my former remarks to the government on the subject.

It then occurred to me, that were it only the language of my own country with which I should have to deal, I should have no difficulty in understanding it, but, I supposed that when it came to interpreting the names of places and men, and still more when it came to matters of religion, the foreign words would be numerous. I had heard that in consequence of the severe prohibition put upon this religion, the so-called Dutch interpreters, had met with things unintelligible to them. I therefore thought that when I came to the same things there would be difficulties again. Thinking there was a work in the governor's office, wherein words of this sort were explained, I begged the government to favour me with the loan of it. My request was made known to the gorojiu, and three volumes were handed to me from the governor's office. On looking at these volumes, I found they contained the substance of the religion referred to, but there was no explanation of terms, yet there were some passages relating to one or two foreign countries.

So when I heard that the foreigner had arrived, as I was to be called to the governor's office on the 22nd day of the same moon, I met the governors the day before and made arrangements.

The 3rd part comprises the missionary's answers to the questions put to him, about himself and his family connections, his reasons for coming to Japan, and his religious Creed. The volume is interesting as showing how the Japanese Government have felt towards, and treated Roman Catholic missionaries since they were expelled from the country. It shows also with what eager curiosity they pried into the minutest matters, and made note of the results.

On the appointed day a little after noon, I went there to meet them. The governors* came there and on looking at the articles which the man brought with him, I saw some newly made gold and silver coins of our own country. Again, when examining his religious vestments, I found them made of white cotton cloth, with a lining of cotton, bearing the vermilion stamp of its manufacture at Nara [*the name of a former capital, south of Miako, Tr.*] I also showed them to the governors. When they saw them and the rest of the things, they said, they could have no doubt about them. After reflecting upon the matters not yet understood, and having finished their inspection of the articles belonging to the foreigner they called for the interpreters sent up from Nagasaki. [*The author here inserts the names of the three interpreters.*]

To them I said, "In ancient times, when there were southern barbarians at Nagasaki, there were interpreters for their respective nationalities. When first their religion was prohibited, such interpreters still existed, but after they died, there could be none to keep up their knowledge. Moreover, as soon as that prohibitory law was enacted, even those who uttered the words of those foreign countries by mistake could not escape the punishment of death. Though one might have heard such words by tradition, yet he would not have dared to utter them. Now as this was 70 or 80 years ago, there is no possibility that any one should understand those languages. The speech also of different parts of our country differs. For instance, if a Nagasaki man is made to listen to the dialect of Mutsz he will find many things hard to understand.

But inasmuch as it is the language of his own country, when the man supposes that such and such an expression means so and so, although he does not exactly hit the mark, he does not come far from it. Now when we look at a map of the world, we find that Italy like Holland is in Europe, and their distance apart is not so great as that of Nagasaki from Mutsz. By the help of the Dutch language, therefore, you certainly will be able to interpret seven or eight out of every ten of this man's words. Still in addressing the government, it would be wrong to represent conjectures as ascertained facts. The business of to-day then is different from that of former days. You are not making statements to the government at present. You are interpret this man's language for me, and should you not thoroughly comprehend what he says, give me the interpretation to the best of your ability. I shall not think of making use of your communications to me, as though I believed them to correspond exactly with his meaning.

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* Note by the author. The names of the governors were, Yokota Bitchiu no Kami, and Yanangisawa Hachi Ro-e-mon.

The place referred to was the so-called Christian Zash'ki (or Hall) at I-shi kawa (or stone brook) north of the Taikun's castle in Yeddo.

If you do as I have desired, although there may be mistakes in your best conjectures, it will not be your fault. I will then say to the governors, that you are not to be blamed should there be many inaccuracies in your interpretations, because the language is one that you have never learned."

They answered that they would do as I had requested. So some time after midday, the prisoner was brought out for examination on this wise. He entered the courtyard supported by two men, one on the right and the other on the left, and bowing to the officers present, he took his seat, as ordered, on a bench placed there for the purpose.

The court house had a wooden verandah on the south side. The prisoner's bench was set about three feet from it. The governors sat within the building near the verandah. I sat a little farther back from it. The chief interpreter was seated in the verandah, and the two under interpreters at his left. The prisoner had made all the long journey from Nagasaki to Yeddo in a *norimon* and therefore could not walk. He was brought from the prison in the same article. For this reason he was supported as above mentioned by the two men. A trooper, and two foot soldiers sat down on either side and behind him on straw mats, all these arrangements were the same at the subsequent examinations.

The prisoner must have been somewhat above six feet in height. An ordinary man would not have been as high as his shoulders. His head was covered with black hair; his eyes deep set, his nose prominent, and his complexion sallow. His sleeves were narrow and wadded with cotton. His dress was of Japanese pongee, and he said it had been given him by the prince of Satszma. He wore a single thickness of white cotton cloth next to his skin. When, through the interpreters, he was addressed by the governors, he bowed politely and then answered. Though the weather was cold, and his garments thin, he refused to accept any more clothing. This, he said, was because he was prohibited by the laws of his religion, from receiving articles from persons who did not embrace his faith, and although he was greatly indebted in the matter of food and drink, to the favour of the government for the chestnuts he consumed day by day, in order to support life whilst he was propagating his religion, yet how could he transgress by receiving the further favour of clothing at their hands? He said that when he wrapped the garments given him by the Prince of Satszma about his person, they were sufficient to protect him from the cold and he, therefore, earnestly begged the governors not to be troubled about him.

When the prisoner took his seat he had a fashion of making a sign with his right hand upon his forehead. It was so afterwards on all occasions of this kind. The explanation will appear in the end.

The above conversation with the prisoner being ended, the Governors politely bowed and requested me to be seated near them. On this day I did nothing but put questions to the prisoner through the interpreters, and hear his answers about matters relating to his own country. A map of the world had been brought to elicit information about his country; but owing to its having been drawn in Japan it was not sufficiently minute in its deliniations, and the Governors therefore promised to bring another old one which was in their possession. By repeatedly listening to the prisoner's replies to the questions put by the interpreters, I found, as I had supposed, no trouble in understanding him. His words were a mixture of the dialects of Ki-mai. *(Five Departments of the country round Miako, Tr.)* Sa-kai-do *(The province of the western sea in five departments, Tr.)* and To-kai-do, *(The maritime province of the east in fifteen departments, Tr.)* These he pronounced with his native accent, which made it doubtful whether we understood his exact meaning. Moreover, as he supposed it might be difficult for us to understand him, he always repeated his words over and over again, and besides, he was not unfrequently wrong in the pronunciation he had learned. Farthermore, as to names of men and places alone, it was only by the most careful and patient listening that I understood them.

The interpreters, being moreover conversant with the Dutch language, were hampered by their accustomed pronunciation, and he instructed them how to pronounce words like himself.

In this manner after listening attentively to him for about two hours, *(one in Japanese, Tr.)* I then questioned him myself, and received his answers. As the sun was now low in the West, I said that we should have to come here again on this business, and begged for an adjournment. Thereupon the prisoner addressing himself to the interpreters, said, "I came to this country to relieve the world, and to benefit this people, by every means in my power. It certainly was not my intention to distress men as soon as I arrived. The year was then almost at its close, the weather was cold, and the snow would soon fall. These gentlemen here, have guarded me night and day without intermission, and I cannot bear to see it. They have watched me as though I were disposed to escape. I braved the winds and waves of many a league, to come here. By much endurance, I reached Japan, and have come to this city in accordance with my own earnest entreaty. Whither then should I flee were I to leave it? I do not resemble the native of this country in personal appearance, and where could I lodge myself for a single day? Yet, if these persons, have been charged by the government to guard me so strictly, it is not right for them to be remiss about it. Let it be so in the day time, by all means, but every night, let them put me in handcuffs and fetters,

and confine me in the prison. I shall be greatly obliged, if haply you can induce the governors to permit these guards-men to rest at night."

The governors heard his remarks, and seemed to feel pity for the man, but I said that it seemed to me that he was telling a falsehood; whereupon, he replied with a very angry look. "My sense of shame for a falsehood is not that of men in general, more especially because lying is stringently prohibited by my religion, and since I have been able to discern the character of actions, I have never uttered a falsehood. How could you say what you did to the governors?"

I then asked him, if he did not just now say that he could not bear to see the guards watching him day and night incessantly. He assented, I replied, that if so, his words were false. The vigilance of the guards was in obedience to the strict orders of the governors. They also gave these orders, to keep him under a close watch, because they had been so instructed and because they wished him to be free from all danger. But commiserating him on account of the thinness of his clothing, and apprehending he might suffer from the cold, they had again and again asked him to accept a present of clothes. "Now," said I, "if what you say of your feelings for these guards is true, why are you unwilling to put to rest the anxieties of the governors? If, too, your religious principles do not make you regard their anxieties, why need you pay any heed to the discomforts of those who watch you in obedience to their orders. If, then, what you first said was true, what you now say is false, and if what you now say is true, what you said before was false. You will be under the necessity of explaining and defending your position somehow."

Thereupon, with a look of extreme mortification, he replied, "Since I have heard your remarks, I see that in what I said to the interpreters, I was certainly at fault, and that I ought by all means to quiet the minds of the governors, by receiving the clothes they offer."

The governors congratulated each other, and told me I had truly spoken well on their behalf. The prisoner than addressed the interpreters, saying "I beg you to intercede with the governors for me, telling them that although they have shown such favour to me, yet my mind would not be at peace, if they were to give me silk clothes, and therefore I prefer to receive only such as are made of cotton."

It was now near sunset, the prisoner was remanded to his place of confinement, and I went home. The next night, that of the 23rd, I invited the interpreters to my house, where we talked over such of yesterday's matters as I did not understand. On the 25th I went again to the examination, where I met the governors, and they had the prisoner brought before them. On that day I had a

map of the world, which the governors had brought from their office, and by inquiring of the prisoner about the affairs of his part of the world, many things were made clear, and many new facts elicited. The prisoner observed that, as the map had been made more than 70 years before it would now be difficult to get a copy of it in his own country; that it was to be regretted that it had been torn here and there, and if it were repaired, it might be handed down to posterity. This day also, from 10 a.m. to 2 p.m. was spent in asking questions and receiving answers, and then the prisoner was sent back to his cell.

Wishing to see the prison, I went there with the governors as my guides. On the north side of the prison, there was a small house. They told me that a long time ago a native priest of the Roman religion, who had recanted, and returned to the true faith, had been put into that house. Two old people in that house, a man and his wife, rose and bowed to the governors as they approached. Being the servants of the son of a criminal, they were given to the priest who was confined here, as his slaves, but they were allowed by the government to become man and wife. Although they never become proselytes to the priest's religion, still as from childhood they had been servants to some one, they were not allowed to go out of the prison gate, and receiving their clothing and food from the governor's offices, they had to spend their old age here.

Afterwards I looked at the prison and found it to be a large one, divided by thick plank partitions into three compartments. In the western of these was the prisoner. He had made a cross, cutting it out of red paper, and pasted it on the west wall of his cell, and beneath it he was repeating his liturgy, and reciting passages memoriter from his sacred books. South of his cell, there was a shabby building which was occupied by his guard. When I had looked at all these places, I returned home.

On the last day of the moon, I went to examine the prisoner, but as I had told the governors it would not be necessary for them to meet me there that day, they did not come. I spent the day in asking questions on subjects that had come up on former occasions, and on which it was requisite to make further inquiries. All our inquiries, hitherto, had reference to the part of the world to which the prisoner belonged, and I had not asked him anything about the nature of his religion. Whenever he had introduced that subject, by turning aside from the topic under discussion, I had put him off, by making no reply.

The next day I made an official statement to the governors, to the effect, that up to yesterday, I had seen the man in all, about three days, and now there was no need of misunderstanding what he said, and that he probably well understood what I said to him.

I furthermore, stated, that we had fully investigated the facts which related to his coming here, and that if his examination should be carried further, his disclosures must necessarily relate to his religion. Hence I thought it advisable that the governors should be present to hear what he had to say.

The *Gorojiu* replied that they had ordered the examination to be continued, and directed the governors to be present. On the 4th of the 12th moon, I went to the court room and there met the governors. The prisoner was brought in, and I asked him, why he come here, and what sort of religion he intended to propagate in this country? Unable to contain himself for joy, he answered. "Six years ago I learned that I was to be sent to Japan, and after braving winds and waves, for thousands of leagues, I reached this country, and at length have arrived at its capital, as you see. Were I in my native land to day, it would be new-year's-day, and while all there are congratulating each other on the occasion, I am for the first time commanded by their excellencies, to gave an account of my religion. Better fortune than this, I could not have."

I then questioned him to the fullest extent about his religion. His statements did not differ from the account of it given in the three volumes brought from the governor's office. His language being different, there were, however, differences in the names of men and places, though these arose merely from mistakes in rendering the sounds. He was a well informed and thoroughly educated man, and to all appearence a savant in his own country, and I felt that I could not cope with him in geography and astronomy.

The answers which he gave to questions about his country are recorded further on. He said that there were many branches of science in his country, and that he was familiar with sixteen of them, of his acquaintance with astronomy there was an illustration on the first day of his examination. The day was declining when I asked the governors what o'clock it was. They replied that they had no clock by them. The prisoner thereupon turned his head, looked at the position of the sun, and then at his shadow upon the ground. Afterwards, counting upon his fingers, he said, "By my country's method of calculation it is so and so, naming the part of the hour, the hour, the day, the month, and the year. Now though it may seem easy to make the calculation by means of one's shadow it could not be expected that he should so readily tell the time.

Again taking a Dutch map of the world, I asked the interpreters to find Europe, and tell me where Rome was, but the printed letters being very small they could not find it. The prisoner said have you a "*chiruchinus*"? They answered No. I asked him what he mean? He said that in the Dutch language it was called a "*passer*", and in Italian

a "*compass.*" I told him that I had one and taking it from my pocket gave it to him. He said it was loose in the joint and therefore difficult to use, but it was better than none. Then seeing that the place to be determined was minutely delineated on the map he took a pencil and wrote off the name, and having with the compass calculated the degrees, although he sat on a bench up the court yard he extended his hand to the map upon the floor, and finding the lines of latitude and longitude, which were drawn as fine as a spiders web, he touched a point as far as it was possible for him to reach, and said please see if it is here. On looking in the direction to which the foot of the compass pointed, it rested on a small circle as large as the eye of a needle, and the interpreters said that the foreign word Roma was by the side of it.

Besides this, when beginning with Holland, I questioned him about the places in all the countries of Europe, he adopted the same method, and never made a mistake as to a single place. On the map of Japan I asked him, "What place is this"? Using the compasses as before, he said, "It is Yeddo, is it not?" and as in the former case, the word "Yeddo" was written there. Although it was seen that there were rules for determining these localities, yet, in as much as they were so minute, it was not so easy a matter to be done. I asked him if I could learn these things. "It is very easy," said he. I told him that I had always been dull in figures, and I feared it would be impossible for me to do it, he replied, that it was not necessary to be particularly familiar with figures, in order to do it, and I could very easily learn it.

He was a serious, and candid man, and one who was scrupulous about being right in small matters. When he took his seat in the courtyard on the bench, he first put his hands together, and bowed, and after being seated, made a sign upon his forehead with the thumb of his right hand, and closed his eyes. Though he sat a long time, he was as motionless as a statue. When the governors rose from their seats, he was sure to rise, and bow and then resume his seat, so it was every day, once when he saw the governors sneeze, he uttered some charm addressed to them, and said to the interpreters, "The weather is cold, and they should put on more clothes. In my country we pay great attention to sneezing, because once it became epidemic, throughout the country." When the interpreters made mistakes in the sounds of his Latin words, he told them again and again, how to pronounce them. On hearing me speak the Latin words, he laughingly said. "The interpreters, unfortunately in consequence of having learned the Dutch language, find it difficult to get rid of their Dutch pronunciation, and do not speak like you; perhaps it is because you once learned our language."

At another time, when he could not orally explain, nor was it easy to represent by signs the various articles ranged along the sides of a Dutch man-of-war, such as the three decks, and the great gun at every

part, I held up my left hand vertically, on one side, and thrust three fingers of my right hand, into the spaces between the fingers and showed them to him. "That's it?" he exclaimed, and turning to the interpreters observed, "It was quickly and clearly said."

Again when I asked him how far it was to New Holland, he made no answer. I repeated the question and he said to the interpreters, "Nothing is more stringently prohibited by my religion than to kill men and can I in any way teach men to spy out other people's countries?" I heard but did not understand this remark, and asked him. why he said thus. He replied, "Although I know what you asked through the interpreters, yet it is not proper for me to answer such questions about other countries."

I again enquired what he meant? He replied. "When I met this gentleman (*the questioner, Tr.*) a short time ago, I knew nothing of his office in this country. If he were in mine, he would not be without some important official post. New Holland is not far from this country, and if he is thinking of taking that country, he can very easily do so. Should I then minutely explain the way to New Holland, I should verily be showing him the way to invade another people's country." At this, although I was painfully sensitive lest the governors should hear me, I answered with a laugh, "Even had I such an intention as you allude to, I could not move a single soldier, because of the strict laws of my country." His excessive caution generally showed itself in matters of this kind.

When he was questioned about his religion, there was not one word near the truth in what he said. All his good sense forsook him immediately, and we seemed to be hearing two men speak. Hereby it is evident that the learning of his country is merely a knowledge of the particulars of form, and of those things which are said to be below form, but of things above form they absolutely know nothing at all. Hence I was amazed at what the prisoner said about the existence of a Being who created heaven and earth.

I respectfully presented to the government the two volumes in which I have noted down the substance of the questions put to the prisoner and his answers.

The official reply received, was as follows: "Whereas it has been definitely determined, years ago, that the religion of Jesus is prohibited in Japan, this disciple of that faith comes here, professedly to defend the missionaries from aspersions cast upon them. If he is a missionary, why did he not bring with him the proper credentials, instead of coming falsely pretending to be a native of this country? Even if his statement be true, his subsequent acts must be considered as doubtful and suspicious. He is nevertheless a missionary of his country. According to law, let him suffer capital punishment. When

sufficient time has been allowed to collect the testimony, let this just verdict be executed."

Understanding this affair, and that hereafter there would be no end of such men's coming to Japan, I presented a full account of what had occurred on this case to the government, for their future guidance in similar investigations.

Not long after, at the time that the Taikun retired from this life, (*died, Tr.*) in the 4th year of Shio-toku, (*1714. Tr.*) The old man and his wife, who had been the servants of the recanting priest of former times made a confession. They said, that although their master in his life time, secretly instructed them in the tenets of his religion, yet, they did not wish to violate the laws of their country. Now, however, they were advanced in years, and when lately they saw this man disregarding himself, and traversing 10,000 leagues in order to come here, and when here, arrested and imprisoned, out of concern for themselves, because they could not live long, and from fear of the pains of hell, they had embraced his tenets and become his proselytes. They begged also that they might by all means be punished according to law.

These old people were, in the first place, put into separate confinement. In the 3rd moon of the next year, (1715) the Dutch brought tribute to Yeddo, and the Roman prisoner, having contrary to what he at first asserted, been guilty of communicating his religion to these persons, was put chains. Thereupon his passions burst forth in a violent manner; he railed and shouted. He called out the names of the two old people, incessantly, day and night, exhorting them to be firm in the faith, and not to change their purpose so long as they lived.

The Dutch who came to Yeddo this year, said they had heard that the so-called Thomas Toterunon [?] who went to Peking, soon returned to his own country; that the Chinese were so supicious of him that he could not remain among them.

When asked what they thought of the prisoner's coming here, they said their countrymen did not understand the season of it. He might be one who had committed some crime, and who, when at the point of being put to death, had begged to be allowed to come here, and so his countrymen. thinking, as he says, that it would be great good fortune if this country were opened, and moreover, that if a priest were put to death, it would be without precedent, consented to grant his request. It may have been as the Dutch suggested but I do not think so. It was because his countrymen thought the time had come when their religion should be propagated in this country. This is my deliberate conclusion. The prisoner brought with him, some of our newly made gold coins, and zeni. When I first asked him why he had brought here 3 sorts of gold coins, his answer was. "My country, by means

of the charitable contributions of all Europe, has wealth, without the necessity of labouring to procure it. Besides much silver is produced at Rome, and further, the Spaniards get large quantities of silver and gold, from the islands of the sea, south-east of our country. Without waiting for these things to be sent from Rome, I have only to write a letter, and send it to Roson, (*Luconia Tr.*) and they will come speedily."

Remembering the above saying of his, I have come to a conclusion respecting the reason why he come here. He saw from time to time the changes in the country's coinage of gold and copper, and supposed that the wealth of the country was greatly exhausted, and therefore the people were distressed, and the time of this popular distress, was that in which his religion was not prevalent here, and although it was still prohibited, he thought that if he should use the inducement of gold and silver, that prohibition might be removed. Hence after this I never spoke to him again about the gold and silver coins.

So in the winter of this year, on the 7th of the 10th moon the two old servants died of disease. They were said to be 55 years old. After the middle of this month, the prisoner also was taken sick, and died on the 21st at midnight. He must have been 47 years old.

The notes which I have made of what I had to say on this case, under the reign of the late Taikun, as now written out, make in all three volumes. In the first I have recorded a succinct account of the whole affair, and appended to this a supplement containing a copy of the substance of the report sent up from the Nagasaki governor. In this is included a statement of what the prisoner said about the affairs of all countries beyond the seas. I have also recorded his answers to my questions, at least the most important parts of them.

As months and years have elapsed since the man came here, there are many things which I have forgotten, and even in respect to his language, and the matters referred to, there must be many mistakes, in what I have written. Should any one want to give currency to the novel things herein contained, in relation to countries, there is nothing that need be kept secret.

If any one should be inquired of by the government he need not tell them that there is anything more than this first part.

PART II.

The earth with its land and water is spherical like a pearl and situated in the concave of heaven like the yolk of an egg within the white. The circumference of the earth is 90,000 Ri, (!) men live above, below, on all sides of it. The whole is divided into five continents, viz: Europe, Africa, Asia, and North and South America.

South of Europe is the Mediterranean Sea. On the north is the Northern Ocean and Greenland. It is bounded on the east by the Danais (Don) and the Euxine Sea, and on the west by the Atlantic Ocean, called by the Chinese Tai-sai-yoo (大西洋).

In the South of Africa is Kabote bonius Fransqa. *(The spelling here is very difficult to decipher, but the Cape of Good Hope is plainly meant, Tr.)* On the east is the Red Sea. The island of Madagascar lies in the ocean south-east of Africa. On the west is the Atlantic. In the north-eastern part, Africa is connected with Asia by a very narrow isthmus.

Asia is bounded on the east by the China Sea, called by the Chinese. the Lesser Eastern Ocean, (小東洋) which includes many Islands, as Nippon, Loo-choo, Yezo &c. On the west it is bounded by the Danais, (Don), the Euxine Sea, the Red Sea, and the Mediterranean. The Mare Austrum, embraces many islands, as Sumatra, and Roson (Luzon) &c. Northward it extends to the Sea of Tartary.

North America is hemmed in on all sides by oceans, but at the south-western extremity it is joined to South America by a narrow isthmus. South America is connected with North America; at its southern extremity it reaches the Southern Ocean. On the north-east, this two-fold continent joins Greenland. With what country it is connected on the north-west, I know not. *(The author observes in a note that it extends to Yezo, Nippon &c. Tr.) The author here adds some remarks of his own, the foregoing being the items of geographical information obtained from the Roman priest (Tr.)*

I cannot understand how the maps and globes of the West were produced. On a map of the world made by Go-chiu-mei, (吳中明) in the time of the Ming dynasty, it is said in a marginal note, that "there are all engraved maps in Europe. The Europeans and Franks are all fond of travelling afar, and wandering from home, and they put their discoveries on record, so that after many years they have been able finally to ascertain the form of the whole earth." When I met this Roman priest, I brought out a engraved map of Europe, and asked him to explain it to me. When he had looked at it, he said, "This was printed in Holland seventy years ago, and is remarkably well done. It would be difficult to get it in the West at the present time. The Holland of which he spoke, is the same that sends tribute here every year. It consists of two most remarkables, which are described in the Sei-yoö-fu-chi [西洋布地]viz: Holland and Zealand. By inquiry of the Hollanders, I have learned that a countrymen theirs, Macorans, (?) by name, who was well versed in geography and astronomy and skilled in navigation, once loaded six vessels with provisions, clothing and other necessaries, and set sail upon the Atlantic on a voyage of discovery. His own

ship founderd at sea, and he distributed her crew and cargo among the other vessels. After six years absence, three of these vessels all that remained, returned to Holland. Then the Hollanders obtained a minute acquaintance with the globe, its seas and mountains in many parts, but they say that little is known of the south-western part of South America. [Now by comparing the work entitled:—"The Three Powers, illustrated with plates."(三才圖繪) "The Philosophy of the Seasons" (月令廣義) and " Questions on Astronomy, with illustrations,"(天經或問圖) with the Wan kwo ken koo dz.(萬國坤輿圖) (or Map of world) I find that they all contain but an epitome and outline of things.]

On the above named Map, besides Europe, Lybia (Africa) Asia and North and South America, there is Magellanica, a continent in itself, making six in all.

A marginal note states that "Magellan is the name of a Frank, who sixty years ago first passed through this strait, and come to this country, and hence the scholars of Europe name the strait, sea and land, after him. Magellan is an erroneous spelling of Macorans, and therefore the Hollanders are mistaken in calling him a Frank. On the Dutch map all that Southern region is as yet unexplored, and no names of places are inserted. Again, in a note on the map of the world, North and South America are drawn as though entirely surrounded by sea, and the Northern continent is joined to the Southern. Now, on the Dutch map North America is not yet explored in the north-west part of it. I cannot explain these discrepancies.

The countries of Europe are as follows:—

1st. Italy on the Mediterranean Sea in the South of Europe. Its chief city is Rome, which the Pope has made his capital. It is scarcely 18 *ri* circuit. Its inhabitants, according to the statement of the Roman priest, number 700,000. They are largely engaged in manufactures and are skilful in making various articles for household use. The Pope alone holds jurisdiction in religious matters. Every place has its officers for the management of civil and military affairs. Red coral is found in the Mediterranean around the shores of Italy.

2nd. Sicily. It is the most southern island of Europe in the Mediterranean Sea. There are two mountains in it, one of which constantly emits fire, and the other smoke, by day and night. I believe the disciple of Jesus, called Campana Josephu who came here in 1624, was a native of Sicily. He was afterwards converted to the orthodox faith *(heathenism, Tr.)* and received the name of Oka moto Sanyemon.

3rd. Portugal. Its capital is Lisbon. It borders on the ocean in the S. W. part of Europe. Among us it is also called Namban. In their commerce with various countries the Portuguese finally settled at Goa, Malacca, Macao and other places in Asia, to carry on

trade between them. Commerce with Japan was commenced in Portuguese ships, and the Roman religion gradually spreading eastward, reached this country by the same means.

The Portuguese first came to Burgo in 1543, and between 1596 and 1623, Portuguese envoys came here from year to year as to their Suzerain. The Goa and Macao men were all Portuguese, sent by the chiefs of the trade. In the winter of 1613 they were forbidden to bring the disciples of Jesus here in their merchant ships. Subsequently in 1609 three hundred Japanese who had gone to Macao, were killed by the Portuguese and the following year the Portuguese were forbidden to come here on pain of death. Foreign ships ceased to come here till 1639. In the 5th month of 1640 a Protuguese ship arrived, and all her crew were burned to death. In 1647, the 6th month one of their ships come bringing tribute, but was driven away, and obliged to return in the 8th month.

According to Josepheu,* the first Portuguese queen was a daughter of the king of Spain. The king of Portugal having died without issue, his wife returned to the country of her parents. The Portuguese ministers and people, hearing that the queen was enceinte, urged her to come back again and she did so, and having given birth to a son, the royal succession was renewed. This heir to the throne, died at twenty one years of age, and left no issue, having never married. The brother of the former king being an ecclesiastic, they brought him from Rome, and made him king but as he never married he left no heir. The ministers and people therefore held a council and begged the king of Spain to grant them as a successor to the Portuguese throne, the niece of their former king. Subsequently this queen gave birth to a son. When he grew up to manhood he became a religionist, and wished to have nothing to do with the government of the country. His son likewise, following the example of his father, retired from the world, and though his people and ministers repeatedly tried to dissuade him from this step, he would not listen to them, finally he was persuaded by the priests of Rome, who said to him, "God gave your kingdom to your father, and it is not right for you to abandon it." Convinced by their advice, he could not abdicate his throne, and therefore interested himself in the affairs of government. (This was 60 years after the first Spanish sovereign reigned in Portugal.) He kept up the succession of Portuguese kings. Hence he continued to feel the same good will towards Japan that had been exhibited by former sovereigns and again sent tribute to this country. This was in 1647. The name of this king was Don Juan Guaru [?].

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* Campane Josephu (Tr.)

Portuguese merchant ships came here in 1685, but they were again sent away, and came no more after this. I have also inquired into the history of the propagation of the Roman religion, and find that when commerce first commenced here, a priest called Franciscus Xavier came in a Portuguese ship, and first landed in Beergo. This was between 1532 and 1555. This religion first entered China in the 29th year of Wan leih [萬曆] 1601. This being the case, there was an interval of 60 years between the introduction of that religion into Japan, and its introduction into China.

Spain is geographically connected with Portugal and France, and includes 18 provinces. A part of South America has also been annexed to it and settled under the name of New Spain, parts of Asia likewise and Roson (Luzon) have been taken and united with Spain. Between 1596 and 1615 envoys from Spain first came here, and vessels from Roson were constantly arriving. Their crews were all Spanish subjects. When trade was forbidden, they ceased to come. In 1624 Spanish envoys came again and were summarily dismissed. Castile touching upon the south-western part of Spain, forms with it one kingdom. I never heard that Castile had any commerce with Japan, but it is said that Franciscus Xavier who first propagated the Roman religion here, came from Castile.

France upon the sea west of Europe, is geographically joined to Holland and Italy, and the part of South America newly annexed to it is called New France. It is said that French merchantmen have traded with Japan, but it is not certain. Some one says, that the French country spoken of in a book of the times of the Ming dynasty is Portugal, but I do not so understand it. The intercourse of Europeans with China commenced under the Ming dynasty in 1567. The Franks were the first to bring tribute to China, and according to this, they went to China 24 years before foreign ships came to Japan.

Germany is a large country of Europe, whose capital is called Vienna. By way of distinction, the sovereign is called the Emperor in all parts of Germany, and he has seven feudal princes under him. The Hollanders call the emperor Keizer, and say that there are nine feudal princes; which is correct I cannot say. Though Germany is rich in men and material, yet it is not easy to move an army there, for should one of the princes disagree with the rest in council, the project must be abandoned. Moreover the northern part of Germany is cold, and as gunpowder is not abundant, they obtain it from the Dutch.*

* The author here proceeds to name the following countries of Europe, merely giving their positions, viz. Brandenburg, Pomerania, Poland, Saxony, and Muscovy. Of the last, he says that the cold there is extreme, and that in winter the ice freezes to the depth of 10 feet, so that men and horses travel on it. He also mentions Sweden as lying side by side with Norwegia and looking towards the Frozen Ocean.

The Germans, in pursuit of their fisheries on the sea coast, came to some small islands, where they finally settled; forming a union of seven provinces. After these were annexed to Spain the oppressions of the Spanish became intolerable, and they separated from Spain. Finally they raised an army, each of the contiguous provinces lending their aid, and there was war for eighty years. Holland finally invaded and took ten provinces from Spain. When they all had become weary of war, the two countries made peace, and Holland having restored the conquered provinces to Spain, was at rest. The Hollanders were without a rival in naval warfare, but were not equally skilled in fighting on land. Nevertheless they invaded and took several parts of Africa and Asia, and their own country was enriched, and their troops brave. At the present time, Holland is one of the strong countries of Europe.

The seven provinces above alluded to are Overyssel, Friesland Holland, Zealand, Groningen, Guelderland and Utrecht. The places beyond the seas which they took, are the Cape of Good Hope, Kotororiru (?) Malacca, Batavia, New Holland and New Zealand, etc. What the Roman priest said of Holland will be seen hereafter. The statements of the Hollanders differ in some respects from his. As the affairs of this country will be elsewhere spoken of, I do not enter into particulars here. The intercourse of Holland with this country commenced in the year 1600, and that is the only country that has continued to bring tribute to Japan.

England is in the ocean north-west of Europe, and consists of two large islands. One of them is divided into two parts, Scotia on the north and England on the south. The other island is called Hibernia. This country being in the midst of the sea, its inhabitants have became expert at navigation, and have learned naval warfare. The Hollanders, following their example, entered upon foreign commerce and finally became familiar with the ocean highways. All our (European) merchantmen fear the naval power of England and call its inhabitants pirates. The king of England, mortified at this, has forbidden his people to go abroad to foreign countries at their own pleasure. This country originally respected and believed in the Roman religion, but lately the king put away his lawful wife, and took a favourite concubine in her stead. The religion of the Lord of heaven treats adultery as a great crime. The Pope, in consequence of that breach of the commandments, fell out with England; all Catholic countries did likewise. Holland was excommunicated at the same time.

I find that the English and Dutch began to hold commercial relations with Japan in 1600. In the autumn of 1613, the English brought tribute here. In the following year they came again. I am

not aware of their coming here after that, till the 5th month of 1673 when they brought home some ship-wrecked Japanese, the 7th moon they returned to their own country.

Scotia in the ocean northwest of Europe forms with England one island, and is north of the latter. Hibernia in the same ocean, is close by England and Scotia.

The extreme southern part of Greenland extends to the Ocean which is north of Europe. In its northern part it is connected with North America. That region is so cold that it produces neither men nor anything else. They say that the Dutch in their whaling voyages, take great numbers of whales there. They have a story that some of them once formed a company, and provided food clothing and other necessaries to protect themselves against cold and want, and stopped in those parts. Consequently, the next year some of their countrymen went to look after them and found them all in a sitting posture, but they were all dead, not one was alive. Their flesh was like dried fish, and not at all putrified. So extreme is the cold in that region.

[In the countries of Europe, generally, the question of the succession to the throne being already settled there is no occasion to discuss it. In case it has not been determined, the ministers and people cast their votes for a successor and he who receives the largest numbers of votes is elected and made the ruler. So also when a ruler confers office upon a minister, the person who is most recommended by ministers and people receives it. The sovereign does not dare to confer a single office upon his own responsibility.]

The Dutch say that they have no hereditary monarch in their own country. As in the Chow dynasty, each of the Six Boards of government officers appointed its own chief for the direction of business, so in that country the people choose their own officers of government.

[The titles of European sovereigns are various. The highest is called *Pontifex Maximus* which means Supreme or without a superior. Only one man bears this title, viz: the Pope of Rome. The people of European countries address him with this title, because they believe in the Roman religion.

The next in rank is an Emperor, the next a Rex and the next a Prince. From what the Roman priest said, a Rex seems to be similar to a Chinese commander-in-chief, (大軍將). Next to the prince is the First (?) He too is like a Chinese commander-in-chief. The next is the Dux. This officer is in command of whatever troops are raised in each district, and must be the head officer at the capital. The officers attached to each of the above, are so numerous that it is impossible to designate them all.

When Holland and Spain were at war, the Rex of England went over with his own troops and became the Prince (general-in-chief,) of Holland in the conduct of the war.

On the map of the world, I find it stated that the Pope of Rome, controls affairs in all those countries where his religion prevails. Those who next to him have the control of political affairs are the Emperor and the Rex, and those in charge of military affairs are the Princes, or Firsts. [The two last may be different designations for the same rank in different parts of Europe.] Manners and customs are generally the same throughout Europe, yet there must be diversities in minor matters. The Germans, Swedes, and Hollanders are curly-headed, yellow haired people, and the pupils of their eyes are white. The Muscovites resemble the Mongolians.

The scope of the learning cultivated among them is very broad, the most remarkable in the world in this respect. Their grammar is like the Sih-tan (悉曇) in the Pali language. Their rhetoric is like the Wan-chang (文章) of the Chinese. By rhetoric is meant the science of composition. Besides these, it is said that they learn all the minutiæ of astronomy, geography, the arts, and mechanical trades.

OF AFRICA.

Torka (Turkey?) in the Italian language is called Torka; elsewhere it is called Tsuruka. This country is very extensive, and geographically connected with Africa, Europe and Asia. Its capital is old Constantinople. In ancient times it threw off the Roman yoke, (Africa and Barbary are on the Mediterranean sea.) The manners of the Turks are like those of the Tartars; they are unequalled in bravery and cruelty. They have so many soldiers and horses, that they can bring into the field 200,000 in a day, so many indeed, that they could not be counted in a whole day. The Europeans are constantly making incursions upon them, and therefore the Turks combine their forces for mutual protection.

From what the Roman priest says, I should conclude that the whole of Africa belongs to Turkey, and beside that on the north-east it extends to Germany, and on the south-east to Sumatra. According to Joseph's statements it is near to Portugal. When I enquired of the Dutch, they said that it joined Tartary on the north-east. So contrary are the statements made about it. If Joseph's statement is correct, Turkey must be contiguous to Portugal in the north-west, and in the north-east must extend to the eastward of Muscovia for Muscovia is north-east of Germany, and side by side with Tartary. But I cannot understand how it is that this country embraces all that lies in the Indian ocean, as far east as Sumatra, nor can I understand why, if Turkey is so large, it does not appear so on the map of the world, and the Chinese copy of this map should give no explanation of it. I think that Africa may be the Lybia of the map, and the confusion has

arisen from a mistake in transferring the name into Chinese. We ought to have a good map to ascertain the facts of the case.

The Cape of Good Hope is in the extreme south of Africa; tigers, leopards, lions, and other wild beasts and birds abound there. The prisoner says that the Dutch have taken possession of the Cape, and annexed it to Holland. The Dutch denied this, when I inquired of them about it, but said that their ships, bound to Indian ocean, were obliged to pass the Cape, and therefore it was their usual stopping place.

Madagascar is a large island in the Indian ocean, south-east of Africa. In the barbarians language it is called San Lorenzo. On the map of the world it is stated that there are 700 districts in Africa. The map gives an epitome of the principal mountains and rivers, of that quarter of the globe. The information derived from the Roman priest and the Hollanders respecting the soil, people, customs and productions of this part the world is not intelligible. As Africa is connected with Turkey, probably Europeans seldom go there, and for that reason little is hitherto known of it. The Dutch however say that the inhabitants of the Cape and Madagascar are savages, that when the Dutch go to Madagascar to get the products of that country, the natives are frightened and do not come near them, and that when they see the remnants of food left by the Dutch, they are so stupid that they slily creep up and eat them.

OF ASIA.

Persia is west of India, and joins the east part of Africa, and belongs to Mogul. Its productions are numerous. The Dutch say that Japan and Persia are the only countries in the world that produce fine horses; that no other countries equal them in this respect.

In 1556, Siam and Cambodia sent tribute to Japan and begged continually that horses might be given to them. What therefore the Dutch say must be true.

Mogul is an ancient country of India, of great extent, population and wealth—the great country of that part of the world, but yet the people of different parts of it are incessantly engaged in wars with each other. Bengal, Sarata (Surat or Guzerat perhaps) and Indostan belong to Mogul. Coromandel-coast, is the name of the seaport, the prisoner says, but it means land bordering on the sea, and is the name of a part of the country, where many foreign ships congregate. I find, from the Roman priest's statements, that there are three religions in the world, viz: the Christian, the Heathen, or Gentile, and the Mohammedan. The last is the religion of Mogul, and Africa and Turkey also have embraced it. What is called the Hwuy-hwuy 回 回) religion in China is probably the same.

Bengal is an ancient division of eastern India and produces quicksilver, cotton cloths, silks and medicines. The cotton cloths

which the Hollanders now bring to this country are marked with the name of Bengal.

India is the western part of Indo. I think the so-called ancient Indo is the general designation of Goten (五天), and what is now called India, is the western part Tenchiku (Hindostan).

Goa is a great seaport on the western coast, from which the Portuguese commerce is carried on. Malabar, Chau (?) and Santomei (?) are names of places belonging to Goa. The last two places produce silks, hence at the present Santomei is the name of a certain kind of cotton cloth, and Chau of a kind of silk fabric, because originally they came from thence.

I find, that the Portuguese who had settled at Goa, at first hired a sea-port of Canton province, and appointed men to manage their commerce at that port, who styled themselves managers of the commerce of Western countries, or governors of the Western city and commissioners of the port of Macao. They who brought tribute from year to year to Japan, were Portuguese who came from Goa and Macao. Macao is the name of a bay in Canton province.

Ceylon is in the Indian ocean south of India. On the side of a mountain near the sea, there is a footprint of Buddha still preserved; some say this is the spot where Buddha died. The people are like the Moguls, and their country produces pearls, precious stones, cinnamon, betelnut, and cocoa-nuts. There is a place on the southern side of the island called Colombo whose inhabitants are black and probably they are what the Chinese call Corombo. The Dutch say that the inhabitants of countries near the equator are all Corombos, and are not naturally intelligent. From this place black people among us are called Corombo.

Siam in Chinese is called Shamuro. In ancient times it consisted of two separate countries, *Sha* and *Ra*. In 1341, the people of Ra, annexed the Sha country to it, and the two became one. Being a southern land, its climate is very hot, though in the winter months the air gradually becomes cool. The Siamese have curly hair, and are naked, except that they wear a silken sash around their loins. The productions of the country are medicines. hides, horns &c. Between 1596 and 1615, Siam began to carry on commerce with Japan. From 1615 to 1644, the kings of Siam continually sent tribute here, and wrote their letters on gilt paper. At the present time, only Siamese merchant ships come here from year to year. In 1596, some of our own people went there and after a while became the king's ministers. They also wrote letters and sent presents, to our government, and it is said their decendants are still in Siam. Champa (?) and Cambodia are south of Siam. In 1596 they both had commerce

with this country. I never heard of any tribute sent here by the kings of Champa. There was a yearly tribute from the kings of Cambodia up to the year 1624, but at present none but merchant vessels come here from Cambodia.

As the prisoner had never visited these countries, I did not enquire of him about them, but, since they had formerly had commercial intercourse with Japan I added these remarks myself.

Malacca, south-west of Siam is a peninsular country. The Portuguese formerly held Malacca, but it now belongs to the Dutch. It is recorded in a book presented by the Dutch to our government, that in 1612 the Spaniards made war upon Malacca. In that case it must have previously belonged to the Castilians, and the Dutch must have taken it by conquest, and finally made a settlement there. (By Castilians, I mean both Castilians and Portuguese.)

Sumatra is in the ocean south of Asia, and in its northern part is but little separated from Malacca. This country is directly under the equator and twice a year, i.e. in the spring and autumn, the sun casts no shadow there. From spring to autumn, the sun's shade is on the south side of objects, and from autumn to spring, on the north side. The climate is extremely hot, though it moderates in the spring and winter. The inhabitants are all naked and black. Their manners are like those of the Siamese. The country produces gold which the Dutch get. Jacatara* (Jacatra) is south-east of Sumatra. The whole island is called Java. Jacatra is the name of the province colonized by the Dutch and Batavia is its capital city.

About 14 or 15 days southward of Jacatra, we come to Java (proper) where the native prince resides, who is called Nusznamu. It is the custom of the people to wear their hair long and encircle the head with a thin cotton cloth stiffly starched. Their sleeves are narrow, their upper garment short, and they wear trowsers. The country is so warm that grain ripens twice in the year, and all sorts of vegetables abound. Hence the people never suffer from cold and are very indolent. Jacatra was first taken by the Portuguese. Ninety years ago, i.e. in 1623, the Dutch were at war with them, and took it from them. Thirty or forty thousand Chinese have emigrated to that part of Java governed by the Dutch. The celebrated Bantam, to and from which the Dutch were constantly going and coming between 1596 and 1615, is a place in Java. The so-called Jacatara men, who now come here year after year are not the people of Bantam. The Chinese also emigrate to Bantam.

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* Irish potatoes are now called by the Japanese Jacatara or Jangatara imo, because first brought here from Java. Tr.

Borneo is an island lying east of Sumatra, and north-east of Java. The manners and customs of the inhabitants are like those of Sumatra people. The island abounds in quartz, crystals and camphor. Macassar is the name of a places south-east of Borneo and in the south part of Celebes. The native manners and customs are the same as those of Sumatra, and the island produces gold and sandal-wood. North-east of Macassar is Mindanao. Besides these there are numerous islands, about which I did not make inquiries of the prisoner, and therefore do not record here that which I do not understand.

Rokson is in the ocean south east of Canton, and is also called Roson (Luzon) by the Chinese. We usually called it Rusun. The Dutch call it Luconia. A place in the south-east of Rusun is called Manila. In modern times the Spaniards took possession of it, and by means of the natives carry on its government. In the south-west part of the island, there is a mountain which produces a large amount of silver. More than 3000 descendants of Japanese emigrants live there together and do not depart from the customs of their father-land. When their officers make their appearance abroad, they wear two swords and are accompanied by spear-bearers. The rest of these Japanese, wear one sword. The Spaniards have laws for the government of this colony of Japanese, and do not let them wander about in the country indiscriminately. Four years ago 12 Japanese who had been driven off from our coast by a storm, arrived at Rusun, and the Spaniards assigned them a place with the rest of their countrymen.

Formosa is north of Rusun, it was first taken by the Dutch, but now belongs to China. I find that the Luconians who always brought tribute to Japan, from 1596 to 1615, were sent by the Spaniards at Manila.

New Holland is in the southern ocean and its territory is very large. It has been taken by the Dutch, and hence is called New Holland.

I learn from the Dutch, in respect to that country, it is 400 Japanese *ri* south of Jacatra, and that their countrymen were the first to visit it. They say that it is a very large country; that the inhabitants were like brutes and could not speak; that the country is very hot, and those who go there sicken and die, that, indeed, few survive the effects of the climate.

The Tartary of which the prisoner spoke, is the Chinese Tattan; and his Japan, is our Nippon. His remarks on Tartary were so confused as to be unintelligible. According to the map of the world; Tartary is upon the eastern sea coast, and it appears to be a country abounding in dogs and tents made of skins like Yezo. I asked the Hollanders whether on their maps, the northern part of Yezo is connected with Tartary or not, but they did not know. Upon their map

of the world, only the south-eastern part of Yezo is delineated, and they said that it was remarked in a marginal note, that in those waters a fish, that we call a masz (species of salmon) abounds and is much eaten by the natives. The Dutch told me that when they come to Japan, they leave the northern ocean, pass along the coast of Africa and come to the Cape of Good Hope, then turning to the eastward, cross the Indian ocean, and arrive at the north-east part of Java. Thence turning northward they pass Sumatra, Java, Borneo and other islands, in a north-easterly direction, and arrive here. The whole voyage they estimate to be about 12,900 Japanese *ri*. But were they to go northward from Holland, and cross the northern ocean in an easterly direction, and then turn southward and come to Japan the distance traversed would scarcely be 3,000 or 4,000 *ri*.

When I asked why they did not take that course, they replied that three years before, an Englishman by the name of William Dampier, of his own accord, crossed the Northern Ocean and came into the Pacific. But the Dutch thinking it impossible to do this, because the sun's light does not reach those nothern regions, and therefore the sea is always dark, and the tides swift, could not believe Dampier's account of his voyage. Indignant at this distrust of his varacity, he was about they said to publish a book on the subject, and if when the book made its appearance, its statements could be credited, the Dutch would be very glad of it. (This voyage of Dampier's was made in 1711.) Two years later I asked the Dutch about the matter, and they informed me that Dampier had died the year before, and that his book was not finished. According to their account, the delineations on the map of the world are not to be relied upon.

New Spain is in the southern part of North America; crossing this country in a southernly direction we come to South America, a country newly settled by the Spaniards. Acapulco situated on a bay in New Spain is a populous and wealthy port, a place of great resort for merchantmen. In 1619, a vessel from Acapulco, was driven off by adverse winds and drifted to Japan; here she was repaired and refitted by our government, and sent home. Two years after they sent presents to our government as tokens of their gratitude. The same year, Japanese merchantman went to Acapulco. This is no longer done.

New France is in the north-eastern part of North America. This was first settled by the French. In appears to be a very extensive country. Its inhabitants live among the trees and rocks, and herd with wild animals, many countries have been usurped and settled by Europeans. Besides New Spain (Mexico) and New France (Canada) there are New Granada, and New Andalusia in the same category.

Brazil is in the eastern part of South America. It is a vast wilderness, whose northern, eastern, and southern boundaries touch the Atlantic Ocean. The natives of Brazil lodge in trees or live in caves, and eat human flesh. On the map of the world there is a small island north of South America, called St. Vincent whence tobacco first came, it is said in a marginal note.

In the "Treasury of Secrets," (a book so-called) I find that the Dutch made war upon this island and took it. A note on the map, also states, that Patagonia is a country of South America, inhabited by a race of tall man. The Dutch replied to my inquiries about it, that a good while ago they passed by sea to the southern part of South America, as far as Patagonia. They sent some of their men in a small boat, who pulled against the tide running out of a strait, and went to see the country. As the boat did not return to the ship, others went ashore, and looking far away upon the land saw nothing but a vast desert, except, that upon a sandy hill there were traces of a fire having been kindled in a large hut. By the side of it there were tracks of human footsteps, twice as large as those of an ordinary man, and the distance between the foot-prints proportionally great. They therefore inferred that the inhabitants of the country were men of large stature. The small boat never got back, and they saw nothing more of the inhabitants.

On the map of the world, it is stated that in Peru a substance called balsam exudes from a tree in which an incision has first been made, and that a dead body smeared with it, is preserved from putrefaction.

The prisoner gave an account of the state of the nations of Europe.

The Emperor of Germany went to war with France and Spain. The Dutch and English joined him. The Spaniards raised 30,000 troops, and the king of France 40,000, and in all there were 70,000 men in their fleets, with which to resist the Emperor of Germany. The Dutch and English raised forces to assist. Against Germany, France and Spain helped each other. On both sides by land and sea, there has been incessant fighting, and the number of the slain already has amounted to 180,000.

Again at the death of the king of Poland, Brandenburg and Lithuania became involved in war with Germany. In this war 7,000 Poles lost their lives and 3,000 Germans were slain in the battle. *(The author remarks that he does not know the causes of this war, nor where Lithuania is.—Tr.)*

Again Muscovy and Sakmenia (?) combined to make war upon Sweden. Muscovy has also been at war with Turkey for about 10 years

All these countries are in great confusion, and the people have no peace of their lives.

The prisoner said, "When I came here, I sailed in a ship from France for the Canary Islands. But English and Dutch ships of war, carrying 200,000 men, blocked up the straits of Gibraltar and we could not pass, but by making the case known to the Germans I got through at great risk." The Canary Islands are in the Atlantic ocean and belong to France. The strait of Gibraltar is between Portugal, (i.e. Portugal and Spain,) and Morocco or Torka. The foregoing statements by the prisoner, about the wars in Europe relate to the years, between 1700 and 1709.

I conclude this part of my book, with some information obtained from the Dutch.

In the fourth month of 1709 Holland in the war with France and Spain, killed over 10,000 of the enemy and lost more than 10,000 and took three French towns, viz. Lille, Berguess and Tournay, (*as nearly as I can make out the spelling in katakana characters.—Tr.*) In one month in 1710, the Dutch slew over 5,000 Spaniards in battle and took 2,000 prisoners. Two months afterwards they invaded France, killed 13,000 men, and took more than 4,000 prisoners. They also lost over 11,000 men, and finally gave up four towns which they had taken, viz. Douay, St. Amant, Bethune and Mons. In 1711, in the 7th month, the Dutch again entered France, and seized the department of Somme [?] forty leagues from Paris the capital. Finally they fought with both Spain and Germany

On the eighth month of that year, Turkey and Tartary were at war with Muscovy, and the latter restored to Turkey the places she had taken from her. The same year also in the autumn, a war broke out between Sweden and Denmark. In this contest Denmark gained nothing by fighting, but lost territory here and there. Holland came to the assistance of Denmark, and finally by her intervention, restored peace between the two countries. The same year Denmark sent troops to occupy the places that were restored to her.

In the spring of 1712, England and Holland intervened and made peace between Turkey and Muscovy.

In the fourth month of the same year, Holland and Germany went to war with France and Spain. In this war there were 100,000 on each side. The number of the enemy [Spaniards or French] slain was about 10,000, and the Dutch lost 9,570. Seven months after the war opened the Dutch took possession of Kuino (?) and finally entered Marusene (?) But the enemy defended it so well that the Dutch did not succeed, but drew off their troops and returned.

Thus for years, the Germans and French have hated each other, and each country has wearied itself with war, until they began to wish for peace, but they could not agree upon the terms.

In 1713, the ninth month, they finally made a treaty of peace (*Treaty of Utrecht.—Tr.*) and each returned to the other the places and prisoners they had taken.

The war between Germany and France, I find commenced in 1700 and lasted till the year 1713 (正德三年)

ARTICLE V.

SORGO, OR NORTHERN CHINESE SUGAR CANE.

By Varnum D. Collins Esq.

The plant, which is the subject of my Paper, was called in France, when first introduced there, "*Northern Chinese Sugar Cane*" to distinguish it from that grown in the middle and southern parts of the Empire. Its botanical, as now, its usual name, is *Sorgo*—being a species of the genera *Sorghum*. By the Chinese, it is called *Loo-tsoh*, and must not be confounded with *Kau-leang*—a species of the same general plant, and which it resembles, though bearing no saccharine juice; or with *Kain-tso* and other varieties of Southern Chinese Sugar Cane.

According to the best authorities, the Sugar Cane, first cultivated by Western Nations, came originally from China, where it has been grown from remotest antiquity. Jewish, Greek and Roman writers refer to it, only indefinitely, if at all, as something quite foreign to their countries. It is true, some of them speak of sweet reeds and canes, but a critical examination of the passages themselves which I have made, as well as collateral statements by the same writers, showing their utter ignorance of sugar or its mode of extraction, prove that these writers referred to other plants (the sweet calamus probably) than the Sugar Cane of China. I will quote, however, a few of these passages, and leave others to decide for themselves. In the 43d chap. and 24th verse of Isaiah—a book written about 1,000 years before Christ, God, in reproving the Jews for lack of valuable offerings, declares, "Thou hast bought me no *sweet cane* with money"; and in Jeremiah, 6th chap. and 20th verse, God complains on the other hand of their mere empty offerings by saying—"To what purpose cometh

there to me incense from Sheba, and the *sweet cane* from a far country." Theophrastus, a profane writer, 320 years before Christ, speaks in one place of "a sort of honey extracted from canes or reeds"; and Strabo, on the authority of Nearchus, the commander of the fleet in the expedition of Alexander the Great, says that "reeds in India, yield honey without bees;" and finally, Lucan, a Roman poet, sings of those "who drink sweet juices from the tender reed." For several centuries after the birth of Christ, sugar was unknown in Europe, except as a medicine, or a rare luxury. It was about the close of the 13th century that the Sugar Cane of Southern China was carried by merchants, colonists and others, from the East to Arabia, and thence, westward, through Northern Africa, Sicily, Spain, and across the Atlantic, by the way of the Canaries, Madeira, Brazil, and the West Indies. It was not until 1751 that it was introduced by the Jesuit fathers, from San Domingo into Louisiana. While the *Southern* Chinese Sugar Cane has been thus early and widely spread abroad, for some unaccountable reason, not only the Chinese, but Western Nations have not duly appreciated the other—the Sorgo cane of the *North*.

It was reserved for the French, several centuries after the southern cane had made its first appearance in Europe, to introduce the Sorgo of the North of China—a plant which is destined to effect, greatly, Western civilization. In France and the United States, this plant has already attracted universal attention, and been long successfully and extensively cultivated. What I shall state, therefore, respecting it, will not be new, but old facts, confirmed by personal experiment and observation, and the recorded experiments and observations of others, especially those of Olcott, which are excellent. I propose to discuss four points, viz: the *botany*, *history*, the *culture*, and *uses* of Sorgo.

The following, from a work on *The Trees, Plants, and Flowers of China*, is the nearest approach to a Chinese botanical and historical notice of the Plant by native writers; and this passage evidently refers to a species of Sorghum called *Kau-leang*, though some of the characteristics of *Loo-tsoh*, are mentioned viz., *black seed* and *saccharine juice*. The translation is by the Rev. J. M. W. Farnham of Shanghai.

"*Tsoh Soo*, 蜀黍—This plant has received several names, all referrable to the district where it was first produced. The seed was brought from the province of Sze-chuen, whose ancient name, is *Se-tsoh*. The names by which the plant has been called are *Kau-leang*, 高深 *Tsoh-tsaeh*, 蕘秫 *Loo-tse*, 蘆稭 *Loo-tsoh*, 蘆粟 *Mo-tsih*, 木稭 and *Tih-leang*, 荻糧. The seed should be planted in good dry soil, early in the season—say April, if you would reap a good crop of seed. It ripens in autumn. The stalks are large and more than ten feet high, in leaves and general appearance resembling the reeds, though the stalks are not hollow. The top resembles a broom, and is

thickly covered with little red, or black coloured seeds, resembling kernels of pepper. This kernel is hard, and the heart of it is of a yellowish colour. When the plant is ripe, the top is first taken off. The stalks are then gathered, bound in bundles, and placed in shocks to dry. There are two species of seed. The first is glutinous; and with a kind of rice, is used in manufacturing alcoholic drinks—also made into cakes. The other seed is not glutinous. It makes good gruel, cakes, &c., and is useful to feed cattle.

The stalks are manufactured into matting, &c., and the tops into brooms. The hulls of the seed contain a red colouring matter, used in colouring red wines. The heart of the stalk is sweet, heating, slightly glutinous, and useful as a medicine in cases of diarrhœa."

In Europe and America, there has been considerable difference of opinion, among Botanists, as to the proper name of the plant under consideration. One of them makes the remark that by Linnæus, it was called *Holcus saccharatus;* but when this genus underwent a subdivision by subsequent botanists, it (Northern Chinese Sugar Cane, or Tsoh-soo) was placed by some, in that of *Andropogon;* by others, in that of *Sorghum*. These two genera are closely allied, as any one can see, by referring to any good work on botany. Some of the best authorities consider the difference so slight as to warrant their union into one. In regard to the various species of *Sorghum*, grown in China, the names being given in the passage translated, there is not much doubt that they are identically the same plants, the difference between them being due to the long cultivation which the plant has undergone in different latitudes, soils, and other controlling circumstances, just as some of the grasses have sprouted into numerous varieties. The true Sugar Cane called by the Chinese, *Kain-so*—by botanists *Saccharum officinarum*,—though it belongs to the same tribe of grasses as the Sorgo, differs in some important particulars. The Sugar Cane of middle and southern China grows from six to ten feet high, measuring from the root to the tip of the leaves. It seldom produces seed, but is propagated, either annually, or every few years, by cuttings. The Sorgo, on the contrary, is an annual plant, springing from seeds, and growing from 12 to 18 feet high, with an ample inflorescence, each stalk heading out with about a gill of seeds. Few plants are more beautiful and graceful, and in the driest season its greenness is very refreshing to the eye.

It presents a tall straight stalk, marked at intervals with nodes, and from these, on alternate sides of the plant, spring long spreading, tapering and drooping leaves. The stalk very gradually decreases in diameter, from the base to the top. Its outer coating is smooth and silicious, [like the stalks of Indian corn] and becomes harder as the water and starch of the plant become converted into woody fibre, and

more silex is deposited on the outside. The seeds grow upon the 8 or 10 seperate stems which group together to form the tuft at the top of the plant, and unlike the Indian corn, this seed is the only fruit produced by the plant. When the tassel first emerges from its sheath, the seeds are nothing but a soft green husk, until by degrees, and in like manner to wheat, they become filled with farinaceous matter, and the grains are plump and hard. As the plant approaches maturity, the seeds undergo transitions in colour, changing to violet, brown, and finally to a purple, almost black. When this latter colour appears, the plant has reached its last stage of vegetation, and will then yield the largest amount of saccharine matter.

The *Kain-so*, or real Sugar Cane, is seldom grown successfully above 25° or 30° N. Latitude, or, when the mean temperature is less than 66° or 68° Far. while Sorgo flourishes above 40° N. Latitude. Indeed, wherever Indian corn will grow Sorgo flourishes, excelling the former in greenness, grace and luxuriance.

Bryant, in one of his beautiful Poems describing the central portion of America as it appeared 50 years ago—before the feet of any but Indian and Pioneer had pressed its soil, thus pictures what to-day are the great Sorgo fields of the world:—

> "These are the gardens of the desert; these,
> The unshorn fields, boundless and beautiful,
> For which the speech of England hath no name,—
> The Prairies. A fitting floor,
> For this magnificent temple of the sky,
> With flowers whose glory and whose multitude,
> Rival the constellations."

And it would take a pen like Bryant's to paint the beauty and even grandeur of the serried ranks of Cane, which, over tens of thousands of prairie acres, stand nodding their golden plumes and waving their green leafy banners, in the sunlight of summer—symbols of peace and joyful harvests.

The history of the introduction of Sorgo among Western nations, is as follows:—In the year 1851, Count de Montigny, at that time French Consul at Shanghai, forwarded, at the request of his Government, to the Geographical Society of Paris, a collection of such plants, seeds, and cuttings, found in this part of China, as he thought might grow in Europe. Among this collection, was a package of Sorgo seeds. It has been quite a matter of friendly debate in France, as to whom belongs the real honour of introducing this valuable plant to Western nations, whether to the French Consul, who collected and forwarded the seeds, or to M. Roberts, director of the Marine Gardens at Toulon. While the name of the first gentleman is wedded to fame, in that he found time, amid Consular duties, to devote attention to science, that of the latter deserves especial honour, as to him were

confided the seeds for propagation. M. Roberts planted them with care, but was rewarded with but a single sprout, which, however, under his fostering hand, grew and matured. The crop of seeds was gathered, and wisely distributed in France and Algeria, and from this, in due time, large harvests were gathered. During one season in France, Sorgo seed sold at a franc per grain; but in two or three years, they became abundant.

In 1854 W. J. Browne Esq., an agent of the United States Patent Office, on his return from Europe to America, brought with him a quantity of French seeds. These were gratuitously distributed by the United States Government all over the country; but farmers generally received them with much suspicion, or indifference, though a few carefully planted the seed and cultivated the new plant.

Though a number of letters were received at the Patent Office respecting the plant, no special attention, however, was attracted towards it, until a report appeared from an ex-governor of South Carolina to one of the farmers' clubs of that State, giving the results of his experiments with the plant which at once attracted universal attention.

For various reasons not necessary to state, since 1855 the area of Sorgo cultivation in the United States has steadily increased until it has now become one of the great crops of the country.

The same is true, to a limited extent, in France and Algeria; but these countries cultivate the plant, in the main, for different purposes —chiefly for alcohol, while in America, it is raised for seed, forage, and for the manufacture of sugar, syrup, alcohol, vinegar and beer.

It must be confessed, however, that in one important particular, Sorgo has somewhat disappointed public expectation in America—in that Sugar is with difficulty manufactured from its juice.

In looking over however, the agricultural Reports of the various States, I notice that in 1863, considerable Sorgo sugar was, notwithstanding, manufactured. Taking the state of Iowa--between 40° and 45° N. Lat. as the basis of an estimate—where, from 36,667 acres of land, 21,469 lbs. of Sorgo sugar and 3,012,396 gallons of syrup were manufactured in 1863, we have for ten of the north-western states where the Sorgo flourishes, some 366,670 acres under cultivation, yielding, besides seed, alcohol and forage, say 214,690 lbs. of Sugar, and 30,123,960 gallons of syrup. And according to the monthly Report of the U. S. Agricultural Department at Washington for October 1864, just received in Shanghai, the area sown in Sorgo in 1864 greatly exceeded that of any previous year. Indeed, good Sorgo sugar was selling at Chicago, Illinois, this winter at nine and ten cents per pound.

And just here I beg to state that this Agricultural Department of which I have spoken—so deeply interested in Sorgo culture and

organized within the last four years, is doing a great work for America. At its head, as commissioner is the Hon. Isaac Newton, a plain, practical progressive farmer of the nobler sort, reminding one of that class of men who were the associates or correspondents of Sinclair in England and of Washington in America.

The main objects of this Department are to collect and scatter among the farmers of America, agricultural information as well as such seeds, plants, cuttings and breeds of animals, as will prove valuable to a new and rapidly growing country. It invites from abroad especially, and will reciprocate, agricultural information and contributions in the way of documents, seeds, agricultural implements, both for its Museum and for distribution among the people.

It was for the purpose of observing the Chinese method of cultivating Sorgo, and especially their processes of manufacturing sugar from its juice, that I was sent by this Department to China.

It is the impression in France and America, that the Chinese are thoroughly acquainted with all plants indigenous to their country; and that our chief difficulty in obtaining sugar from the juice of the Sorgo was owing, either to some defect in cultivation; in the mode of treating the juice; or in not possessing that species of Sorghum which yields the largest amount of crystallizable juice.

Strange as it may appear, I cannot find in their agricultural works or in actual practice, the *slightest* evidence that the Chinese cultivate Sorgo [*Loo-tsoh*] for any other purpose whatever, than for chewing and sucking the stalks. So far as I can learn, the plant is cultivated in this Province only—chiefly on the island of Tsung-ming in the Yang-tze just opposite Woo-sung; and from thence the Shanghai market is supplied. And even on this island, only a few farmers cultivate small patches of one third of a mow—about one eighteenth of an acre each.

The plant is not considered a valuable product by the Chinese, or it would be more extensively grown; for I do not believe there are twenty acres sown on the whole island per annum.

One Chinese labourer can cultivate about two acres of Sorgo, receiving about two hundred cash (20 cents) per day during the six months of necessary tillage. In America, with a sub-soil plough, one farmer can cultivate ten acres—indeed the entire expense of rent, labour, seed &c., being about twenty (20) dollars per acre.

Tsung Ming is a flat island the cultivated surface being not more than from two to ten feet above the spring tides. It is of comparatively recent formation; and like most of the soil in this part of China is composed of alluvial clay. Numerous canals and natural creeks improved, intersect the island in various directions, so that almost every acre can be easily irrigated or approached by boats. The Sorgo there, however, is cultivated on the highest soil, and not

irrigated, except in its earlier growth, or when the season is excessively dry.

In the middle of April the seeds are planted broadcast, in a piece of ground finely broken, warm and sunny; and lightly covered with a harrow in order to avoid rotting.

The seeds are not soaked previous to planting, or cast into the ground with any Manures. When the sprouts appear above the soil they are watered with liquid night manure; and again, after three or four days, if the weather be dry, the young plants are watered night and morning. When the sprouts are some six inches high, the healthiest are transplanted into ground which has been well broken up by the hoe, leaving, however, the sub-soil undisturbed. The sprouts are planted about six inches apart, (but not hilled) in rows about three feet wide; and when the plants are about a foot high, they are again watered with liquid manure. After this, the hoe is freely used in keeping down the weeds until the cane matures, which is about the first of November.

If for any reason the seeds are not sown until late in the spring, the canes are topped before the seed-heads are formed, upon the theory that the juices going to form the seeds are saved to the stalk.

The same diseases which attack the Sorgo in the United States give trouble to the Chinese, but they know no remedies.

Though the soil is about the same on all parts of Tsung-ming, yet the qualities of cane grown there are very different, owing to seed, time of planting, culture, and other circumstances.

Although the cane is not fully ripe until November, yet it begins to come into market early in September, or just as soon as the stalks are sufficiently sweet.

The result is, but little, or no seed is or can be saved for sale—all being needed that are allowed to ripen, for next year's planting. No Sorgo seeds, therefore, ever come to market; and it was with difficulty that I obtained even two or three bushels.

From all that I have seen and read, both here and in the United States, I am well satisfied that foreigners have nothing to learn from, but much to impart to the Chinese in respect to Sorgo, as well as many other products of the Empire.

In regard to the *cultivation* of Sorgo, for extracting sugar, it has been stated by an eminent agriculturist, as a settled fact—and which is being verified every year in America, that sorgo may be successfully grown upon all lands where a fair crop of Indian corn can be cultivated. This simple statement covers the whole question of latitude and soils, and shows what an advantage Sorgo possesses over ordinary Sugar cane, flourishing, as it does, in torrid

and temperate zones alike. But as only certain soils and modes of culture produce the best results, I propose to present some of the facts collected from personal observation, and as stated by agriculturists of reputation in America, bearing on these points. It has been found in America, that deep and loose and warm soils —of even poor quality, so situated as to be irrigated in very dry weather, during the earlier stages of growth, produce the sweetest and most juicy stalks; but if the soils are largely composed of vegetable detritus there is less chance of crystallization. Irrigation, however, is seldom practised or needed in America. Land of medium quality, and between a black loam and a pure gravel, are the best for Sorgo: while in deep black loam it often grows from 16 to 18 feet high, but suffers in the sweetness of the juice.

In regard to *manures* for Sorgo cultivation, the aim should be to add to the soil those things in which it is deficient, at the right time, in proper chemical conditions, and in the requisite proportions. In the cultivation of beets in Europe for sugar making, it was found that in boiling down the juice, some of the syrup refused to crystallize. The reason of this was traced to the presence of saline matter in the juice. This matter forms a compound with the sugar and prevents it from crystallizing. So powerful is this influence, that one per cent. of salt in the juice will render three per cent. of the sugar uncrystallizable. This same difficulty has been experienced in regard to the juice of Sorgo. All saline manures, then, should be avoided when sugar is to be made. The best manures, of course, are those which give back to the soil the elements which go to form the plant. An eminent chemist states that the most important ingredients in the ash of the Sorgo are the phosphates of lime and magnesia, acetate, muriate and sulphate of potash, together with hydrated silica and oxides of iron and manganese. Ordinary manures, yielding a large proportion of ammonia, are far inferior to the plowing in of green crops, and especially the crushed canes after having passed through the mill. Gypsum, or sulphate of lime, is excellent manure for Sorgo.

In France and the United States, where the warm weather is of comparatively brief duration, it is common to soak the seeds in tepid water, to which has been added 1 oz. of saltpetre to 6 gallons of water, for 24 hours, and just before planting, to roll the seed in plaster. By this means, five or six days are gained. The Chinese method of transplanting, to obtain the same result, is not much practised in America, owing to the vast area cultivated; but undoubtedly the two plans combined, would give excellent results. The ground in the United States is prepared with a subsoil plough, and drill planting is the usual method, about 25,000 canes being grown to the acre. As soon as the sprout is above the ground (which is

from 7 to 10 days after planting) a one-horse subsoil plough is put twice between the rows, going up along the side of one row, and down the other. This deep ploughing disturbs the relation of the soils, and allows the dew, air, sunlight and warmth to act almost directly upon the roots of the young plant, giving them vigour and strength. After-cultivation is but a repetition of this. The plants should not be hilled, as the cane needs the upper roots exposed, commencing as they do, on the stalks above the surface of the ground. "By the contact of the roots with the air they absorb carbonic acid, and other nutritious gases, and the just starting sap, being thus early acted upon by the gases and sunshine, is made more prone to crystallize. In China and the United States it has been found that Sorgo produces hybrids with plants of the same nature, thus loosing the distinctive saccharine virtue. It should not, therefore, be planted in the vicinity of Broom corn, *Loo-tse*, *Kau-leang*, or the various millets of China. Some American farmers affirm that hybrids are formed by even the presence of Indian corn.

In ripening, the Sorgo stalk assumes a yellowish tint, striped in places with red; but the appearance of the seed is the best test. In harvesting the Sorgo seed for next year's planting, the seed heads, with about 2 feet of stalk attached, should be cut off, and made into small bundles, and thus hung up to dry. This is the practice of the Chinese, who assert that it is injurious to the seeds, for planting, to thrash them from the seed heads, before the time of planting. Care should be exercised in drying the bulk of the seed which may be thrashed out at any time, by hand or machine.

In a number of trials, I have found that in China, as in the United States, each stalk yields, on an average, a gill of seeds, weighing about 36 lbs. to the bushel. Of course the yield per acre will depend on circumstances. From 25 to 60 bushels per acre are raised in France and the United States. It is the statement of eminent chemists that Sorgo seed equals barley or oats in nutrition, and certain it is, animals are very fond of it. The only objection to Sorgo seed is that the colouring matter of the hulls, carried with the fluids of the animal system, dyes the flesh of animals feeding upon the seed—producing however no other injury to the flesh. And here, I would state that the colouring matter of the hulls is now used by French manufacturers in dying silks—producing some of the most beautiful purple tints known in the arts. Sorgo seeds make very fair meal and flour; and often have I eaten Sorgo cakes with Sorgo syrup.

In cultivating Sorgo for forage, the seed should be sown in drills —say two feet apart and about 20 seed to the foot, as in sowing broadcast no opportunity is afforded of keeping down the weeds, or

of easily gathering the cane. Besides, more air and sunlight are admitted to the roots and stubble, and the second crop of ratoons (or new shoots) is more likely to be a full one. The crop, for green fodder, should be cut as soon as it is large enough to be fed to stock; and according to the length of the season, there may be two, three or more crops obtained from the same shoots, the last one bearing seed. The concurrent testimony of all experimentalists is that the *leaves* and *stalks* of Sorgo, constitute excellent fodder; and that it is so, is chemically explained by the presence of large quantities of carbon in the form of saccharine juice; and sugar and fat, we know, are made up of the same ingredients, viz. carbon, oxygen, and hydrogen.

Sorgo, to be cured as *dry fodder*, should be cut in the morning after the dew is off the plant, and then suffered to lie on the ground and become well dried, before it is bound up. The bundles should be small; and before stacking in the barn or other shelter, should be set up in *shocks* in the field, to cause as much water to be evaporated as possible. The stack should be built on poles to allow a free circulation of air beneath. Extra pains should be taken in order to avoid heating.

In the United States as many as nine tons of fodder, after two months' drying, have been gathered per acre in one season; and in Algeria 84,000 lbs. of green forage. These figures of course are much above the average yield; but they indicate the possibilities of climate and good culture. The official Report of the United States Agricultural Department or rather Bureau for 1855, declares that aside from other economical uses, the value of Sorgo, for feeding stock alone, in the parts of the country where it will thrive, cannot be surpassed by any other crop, as a greater amount of nutritious fodder cannot be obtained so cheaply in a given space within so short a time; and argues that, if it is considered profitable to keep land in grass, which yields a ton to a ton and a half of hay per acre, how much more profitable to raise Sorgo, which gives, besides seed, from two to nine tons of fodder, where the land is properly manured and irrigated—for irrigation is only injurious to Sorgo for purposes of crystallization.

A good article of paper is now manufactured from the Sorgo stalks, in the United States—two mills using no other material.

The manufacture of syrup and sugar by the introduction and cultivation of Sorgo is now no longer a question of latitude and race, but of price. It is not necessary or practicable, in a Paper like this, to enter into a minute description of the processes of manufacturing from the juice of Sorgo, syrup, sugar, alcohol, beer and vinegar, as they are precisely those employed when working the juice of the ordinary sugar-cane.

For the economical manufacture of syrup &c., it is necessary to express the juice of Sorgo in the most thorough manner, as that which is last expressed is the richest. This of course can only be done, by using mills with iron rollers, which express from 70 to 80 per cent. of juice leaving 20 or 30 per cent. of woody fibre.

In repeated experiments last November with a mill expressing only about 60 per cent. of juice, I found that the average yield was one gallon of juice to every fifteen canes and one gallon of syrup, to every five of juice; or about 333 gallons of good syrup per acre; though I have known instances where over 400 gallons were obtained in the United States. It must be confessed, however, that Sorgo is beginning to deteriorate in that country. The juice comes from the mill opaque, frothy, and of a yellowish green. The most approved method of treating the juice—and the one followed by myself, is to add, as soon as possible, after the juice is expressed, about a teaspoonful of the cream of lime (thick lime water) to every four gallons of juice, and mix thoroughly in order to neutralize the free acid (phosphoric) which naturally exists in the cane. Add also at this stage the white of two eggs, well beaten with a small quantity of juice. Heat being applied, let the contents come to a boil, when the fire should be shut off, or the kettle removed from the fire to allow the scum to rise to the top, which it will do in the course of 20 minutes, if the contents are not disturbed. Removing the scum, or what is better, drawing off the juice at the bottom, it comes out clear and sweet. This juice may then be boiled down to syrup or sugar, removing, in the meantime, any scum which may arise.

Nearly all the colour imparted to the juice (except what the lime gives) is received after the fluid has become somewhat dense, retaining but little water to carry off the heat. Of course, the syrup may be made thick or thin, according to the amount of water evaporated; but care must be taken in the last stages not to burn the contents. In manufacturing the specimen of Sorgo sugar before me the syrup was boiled until the steam escaped from it in little puffs, when it was emptied into a shallow vessel, and exposed to the sun to hasten crystallization. Several days elapsed before crystallization was complete, leaving behind an exceedingly thick and gummy molasses, which was separated by preasure. The chief difficulty in manufacturing sugar from the juice of the Sorgo, is the gummy principle, which prevents rapid and complete crystallization; and whosoever shall discover a remedy for this, will contribute not only a practical benefit upon society, but amass for himself a fortune. The sugar before me, which represents about 14 per cent. of Sorgo juice, is positive proof that sugar can be manufactured from the plant, but at the present state of our knowledge of the treatment of the juice, I do not think it can be done with profit in China, but that it will be shortly, I have no doubt.

At the present time, about eleven-twelfths of all the Sugar extracted for general use is obtained from the ordinary sugar cane; and some of the countries where it is produced yield about the following gross amounts per acre, according to the best authorities.—Mauritius 6,000; Brazil 5,000; Cuba 4,000; Isle of Bourbon 3,300; Guadeloupe 2,000; Bengal 1,600; and Louisiana 1,000. The amount per acre raised in China, I have not been able to learn; but I have experimented with sugar cane cultivated as far north as Hangchow, which yielded over 2,500 lbs. and with Sorgo cane, from Tsung-ming, yielding 2,000 lbs. per acre.

As my paper has extended already too long, I will only add, that from the juice of the Sorgo can be manufactured, economically, beer, vinegar and alcohol of very superior qualities. The yield of beer and vinegar is about equal to the amount of juice employed and that of alcohol one gallon to every 23 gallons of juice; or, in other words, the amount of absolute alcohol is a fraction over 6 per cent. The specimen of alcohol before me is not equal to some manufactured by me, but which I used up in making ether, and other articles. Gentlemen present know that nearly, if not absolute alcohol, is necessary in manufacturing ether and collodion; and Messrs Dinmore Bros., Photographers, pronounce my alcohol satisfactory in these respects.

In conclusion, I desire to say that for Sorgo cultivation in China there offers a new, and I believe profitable, field of enterprise, because it yields cheaply an abundance of saccharine matter for the manufacture of some of the chief articles of modern civillization, viz. syrup, sugar, alcohol, vinegar and beer.

ARTICLE VI.

A VISIT TO THE AGRICULTURAL MONGOLS.

By the Rev. Joseph Edkins.

Every winter in the streets of Peking are seen large numbers of Mongols. They come partly to trade and partly on official business, or to perform prostrations at celebrated Buddhist shrines. They belong to various tribes of the wide spread Mongolian race. The quiet farmer from the north-east who lives two or three hundred miles from the Great Wall on some richly cultivated piece of land, comes to visit his son, a Lama in a Peking monastery. A party of men riding well fed mules, with the fresh complexion of the Mongols, but dressed in a way scarcely distinguishable from the Chinese, are the followers of some prince who has arrived on his biennial or triennial visit to make acknowledgment of the faded supremacy of the Son of Heaven. That group of wild but cheerful riders on camels, attired in undressed sheepskins, are shepherds from the Khalka tribes beyond Lama-miao. One of them who wears a red robe, woven from the long hair of the Tibetan Yak, is a medical Lama who acts as physician to the other seven occupants of the travelling tent. This yellow robed Lama, who rides a strong and fast pony, speaks three or four of the languages of Tartary and transacts business for some Sunite chief who pastures numberless flocks and herds on the grassy plateau from which the traveller descends at Kalgan. This party of three in Peking carts, bent on a shopping expedition, are Ordoses who have performed a journey of a month from the northern bend of the Yellow River. Here in a large Lamasery, where there is a wooden image seventy feet high of Maitreya Buddha, are seen worshipping a

company of Elut Mongols who have come a three months' journey from the Kumboun monastery near the Kokonor. Such are a few specimens of the Mongolian varieties met with in Peking, during the cold season.

There are two principal markets for the Mongols in Peking. Those who come from the north-west and west are provided with lodging and market accommodation outside the An-ting gate at a mile's distance from the walls. The Eastern Mongols, who are considered to be more nearly allied to the emperor by ties of kindred, are received into the Tartar city in front of the palace. Buying and selling is here carried on extensively through the winter. The productions of Mongolia brought to Peking for sale are principally cattle, sheep, horses, camels and mules; cheap silk fabrics, skins and felt; frozen game and sheep, with Mongolian butter and cheese; to these should be added grain of all kinds, potatoes and opium.

The first I saw of the Mongols was in the winter of 1861. The moon, an orb of golden light, had just set behind a hill along whose side ran the Great Wall. The purple dawn, which heralded the sunrise, was gleaming on the eastern mountains that contain in one of their valleys the tombs of five of the Tartar emperors. We passed a party of men on camels, who did not understand Chinese, but spoke in a tone of friendliness and good nature, in what proved to be Mongol; on the camels were placed their tents, cooking furniture, provisions and the wares they had purchased at Peking. In the afternoon we met them again encamped on the road side. Their camels were grazing quietly on the pasture close by. The tent was of black sail cloth supported by two posts with a cross beam. Eight men, including two Lamas, were sitting round the fire. On the fire, which was of charcoal in an open circular iron frame, was a deep pot of food. Beside it was another charcoal stove with a common Chinese cooking pan upon it. Our friends offered us mutton chops, recently cooked and remaining from their dinner just terminated; a knife was handed to cut the meat from the bones. They do not use chopsticks. The fingers convey food to the mouth.* Millet they eat with a spoon from small round earthen dishes. The Lamas shewed us their beads and an image of Buddha which they carry wrapped up with them. This image was an inch and a half long, carved in a small oblong piece of incense wood. We also saw their prayer books, these were long and narrow, written in the Tibetan character and language on thick loose strips of paper, imitated from the palm-leaf books of the Southern Asiatic countries. None of the party knew Chinese. They sat on felt

*See Mr. Lockhart's First Report of the London Missionary Society's Chinese Hospital at Peking for 1863 pages 18 and 19. Mongol princes, and the settled farming Mongols, use chopsticks.

mats in their tent, wore leather trousers, felt stockings, Chinese shaped boots, and cloaks with small sleeves and Chinese buttons. The camels travel thirty or forty miles a day. Encamping on a grassy spot they need no inns and little corn. In the month of May of the present year I had the opportunity of seeing the Mongols who are living in a settled state and engaged in cultivating, in conjunction with many Chinese emigrants, the rich arable plains and valleys of Eastern Mongolia.

The first day from Peking takes the traveller to a prettily situated town called Nieu Lan Shan. Here the hills commence and the Great Wall is seen at the back of the district city of Hwai-jeu pursuing its serpentine course, sometimes over low hills, and then surmounting the highest and most precipitous ranges. The Great Wall suggests that an iron despotism has been a powerful element in Chinese history. The will that could achieve this stupendous work with unhesitating firmness, was the same will that destroyed the feudal system of the days of Confucius, and replaced it by the centralization that despotic government loves. The great book-burner and irresistible conqueror said, that the Great Wall should be carried along the whole northern barrier of China. The poor people were forced to do what the despot willed. They went up into the mountains and constructed this wall, 25 feet high and 10 feet thick, partly of hewn granite and partly of large bricks, with notched parapet and numerous square towers. The wall is wonderful as an act of the human will and an achievement of human labour, like the pyramids of Egypt and the walls of Babylon. Yet the wall of T'sin Shī Hwang is scarcely so permanent as his institutions. In parts it has become only a long heap of bricks. But the Fu and the Hien cities, with their magistrates appointed direct from the metropolis, still remain a vital part of the Chinese system of government.

In the wall as seen at Ku-pei-k'eu, the pass through which lies the road to Jehol, the watch towers are very numerous and originally of great strength. Usually they have three windows on each side. The top is an open terrace reached by a staircase inside. The centre floor and terrace are supported on arched brick work and stone work. The windows and passages are arched. The upper part of a window is often made of a piece of granite out of which the curve of the arch is cut. There is no trace of woodwork in these towers. Staircases are frequently found in the wall opening on the Chinese side near the watch-towers. The lime used in the wall has become black on the surface and is nearly as hard as the stones it cements. The towers near Ku-pei-k'eu are 20 feet square and 40 feet high, but some are smaller. In one part of the wall, high on the hills, there is at the bottom a broad foundation of granite stones in four rows. Above these, the base being a little narrower, there are ten more courses of granite stones. Then come four layers of hewn granite

larger and more regular. Above these comes brickwork of 25 feet in height, the courses lying in curved layers according to the curvature of the mountain in that place. The width of the wall here is 15 feet. When the Great Wall is carried up a steep hill, the parapet appears to the eye as a gigantic staircase.

Passing the Wall we entered the territory of the Har-ch'in Wang or Prince of the Harch'in Banner. He is the feudal baron to whom the soil belongs from this point to a considerable distance beyoud Jehol. The Chinese small farmers who cultivate plots of land in the valleys here pay double taxes. One to the Harch'in Wang, and another to the Emperor.

The Mongol princes are hereditary and are descended from Ch'enggis (Genghis khan.) They are now the feudal inferiors of the Chinese Emperor, who invests them with their rank. They present as tribute a sheep and a measure of wine. They serve in war as Sen-go-rin-ch'in* has done, voluntarily. The Emperor cannot compel them to serve him, nor can he exact any money from them. Seng-go-rin-ch'in's army, which has been serving for several years against the rebels in Ho-nan and Shan-tung, has been supported partly by money from the Harch'ins and neighbouring banners 300 and 400 miles north-east of Peking, and party by the Chinese Emperor. We met a party of Chinese soldiers from the bank of the Songari and Amoor returning home after three years' service. They were Mongol-speaking Chinese colonists, who had joined the Mongolian troops under Seng-go-rin-ch'in, but had left the army before his death in May of this year.

Near Ku-pei-k'eu we met two Lamas in yellow performing a journey by prostrations from their home beyond Jehol to Wu-ta'i-shan in the province of Shansi. One of them had commenced this painful pilgrimage in February, and would complete it next spring. After each prostration he stood up and walked forward to the point where his head had lain and here he prostrated himself again. By ordinary walking he would perform the same journey within a month. Such journeys are frequently undertaken by the Lamas of eastern Mongolia for the acquirement of merit and the expiation of sin. The religions which sprang into existence in India favour this sort of self-sacrifice. It is melancholy to think that such a mode of bringing the body into subjection to the religious principle is far more likely to engender and foster an ambitious desire for distinction, and that so far as it consists in religious veneration, it is homage rendered not to God, but either to an idol, or to an abstract idea. This Lama lived by begging, and slept in temples on the way. A woman was near him performing the journey in the same manner.

* This prince's death recently produced great commotion in the court. When a young man, he became a Lama, and resided for two years in the Monastery Yung-ho-kung. On the Death of his father he succeeded him as prince and ceased to be a Lama.

Jehol is 140 English miles from Peking. The palace and park here are called Pi-shu-shan-chwang, the "mountain lodge for avoiding heat." The stones in front of the palace gate, ordering persons to dismount from their horses while passing, are inscribed in four languages viz. Chinese, Manchu, Mongol and Turkish. The last emperor died here. The city of Jehol is beautifully situated between hills. The inhabitants are Chinese emigrants from Shan-si and Shan-tung. Elegant tables and boxes of inlaid wood are manufactured here, the principal woods used look like box wood (ming-k'ai-ye-ho) and walnut (hwa-yü.)

The Lama monasteries are in a beautiful valley in the vicinity of the palace wall. The largest are the Budala (see note A) and the Teshu Lhumbo (see note C) both built without wooden pillars in the Tibetan style of architecture. In Macartney's Embassy the Budala is described. In the centre is a large square building with eleven rows of windows, principally false. Within this is the golden chamber, containing the images of many Buddhas, in the centre of a quadrangle. It is roofed with copper which is gilt. Among the offerings to Buddha placed here is the armour worn by the Emperor Ch'ien Lung. In front of the structure with many windows is the chanting hall, an upper and a lower. Before this is a large monumental archway. There are among the Jehol monasteries two where Manchu liturgical services are read; Manchu Lamas reside in them. We were not allowed to enter any of these structures.

The prince of the Naiman tribe came to our inn to pass a night. He had been summoned home from Peking to the funeral of his mother. He had with him his principal wife and about a hundred followers. The prince and his wife were carried in blue sedan chairs. Some of the retinue stated that in their tribe there are about 300,000 people in all. They live in houses not in tents. Hada, a considerable trading city, is in their territory. The prince was in great dejection of spirits and scarcely attended to business. When Christian books in Mongol and Chinese were shown him, he looked over them and declined them. An almanac in Chinese however was retained, and one or two small Mongol treatises by his attendants. These we understood to be for himself.

On leaving Jehol we crossed a long and steep mountain pass which led the way to the fertile valleys of Pa-keu (平泉州 ping tsiuen cheu). Here we overtook a party of Lamas on donkeys returning from Jehol to Gegen sum. They were better scholars than many Lamas we met, and willingly purchased some copies of the Mongol New Testament. In their monastery, the Gegen sum, (Temple of the Living Buddha) there reside 5000 Lamas. It belongs to the Mongoljin tribe and lies near the Liau river about 200 miles north-east of Jehol; a Gegen or living Buddha is the chief of this large establish-

ment. Prayers are read here in Mongol, Manchu and Tibetan. It is a central point of Lama influence in this part of Mongolia.

At a distance of 70 or 80 English miles from Jehol there is a smaller Lamasery, but also containing about 2000 Lamas. The reason for these large establishments is found in the fact that Eastern Mongolia is a fruitful country. The Mongol tribes located there, forty-nine in number, from the Great Wall in the south, to the Amoor in the north-east, have grown peaceable and wealthy. Agriculture and a settled life, imitated from the Chinese, have led to increase in population, and in material prosperity. This has resulted in the extension of Lamaism under the fostering hand of the Chinese Emperors. Sometimes three out of four sons will become Lamas. There are not many families in which some of the sons do not become Lamas. The Mongols are deficient in skill to become either good artisans or successful traders. Young lads have three courses open to them. They may follow the pastoral or agricultural life. They may become schoolmasters, secretaries or officials; or they may take the vow of celibacy, be shorn, and enter the Lama priesthood. The avenues for manual skill and commerical enterprise are occupied by Chinese emigrants, who possess the necessary aptitude and sagacity for these pursuits. In eastern Mongolia there are many more Lamas than there are scholars. The Lamas absorb in their own body such learning as exists. The scholars as a class, at least in that part of Mongolia which borders on China, are students of Chinese works, and regard themselves as disciples of Confucius. Their object in acquiring Manchu, Mongol, and Chinese learning is to be able to perform the business of the government in the service of Mongol princes, and of Chinese and Manchu officers in various parts of Tartary. The lack of a commercial class and of public examinations very much limits the field of the schoolmaster as compared with his position in China. He has fewer scholars and they do not aim high. The ultimate tendency of the present state of eastern and southern Mongolia must be to spread the Chinese language and literature with the Shantung and Shansi colonists over the territory of the forty-nine banners. At present however we find no Mongol villages where the Chinese language has displaced the Mongol. On the other hand, some of the Chinese colonists in the province of Hei-lung-kiang bordering on the Amoor speak Mongol more fluently than they do Chinese.

After ascending a long and lofty pass the road east of Jehol descends into a broad and fertile tract of country with a few hills, partly isolated and partly in chains. For about 30 miles limestone hills are passed shewing curious rain-worn shapes. (Note D). The rain and snow of centuries have worn away the softer and more exposed parts of the limestone. The hills appeared crowned with what look like long walls of large round tower-like shapes; one hill had a

longitudinal opening through it, and is called in consequence the "hill of the heavenly bridge." Some singular upright masses looking like two old pagodas (see note B) appeared on one, and a standing club on another. Twenty miles past Jehol I visited a cave near the summit of one of these hills. It was a water-worn passage a hundred yards in length from the east to the west side of the hill. The path to reach it wound round the hill from a valley on the east side, and we passed midway a temple partly built in the hollow of the limestone. After walking for some distance along the wall-like cliff, the cavern appeared at the back of the hill. It led to a temple facing the valley. An old Tauist priest lived here who was glad to see us, but refused to allow a Mongol of the party to sound his bell. He regaled us with tea, and accompanied us with a long crook to the foot of the hill, a walk he took daily. We passed shepherds on the way tending large flocks of goats. They had long crooks which they used as slings. The crook is bent into a round form suitable for holding a stone. By a slight movement of the arm the stone is conveyed to a great distance and is so aimed as to strike the hill in front of a wandering goat, and drive it back to the flock.

Pa-keu, or as it is called, P'ing-ts'iuen-cheu, lies in a very fertile country. This city is between six and seven miles in length. There is a very busy population. The prosperous agriculture of the surrounding valleys, joined with the silk manufacture, gives occupation to a very large number of persons. Two kinds of silk fabric are made here. The silk of the worm that feeds on the mulberry is used in weaving *mien-ch'eu*, while that of the larger species, the wild silkworm, feeding on the *Polo* leaf becomes *kien-ch'eu*. Silk thread was being made in the court of the inn where we staid.

In the neighbourhood of this town were three Mongol villages all belonging to the Har-ch'in banner; visiting one of them we found that the people amounted to thirty families, and that the name of the place was *Go-ch'in gere*, "the thirty families." It was much like a Chinese farming village, only the women wore a peculiar net for the hair which is knotted under it at the back of the head. This black open net is also used among the Manchus in Peking. There was little difference in the appearance of the men. It was necessary to hear a man speak before it could be readily known that he was not a Chinese. They speak the Mongol fluently, but they also know the Chinese language. The houses are ornamented with red paper like those of China. On the posts and lintels of doors there were pasted in red, either the common Chinese sentences indicative of good fortune, or the same translated into Mongol. The houses are roofed with thatch or tiled.

Examples of Inscriptions. Boyint'o odon undur gelebibai, *the star of good fortune shines on high* 福星高照 Fuh-sing-kau-chau. T'engrin

t'usimel boiyini soyoranoi, *the high officers of heaven confer happiness.* 天官賜福 T'ien-kwan-t'si-fu.

A few of the Mongols in the village could read and there was a schoolmaster resident. A young Mongol farmer looked at our Mongol Testaments and tracts and concluded to purchase two Testaments through the persuasion of a friend who said they were of much more value than the small sum to be paid for them. This friend was an accomplished mandarin secretary who writes and explains dispatches on official business. He happened to be in the circle of listeners, and knowing as most to his class do, the three languages Manchu, Mongol and Chinese, he was looked up to by the simple villager as an oracle. The women came forward to converse as readily as the men. They have the open, frank expression of the Mongols generally. They possess a fresher and more blooming complexion than is common among Chinese women. They wear precious stones and other ornaments in their ears, and place artificial flowers in the hair. The dress for men and women is very like the Chinese, but the sleeves are very wide. The Mongols are like the Manchus in this particular and also in shaving the head. The court in the time of the Mongol dynasty was more tolerant in regard to the hair than the present Manchu family has been. Under the Mongols each nation followed its customs. Marco Polo when in Khanbalik, the city of the Khan, (the modern Peking) saw the Chinese with their unshaven black hair tied at the back or on the crown. The Mongols at the same epoch wore, as now, the queue and shaved the head. From them the Manchus probably borrowed the fashion.

We passed a Sunday in one of the Mongol villages where 50 families resided with a few Chinese, and went by invitation to call on one of the resident-chiefs, who wore a white button. The house was arranged in Chinese fashion as regards the brick couch, and the furniture. The couch was covered with white felt. The wife, aged 52, wore earrings of jay feather and silver work. She caused two very shy grand-children to be brought in. They were fatherless. Their mother was busy in the house at the time kindling a fire to boil the kettle to make tea, while a crowd of neighbours filled the court and house. She was either very much disposed to active employment or it was her custom to do the hard work of the house. When the kettle however had boiled she appeared beside her children and shewed the same curiosity as the rest at the novel spectacle of European visitors. The boy was reading Chinese, but would be taught when a little older to read and write Mongol. The household shrine of Buddha which stood in a corner had in it a Tibetan picture of that personage, painted in dark colours, and blackened by smoke. Before it were set nine small wine cups filled with fresh water which was changed daily. The picture had been brought from Peking where these and other wares

from Tibet are conveyed with the embassy from that country for the use of Lamas in the great Peking temples. The shrine had doors which are usually kept shut.

Some Lamas from Wu-t'ai in Shansi were staying in the village on their way home. They purchased some Mongol New Testaments. They had come to Wu-t'ai from the Kumbun monastery, near the Kukunor, beyond the western frontier of China. They wished to return to this distant and celebrated seat of Lamaism as soon as a favourable juncture occurred. I asked why they should perform this long journey, and their reply was that it was better to be in Buddha's land. There was a small Lama temple in the village, where Tibetan and Mongol books were read. The name of the temple was inscribed on a tablet in Peking fashion in four languages 廣禪寺 Kwang-ch'an-si, "monastery for the extension of the contemplative life." In Mongol this is Diani delegeregok ch'i sum. The word Diani *contemplation* is Sanscrit, from which language a large proportion of Buddhists words have been transferred into Mongol. An extensive vocabulary of philosophical as well as religious words has thus found entrance among the Mongols.

The language reminds the inquirer by many peculiarities that he is among an inland, pastoral people, whose life is spent usually in tents and surrounded by flocks and herds. On asking the name of a large stone trough lying by a well on the road side, I was told that it was called *onggach'i*. But this word is used for boats and ships. The children of the desert, unaccustomed to life on the waters, called a boat a *troügh*. They have never seen a ship and to their minds it represents itself as a *trough* of large dimensions.

The word *onggach'i* is the same with the Chinese Ung or Weng, *trough*. The two last syllables are derivative suffixes, the word being formed as *lightener* from *light* and *darkener, darkness*, from *dark*.

The words for the human relations bear some of them a remarkable resemblance to those of the Chinese language. For older and younger brother different words are used. Aha corresponds to the Chinese *hiung* or *ko elder-brother*, and *degu* or *du younger-brother*. The word for uncle on the father's side differs from uncle on the mother's side.

This connection in language points to a connection in race, a theory which there are many other considerations to support. For example, Mongols cannot marry a woman of their own family name. A man of one clan invariably marries a woman of another clan. Marriages are fixed by the parents as in China, and the time at which they are determined on is usually when the future bride and bridegroom are children. At marriages heaven is worshipped in the court of the house. Earth is not worshipped. The parents are knelt

to in the house. These customs at marriage are identical with the Chinese, except that the latter also worship Earth on these occasions.

At death the agricultural Mongols follow the Chinese custom in using coffins and placing a mound of earth over them. They have long given up the revolting practice still prevailing among the tribes more distant from China and still pursuing a nomade life. It is customary, on the great grassy plateau among the pastoral Mongols, to expose the dead on the open plain. No coffin encloses their remains. Birds and beasts of prey soon devour them.

The population of Mongolia has been variously estimated. The natives say that the average number of men, women, and children in a banner is 200,000 or more. There are forty-nine banners in Inner Mongolia. According to this estimate the whole number of southern and eastern Mongols must be about ten millions. De Castren mentions that the Buriats in Siberia number 180,000. This being based on Russian statistics must be accepted. Should the number of the eastern Mongols not be so great, the other branches of the race, including the the Chahars, the Kalmucks, the Kalkas and other western and northern banners, will together raise the sum of individuals to a very large amount.

Chinese authorities say that the Mongol tribes occupying eastern and southern Mongolia came in the fifteenth and sixteenth centuries from their original seats to the north of the desert of Gobi. Their territory was laid waste by the Emperor of the period Yung Lo. Into the country which he devastated the new colonies pressed. The forty-nine banners have had between three and four centuries of peace in a good climate, a period amply sufficient to account for their present condition in regard to numbers and prosperity.

NOTE A.

Budala is the name of a mountain and temple near Lassa in Tibet. The temple is on the summit of the mountain and is the residence of the Dalai Lama. In Buddhis legends there is located in the Southern Sea, an island called Budaloka. In imitation of this the island of P'u-to, near Chusan in China, was set apart as a seat of the worship of the Bodhesattwa Kwan-yin, and named accordingly. There is a story that the mother of Chien-lung, the Emperor who built the Budala temple, wished to go on pilgrimage to P'u-to, and that, to render the long journey unnecessary, her son erected the temple at Jehol. In form however it is like the Dalai Lama's palace.

NOTE B.

There is a sketch in Macartney's Embassy of a pagoda-like mass seen on a hill before entering Jehol. An account of it is annexed [vol. II. p. 204.] which says, "About midway between the upper ridge and the bottom of the valley was a perpendicular rock or antique ruin. Its height exceeded 200 feet. It was sensibly wider at the top than at the base. Its form was irregular. Tall shrubs were growing from its upper surface. One gentleman of the Embassy sketched it. From this sketch was taken the engraving in the opposite page. Another gentleman went to examine it. It was not the remains of any building. It was not one entire rock; but consisted of indurated clay inclosing gravel in large masses. It was no doubt of a more compact nature than the soil which

had surrounded it, and which yielded to the violence of the torrents, sweeping everything else away, and leaving this inverted pyramid as a monument of the height of the ancient surface of the globe in this particular part of it. The light and soft particles of the earth which had been washed away formed the smooth and fertile plain of Pechili, while the harder and heavier parts, soon arrested in their progress, constitute the rough surface of the glens of Tartary. The removal of a layer of soil two hundred feet in depth, from the upper to the lower grounds for such a vast extent is a greater change upon the globe than any mentioned in the annals of mankind."

NOTE C.

Teshu Lhumbo twenty-six miles south-west of Lassa, is the residence of the Teshu Lama, or Banchan erdeni. It is second in rank in Tibet to the Budala. When visited in 1789 by a British envoy from Bengal, there were 3700 Lamas resident in this establishment.

NOTE D.

On the east of Peking coal is found in the mountains near the Great Wall 30 or 40 miles to the south-east of Jehol. The coal district to the west of Peking extends over great part of the mass of hills there located. The line of the coal strata lies north-east and west-south-west of Peking, proceeds all along the north parts of Chili and is continued into Shansi; at the back of the coal is the limestone formation which has yielded the marble profusely used centuries back in the construction of Peking palaces and temples. The marble quarries are about 30 miles south-west of Peking The hills east of Jehol I suppose to be a continuation of these limestone strata.

ARTICLE VII.

THE HIEROGLYPHIC CHARACTER OF THE CHINESE WRITTEN LANGUAGE.

By R. A. Jamieson Esq.

Read before the Society on November 13th, 1865.

In this paper I desire to propound no theory of the origin of the Chinese character. As to that there can be no doubt; the testimony of native philologists and the deductions of common sense, based on a careful analysis of the peculiar picture writing of the Chinese, sets at rest every question that could possibly arise as to the origin of the written language. My design is merely to shew in what sense and to what an extent Chinese writing is hieroglyphic, and in order to do this I have availed of the means which lie open to every one of us—an analysis or dissection of various classes of characters. It will therefore be understood that this paper is merely a summary of those facts with regard to Chinese graphology, which, scattered through the pages of every Chinese work and found upon the monuments in existence, daily present themselves to the student of the language.

It will, I think, be allowed that every written language, when taken as unconnected with the spoken language which it represents, is more or less ideographic. The words, independent of their relation to a particular dialect, represent ideas, and, were the *construction* of all dialects or languages identical, there would be no need for more than one system of writing throughout the world. Were words as written at present by the English accepted as universal representatives of ideas, the combination of strokes which stands for the idea of "bread," for example, would by the English be read as *bread*, by the the French as *pain*, by the Germans as *brod*, and so on *ad infinitum*.

Of this we possess an excellent illustration in the reading of Chinese works by Japanese. The ideas conveyed by the characters are identical, but the sounds affixed to each are perfectly distinct. To a less extent the same may be noticed in the case of Chinese from different provinces reading the same book or manuscript, and therefore I am inclined to believe that the expression "sound of a character*" is radically erroneous, and should be replaced by the equally terse expression "name of a character." This flows directly from the consideration that characters in the first instance represented ideas and not sounds, and had no relation to a spoken language.

Indeed it is manifest that, did any one possess the requisite perseverance and memory, he might learn the written language of any country without the slightest acquaintance with the spoken tongue, and without any attempt to analyse each concrete symbol into its elements. It is in this manner to a very considerable extent that the Chinese language is learned; indeed what saves the student from the incalculable labour of such a process is the ideographic character of several of the symbols. Were this fact fully recognised, and the greatest possible advantage taken of it, many of the difficulties which now surround the acquirement of a competent knowledge of Chinese would disappear. The Abbé Huc, than whom few have possessed more favourable opportunities for arriving at a correct judgment on the subjects of Chinese language and literature, thus sums up his sketch of the formation of the written characters:—

> It would be impossible to calculate the traditions, the allusions, the unexpected analogies, the picturesque and epigrammatic features which are thus enclosed in these characters, and it is incredible what light would be thrown on the ancient moral and philosophical opinions of the primitive nations of oriental Asia by studying carefully, while guarding against too hasty theorizing, these symbolical expressions in which they have painted unconciously themselves, their manners and the whole order of things under which they have lived and with which history has made us so imperfectly acquainted, since they date from a time when history was not.

In following out the plan of this paper I would desire to trace as rapidly as possible the statements made by the Chinese with regard to the formation of the written characters, and then to examine a few of those characters themselves and endeavour to derive some information from their analysis. But first it may not be out of place to consider how little of an alphabetic nature there is in the Chinese language. The symbols are to be taken in their entirety as representatives of ideas, possessing sounds or names, but those names have been affixed arbitrarily without an attempt to combine them out of phonetic elements. That is to say, the name or sound of a complex character is not the sum or approximate sum of the sounds of the characters which combine to form it. In this it differs from every

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* Pictured idea.

other language, for we are informed that even the Egyptian hieroglyphics have a phonetic power as combinable letters in addition to their ideographic character. The alphabets of Europe and Asia are directly traceable to a hieroglyphic origin, the Japanese alphabetic signs, for example, being either Chinese simple characters or modifications of them.

The characters of the Chinese language may, on one principle of division, be classed under three heads:—Radicals or Determinatives, Phonetics, and combinations of these two. I will again refer to the nature of the Radicals, for the present I wish to confine myself to the consideration of the phonetic elements. Remusat enumerates six hundred and fifty-nine characters (including many Radicals) which give a clue to the sounds of combinations wherein they are found. I say "a clue," because in the majority of instances characters of different sounds will be found under the head of one phonetic. Thus the character 共 *Kung* which means *to include*, gives its own sound to 供 *to offer*, 恭 *horror stricken*, 拱 *to salute*, 栱 *a pillar*, 珙 a certain gem, and 龔 *to present**, while in combination † with 口, 巾, 水, 氷 with 竹, 水 with 艸, 谷 and 門 it is named *Hung*, and the characters mean respectively, *to deceive*, *a banner*, *a torrent*, *a water pipe*, a certain plant, *a valley* and *to fight*. It also gives the sound *chiung* to the compound 冾 *to freeze*. Instances of the same kind might be adduced to illustrate the power of the other phonetics, but this will suffice. It must however be carefully remembered that many characters do not admit of this accurate analysis into radical and phonetic elements, and it is this fact that renders such a dictionary as Callery's, in which the phonetic classification is exclusively adopted, defective and indeed almost useless.

To revert to the consideration of the original formation of characters, native works throw comparatively little light on our researches. The *Yi King* says:—

> The ancients knotted cords to express their meaning, but in the next age the sages renounced this custom, and adopted a system of written characters. Thus the officials were able (to publish their) ordinances, and the people to understand them, the ideas being clearly conveyed.

No doubt this Chinese 結 *chieh* a knot, answered exactly to the quipus wherewith the ancient Peruvians transmitted their ideas, as well from one to the other as to succeeding generations. It may also be inferred that by the knotted cords adopted by the Chinese, abstract ideas as well as sensible objects were represented. Thus, in the case of the Peruvians, to take Prescott's examples, while a white knot denoted silver, and yellow gold, they respectively denoted in a

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* Compounded of the phonetic 共 and 龍 *lung* a dragon.

† 哄, 幌, 洪, 篷, 蓬, 硿, 閧.

secondary sense, peace and war. In the early periods of the world's history, when traditions were handed down orally, knotted cords were perhaps more useful as aids to memory than as records in themselves, yet it cannot be doubted that they were capable, in at least some instances, of literal translation. Accepting the assertion that the starting point of Chinese writing was a knotted cord, history informs us that Fu-hi invented characters and made books. He is said to have derived his inspiration from the appearance of the heavens, the earth and the middle sphere. A subsequent labourer in the same field, the philosopher Tsang Chiai, or as some say the Emperor Tsang, was supplied with suggestions for the construction of characters by the tracks of birds and beasts, but these traditions are evidently attempts made in later ages to explain phenomena the origin of which is lost in obscurity. The 六書 which is the oldest work extant on the history of the written character, informs us that the characters were constructed on six plans according to the different classes of ideas to be represented. These were *Hsiang hsing* or pure images, *Huei yi* or combined ideas, *Chi shi* or indicative pictures, *Chuan chu* or reversible images, *Chia chié* or borrowed images, and *Hsing shêng* or phonetics. Of the first class or pure images are those ancient forms such as  which are preserved in the modern 子, 日, 月, 目 and 馬. Of the second class which represent combined ideas, 明 *ming* bright, a union of the sun and moon, is a good example. 卜 *pu* divination, is evidently derived from some instrument such as a divining rod, and somewhat resembles the Egyptian  *a hand*. It may therefore be taken as an illustration of the *Chi shi* or indicative pictures, as in it the idea of divination is symbolised by a divining rod. The same may be said of 中. 正 and 丏 *chên* and *fa*, now written 正 and 乏, may be taken as examples of the *Chuan chu* or reversibles, which however are very few in number. The fifth class or *borrowed images* is illustrated by Remusat as follows:—

> In order to express abstract ideas or acts of the understanding, a secondary meaning is attached to simple or compound characters denoting material objects; or the symbol of a substantive is made to denote the verb which expresses the corresponding action. Thus *the heart* represents *the mind* or *the understanding*, a *hand* stands for a *workman*, three pictures of men placed one behind the other signify *to follow*.

The latter example should probably be referred to the second class, *combined ideas*. The *Chia chié* taken as a whole is a division of words rather than of characters for, for example, while 手 represents pictorially or ideographically *a hand*, it is only in relation to the arbitrary fashion of the language whereof it has been made a symbol that it can be held to represent, as it occasionally does, an artisan or worker, as in the phrase 水 手 a water workman or sailor. Where synecdoche (if I may use the term) has been applied to the form as well as to the matter of a written language, ideographic characters

so treated may be traced through the history of their changes, but can no longer be regarded as hieroglyphics. Lastly we have the *Hsing-shêng* or phonetics which, as I have already shown, play an important part in the construction of each character. The first four classes are apparently purely hieroglyphic in form or may be traced to forms identical with true picture writing. Thus 山 () *hills*, 相 (composed of  *trees* and  *the eye*) to examine, 上 () *above*, 右 and 左 ( and ) *right* and *left* are either pure or more or less modified hieroglyphics.

It will thus be seen that the inventors of the Chinese written character, by combining certain hieroglyphic elements in accordance with the principles which I have detailed, have succeeded in gaining the power of representing sensible and ideal objects. The characters, are the representatives of ideas and not of words, and hence the judicious combination of characters in a Chinese written sentence possesses a power on the imagination which the most effective collocation of words could not exert. Of this we have a notable example in the description of the deluge of Yao given in the Shu-king or Historical Classic, and cited by Abel Remusat as an example of the pictorial nature of Chinese writing. The passage is as follows*:—

帝曰咨四岳湯湯洪水方割蕩蕩

Ti yue tsu szu yo shan shan hung shui fang ke t'an t'an

懷山襄陵浩浩滔天

huai shan hsiang ling hao hao t'ao t'ien, which he translates:—

Imperator ait, Oh quatuor montium (præfecti) inundantes inundationes diffluentes aquæ passim vexant, diluvies diluvians operit montes, superat juga, torrentes torrentesque mergunt cœlum.

It is evident from a mere inspection of the characters composing the passage alluded to that any one who happened to know the Chinese hieroglyphic for water 水 or , would have at least an idea of what the meaning to be conveyed is.

I have already stated the effect of the introduction of phonetics, and I would now draw attention to the peculiar action of radicals or determinatives. Probably the best examples of the mode in which a radical determines the genus of the character in which it is found are the 金 and  groups, although it is difficult to establish a preference for these groups over those classed under 人, 女, 木, 艸 and one or two others. With very few exceptions all the characters arranged under the 金 and radicals

* By the way I would remark that in Remusat's plate the characters are written incorrectly.

refer to metals, minerals, metallic instruments or ornaments, and to diseases and their effects, respectively. These groups are the most favourable for examination with regard to the possibility of dividing each character into two elements—a generic and a phonetic element, and the results obtained from such examination are most remarkable. I need not occupy your time by detailing at length what may be seen from the simple study of a radical dictionary. It will suffice for me to state that out of the 124 characters ranged in Kanghsi's dictionary under the radical 金, embracing those containing in all from ten to thirteen strokes, 94 are either identical in sound with the phonetic element or possess very slight modifications of that sound. Of these 94 therefore the idea and the sound may by inspection be ascertained, the latter exactly, the former approximately. How true this is, will be at once evident to any one who will take the trouble of constructing a table of characters under the following heads, which in some cases are mutually inclusive:—

1st. Characters possessing a radical and a phonetic well marked; such as 銅 *t'ung* copper, and thousands of others. 2nd. Those which are formed of one or more simple characters which do not include a phonetic but include at least one determinant, such as 鬥, 鬧, and others. 3rd. Those in which there is no simple element which can justly be regarded as a determinant, for example 字 a character. 4th. Those in which neither element can be assigned as either a radical or phonetic as in 能. 5th. Those in which both elements are phonetic, and neither can claim rank as a determinant; for example 喆 *chi* wise, composed of two identical characters possessing the sound *chi*, but meaning *fortunate* or *lucky;* and 6th, those wherein neither element is phonetic, but where the meaning of the complete character is a combination of the meanings of its elements. Such are *ming*, bright, 明 composed of *the sun** and *the moon* †, 針 *chên a needle*, composed of *metal* ‡ and an ancient representation of *a sword*¶, 相 *hsiang* to examine, composed of 木 *mu*, the representation of *a tree* or *trees*, and *mu* the eye. Of these many are to be found, indeed they form the only important exception to the first class. This division is co-extensive with the *Huei yi* or combined idea class which I illustrated above.

Such a table as this would prove clearly that the majority of characters belong to the first class, that is, possess a well defined generic element and an equally well defined phonetic element, while an important section may be ranged under classes 2 and 6. To this extent, therefore, the language, from what may be styled a mere superficial examination, appears evidently to possess important hieroglyphic characteristics which have not been lost since those early

*Jih. †yue. ‡chin. ¶shi.

ages wherein Fu-hi studied "the heavens, the earth and the middle sphere."

A question of considerable importance to this subject, is whether, given the present 214 radicals, the characters were formed from them by a process of word-building, whether, given the characters, the radicals were produced by analysis, or lastly whether either of these suppositions is correct. Although Fourmont expresses a distinct opinion that the two hundred and fourteen acknowledged radicals form a complete and methodical system of hieroglyphics, my impression is that they are not co-extensive with the original picture characters, but that these latter having been combined into complex characters in accordance with the rules laid down by the 六書, the history of such combinations not being well known, the radicals were eventually derived from those complex characters themselves. This will appear probable when we consider that many of the radicals cannot by the utmost stretch of the imagination be brought to represent ideographically the objects they are supposed to denote. For example *ku* a drum 鼓, ancient form 鼜, and many others. But, moreover, the 214 characters now acknowledged as radicals are of recent adoption. In the 六書, written B.C. 1000, the radicals or 字部 are stated to be four hundred and seventy-nine in number. In the *Shuo wên* (A.D. 100) the number of determinant forms is arbitrarily extended to five hundred and forty, and in the *Yu pien* they are further increased to five hundred and forty-two. Thus we must be careful not to assume that the radicals represent the original picture forms subsequently modified in accordance with fashion or necessity. It may now be impossible for us to penetrate into that dim antiquity wherein the original hieroglyphics of China lie shrouded. The monuments which might have perpetuated them have been utterly destroyed in the course of the countless revolutions and rebellions which have devastated the Empire from time to time, and the materials wherewith we are provided to assist our investigation of the mode in which characters were originally formed are simply the characters themselves, and our own powers of analysis.

Starting then from the simplest forms, whether we call them radicals or not, we find indubitable traces of a hieroglyphic origin. The first and most noteworthy is the character 一 *yi* "one." Passing on we meet 人 man, 刀 knife, 子 a child, 山 a hill, 上 above, and 心 the heart, with several others gradually increasing in complexity. From the entire number of so-called radicals or determinants we may select at least seventy-four which carry their meaning more or less legibly stamped upon them, and perhaps half a dozen more which may be classed as doubtful. But it must ever be remembered that there is no fixed principle to guide us in the selection of elementary characters, the classifications which have hitherto been

made being merely the result of an acknowledged want of some system of division. In some cases the determinant under which a character is placed in Kanghsi's dictionary, which we have learned to look on as the standard, is not that element which predominates in the logical analysis of the character, but generally the radical may be taken as a guide to the sense. It is also worthy of remark that out of the 214 radicals now acknowledged, twenty-six are unused except in combination.

In order to illustrate the manner in which characters are formed, Abbé Huc adduces the following examples, which serve to display popularly the genius of the language:— 怒 *nu*, "anger" is formed from 奴 *nu*, "a slave" surmounting 心 *hsin*, "the heart," in which relation the combination may be compared with the English *passion* as derived from the Latin patior. 史 *shi* "a historian," composed of *shou* "a hand" holding up 中 "the middle," and setting forth that undeviating line of justice and moderation which should distinguish the historian from the partisan; and 朋 *pêng* "friend" formed of the combined representations of two pearls. Remusat again takes a group constructed from the 102nd radical, 田 *tien* "a field," which by its form evidently denotes the division of an expanse of land into lots. Thus he shows that 苗 *miao*, "which is made up of *a field* combined with the radical which signifies the growth of plants, means, "the first fruits," and asserts that the latter in combination with 方 *fang* produces the character *miao* a temple, or place for offering the "first fruits;" but in this he is mistaken. Again he adduces the combination of 水 and 每* to form the character 海 *hai* "the sea," and lastly the combination of 日 and 寺 *szu* "a temple" to denote a measure of time, the latter being compounded of 土 and 寸 thus offering a remarkable analogy to the Latin *templum* which was probably derived from *tempus*.

Before closing this paper it may not prove uninteresting to give a few examples of the peculiar combinations of elements in Chinese characters. They will serve to illustrate what I have stated above, and may lead to the discovery of some interesting analogies between Chinese characters and the hieroglyphics of ancient Egypt. As the Society is fortunate enough to count amongst its members an eminent Egyptologist, we shall probably be indebted to him for some facts showing how under different conditions the same problems have been solved in China and in Egypt. And first I would notice a small class of characters which do not readily come under any of the heads which I have enumerated, in which the principle of combination may be said to be *mechanical*. An example of this is the character *chien* "a pyramid" 尖 composed of 小 *hsiao* "small," above 大 *ta* "great," which

* Meaning *every*, *often* or *frequently*.

points out not only the different dimensions of the various parts, but in so many distinct words states that the object of which it is the symbol is large at the base and small at the apex. Of the same class is the character *chang* "evening" formed (㬎) of 日 *jih* "the sun" below 山 *shan* "a hill;" the sun sinking below the hills, although this may with propriety be referred to the ordinary *Huei yi* or "combined ideas."

The language possesses very few characters which express abstract relations. Thus for the idea of "being" in the abstract it has no better expression than 有在 *yu tsai* "have get here," or 現體 *shien t'i*, which may be translated "actually embodied." There is no simple character to express the abstract idea of existence. In the same manner it is in phrases alone that we must look for terms to express such ideas as "a being" or "a substance." We must not lose sight of the imaginative element in the language, whereby expression of a single idea when condensed into a character reveals to us the thoughts working in the inventor's mind at the time when he made the combination, and enables us to follow out the train of reflection which led to the adoption of such or such a form. Thus the character *chiai* "a limit," formed (屆) of the character for *corpse* and a lump of earth seems to teach the important lesson of the frailty and uncertainty of life. Another principle which may be styled *the principle of intelligibility* has also not been without its influence. Traces of its power are to be found in all languages, as for example in the word *main de gloire*, which is a corruption of *mandragore*, and the more familiar instance of *sparrow grass* as a vulgarism for *asparagus*. In Chinese, instances of the effect of this principle are frequently to be found, but one example will serve my purpose. The original form of the character *shai*, to shoot with a bow, was a hieroglyphic representation of a bow—thus 𢍏—which was perfectly intelligible. Subsequently modified, however, probably by fashion, it is subsequently found in this form 𢍏 wherein almost all trace of its original pictorial character is lost. As therefore the characters were gradually modified and brought into their present *sung pan* and *kai shu* forms, the character *shai* had a spurious derivation assigned to it, and is now written 射 being moreover derived by Morrison from 身 the body and 寸 a measure, "to send from the body to a measured distance." One further instance, and I have done. It will illustrate the difficulty occasionally experienced in tracing characters to their original forms. 對 *tui* signifies to yield to an impulse, and according to Morrison is derived from 羊 *luxuriant growth of plants*, 口 *the mouth speaking at random* and 寸 *a measure*. It is said that the emperor Wan of the Han dynasty, anxious to teach his subjects, or, as many of them as could read, a great moral lesson, directed that the character 口 in the compound should be replaced by 士, to show that a man should be influenced not by idle talk but by the deductions of reason. The

emperor while desiring to perpetuate his fame as a moral philosopher forgot perhaps the confusion into which arbitrary changes of this kind must throw the etymography of the language. Thus, partly from ignorant attempt to render the formation of the character intelligible, partly from the varying taste of writers, and partly for the sake of expedition, the manner of writing the characters of the Chinese language has from age to age undergone extraordinary changes which render the investigations of the student who looks for original forms often fruitless, and ever tedious. But even allowing for these difficulties, the analysis of the written character if carefully carried out cannot fail to reward the student, by throwing light on the original construction of the language and teaching much of the history of human thought as applied to the construction of a means of intercommunication.

ARTICLE VIII.

THE REMAINS OF ANCIENT KAMBODIA

By Dr. Bastion.

The fate of Kambodia has been a singular one. Its name reaches with a mysterious sound in tradition and ancient lore. It is sung of in the Indian poems of the heroic age, it is pointed to by the nations of Ultra-India, as the cradle of their literature and religion, it is described in gorgeous colours by the Chinese geographers of former centuries. At present the country exhibits the saddest aspect of utter desolation and ruin, and in truth, those who have landed at the small ports of Kamput or Kangkao, and have there observed the devastations of Siamese and Cochin-Chinese soldiery, and the vast solitude which reigns around the puppet—still flattered with royal titles, shut up in a bamboo palace amogst the swamps of Wong—could not indeed but wonder, at the entire disappearance of its former splendour and glory and would not unnaturally doubt (as has often been done) the veracity of the relations handed down about anceint Kambodia, and consign them to the regions of myth. But ancient Kambodia existed all the while. It lay concealed, like an enchanted land, amidst the dense forests to the north of the great Lake, unknown to foreigners, known hardly to the natives themselves, looked upon with superstitious awe and never mentioned in profane ears. Geographical discovery has always been indebted to idealistic phantoms, which combined with ardour and enthusiastic perseverance to overcome hardships and fatigue in pursuit of the wished for object. Religious chivalry led the crusaders to the Holy Land and gave rise to the subsequent voyages in Central-Asia, in search of the Prester John. The African continent was doubled by the Portuguese; and the glittering vision of the Eldorado pushed onward the Spanish conquests in America, both northward and southward. The Eldorado has been revived in our

own days. Since the gold discoveries in California and Australia, bands of adventurers traverse the globe in all directions to look for the precious metal. They have penetrated into the valley of the Amazon river and the recesses of the Andes; they have explored New-Zealand, New-Guinea, Borneo, Sumatra—and lastly, they have approached the hallowed ground of old Kambodia. And now, after the traveller's foot has trodden again these regions, so long neglected and deserted, there suddenly lies unrolled before us, in the clear light of day, what once appeared to belong only to the misty realms of fable and romance. The whole of an ancient civilization, of a culture of the highest degree, reveals itself to our eyes, a civilization the more important, as it gives the key to the primitive history of Ultra Gangetic India, about which we can hope to glean little from the chronicles of the nations, who rule there now, all of these being of modern and quite recent growth. Out of the ruins of the Kambodian capitals, down from the magnificent halls of the great temple of Nakhon Wat, light will be shed on many obscure pages in the annals of Java, of Ciampa, of Ceylon, Siam, Malacca, Birma, Pegu and Cochinchina, yes, and more than this, even on China and the regions beyond. The temple of Nakhon Wat was the residence of the Buddhistic Patriarchs, built in honour of the famous Buddhaghosa, who introduced the letters from Lanka, and amongst his successors ranks Tamo or Bodhidharma, the apostle of China and subsequently of Japan, from which latter country vessels visited Kambodia to collect the religious books of the foreign faith.

The monumental remains of Kambodia are spread over a wide extent of country. They abound on the shores of the great lake (Bien-hoa or Thale-sap), but they are met with also in Korat and among the mountain fastnesses of the Loo tribes. A military road can be traced, which formerly ran from Naphburi in Siam to Inthapataburi, the capital of Kambodia, and then penetrated farther on, into the country of the Cochinchinese or (as they are called after the Mongols, who had placed their dynasty on the throne of China) the Yuen. Two massive stone-bridges, constructed with enormous slabs of hewn stones, are still remaining, and have so well resisted the inroads of time during so many centuries, as to be still possible to elephants and bullock-carts. One of them, 400 feet long, spans in thirty arches the river Lam-seng, the other passes over the Paleng river and both lead on straight to Inthapataburi or Wakhon Tom in the modern province of Siemrab. This province contains the most important portions of the monuments. Those I visited were: (1) the temple of Nakhon Wat in a still perfect state of preservation with the exception of a few spires having fallen down; (2) the town of Inthapataburi on Wakhon Tom, formerly the royal residence, the vast extent of which is still marked, by the remains of three city walls, the

innermost of which encloses the palace; (3) the town of Patentaphrom, which became the capital on the former one being deserted and contains the palace of thirty towers, still distinctly traceable; (4) the well preserved temple of Ihra-keoh in a more severe style of architecture, than that of Nakhon Wat and without the rich sculptures, which adorn the latter; (5) the temple of Lailan, containing a great number of those curious inscriptions, called Akson Ming, which are thought undecipherable by the natives, but are related, without doubt, to an antiquated form of Pali; (6) the hill temple of Bakong where is found the artificial lake of Sasong (the royal lake) with the remains of temples all round and stone-ghants leading down on the four sides. The temple of Ihra-Inkosi lies nearer to the town of Siemrab. In the province of Battabong I visited: (1) the town of Baset with the remains of temples, fortifications and tanks; (2) the temple of Wat Ekand; (3) the hill-fort of Banon. On the way from Bangkok to Kambodia, I passed the ruined palace of Panomsock and heard a great many more spoken of by the people.

Of these different remains, the most prominent object is the temple of Nakhon Wat. It is situated near the Siemrab river, at four hours' distance from Nakhon Tom [the great city] or Inthapataburi, the most ancient of the Kanbodian capitals, about the foundation of which I succeeded in collecting a great many legends, still current among the people of the country. Some of these traditions receive a curious support by coincidences, mentioned in Siamese, Birmese and Chinese histories, but my limited time here forbids to dilate on them. The temple, it is said, was likewise originally a palace, but converted into a temple on the arrival of the patriarch Buddhaghosa to whom it was given as his residence and was therefore called Nakhon Wat (the city of monasteries.) The figure of Buddhaghosa, or Phra Phuttathosa (the holy voice of the Lord) plays a momentous part in the Buddhistic missions of Ultra-India. A stone inscription on the island of Ramree fixes his arrival at an earlier date than he is spoken of in the Cingalese chronicles, but most versions agree in placing this in the fifth century. The temple in which he dwelt, and from where the monks went forth to gather the savages of the surrounding mountains into the pale of the Church, stands now in a lonely jungle, which has grown up again on the soil, fertilized by the graves of bygone generations. A few Talapains have erected their huts between the columns of the stone-paved courts and contribute to keep the temple in repair by claiming the occasional help of some neighbouring villagers, who were assigned to them, as slaves of the temple, by the Kambodian kings. The workmanship of the temple is far superior to anything seen in the neighbouring countries, inclusive of India. It is built of large free-stone, fitted admirably together without the help of mortar, and the sculptures display an elegance and a beauty in their execution, which

recall to the beholder the productions of Grecian art. Of the four squares, which, enclosing each other, surround the high dome (prasat) of the centre, the corridors of the outer one are embellished with those sculptures, in such a profusion, as scarcely to leave room for the inscriptions, interspersed between them. The objects represented are mostly taken from the mythology of Brahminical India, but in two compartments they appear to have reference to the special history of Kambodia, and no doubt will soon contribute to its illustration. One of these corridors contains, in a large procession, a catalogue of all the different nationalities, once subject to the empire, each one being represented in its peculiar costume and equipment. The characteristic features of the figures are marked quite distinctly. The Caucasian type prevails, in the lineaments of the face, and only at the end of the procession follow some rude mountaineers, recognizable as savages by their fantastic attire but with those physical features which characterize the present inhabitants of the Indo-Chinese countries. In an adjoining apartment the first meeting of the conquering race with the aborigines and their subsequent dealings are represented. I regret not to able to go into particulars, as there is here a fruitful field for discussion and much that calls for explanation. The octagonal dome, surmounting the whole building, which, in its entirety, forms a Dagob, like Buro-Budor in Java, enclosed in four niches, looking to the several points of the horizon, four standing Buddhas, and the Brahminical deities, occurring in the lower stages, are only added to Buddhism, in the same way as in Ceylon, Nepaul, China, Japan &c. One of the galleries represents the fight between the gods and the Asura, about the dragon-king, with four-handed Vishnu in the middle, standing on a tortoise. Others contain battle scenes of the Ramayana, with Hanuman, Lakman, Ravana, Garuda and such familiar objects. There are still many colonies of Brahmins extant in Kambodia, where formerly Banon is supposed to have been their stronghold. Some are attached to the royal service, as court astrologers and guardians of the Regalia (the same as in Siam and Burmah) but others follow the pursuits of common life. When the Thai tribes of the present Siamese (in consequence of the Mongolian wars in Yunnan) first descended into the valley of the Menam and its contributaries, they met everywhere colonies of Brahmins, who aided them in founding cities and regulating the religious worship. Thus, for instance, it is said in the Siamese history, called Phongravandan Müangüia (the history of the northern towns), that king Tri-tham-trai-pidok sent out two officers (Cha Nakrong and Cha Kanlun) in company of 500 merchants to explore the country; an expedition, which led ultimately to the foundation of Phitsanulok. After having crossed the rivers Trom and Keo-nuay, they arrived at the plain of the Brahminical villages, where Phra Phutthachao (Buddha) had been in the habit of

collecting alms. Of the villages of the Brahmins the eastern one contained 550 houses, the western one more than 100 houses. The two officers, after consulting together decided to stop there. "Here" they said "is plenty of grass, let us therefore remain. The place is level and quiet. There are Brahminical villages on both sides. Let us build a town here for our lord the king." And the officer Nakrong ordered the merchant Xaphokha to mount the cart and drive the 500 carts to the west, where the camp was placed. They then built a village called Xaphorat. And the servants of Nakrong assembled there to make bricks, in the number of one thousand. And the officer Kanlun built a village, which he call Xapho-Phraman; and his people collected there, were in number one thousand. And they made a great many bricks. Then having sent for the Xapho-Phrahmana (the priestly Brahmins) they kept the religious feasts and acted plays for three days. And the Brahmins tied up the hair of the head into a knot and, mounting on ropes, dânced on them in honour of Phra-Insuen (Siva). A nobleman then came forth, to fix the site of the city. And the Brahmins enclosed the place with strings, marked the sites and then divided the ground. They parcelled out what should belong to the Brahmins, what to the Thai and what to the Lao" &c.,

An important date for Siam, and the whole of Ultra India, is the *middle of the seventh century* (the time of the Tang dynasty in China and the ascendancy of the Chola in the Dekkhan) when the new civil era (the Chunla-Sakkharat,) supplanted the religious one of Buddha (the Buddha-Sakkharat.(This change is sometimes ascribed to Phra-Ruang, who (as king of Sukhotay as also of Naphburi) has many representatives of his name in Siamese and Peguan history, but more generally to Phaya Krek, the "Leprous Beggar," who became king of Kambodia in the place of the hero Kottabong, whose fame still lives in the songs of the mountain tribes of the Kha. With the legends, concerning Phra-Ruang, is connected the rise of the Thai (the free ones or the Franks,) as the Maha-Thai or Si-fan, of whom the Chinese historian says, "that there was no people in the world more jealous of its liberty and no people, which lived more independant," in the same way of senatorial government, as is still preserved in many communities of the Shans and of the Laos. The Thai language is still spoken, with only slight dialectical differences, from the Siamese gulf to the mountains of Assam, bearing unmistakable signs of relationship to the languages of the Himalaya. According to the Y-toung-tche, a uniform language was introduced, when the Si-fan (called thence forth Tou-fan) had subjugated the 150 tribes of the Kiang. This was done by a successor of the celebrated king Hou-ty-pou-tsoui-ye, who came from the West, as the lawgiver and civilizer of those countries, which fell afterwards to the share of the Emperor of the Tan (Ta-fan-cheng-chen-Tsau-pou,) when the Han (Chinese) and the Fan divided Asia in

an eastern and western portion (821 P. D.) in the same way as Spain and Portugal afterwards divided islands of the oriental seas. The king of the Sifan, (Loung-tsan-tche by name,) was the first, who (634 P. D.) sent ambassadors to China (real or pretended tribute bearers) and received (641 P. D.) from the Emperor a Chinese princess in marriage. The Siamese historians of the Phongsavadan Müang Nua give a long account of Phra-Roung's or Ruang's voyage to China (638 P. D.) which they represent as a kind of conquest, and whence he brought home a veritable princess of China (for be it observed these princesses given to tributary kings, were often supposititious ones) as his legitimate queen. Phaya Krek is sometimes represented, as the rival of Phra Ruang or, more correctly, as his royal master, [who, frightened by the miracle of water being borne in a sieve, ceased to ask for the tribute of the meritorious One,] but generally the two cyclic legends of Phra-Kuang and Phaya-Krek run paralell with each other undisturbed in the liberal allowance made by the unscrupulous mind of the Siamese to everything that concerns chronology and dates. In one of the halls of Patentaphrom stands a statue of stone, the hair tied up in the Brahminical fashion. It is said to represent Phaya Krek, with whom, the seat of the capital, and the royal dynasty changed [636 P. D.] This figure is popularly known, as Ta-Phrom [grand-father or ancestor Phrom] and thence the name of *Paten Taphrom* [the citadel of Ta-Phrom]. Phrom is the Siamese and Kambodian pronunciation of Phramana or Brahma, called Fan in Chinese books. Contemporaneously with the supposed date of Phaya Krek lived the last king of the Fan dynasty in Tonkin. The royal race, called Fan or Fane, which began 347 P. D., when Fane-yuen ascended the throne [at the death of Fane-Y the grandson of Kuliene], reigned till the year 653 P. D; when it became extinct. The historians of Tonkin and Cochinchina speak frequently of wars with the Ciem, which have generally been understood to refer to the pressent Siamese, whereas they are to be explained as alluding to Csampa [or Trampa]' the kingdom of Tchan-ts-cheng in Chinese records. An old legend divides Ciampa and the whole of Annam into the country of the coast and the country of the mountains, and pretending that the first was ruled by the queen and the latter by the king of the primordial dynasty. Something similar is related of Tchen-la or Tohan-lap [the Chinese name of Kambodia], where a kingdom of the sea is spoken of, in contradistinction to a kingdom of the land. Afterwards two kings are mentioned, a king of water and a king of earth, whereas Ciampa was governed [before the introduction of Irlam by a colony from Malacca] by the king of fire and water. This very personage, the king of fire and water, still resides amongst the mountain tribe of the Radeh and is said to receive a customary tribute from both the kings of Kambodia and of Cochinchina. Of the fact of his

still exercising some influence over the barbarous tribes, called collectively by the name of Kha, I received confirmation in Saigon from a French missionary, who had passed sixteen years in the stations of those parts, and had seen him several times. The kingdoms of Fou-nan and Tchan-la having been united, they were involved in war with Tchan-tcheng [1183 P.D.] The king of Tchan-tcheng invaded Tchen-la and ravaged the country, carrying off a great booty. But the first successes were followed by disastrous reverses and the king of Tchen-la, in retaliation for the injuries inflicted on him, finally took possession of the whole kingdom of Tchan-tcheng (1197 P. D.) Both parties applied to the Emperor of China, as arbiter, and he decided that Tchan-tcheng should belong to Tchen-la, but that the new kingdom should bear the name Tchan-tcheng. So, when afterwards on the ascendancy of the Thairace, the Suen-lo (Siamese) began their yearly inroads in Kambodia, (regarding which continual, but ineffectual complaints, were sent up to the court of China), the name, in the course of events, passed over to them.

The Chinese travellers [of the 12th century and earlier] describe in many places, the vastness of the Kambodian capitals, the splendour of temples and palaces and the abundance with which gold was lavished on ornaments. In the latter must have consisted the richness of the country. Old gold washings are met with everywhere, in northern Kambodia, but seldom yield more than the necessaries of life, either because they are exhausted or because they are not worked properly by the indolent people, now inhabiting the country. Competent Europeans have not yet examined them. The description which the Chinese give of the towers, the bridges, the galleries, the guardian lions, the ornamental dragons, can still be traced in every particular amongst the ruins, now remaining.

Another interesting instance I found in the *Mémoires Chinoises*, (chiefly founded on Amiot's Communications.) It is said there of the king of Tchan-tcheng: Il porte sur la tête un bonnet d'orfin, travaillé en filigrane, au-dessus du quel sout trais petites montagnes du même métal". Now, one of the most peculiar features in the sculptures of Nakhon Wat is the variety of head-dresses there represented, but one which occurs the most frequently and always marks the royal personages, as towering above their followers, is a crown in filagree work with three elevations, as here described. Another singular custom, mentioned in the same book, which served to prepare virgins for marrying, is told by van Schouten (in the 17th century,) as existing in Arrakan. The Swenlo (Siamese) were already settled in Kambodia and had learned the cultivation of silk from the Chinese. The Kambodians have an old tradition, that their ancestors were fed and dressed by a plant, which furnished them both with nourishment and garments; often have I listened to their tales about

Komaratta (the kingdom of the Lotus,) from where they trace the first emigrations. This likewise is confirmed by the Chinese authors [who at another place remark, that all work in the kingdom of Tchen-la is done by the Swen-lo] in saying; "Le pays produit de lui-même une plante que suffirait seule pour nourrir les habitans. Cette plante vient dans l'eau et à mesure que l'eau crait, la plante s'eleve de façon, qu'elle surnage tout. Elle est très abondante et le fruit, qu'elle produit, est une espèce de grain, fort bon au goût et très nourissant"—"a plant is produced in this country which alone is sufficient to feed its population. It grows in the water, and expands itself in proportion as the water rises until it covers the whole surface. It is very abundant, and its fruit is a sort of grain which has an excellent taste and is very nourishing." Thus we have a repetition of classical Lotophagi. But I must conclude. My chief aim, in referring so much to Chinese authorities, is to draw the attention of this Society, which is more favourably situated than any other, to the many interesting facts, which might still be elicited from Chinese literature in illustration of the history and ancient geography of India and the adjacent countries. Many interesting works have been brought to light, but the immense store-house of Chinese reading, may still contain many others, which would amply repay the trouble of exploration.

ARTICLE IX.

RETROSPECT OF EVENTS IN CHINA AND JAPAN DURING THE YEAR 1865.

By Thos. W. Kingsmill, *Treasurer.*

The year just passed through has been a remarkably uneventful one, and offers few salient points for the reviewer; the events of the last eight years have however commenced to bear fruit; changes, none the less important that their growth has been slow and almost unobserved, have obtruded themselves into notice, and a general feeling that reform, radical and complete, is required, has penetrated to all classes native as well as foreign. Many of the old landmarks of party have been swept away, and instead new associations, new interests are being created to bear fruit good or evil in their season.

The year opened so far as the political relations of China were concerned satisfactorily. By degrees the connections of the Court of Peking with foreign powers were being extended, while the country as far as the external world was concerned was in a state of profound peace.

Internally the remains of the T'ai-ping Rebels, after the loss of Nan-king and Hu-chow had retreated along the Mountain ranges forming the frontiers of Cheh-kiang, Kiang-si, and Fuh-kien, during their march threatening many cities, the most important of which was Kwang-sin-fu in Kiang-si, where they were defeated with severe loss, and causing much suffering amongst the inhabitants of these districts. They finally captured the city of Chang-chau-fu in Fuh-kien where at the beginning of the year we find them nominally besieged by the Imperial troops.

In the North-west the Mahomedan Rebels were steadily advancing towards the sea-board, laying waste the country and cities along their route, their track, even more than that of the T'ai-ping insurgents, being marked by blackened ruins and utter devastation.

In Hu-nan a military Mandarin had stirred up a local rebellion. In Man-chouria the Tartar troops in the service of the Emperor had mutinied under the shadow of the very palace, and had given much trouble to the authorities. In Hu-peh local banditti at intervals descended into the plains carrying off the standing crops, burning villages, and encouraged by the inertness of the native officials had more than once threatened the open port of Han-kow.

In addition to these the Imperial government, never fully established, was openly set at naught in the Southern and Western provinces. The incessant feuds between the Hakkas and Puntis in Quang-tung assumed a graver aspect; armed bands advanced as far as Kow-kong on the main embouchure of the Canton River. Quang-si scarce owned allegiance. In Yunnan the Miautze, encouraged by the weakness of the government, boldly attacked towns and walled cities. In Sze-chuen the embers of rebellion under the followers of the *soi disant* E-wang 翼王 still smouldered.

The internal affairs of the Empire were thus in the last stage of disorder, scarcely one province out of the entire eighteen could be depended on; everywhere the seeds of disaffection, sprung from the misgovernment of the later monarchs of the Tsing Dynasty, were scattered broadcast over the land, so much so that even the best friends of order had almost given up the cause as hopeless, and were ready to hail any change as for the better.

Commercially the year opened with prospects almost as dark, heavy losses continued for two successive years had affected many even of the old established houses. The export of the Cotton, from which large profits had been anticipated, had ended in entailing heavy losses on exporters. The other staples of the country had arrived at home to a market continually depressed owing to the uncertainty prevailing respecting the issue of the American war.

In Japan our relations with the government still remained unsatisfactory. The murder of two British officers on the 21st Nov., Major Baldwin and Lieut. Bird, had cast a gloom over all, and though the native authorities had exerted themselves to bring the perpetrators of this outrage to justice, a feeling of uncertainty as to the motives that prompted their action was all but universal.

The unexpected recall of Sir Rutherford Alcock at this time still further tended to darken this gloom, as it was generally looked upon as an indication of the repugnance of the British Government

towards an officer who had once, in the affair at Kagosima, taken active measure to repress Japanese arrogance and exclusiveness. The defeat of the Prince of Choshiu by the allied squadrons at Simoonisaki* had not yet borne full fruit, and foreign trade was considered to be in a very precarious condition.

Few subjects of domestic interest were mooted at the time; the great destitution prevailing amongst the lower classes of foreigners however, attracted considerable attention. During the continuance of the Taiping rebellion in the provinces adjoining the sea and the river Yang-tze, large numbers of foreigners were attracted by the opportunities held out of joining one or the other side in the contest, as well as by the precarious profits to be obtained by illicit trade in the disturbed districts. Many of these men were of the very lowest class, and the almost perfect impunity with which they could commit crimes of the gravest kind naturally reacted on their character; driven out of the country by the cessation of the rebellion and the returning activity of the native government, they settled in the open ports, and leagued with the scum of the Chinese population lived by robbery, or in default of opportunity on what chance employment they could pick up.

The Chinese Authorities, aggrieved at these outrages committed often with impunity, and generally, from the want of power entrusted to the Consuls, punished inadequately, pressed the matter on the attention of the foreign ministers, as being in contravention of the spirit of the treaties made with the several powers. At Shanghai the Tao-tai Ting distinguished himself by the energy with which he endeavoured to put an end to these outrages amongst the native population, he also urged on the Consuls the advisability of closing the gambling houses in the Foreign settlements which had become haunts of vice of every description.

Under such circumstances the year 1865 opened in China and Japan. Much of the exclusive policy of the former government had become a thing of the past, and already the nations of Western Europe sought to introduce the modern appliances of railways and telegraphs, and much unmerited obloquy was thrown on the Chinese authorities for their refusal to introduce at once these innovations. At a meeting of this Society held in the month of April, a report of which will be found in this volume, Mr. Hart, Inspector-General of Foreign Customs, drew attention to the difficulties under which they laboured in respect of these matters; but we may express a hope that further knowledge and extended intercourse will remove these prejudices, and that in a few years we may look forward to a still further opening up of this country beneficial to its government and people alike.

* On the 5th, 6th and 7th September, 1864.

Following out the ideas expressed by Sir Macdonald Stevenson, who visited the country in 1864 with a view to these matters, meetings were held in Hongkong in the Spring, and a Company denominated the "Chinese Railways Co., Ltd." was set on foot and a preliminary prospectus issued. The step was probably premature, and since that time the persistent opposition of the Chinese Government and the depressed state of trade has caused the scheme, for the present at least, to remain in abeyance.

Within the year 1865 the completion of the Persian Gulf Telegraph has brought us nearer to Europe, though the continual irregularities of that line have as yet prevented it being of much service.

Telegraphic communication has also within the current year been established between Europe and Kiachta on the northern frontiers of the Chinese Empire, and a proposal to connect the latter place with Peking by a line of couriers has been under the consideration of the mercantile houses of Shanghai. A project for the construction of a railway to connect the seaboard of British Burmah with the South-western frontier of China has been brought under the notice of the Indian government and although at present in abeyance, the day seems not far distant when we may expect a new opening for foreign enterprise.

On the establishment of the present Tartar dynasty, though the forms of government prevailing in China for nearly two thousand years were preserved, the first conquerors found it necessary to overawe the subject race. Manchus were placed in all appointments of trust, and the ancient dress of the Chinese was prescribed. To keep up the prestige of the Manchu name garrisons of Tartar soldiers were placed in the principal cities of the Empire, with hereditary duties and privileges. Little by little the peculiar privileges of the conquering race were set aside, the posts of honour and profit gradually fell into the hands of the Chinese; many of the garrisons cut to pieces during the late T'ai-ping rebellion were not resuscitated, whilst the two races became gradually more assimilated. The funds set apart for the support of the hereditary troops in these towns were found in the depressed state of the country to be insufficient, and much destitution in consequence prevailed; an Imperial edict therefore of the 26th July abolishing the hereditary duties and peculiar courts of these troops, permitting individuals to pursue any calling at their pleasure, and subjecting them in all matters to the ordinary tribunals of the country, thus abolishing the last distinctive mark between conquerors and conquered, excited but little interest, and is merely worthy of a passing remark as showing how completely the assimilation of the two races has been effected.—

PEKING GAZETTE (July 26th, 1865).

The memorial (some time since) presented by Shên Kuei-fên (Futai of Shan-hsi) has been reported upon by the Tu-t'ungs of the eight banners, the Boards and the officials (appointed to the task). The memorial in question treated of the pecuniary state of (the Manchu-bannermen) and proposed that they should be distributed throughout the country. It represented that the bannermen are sunk in the depths of poverty, and that it would therefore be most advantageous to distribute them among the provinces. In the reign of Tao Kuang this project was discussed, but nothing came of it. Now, however, affairs have arrived at such a pass that if some means of the kind be not adopted there is danger of disturbances amongst the sufferers, while, on the other hand, if the Imperial bounty be extended to them, and they be allowed to settle in the provinces their wants will be provided for. The throne was therefore conjured to permit for the future any Manchus who might desire to do so, to wander forth for the purpose of pursuing trade. This indulgence should be extended to all whether they be degraded officials or are too old to take office in either the civil or military departments, to those not supported by Government as well as to those who are, no matter whether they be *Chu-jen, Kung-sheng, Hsiu-tsai, Hsiu-tsai* by purchase, soldiers or unemployed. It was suggested that the T'u-tungs should provide applicants with passes to enable them to disperse over the empire. The districts and prefectures selected by those who may take up their abode in the provinces should [in the periodical returns] be noted, as also the banner to which each man belongs. This would also apply to all [Manchu] mandarins in the provinces who have been removed from civil or military offices, and to such children, and blood relations of those who have died at their posts, as have not the means of returning to Peking. Moreover, should disputes arise [amongst the Manchus so located] necessitating the interference of the tribunals, the local [Chinese] magistrates in each place should take cognisance of the matter. Should, moreover, any [Manchus] be found guilty of crimes against the laws, they should be punished by the local mandarins as though they belonged to the general population. Should any Manchu wish to enter the ranks of the people, he will be regularly registered as an ordinary citizen. When examinations for civil or military degrees are held those who desire to compete should report the same to the Governor-General and Futai [of their respective provinces], or submit their qualifications to them, who in turn should report the request to the Boards. Lastly, bannermen in the provinces should be permitted, if they so desire, to enter the Chinese cavalry or infantry.

Such are the measures recommended by Shên Kuei-fên.

The idea seems to Us excellent, and WE therefore command the T'u-t'ungs of the eight banners to act in accordance with the above suggestions, and issue Notifications informing the Manchus residing in Peking that from an earnest wish to relieve their necessities, WE permit them henceforth to apply themselves to trade.

Shên Kuei-fên in his memorial further represents that the same favour should be extended to those Manchus who are stationed at Hung-ch'êng-tzu and K'ai-ping outside the T'u-shi pass, and at Hsing-ho and Hsin-ping outside the Chang-chia pass.

How is it that destitution prevails in these localities? Are there not extensive fields to be cultivated? Let the T'u-t'ungs, Governors-General and Futais examine carefully and thoroughly into the question of the fittest residence for these men, and let them neither be discouraged by difficulty nor induced by a love of ease to be careless. They must not think that it is none of their business for WE shall await their reports on the [agricultural] capabilities of the region beyond the passes. As soon as the necessary information is collected let it be at once communicated to Us, that the above suggestions may be carried out.

Respect this.

Within the year the settlement of the districts lately disturbed by the rebellion has proceeded. Accounts from Soochow and Hangchow as also from the provinces of Cheh-kiang, An-whei, and Kiang-si speak of returning prosperity, a prosperity which would have been

greater, had not the unusually severe rains of the Spring and Summer almost entirely destroyed the first crop of rice in the lower grounds, and seriously damaged the second crop.

In the prefecture of Chang-chow in the province of Kiang-su which suffered severely during the rebellion the distress was fearful, more especially in the district of Wusie near the head of the Tai-hu lake. In the lower portions of the province the Cotton crops turned out a failure, the yield being calculated at less than one third of that of 1864. From the prefecture of Shau-hing in Chehkiang the accounts were also disastrous and many lives were lost in consequence of the inundations.

The valley of the Yang-tze was also deeply flooded; during the month of July a great portion of the British settlement at Hankow was under water, the river having risen 44 feet over its winter level, many buildings were injured, and much damage done to shipping while an unusually large extent of country was thrown out of cultivation. In Sze-chuen the two large cities of Chi-chi-hien, and Chên-hien were swept away by the flood. The city of Nan-king was also inundated, and much difficulty was experienced in the navigation of the river. Severe floods attended with disastrous results were also reported as having been experienced along the banks of the Yellow River.

While such was the state of affairs in the central provinces, a drought almost equally destructive prevailed in the North, and we find taking place at the same time, in the North, processions headed by members of the Imperial family to pray for rain, and in Shanghai a general fast ordered, and prayers offered up to the Rain-god [Lung wang] for a cessation of the severe rains which had rendered fruitless the labours of the husbandman.

At the Fung-wang-shan the Camps established by the Chinese government for the purposes of instructing the native troops in European discipline were carried on with some degree of success, in the early portion of the year under Major Jebb of the 67th. Regiment, and on his departure under Mr. Winstanley formerly of the English Army. The Arsenal established at Soo-chow under the direction of Dr. MacCartney has also been carried on with energy, and a considerable quantity of new machinery has arrived. It is intended to remove this Arsenal in a short time to Nanking, which city is supposed to offer greater facilities for its permanent establishment.

A Chinese officer was despatched to America, it is said, for the purpose of purchasing steamers to form the nucleus of a Chinese navy, and generally speaking more activity has been displayed by the Chinese government in taking advantage of foreign arts and appliances.

As already mentioned at the beginning of this retrospect the remains of the T'ai-ping insurgents had made a stand at Changchow-fu in Fuh-kien; here, opposed at first only by the undrilled

and ill officered militia of the province, they laid waste the country and levied contributions from the inhabitants. The promises held out by the insurgent chief Li-Shi-yin the *soi disant* Tse-wang 字王 were but ill carried out by his followers, who appear to have acted here as elsewhere. The insurgent leader at the beginning of the year issued a manifesto addressed to the repesentatives of England, France, and America, asking assistance, and offering a partition of the Empire; this document expressed the usual dogmas of the peculiar system of Christianity professed by the followers of the late Tien-wang.

"If on the other hand your various nations relying on the omnipotence of our Heavenly Father and Jesus Christ, and acting upon the Doctrine of Christianity, will come to terms with us for destroying the Tsing Dynasty; if you command your naval armies and attack those places near the water, whatever cities, districts, ports, and passes you will have taken and conquered by your force, you will be at liberty without the least opposition on my part to keep; and whatever treasures and food found therein you will be at liberty to appropriate; and so I will attack on land, and whatever cities districts and passes I conquer, and whatever treasures and ports, and food I find, I will divide, giving one half to you; and all the distant cities, and marts will be surrendered to you."

Such was the last manifesto issued by the representative of a faction which had sought to overturn the Imperial government, and had boasted of its intention to renew the ancient glories of the Ming dynasty.

The insurgents had meanwhile availed themselves of what foreign assistance they could obtain, and had established an arsenal in the city; amongst others they were joined by a foreigner named Rohde formerly an officer in the Anglo-Chinese force under Lieut.-Colonel Gordon; under his direction their movements appear to have assumed a more regular character, till towards the end of March the government, aroused by the state of affairs, sent down some 8000 troops, disciplined at the Fung-wang-shan camps, under the command of Kwo-sung-ling a native officer who had attained distinction in the campaign of 1863 in Kiang-su; these troops were accompanied by Colonel Kirkham also an officer of Lieutenant-Colonel Gordon's force. Before their departure mutual visits of friendship were interchanged between them and the Shanghai Volunteers, then under command of Sir Harry S. Parkes: arrived at Amoy from want of artillery or on account of the paucity of his troops, K'wo-sung-ling appears to have confined himself to investing the city, and gradually driving in the rebel outposts, till on the 16th April the rebels finding the town untenable suddenly withdrew under cover of night, retreating towards the town of Tung-shan.

Thus ended as a political movement the once great T'ai-ping Rebellion, after, devastating utterly some of the finest provinces in

the Empire. Its hordes had entered fifteen provinces; had at one time approached within one hundred miles of Peking; had captured seven provincial capitals,* and numberless smaller cities; had even altered the face of the country; destroyed its communications; deflected its rivers; broken down its sea defences. During its continuance smiling fields were turned into desolate wildernesses; "fenced cities into ruinous heaps." The plains of Kiang-nan, Kiang-si, and Cheh-kiang, were strewn with human skeletons; their rivers polluted with floating carcases; wild beasts descending from their fastnesses in the mountains roamed at large over the land, and made their dens in the ruins of deserted towns; the cry of the pheasant usurped the place of the hum of busy populations; no hands were left to till the soil, and noxious weeds covered the ground once tilled with patient industry. Its head a religious fanatic, afterwards a debauched imbecile, despised by his own officers, and shut up in a palace built from the ruins of the once celebrated Porcelain tower, died an inglorious death in the midst of his women; his best officers, suspected, and surrounded with spies, were thwarted in their endeavours, while a licentious soldiery was left unchecked to commit crimes of the most atrocious character. Under pretence of a mock Christianity their chief assumed divine honours and sought to palliate the crimes of his followers by the open exhibition of blasphemy and profanity of the most startling character. In war a wild impulse of destructiveness appears to have been the ruling motive; cities were suddenly captured and as suddenly evacuated, when the means of sustenance had been as ruthlessly as senselessly destroyed; for bare sustenance continued successes were necessary; like the fire raging in the prairie, its hordes rushed ever on; before lay smiling plains, behind blackened ruins; new fuel was everywhere necessary, found only too abundantly amongst those dangerous classes, which over-population and an effete civilisation combined had given birth to. The movement bore within itself the seeds of its own destruction, and its knell was sounded when the first check was given to its onward progress; thenceforth the flames indeed flickered up here and there amidst the universal destruction, but deprived of fuel from without, they one by one collapsed; till the fall of Nan-king, followed by that of Hu-chow, deprived the movement of its head, and though as above related a feeble stand was made at Chang-chow, the movement had already become contemptible.

After leaving Chang-chow the insurgents, opposed on all sides by Imperialist troops, and in the midst of a population who had shown themselves constantly hostile, appear to have broken up into two or more bodies, we hear of one investing the city of Kia-ying-chow in

* Kwei-lin, Nan-chang, Wu-chang, Nan-king, An-king, Hang-chow, Soochow.

the North-eastern portion of Quang-tung province, but apparently without success, as no further notice is taken of the fact, while in October news arrived of the capture of Kan-chow-fu in Kiang-si which had been occupied by a body of insurgents, thus clearing Kiang-si of their presence. These troops probably retreated to the nucleus of mountains which near this separates the three provinces of Fu-kien, Quang-tung, and Kiang-si.

The last news we have heard of this body is derived from a statement made at the British Consulate, at Canton by an American named Baffey, one of those foreigners who were spoken of above as having joined the rebels at Chang-chow; he describes the cause of his desire to desert to have been the sight of two Chinese mandarins burnt alive in Chang-chow.

"When the rebels evacuated Chang-chow, I came with them into this province, and stayed with them until the 14th July when I deserted them in disgust. The name of the Chief I joined at Chang-chow was the Tze Wang, and it was with his party to the number of 20,000 that I left Chang-chow. There were 13 Europeans with them at that time. Eleven days after leaving Chang-chow the Tze Wang's division became disorganised near Ying-ting on a branch of the Han River, and I joined the Kan Wang. It was with the latter that I entered this province. The Kan Wang numbers his force at 100,000, but he has not more than 15,000 fighting men, who, however, are well armed. I got disgusted with them at last, the slaughter was dreadful: at the city of Chên-ping, they took 1,600 Imperial braves prisoners, who surrendered on the promise of their lives; but the same night they beheaded the whole number, and I saw the creek run with blood for four hours. On the night of the 14th July I took advantage of my being with a party at a point some 60 li in advance of the city of Chên-ping, to desert by floating down the river on a plank, and the next day I took to the mountains. I wished to avoid the troops, as I knew I should be put to death if taken prisoner by them, so I made enquiries previously to my flight from the country people within the rebel lines respecting the direction of Kia-ying-chow, and at length I gave myself up to a village mandarin. Previously to this I was seized by some boatmen belonging to the village, who bound me hands and feet, and were about to behead me, when a respectable old man induced them to desist and led me to the mandarin. The latter sent me to Kia-ying-chow, were I was confined in an office belonging to the Magistrate, and treated well by the officials, but very badly by the people. I only had rice and water. I was then sent down to Canton by boat in charge of a small mandarin, who treated me kindly. I arrived at Canton the night before last, and was taken in a chair into the city, where I was lodged in a yamên, and last night was examined before two magistrates. It was at a Chinese prison; a linguist interpreted, but so badly that I could understand nothing." * * * * *

"The greatest number of Europeans ever at Chang-chow was sixteen. I attempted to escape out of Chang-chow, but was prevented by information given against me by a German. The cause of my wishing to desert was seeing two Chinese mandarins burnt alive by the rebels in the city of Chang-chow. For every tail of a mandarin soldier produced the Kan Wang gives $6 reward. The Kan Wang is about 35 years of age. He is the principal rebel chief at the present moment. I have never heard the rebels speak of coming near Canton, but they are very auxious to get to the coast so as to obtain arms. There is very little money among the rebels, and this province is not productive enough to support them. They threw up fourteen fine stockades around the city of Chên-ping, very different from the wretched ones erected by the Imperial troops.

The country people are very hostile. They had cut down the unripe paddy around Chênping to prevent its falling into the hands of the Kan-wang. The latter, unlike the Tze-wang, does not allow useless devastation among the villages."

The remains of the Rebel troops amongst these almost inaccessible districts will probably exist as banditti for some time to come; the central power at present having little authority beyond the walls of the cities.

The record of events at Chang-chow carries us incidentally to a subject which at one time threatened to produce a misunderstanding between China and the United States of America, I allude to the Burgevine affair. The history of this man's career in China is well known to most of the members of this Society; second to Ward he succeeded him in command; failing to give satisfaction, and displaying infirmities of temper unsuited to his position, he was summarily dismissed by the Fu-tai, who refused to reinstate him on a request from Peking. Feeling himself aggrieved he went over to the Rebels, taking with him the steamer Kao-chiau piratically captured at Sung-kiang: again betraying the cause of his new friends he capitulated to Lieut.-Colonel Gordon; notified to leave China by the American Consul, he was discovered by Li Fu-tai's officers on board the Fei-lung steamer then about to start for the disturbed districts, and was taken prisoner.

The Fu-tai at once delivered him up to the American Consul General, after which Burgevine was permitted to pass over to Japan; the United States Consul General waiving the criminal prosecution to which he had rendered himself obnoxions, in consideration of the assurances given by Lieut.-Colonel Gordon, who however looked upon him as too erratic to be allowed to remain so near the scene of new temptations. It was however understood that the criminal prosecution was simply held in abeyance, in consideration of his at once leaving and remaining away from the country.

So much of his history belongs to the past, a friendly pen thus describes the events which led to his reappearance in China against his promise given, and in face of his deportation by his Consul.

"To him, tired of the quiet of existence at Yokohama, and anxious to behold other scenes, the offer of a passage from Kanagawa to Shimonosaki was most welcome. The *Fei-pang*, a steamer held for speculation by her owners, was going down to Shimonosaki to pick up any engagement likely to prove profitable, or to be sold. Report states that on her arrival there Choshiu, who had heard of the extremely ill-grounded terror wherewith Burgevine's name was greeted in China, offered him an important post in the army he was then engaged in levying against the Tycoon. This proposition was not finally accepted as Burgevine wished to return to Yokohama before deciding on so important a step. But the owners of the *Fei-pang* had meanwhile altered their plans and resolved to bring the steamer to Shanghai, and thence start for Hongkong, returning direct to Shimonosaki. As there were no means available for returning to Yokohama direct, Burgevine at length made up his mind to accept the offer of his fellow-passengers and enjoy the round trip by Shanghai and Hongkong. So far this visit to China was purely accidental, and we have, moreover, reason to believe that on the passage, when spoken to on the subject of joining the rebels, he expressed his conviction that the game had been played out, and that neither honour nor profit was to be derived from that quarter. Arrived in Shanghai, he met, we presume, some ardent sympathisers in the rebel cause. At any rate he resolved to leave the *Fei-pang* and take a passag ein the

General Sherman which at the time was loading a miscellaneous cargo for Amoy. His design in visiting Amoy seems to have been to find out the chances in his favour were he again to join the rebels, but from his conversation it was evident that he had adopted no resolution on the subject. On arriving at Amoy, by the ill-judged indulgence to use no harsher epithet, displayed by Mr. Irwin and the exertions of some few Anglo-Taiping residents, Burgevine, while in a state of intoxication, was induced to pledge himself to visit Chang-chow, and if need be give all the assistance in his power to the rebel cause."*

It appears that the presence of Burgevine at Amoy was known to the American Consul who in contravention of his duty took no steps to arrest him; afterwards betrayed by a servant he was arrested on or about the 15th May, when on his way, with two companions, armed to the teeth, to the Rebellines, and was taken to the Chi-hien's Yamên where he was confined. The American Consul hearing of his imprisonment demanded his rendition which it appears was promised, but fearing non-compliance he is stated to have broken into the Yamên and found that the night before, Burgevine with his companions, one of whom was an Englishman named Crane, the other a Portuguese servant, had been despatched to Foo-chow.

At Foo-chow the British and American Consuls demanded that the men should be delivered up, or that at least they should have access to the prison; both these requests however were refused the chief magistrate stating that the men should be sent on to Li Fu-tai of Kiang-su under whose orders Burgevine had as above stated formerly acted.

From this time nothing further was heard of the men, till in the beginning of August a report seems to have come to the Fu-tai's ears, that they had been drowned at Lan-chi-hien in Cheh-kiang, which was subsequently confirmed by a despatch on the 20th August sent to the British and American Consuls at Shanghai, stating that the boat conveying the three foreigners had been capsized owing to a sudden flood in the river, and that they and 10 Chinese had been drowned. Mr. Lewis United States Deputy Consul General proceeded afterwards to the spot to investigate the circumstances.

Nothing appears to have been discovered to disprove the assertions of the Chinese, though rumours of foul play were prevalent. The fact of heavy flood was proved, but the bodies were too much decomposed to throw light on the manner of death: Burgevine's body was clearly identified by a fracture which had occurred during his service in the Imperialist army, but no injuries incompatible with the native account of his death so far as known were found out.†

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* *North-China Herald, September 14th, 1865.*

† It seems but right to add, that some of the circumstances attending Burgevine's death, though capable of explanation seem to throw some suspicions on the entire truth of the Chinese narrative. The time which elapsed from the date of his death (June 26,)

Such was the last of Burgevine, whose career has so frequently been before the public; insignificant in himself, circumstances forced him forward; unsteady and unprincipled, his conduct twice threatened to interrupt the friendly relations of China and the United States; and at one time appeared likely to cause a dispute between the Court at Peking and the Fu-tai of Kiang-su. Of his death nothing more will probably ever be learned, and it will perhaps be best for the interests of all to let the cloud of obscurity remain over it.

Foreigners of other nationalities within the year were held as prisoners by the Chinese for political crimes. At Amoy were found an American and two Frenchman; one of those who were drowned with Burgevine was an Englishman. After the evacuation of Chang-chow, Rohde and a man named Mansfield, an Englishman, gave themselves up to the Imperial authorities; they were sent into Kiang-si to Kan-chow, before which they were detained some time. Rohde was said to have been drowned by the upsetting of a boat, while the other was in October delivered up to the British Consul at Kiu-kiang. These cases demand some investigation, as while it is impolitic to undertake the office of executioners for the Chinese government in the case of political offences, there is manifestly an opening afforded for serious abuses, in committing unquestioned to Chinese officials the power of life and death over the subjects of foreign states.

Meanwhile the so-called Mahomedan rebellion in the North-western provinces bid fair to destroy what the T'ai-ping insurrection had hitherto spared. The followers of the late Shih-t'a-kai the *soi disant* E-wang mentioned above, as troublesome at the beginning of the year in Sze-chuen seem to have effected a junction with the discontented Mahomedans, who for the last two years had been in rebellion in Kan-su and Shen-si; marching Eastward along the banks of the Yellow river they captured the city of Kai-fung-fu, the provincial capital of Ho-nan, formerly a place of much note, but latterly fallen into decadence from the constant fluctuations of the course of the Yellow river. In this district they are said to have been joined by numbers of men, who formerly had been engaged under a high officer in the repairs of the dykes of the river, but who had been thrown out of employment from the failure of funds consequent on the exhausted finances of the Empire during the T'ai-ping insurrection. It is also believed that the bands of Nien-fei spoken of above as periodically ravaging the plains of Hu-peh, here joined the movement. Their number thus swollen, they advanced towards the sea-board,

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to the first unofficial announcement (August 2nd,) followed by a further delay of 18 days before the arrival of official despatches, seems difficult to account for; while some minor details noted by Mr. Lewis are reported to be difficult to reconcile with the native statements; the results of the inquest have not been made public as yet, but it is understood that an enormous amount of evidence bearing on the case has been collected.

causing consternation along their route, burning, ravaging, and pillaging, towns, villages and the open country. The Governor-General of Nan-king, Tseng-kwo-fan, despatched a body of his picked troops to the North-western portion of An-hwei, to protect that province and Hu-peh from invasion, while San-ko-lin-sin the Sêng Wang made every exertion to collect troops in front. The insurgents pushing on captured Lo-yang-hien, entered Shan-tung and took Tung-chang-fu, an important city on the Grand Canal, the Fu-tai of the province retiring to Tsi-nan-fu the provincial capital; thence they advanced to Lai-chau-fu on the sea coast within a few days' march of the open port of Che-foo; several cities east of the Grand Canal fell into their hands, and San-ko-lin-sin endeavouring to convey assistance to Tsi-nan-fu met with a severe defeat. A body of insurgents marched down to Hwei-an-fu in Kiang-su, an important town commanding the entrance to the southern portion of the Grand Canal from the Yellow River, which they attacked without success. In this serious state of affairs, the province of Kiang-su being open to invasion in the event of the fall of Hwei-an, Tseng-kwo-fan, Viceroy at Nan-king, and Li-hung-chang, Fu-tai of Kiang-su, were ordered with all their available forces to the front. Meanwhile, the movement appears to have lost entirely its religious character, owing to the comparatively small numbers of Mahomedans, compared with the other discontents who had joined, and the following leaders (whose antecedents well show the nature of the insurrection) were placed in command: Miao, a nephew of the notorious Miao-pei-ling; Chang, a son of the equally notorious Chang-lo-hing who was long the terror of the North-western provinces; and Shên a son of the late Shên-pao strangled the year before for corruption in Shan-si.*

Before the departure of Tsêng-kwo-fan from Nan-king a change had come over the scene. San-ko-lin-sin, surrounded by rebellion, carried on the Imperial cause with varied success, till defeated in an attack on Tsi-ning-chow on the Grand Canal on the 16th May, he fled with a few followers and was treacherously murdered the following night by some villagers with whom he had taken refuge, outside the city of Tsu-chow-fu. † The insurgents taking advantage of the panic pushed rapidly on. In Shan-tung they took Kian-chow on the sea-coast. In Chih-li they advanced to within ten miles of Pao-ting-fu, the extreme northern point before reached by the T'ai-pings, and here by a curious coincidence their progress was stayed and their retreat commenced.

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* *North-China Daily News.*

† Another account states that San-ko-lin-sin met his death at the hands of some of his own troops, who had deserted to his side from the insurgents, and who felt aggrieved at his having restrained them from plundering the defenceless inhabitants.

But before proceeding further, we may at this time well pause to utter a few words of regret over the memory of a departed foe. One motive appears to have actuated San-ko-lin-sin in his public career, and that was a firm attachment to the Throne; whether in favour or lying under the cold shade of neglect, consequent on his defeat at the Taku forts, he never wavered; for four years left in command of an inadequate force to protect the North-western provinces, he did what he could with the troops at his command. When the T'ai-ping cause became hopeless in the South, and the malcontents in Sze-chuen and Hu-peh, who had looked rather towards Nan-king than to the Mahomedans in the North-west, had thrown their forces into the latter movement, and were marching though Ho-nan, San-ko-lin-sin was ever in the front attacking with varied success, and ever urging forward fresh reinforcements: that he was not more successful rested with the government at Peking, who were ever chary of aid in men or money; still at the time of his death, he had so far disposed his forces and filled them with his own spirit, that their panic was only temporary and that shortly under another leader they recovered their lost ground and by this time have driven back the insurgents to their old haunts.

Strange to say, San-ko-lin-sin was succeeded in command by that man of whose aggrandizement he had ever been jealous; he could not brook to see the rising influence of the Tsêng and Li families; looked at from his point of view it boded no good to the reigning house, and he was ever in public and private the open and avowed enemy of the Chinese Viceroy at Nan-king. That Tseng and his lieutenant Li had more than once treated with contempt the orders of the Court at Peking was not forgotton by him, and he could see no escape for the ruling house other than through the degradation of these men. Through his influence Tseng-kwo-tsueh the military commandant at Nan-king was degraded, and even the Viceroy ordered to explain his own conduct at Peking, an order however openly set at naught by him. Through him Tseng-kwo-fan, who had of his own motion given charge of his government to his inferior, and had taken the lead of an army, which advancing beyond his own jurisdiction, had entered Hu-peh to attack the Nien-fei, then threatening a descent on An-hwei, was sent back to his own capital. And through him at a later date was Tseng ordered to advance at the head of his own troops to the borders of Shan-tung and give an account of his conduct in disbanding without orders those troops, which might have been made use of to check the rapid advance of the rebels towards the coast.

After the death of San-ko-lin-sin the command devolved on Tseng-kwo-fan, who although Chinese, was placed at the head of the Imperial army both Tartar and Chinese. The Po-wang 博王 San-ko-lin-sin's son, moved with 23,000 Mongols to the relief of Tsi-nan-fu then threatened by the insurgents; where he awaited the arrival

of Tsêng's troops; meanwhile the city of Ch'iu-fu-hien, said to have been the birth-place of Confucius, had fallen into the hands of the rebels, who destroyed there the temple of the Sage, reckoned as one of the most magnificent in China. Here the tide of success appears to have commenced to ebb, the Nien-fei shortly afterwards finding Shan-tung untenable evacuated it; being mostly cavalry they inflicted much damage in their retreat, being able to make sudden raids on distant towns, and retire before met by the slower movements of the regular troops. About the same time their troops in Shen-si also retired within the province of Kan-su, having literally eaten up the country. Retreating along the banks of the Yellow river their entire main body is said to have been swept away by a sudden inundation, which also inflicted severe loss on the Imperial troops. Their present position is not certainly known but their retreat has probably been continued towards the provinces of Kan-su and Shen-si, where we found them at the beginning of the year. *

The position of the government at Peking has thus been much strengthened within the past year, the T'ai-ping Rebellion crushed, and that of the Mahommedans and Nien-fei forced within bounds. One other trouble however arose during the year which at one time assumed a threatening aspect: a number of troops, who had been disbanded at Nan-king were on their way home by Kiu-kiang, and Han-kow, they had complaints against the government for withholding their arrears of pay, some of them while at Kiu-kiang became mutinous and caused much trouble both to foreigners and natives, announcing openly their intention of sacking the place and joining the Rebels in Kiang-si. At Han-kow matters assumed a more serious aspect. In the beginning of May a body of 8000 men arrived at Kin-k'ow, a town about 17 miles above Han-kow, on the Yang-tze, mutinied and sacked the place, seizing what treasure they could lay hands on; they threatened in case their demands were not complied with, to return and take the undefended town of Han-kow, a threat which brought the English and French gunboats to the front; seeing these preparations made to receive them they left the river, and marched on a marauding expedition back to Kiang-si, murdering on their route the Chi-hien of Nin-kow. The movement spread amongst the troops stationed at Han-kow and a body some 1,500 strong

* Since this retrospect was in print news has arrived of the unexpected advance of the Nien-fei, who have again appeared along the North bank of the Yellow River near the boundaries of Shan-tung. The European drilled artillery forming a portion of the garrison at Nan-king has been ordered to the front, and energetic measures appear to have been taken by the acting viceroy: Shên, mentioned above, is said to be at the head of the movement, and native reports [which must be received with caution] have it, that Hung-fu-tien son of the Tien-wang, said to have been taken prisoner after the capture of Nan-king, having escaped, has joined the movement.

encamped on some foreign owned ground opposite the foreign Club-house, where they occasioned much alarm to the residents. Fortunately these fears were not realized; by threats and cajoleries the authorities got rid of their troublesome visitors who marched off to join their confreres. As the movement bore no political aspect and had no settled object, the men appear in the end to have quietly dispersed, probably finding it more profitable to return to their homes, than to wander over an almost deserted country.

In Quang-tung there seems no cessation of the feuds between the Hak-ka and Punti factions which rage as fiercely as ever; this province has ever been a thorn in the side of the central government; here are head-quarters of piracy; here rebellion has ever been hatched and in this province now are the remains of the T'ai-ping bands, driven South by the advance of the Imperial cause. The weakness of the central power, established as it is in the extreme North of China proper, nowhere produces such evil results, and it seems that unless some more energetic measures be taken to repress these excesses, no government can consider itself secure.

Piracy has this year been rife along the coasts of Fuh-kien and Quang-tung, and has assumed a new aspect from the greater daring displayed by the pirates, seconded often, to their disgrace be it said, by Europeans. Many of these men native as well as foreign had been previously engaged in the T'ai-ping movement, and took to the sea as the only course open to them on the suppression of the Rebellion.

An incident which occurred this year at Peking has given rise to much comment.

Prince Kung was on the 7th November, 1861, in conjunction with the two Empresses Dowager, appointed to the Regency, during the minority of the present Emperor Tung-chi, which office he held for more than three years; his conduct in the Tsêng-li Yamên during this period giving general satisfaction to the Ministers of the several foreign powers at Peking. Towards the Emperor and the Empresses Dowager however he seems to have acted in an overbearing and arrogant manner, which culminated at a review of the Tartar life guards held in Peking on the 8th and 9th of March, where his Imperial Majesty was present. The result is best given in the words of the Official Gazette.

EDICT DEGRADING THE PRINCE OF KUNG.

April 2nd, 1865.

"WE command the Princes and Ministers having the entrée to the palace to read together the following decree:—

"WE have received the commands of their Majesties, the Empresses Dowager to the following effect:

"On the fifth of this moon (March 31st) a memorial was presented by Ts'ai Shou-ch'i, representing that in his conduct of business the Prince of Kung had caused great

scandal by his favouritism, his cupidity, his inordinate pretensions and undue arrogation of authority. If guilty of charges so grave how is it possible that he should properly administer public affairs? Though there may not be evidence to convict, there must be some reason for such statements. The truth, however, is so far obscure that it is scarcely possible to divine it.

"When the Prince of Kung first entered on his duties as Chief Minister, he was diligent and circumspect, but in course of time he began seriously to overrate his own importance, and shewed his pride on numerous occasions, presuming on his high rank and large powers. In his eyes the sovereign ceased to exist; because WE are of tender years he has on numerous occasions coerced US, and his attempts again and again to produce dissension (in OUR family) are more than it would be well to give in detail. At the daily audiences his bearing has been very pretentious, and in his language there has been much that was extravagant and designing.

"Were WE to lose time in giving publicity to his misdoings, when WE came to assume charge of the government in person, would the right men be in office, or would the administration of the state be what it ought to be? That WE forbear to enquire deeply into a case so serious is an evidence of great grace and liberality. * Let the Prince of Kung act no more as Chief Minister in the Council of the Empire. Let him be deprived of all his appointments, and let him have nothing further to say to public affairs. Thus do WE manifest OUR sincere desire to bring OURSELVES to make a way of escape for him.

"The Affairs of the Council are numerous and troublesome. Let the members of it, acting together in a spirit of justice and fidelity, give their entire attention to the consideration of such measures (as may be needful). Let Wên-siang and his colleagues in the Yamên for the General Administration of Foreign Commerce be united, and in disposing of the business of the Yamên proceed securely and satisfactorily.

"At the audiences, from this time forth let the presentations and other like duties be performed by the Prince of Tun, the Prince of Chun, the Prince of Chung and the Prince of Fou †

"A special decree."

(April 18th, 1865)

"Memorial:—

"I, Yi-tsung, ‡ respectfully memorialise the Empresses Dowager. On the 2nd instant I received a decree announcing the degradation of Kung Ching Wang, and Emperor's statement that a severe punishment was not inflicted, only because of His Majesty's clemency.

The extraordinary indulgence thus shewn seems to deprive me of the power of speech, yet the Emperors of former times when they dismissed or degraded their ministers were influenced by public considerations only. Each man stood on his own merits. Now when Kung Ching Wang was the Regent I heard of no act of his which told against him, yet I am informed that he was in the habit of speaking disrespectfully even in YOUR presence. This was known to none but YOURSELVES, and those outside heard nothing of it. Those who accuse him of extortion offer no proof, so that I fear the populace will be disposed to blame YOUR MAJESTIES rather than the Prince. The affairs confided to the Regent are so weighty that it would be impossible to entrust them to any one else. I humbly beg that these few lines, which of my own accord I have written, may by YOUR MAJESTIES and the Emperor be submitted to the Princes, Dukes, Privy Council, the Nine Boards of the Han-lin-yuan, the Imperial Instructors and the Censors, that they my judge as to the truth of my statements."

Imperial Note.

"It has been read."

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* "As Premier, he was the I-chêng wang the prime adviser on administration. He is to be I-chêng, to advise or to belong to the great council."

† "The four princes named are the four surviving brothers of the Prince of Kung."

‡ The younger brother of the Kung Wang.

Imperial Edict Regarding Prince Kung.

"WE have had the honour to receive the commands of Their Majesties the Empress of Ngan and the Empress of Hsi to the following effect:—

"The Prince of Tun, the Prince of Chun Wang-chih, recently degraded from the Presidentship of the Court of Transmission, and the Censor Sun Yi-mow, having, one after another, presented memorials representing that, offender though he be, the name of the Prince of Kung might still be returned for employment, WE delivered these memorials to the Princes and Nobles [of the Imperial family], the Grand Secretaries, the Presidents of the Nine Chief Departments of the Hanlin College and of the Court of Banqueting, the Censors corresponding to the Six Departments of state and the Members of the Censorate, that having maturely considered them, they might report thereon.

"And now Shih-to, the Prince of Li, and others of the nobles, the Grand Secretary Wojên and his colleagues, have respectively presented reports containing the result of their deliberations; while Yin Chuo-jung, an under Secretary of the Grand Secretariat, P'an Tsu Yin, a Senior Member of the Censorate, Wang Wei-chen, an under Secretary of the Grand Secretariat, Kuang-cheng, a Censor and other officers being censors, have presented a memorial signed by all:—all representing that the Prince of Kung although he had doubtless subjected himself to OUR censure, was still a minister filling important posts and OUR near connection, and submitting to us as a question which they must leave to US to decide—the expediency of employing him and thereby affording him the means of reforming himself.

"The views of the above memorialists coincide in the main. But in the memorial of the Censor Kuang-chêng and his colleagues, it is remarked that if the Imperial household be the first to begin misunderstandings; if there be discord in [the place which is] the very foundation [of the state], the result will be an excitement of the public mind both in the capital and the provinces, and a consequent increase of anxiety to the Sovereign.

"Most important indeed is the point here considered, but, in one word, the pain which OUR proceedings in this matter have occasioned US, has not been appreciated by the Memorialists in question. And although the other day WE did, verbally, command the members of the Council to proceed with the Prince of Fou to the Grand Secretariat, and to summon thither and declare OUR pleasure to the ministers convened, it would be impossible for US, after what has been stated by the Censors above cited, to abstain from repeating some portion [of what has fallen from US already].

"The Prince of Kung was nearly allied to [the Throne]; in his person were concentrated all the functions of a whole Ministry as advisers of the Throne. He was, in the trust reposed in him, above all the other princes of the first degree; he had been the recipient of (*lit.* saturated with) all the imperial bounty possible; and it was only [for the following reasons that we dealt thus with him.] He had not duly repressed his feeling in favour of those connected with him, because they were so, he trusted them and employed them; and when called before us in the Palace, he had very frequently been unguarded in his language. As sovereign WE must stay an evil in its commencement: WE give our heed forethoughtfully to trifling [evils.] Had WE remained silent there might have resulted from this inattention to a small matter, the most serious injury to great measures civil and military. The issued depending on OUR action was indeed not insignificant. The study of the histories of past dynasties had, moreover, shewn US that whenever a high officer, committing himself, is treated with indulgence and left unreproved, he soon becomes haughty and overweening, and it is seldom that he is able to die [in peace]; and when a few days ago, WE proclaimed in peremptory language the errors of which the Prince of Kung had been guilty, it was with the hope that he would not fail after his correction to take such pains with himself as would prevent his again offending. OUR high purpose in the effort WE made to find a way of safety was that, by a slight penalty, a great warning might be given. Had WE entertained in the slightest degree the misgiving or ill-will [imputed to Us] the memorials of the Prince of Tun and the rest might have been left [unnoticed] in the palace. Why should WE have handed

them to the Ministers of OUR Court. And now the memorials of the princes, nobles, grand secretaries and others submitted to US, urge unanimously that, though an offender, it is quite competent for the prince of Kung to be a candidate for employment in the public service; this opinion is quite in accordance with OUR own, and having declared it plainly, We command the prince of Kung of OUR favour to have admission to the Palace as before, and as before to have direction of the Office for the administration of Foreign affairs. From this time forth it will be his simple duty to exert himself to shew his gratitude by an increase of attention and diligence: thus will he satisfy OUR imperial desire that he should be perfected (or thoroughly reformed) by OUR admonitions.

"As for the other members of the establishment who have access to the palace; in general, all are the Office bearers of the state, and it is their simple duty to unite in undeviating fidelity, and one and all to join in alleviating the difficulties of the present time. This incident must not be the occasion of any misgiving or foreboding on their part, of any shrinking from difficulty, or relapse into self indulgence, the issue of which would be a vicious adherence to formality and routine.

"Let this be declared to all the officers who have access to the palace for their information.

"Respect this."

DECREE RECALLING THE PRINCE OF KUNG TO THE GREAT COUNCIL.

"On the 14th of the 4th moon of the 4th year of T'ung Chi (8th May, 1865) [the grand Secretariat] had the honour to receive the following Imperial Decree:—

"We have had the honour to receive the maternal commands of Their Majesties the Empresses Dowager as follows:—

The prince of Kung was this day bidden to an audience to return thanks for favour shewn him. Bowing himself to the ground, he wept sore; he was as one who could not endure himself. WE addressed him [words of] instruction and admonition, and the Prince aforesaid did so blame himself and shewed such signs of remorse and contrition that WE were greatly moved.

When the hanging screen was let fall (*sc.* at the commencement of the regency) the Prince of Kung was specially selected to act as [chief] adviser upon state affairs in the Council. During the years that have since elapsed he has so acted, and while himself largely the object of imperial favour, he had delegated to him an undivided authority, [as the possessor of which] he was beyond comparison more than any other minister at court of importance to the weal and woe of his sovereign. [He was punished notwithstanding and punished severely,] but simply because being from his great elevation easily assailable, [when he was assailed it was found that] from unguardedness in certain particulars he had committed himself; and, in proportion as OUR hopes of this Prince were high, so was it incumbent upon US, when WE chastened him, to chasten him with great severity.

The Prince of Kung has had the sense to perceive OUR meaning; he has amended his errors and renewed himself. The sovereign in the employment or dismissal, the advancement or degradation of public servants in the capital or in the provinces, acts not otherwise than openly and on a principle of justice; He is never in the least influenced by his prepossessions, still less, then, in the case of the Prince of Kung; who is a minister of high consideration from his near relationship to the throne and for the confidence [on that account reposed in him;] and who is possessed withal of abilities which make him a competent adviser upon state affairs. How then could the sovereign choose to leave him to the self-indulgence and idleness which would be his lot were he to be treated now otherwise than he was at first?

"Let the Prince of Kung again become a member of the Council. He need not reassume the designation of chief adviser. It will thence be seen [that his honours have been] diminished [in order to his] correction.

"Prince! Forget not the remorse and contrition felt this day. Be more than ever set upon sobriety and respectfulness. Strive earnestly to shew gratitude for OUR favour by your services. Let no feeling of doubt or dread now, any more than in past times, commit you, be it ever so little, to the delegation to others of your proper responsibilities. Thus will you respond to OUR high hopes."

"Respect this."

It is difficult to divine the motives which led to this sudden dismissal and as sudden recall of Prince Kung, which appears to have sprung from some family quarrel; that it was not intended as an anti-foreign demonstration is shown by the fact of the *ad interim* appointment of Wên-siang, a man who had secured much of the confidence of the foreign ministers, to the post of President of the Board of Foreign Affairs.

It will be noticed that Prince Kung in resuming his seat in the Regency was not reinstated in the Presidency. The following edict however appeared in the Peking Gazette on the 15 July.

"Imperial Proclamation."

"Kung Ching Wang is hereby appointed to the inspector-generalship of all military camps throughout the Empire."

"Respect this."

This appointment was made apparently as a counterpoise to that of Tseng-kwo-fan to the supreme command of all Imperial troops in the North.

On the 1st November the following edict, completely reinstating the Prince in all his former offices, created as much astonishment as the previous one of his degradation.

PEKING GAZETTE.

(November 15th, 1865.)

HIS MAJESTY has this day reverently received the commands of Their Majesties the Empresses Dowager (Tzu-an and Tzu-hsi), to the following effect :—

For four years, since the death of the illustrious Sovereign Wên Tsung (Hsien Fêng), Kung Ching Wang has been most faithful and diligent in the discharge of all the duties of his station. With regard, further, to the funeral of the deceased Emperor, he some time since received OUR commands to undertake the superintendence of the prescribed rites, and to exercise a general supervision over those engaged in them. Every particular of the management was most carefully attended to. On this day the coffins of the Illustrious Sovereign, Wên Tsung, and the late Empress have been committed to the tomb in due form. WE saw that the funeral palace was both lofty and spacious and that all the necessary furniture was properly arranged. OUR deep grief was thus in some slight measure assuaged, and the Heaven-enthroned spirits (of Their Majesties) were also comforted.

Taking into consideration the affection felt by the Illustrious Sovereign Wên Tsung (for the Prince of Kung) and the examples of what rewards have in former times been conferred upon merit, WE are bound to distinguish him above his fellows, that all may know in what high consideration he is held. On the other hand, the Prince says, 'I am already overwhelmed, and I fear others may become jealous.' WE have on several occasions prayed him (to accept further honours) but the genuine expression of his feelings was not to be changed. WE were therefore compelled to accede to his wishes, but WE ordered the Tsung-jên-fu to prepare an account of his actions. Not only has his

position as a Prince of the Blood Royal raised him to the highest offices in the state, but his conduct of affairs whether of greater or of less importance, has ever been marked by the utmost care, humility and minute obedience to OUR instructions. With respect to certain failures in trifling matters, WE promulgated an Edict on the 7th day of the 3rd moon in order that he might notice and amend his errors. WE were most anxious that he should attain the highest excellence, and, for this reason, we rebuked him somewhat severely. Subsequently, on the 16th day of the 3rd moon and the 14th day of the 4th moon, WE fully detailed what his (good and evil) deeds had been, so that the whole world might hear and know of them. But WE now fear that the men of future generations will not understand what the real circumstances of the case were, and may form an incorrect opinion of the Prince, just as a precious jewel is spoiled by the smallest flaw. Far be it from US to give a false impressions to the men of future ages, or to hide the eminent virtues of the Prince.

Wherefore, with regard to the Edict of the 7th day of the 3rd moon, WE order (the Imperial Historiographers) to take no heed of it, and to omit it from the records. WE thus display OUR high appreciation of the Prince's merits, and cause his reputation again to shine.

Respect this.

With the exception of the Burgevine case alluded to above the foreign relations of the Court at Peking with the great Western powers have remained in a satisfactory condition. The preliminaries of a treaty have been arranged with Belgium, founded on the same general principles as the treaty of Tien-tsin. The final evacuation of Chinese territory by the British and French forces was accomplished in July, by the withdrawal of the garrisons at Ta-ku and Shanghai, the Ta-ku forts being now held by native troops with a European instructor.

The Honourable Sir Fred. Bruce, K. C. B., having been appointed British Minister at Washington, Sir Rutherford Alcock, K. C. B., formerly Her Britannic Majesty's Minister at Yeddo was appointed to the vacant post. He arrived in Shanghai on the 2nd November and immediately proceeded to Peking.

On the West however where Chinese territory stretches far into Central Asia, events of some importance have occurred.

On the North-eastern frontier of British India flanking the Eastern extremity of the Himalayas lies the territory of Bhootan; a mountainous country intersected by deep valleys, where fever ever rages, and where the only means of communication are by mountain passes often reaching the limits of perpetual snow; the country has been a feudatory of Thibet, itself subject to China, though the allegiance has been little more than nominal, and the commands of the Dalai Lama have carried small weight amongst the inhabitants of Bhootan, a race of uncivilized mountaineers, given to rapine and pillage, and notorious even amongst Asiatic races for falsehood and dissimulation.

These tribes by constant raids into the British territory lying at the foot of the mountains had caused much trouble to the Indian government; the latter not desirous of extending their frontiers and

undertaking the conquest of these wild mountain regions, where success was no glory, and where climate and soil alike were unfavourable for military operations, sent an envoy to complain of these inroads, and if possible to come to some terms. The envoy, sent with unfortunately only a few attendants, was forcibly compelled to sign a dishonourable treaty; a war was the consequence and troops were sent, but from the nature of the country and insufficiency of numbers they had to retire, and another expedition better fitted out sent to replace them. So far the story is part of Indian rather than Chinese history, but the conquest of these tribes will advance the British boundry in India to the table-land of Thibet, and will give a frontier conterminous for 200 miles with Chinese territory. Relations will probably be open with the court of the Dalai Lama, and a hitherto sealed country opened in some degree at least to foreign intercourse.

Within the year Thibet itself has been disturbed by the flames of revolution: the Regent forcibly appointed some years ago by the Chinese Imperial commissioner in contravention of the usual customs of the country appears to have given much trouble, the Dalai Lama is reported to have fled, and the Chinese themselves to be now seeking to depose the Regent of their own choice.

The Government of China has for the last three centuries been in intimate connection with that of Thibet; while by her Imperial Commissioners at Lhassa, she has always endeavoured to control the course of events and have her own creatures elected, she has outwardly assumed a show of submission to the Dalai Lama. The unbounded reverence paid to the head of their religion, in matters political as well as religious, by the Mongols has ever rendered it an object of importance to China to secure his friendship, and disturbances at Lhassa have ever given uneasiness at Peking.

Most important however of the movements along her western frontier has been the occupation of Khokand by Russia and the accompanying insurrection in Chinese Turkestan. Of these distant territories, shut out by lofty mountain ranges from the surrounding countries; whose rivers, born on their own mountain chains, never reach the ocean; where fertile and smiling plains lie surrounded by savage deserts, inhabited by nations proud of their isolation, and bigoted to the last degree in their religion; and whence have sprung those movements of warriors which have more than once turned the stream of civilization; little more is known than the names. The steady onward march of Russia now and then draws on them the attention of Europe, only to permit them to fall into still darker oblivion; now on the southern shores of the Caspian from her fort at Ashourada she rules the navigation of that inland sea; now, while western nations thunder and negotiate at Can-ton, and an allied fleet

enters the Gulf of Pe-chili, she seizes the sea-board of Man-churia, and again stirring up dissension between Bokhara and Khokand she enters the territories of the latter. This is not the place to discuss for what end she desires to possess herself of these little known countries, it remains only to give a summary of the facts so far as known.

The means of communication between India and these distant countries are few and little to be depended on, some chance Musselman trader now and then bears letters or news. With China the disturbed state of the intervening provinces appears to have almost put a stop to regular communication, nor does it appear to have ever been the policy of the Court to publish what information it possessed on these topics.

The published accounts of these events differ so considerably that little reliance can be placed on them. It seems however that Russia, taking advantage of dissensions in Khokand, in the month of May last marched her troops into that country, the Khan of Bokhara according to one account being a consenting party, while according to the other, which seems more likely, he had designs on Khokand himself, and after having captured the frontier town of Khojend had actually marched an army for the attack of Tashkend, the second city in the Khanate.

It appears however that Russia arriving first in the field took Tashkend by storm with considerable loss, and advanced her force toward the frontiers of Chinese Turkestan. Khokand, the capital, appears also to have fallen to her arms in or about the month of July.

The greater portion of Khokand seems now to have been added to the new province of Turkestan, formed the year before by Russia out of her late conquests between Lake Balkash and the Jaxartes.

This interference of Russia lead to difficulties with the Khan of Bokhara and war has been the result; according to some accounts Tashkend has been reconquered, while others affirm an arrangement has been come to between the parties.

"The belief in Central Asia itself is, so far as we have information, that Russia and Bokhara together will do their best to interfere in Affghanistan on behalf of Ufzul Khan and against our ally the Ameer of Cabul. Meanwhile the Ameer is making great preparations for his march on Candahar. He has avoided the mistake which led to the massacre of our army and troops, by directing the Ghilzae chiefs to be paid all their arrears and three months in advance. The Khans of the Kohistan, too, have received notice to send forward their quota of mercenaries, since the roads are passable." *

The treaty of Peking between Russia and China gave the latter power to establish a Consulate and Factory at Kashgar on the western frontiers of Chinese Turkestan, this right has not as yet been exercised, but there seems little doubt that her late conquests in Khokand have been made with a view to opening up communication with this territory, possibly to its eventual conquest.

* Friend of India.

About 150 years ago the principal cities of this district having been in continual feud, their chiefs to put an end to these disturbances called in the Chinese, who after some hesitation assumed the sovereignty; since then the country has been governed on a peculiar system, the Chinese assuming command of the military and receiving orders directly from Peking, but leaving the entire civil administration in the hands of the Native authorities, with the right only of appeal to the Amban, the Chief Chinese official.

The population consists of a mixed race of Kalmuks, Kirghis, and Chinese, together with a large number of Tunganis, a race Chinese in origin but in religion Musselmans, belonging to the Sunnite persuasion. Although only converted in the time of Timour, they are distinguished not only for their gross fanaticism but for their hatred towards those of their country-men not Musselmans, and in spite of their constituting the most advanced post of Islam towards the east, they yearly send a number of pilgrims to Mecca.

Such is the account given of the inhabitants of Chinese Turkestan by the last European who has travelled near these countries.* That its separation from China was inevitable, when the latter power was unable to control those feuds for the suppression of which its cities voluntarily placed themselves under the yoke of a foreign country, was no more than might have been anticipated; and accordingly we find that within the last year these districts have revolted.

"An English traveller who, in the pursuits of science, has been exploring the Himalayas and has had a desperate journey through the Para pass, and up and over the lateral valleys which lead to Leh, thus writes from the northern border of Cashmere on 18th July last.—"The whole of the Western Chinese Empire is in a state of disturbance and rebellion, I believe fomented by Russian Agents. Yarkand has made itself independent, the Chinese force of occupation burned itself with all its property in the fort. The Kashgar people are fighting against the Chinese, of whom 1,500 have shut themselves into the fort; and it is expected that they will follow the example of the Yarkand force. Khokand is in terror of the Russians, who have taken Tashkend, and will probably give in. Aksou and Ilchi are independent. Kotan is under a native prince who travelled much in India, and wants a European ruler or minister. Rudokh is kept by the Chinese, but all the country up to and beyond Lhassa is in rebellion. The Grand Lama of Lhassa has run away. The Russians go very steadily but certainly onward. The (Cashmere) Maharajah's sepoys, only a few men, have advanced three marches beyond the Karakorum pass." †

This movement is said to have been headed by the son of a Mahommedan rebel named Chang-kai-rh formerly celebrated in Chinese history, who was subsequently beheaded in the second year of the reign of Tao-kwang.

The country is described as very fertile, producing in abundance the cereals and fruits of temperate climates. Mulberry trees are also said to be very numerous and silk to be produced in great quantities.

* Travels in Central Asia by Vambery.

† Friend of India.

The trade with China has been always jealously guarded by the court at Peking, who appear to have always placed obstacles in the way of free intercommunication; these districts moreover have during the present dynasty been made use of as a place of banishment for political offenders.

It is probable that this movement in Turkestan has had an intimate connection with the Mahommedan insurrection spoken of above, which has for some years raged in the provinces of Kan-su and Shen-si. The Mahommedans of the North-western provinces of China are nearly related by blood to their co-religionists of Turkestan; the movement appears to have begun with no tangible object in Kan-su or Shen-si and to have spread East and West; having no settled aim it developed no leader, in China Proper at least, and quickly resolved itself into a band of freebooters, ravaging, burning and destroying.

The loss of these Western provinces known to the Chinese as the Kingdom of I-li 伊黎 will rather be a source of strength to the Chinese government. Separated as China Proper is from these dependencies by sandy deserts and rugged mountains covered with perpetual snow, where the almost untrodden roads now cross at a giddy height the torrents rushing wildly below, now ascend to the limits of perpetual snow, and again advance slowly by steps laboriously hewn out of the side of a precipice, where the slightest slip is destruction, and along which at intervals, to secure the traveller from starvation, have to be kept at public expense depots of provisions, but little need she fear invasion on this side: her best troops can be stationed in these almost impassible defiles, while the energies of her rulers may be turned to the improvement of her own territories, the advancement of her own people and the consolidation of her central government.

The impolicy of the establishment of the Capital at Peking has been strongly displayed within the last twenty-five years. To retain her hold over these wild tribes she allowed her own provinces to slip out of her grasp: while she was spending her revenues in offerings at Lhassa or subsidizing Mongolian chiefs in the North-west, her own people discontented with bad government and oppressed by petty satraps had risen in rebellion; each provincial Governor jealous of his neighbour, and careless so long as he could carry on in his own province to the limit of his short tenure, allowed rebellion to rage around him and took no steps to prevent it, till he found his own province or often his own capital a prey to the flames of revolution. The example set by their superiors was only too closely followed by the inferior officers; false reports were sent to headquarters; no official would acknowledge disaffection in his own department; villages were sacked, the open country laid waste, even cities taken, yet still the official

reports were ever the same; till at last governors, officials and people were swept away in one wild burst, and the court at Peking woke up to find one half of its territories in open revolt, a pretender in possession of the second city in the Empire, and his commands obeyed almost through the entire of the country South of the Yang-tze.

So far I have endeavoured to sketch those important events which make up the history of a state; it will now be a pleasing task to review those few topics of domestic interest which the year has evoked.

Foremost amongst these has been the establishment by Great Britain of a Supreme Court at Shanghai to take cognizance of all cases in China and Japan in which British subjects appear as defendants. The unsatisfactory state of the law as regarded the punishment of serious offences against life and property has been pointed out in the beginning of this retrospect; the monetary relations of British subjects, more especially as regards Bankruptcy cases, had also become too complicated for the powers of the existing courts, so that on all hands a change was desired. Accordingly on the 4th September, the new Court entitled HER BRITANNIC MAJESTY'S SUPREME COURT FOR CHINA AND JAPAN, was inaugurated under the following officers: Chief Judge Sir Edmund Hornby, Assistant Judge C. W. Goodwin Esq., Law Secretary J. Fraser Esq. A Special Order in Council issued on the 9th March, 1865, laying down the jurisdiction and powers of the new Court—which it is to be hoped will prove competent for the satisfactory discharge of the important duties entrusted to it.

During the year crime both native and foreign has much decreased, with the improved state of the country. Few crimes of importance have been committed by the low class foreigners who last year caused so much anxiety to the authorities, and in most cases the perpetrators have met with prompt punishment. By the exertions of the native authorities and the "MIXED COURT" composed of Officials both native and foreign sitting together, native crime has been almost repressed within the Foreign Settlements at Shanghai, and residents enjoy an almost total exemption from serious offences against life or property. The system of passports adopted for the protection of respectable foreigners travelling in the interior, has also worked well, and there are now few portions of China, where a passport from a foreign Consul will not secure the bearer from insult and obtain him assistance when required.

The system of Municipal government adopted at Shanghai has this year caused much discussion; the right to enforce payment of land-taxes sanctioned at a general meeting of Landrenters, has been established so far as British subjects are concerned, by a recent decision in the Supreme Court, and it is to be hoped that all other foreign courts will follow its example, and so give a recognised legal standing to the Municipal Council. The basis of representation is also about to be

extended to all foreigners renting houses of a certain valuation, a step much required, as with the increasing growth of the settlement, while the number of Landrenters resident on the spot has continually decreased, and a dangerous importance was given to a few individuals acting as agents for absentees, the householders on whom daily the burden of taxation has more and more fallen, have found themselves without a vote in these matters.

The new Council elected in April, has with diminished funds, owing principally to the sudden depression in the value of land and house property, set itself energetically to work to reform the Settlements, and already signs of amendment are visible, while the finances of the Council have been placed in a much more satisfactory condition.

The state of the River Whang-pu, on the free navigation of which the prosperity of Shanghai depends, has lately given cause for serious anxiety, an action taken in the Supreme Court by Her Britannic Majesty's Consul at the suit of the Chinese authorities resulted in a verdict in favour of the rights of the latter over ground reclaimed from the river. The evidence on both sides, though somewhat contradictory, appeared to point to a rapid diminution in the quantity of water passing through the river; within the last few years the banks at both sides of the river have advanced from 100 to 180 feet on the stream, and threaten unless some active measures are taken to reduce the anchorage to the dimensions of a tidal creek. That this is no idle fear is proved by the instances of other navigable rivers in the same district having been silted up, and towns formerly of great importance being thereby reduced to the level of wretched villages.

In Hong-kong no event of importance has occurred within the year. The late Governor Sir Hercules Robinson having been promoted to Ceylon, Sir Richard Macdonnell, formerly Governor of Newfoundland, has accepted the appointment in his stead. A new mint has been established in this colony, which under proper management may be made of immense advantage not only to Hong-kong but to China generally, where the currency has ever been unsatisfactory.

While the importance of Hong-kong has been steadily increasing that of Can-ton has as steadily diminished; many causes, including the transfer of the tea trade to Han-kow and Foo-chow, as well as the unsettled state of the Southern provinces, have been at work to effect this change. The former arrogant bearing of both people and officials towards foreign nations has met with condign punishment, by the transfer from the Provincial capital of the profits accruing from foreign trade.

As regards trade both native and foreign, the year 1865 will long be remembered as an unprecedentedly unfavourable one; the condition

of business at the beginning of the year was pointed out above; during the early summer the panic increased and business for a time seemed almost suspended; already however signs of amendment are manifest, and it is to be hoped that the coming year will in some measure make amends for the continued losses which have marked the last three.

In Japan the chief topic of interest has been the appointment of Sir Harry S. Parkes as Her Britannic Majesty's Minister at the Court of the Ty-coon. As a member of this Society I can pay him no better compliment than quote the words of the address presented to him as President on his departure from Shanghai.

"The duties of Her Britannic Majesty's Minister in Yeddo will tax your resources yet more than your previous position has done, and we can only earnestly hope that you will be blessed with health and strength to fulfil the trying duties which lie before you in your new scene of usefulness, and may you see the two great results you have laboured throughout your public life to obtain, viz: the overthrow of the policy of prejudice and exclusion, and the mutual understanding of the Eastern and Western Nations."

Shortly after his arrival Sir Harry S. Parkes put himself in communication with the high Japanese authorities on the subject of re-establishing the British Legation in the city of Yeddo. In October with the British, French, and Netherlands fleet he visited Osaka with what effect the subjoined notification will show.

NOTIFICATION

H. M. S. PRINCESS ROYAL, OSAKA BAY, *November 25th, 1865.*

The undersigned, H. B. M's Envoy Extraordinary and Minister Plenipotentiary, has the satisfaction of making known for the information of all subjects of Her Majesty, that the negotiations in which he has lately been engaged at Osaka, in concert with his colleagues the Representatives of France, the United States of America and Holland, have been attended with the following results.

1st.—The Mikado has given his formal sanction to the Treaties concluded by the Tycoon with Foreign Powers.

2nd.—Negotiations for the revision of the Tariff on a basis agreed upon, will at once be proceeded with at Yeddo.

3rd.—The opening of the Port of Hiogo and the City of Osaka is guaranteed at the time mentioned in the London Convention of 1862, or at an earlier date, if circumstances should permit.

(Sgd.) HARRY S. PARKES.

The difficulties arising from the informality of the Treaty concluded with the Ty-coon, have thus been set aside and the constitutional head of the state has ratified the acts of his Lieutenant. It is a matter of unbounded congratulation that these results have been obtained without the expenditure of a drop of blood, and that the object which led to three prolonged wars in China, has in Japan been obtained mainly by the energy and courage displayed by her

Britannic Majesty's Representatives Sir Rutherford Alcock, and Sir Harry S. Parkes; for to the former must be allowed the credit of having initiated the course of conduct honourable in itself and worthly of the great nation he represents, which has been brought to so successful a termination by his successor.

The Currency question in Japan still remains to be settled. At the first opening of the ports to foreign trade the relative values of the Gold, Silver, and Copper coinages were found fixed at arbitrary rates differing widely from those obtaining in other countries. Intercommunication with foreign countries had the effect of entirely deranging this system, and after many attempts to rule the exchange by arbitrary measures, a new coinage more nearly corresponding in its relative values with those prevailing elsewhere was introduced.

The government have however all through seemed desirous of forcing an artificial value on the silver current coins, with which alone the internal trade of the country can be carried on, and supplied but a limited amount for the use of the treaty ports, making however of its own motion an exception in favour of officers of foreign nations holding appointments on shore or serving in the military or naval services.

The questions raised by this abnormal state of affairs remain still to be solved.

In other respects the relations of the Court at Yeddo with foreign powers have much improved within the year; crimes against the persons of foreigners committed by bands of Ronins have gradually become fewer in number, while the government of the Ty-coon seems to have used every exertion to bring their perpetrators to justice.

The question of opening up foreign trade with Corea, now the only important country in the eastern coast of Asia closed to foreign commerce, has this year been mooted in many quarters, and some attempts to trade on private account have been made with partial success, but the foreigners themselves do not appear to have been allowed to land.

With these, my remarks must end. The year closes with improved prospects, progress, slow indeed but none the less sure, has certainly been made; the hopes of the friends of order have not been entirely doomed to disappointment, and there seems some chance of China, with her magnificent territory, and her industrious hordes playing that part at no distant date in the world's history to which her position entitles her.

Placed on the western extremity of the great Pacific Ocean she can hardly fail to derive advantage from the increasing energy of those new nations, which have within the last twenty-five years

sprung up on its shore; her future will doubtless be intimately connected with that of Australia, New Zealand, California, and British Columbia. Her stores of mineral fuel, her mines, the productions of her teeming soil, all mark her out as destined for future greatness and on herself and her rulers must fall the blame should she be left behind in the race of civilization.

The coming year will probably see the Pacific Ocean crossed by at least two lines of steamers; the terminus of one will be China, opening a new line of communication with Japan, the rising kingdom of Sandwich Isands, and the state of California. This last ocean, once a solitude, will soon be furrowed by the keels of magnificent steamers: new means of communication will develope new energy, and spots lonely and savage will soon resound with the hum of population and the clang of machinery.

In conclusion I have to express my obligations to Mr. R. A. Jamieson late Secretary of this Society, who has kindly placed at my disposal his translations from the Peking Gazette, and afforded me the means of much information on other topics.

MISCELLANEOUS.

I. Respecting CHINA GRASS. *By* ROBERT JARVIE Esq, Shanghai.

1st. In what Countries is the Grass produced and how large are the quantities produced in each? India—The Bengal Presidency produces a considerable quantity but I have no data as to quantity or quality. There are three crops during the year. China—The Grass is produced in quantity in the Oo-nam and Hoo-pack districts about 8 or 10 days' journey from Hankow; also on the borders of the Po-yang Lake in the vicinity of Kiu-kiang. There are other districts in China besides, where it is produced. There are two crops during the year—The first crop comes into the Han-kow and Kiu-kiang markets about the end of June, the second crop in August. Total export from Han-kow and Kiu-kiang to this in 1863 was about 35,000 piculs, value Tls 300,000. Contracts are easily made with Chinese dealers. We had at one time a contract for 20,000 piculs in 1863 of the first crop and a similar quantity for the second crop—the latter we cancelled, the former was delivered, and I am aware of other houses having had large contracts also. I cannot give any idea of the quantity of the staple produced in each district but it must be very large. The Grass is used extensively all over China for manufacturing into cloth for clothing, and is used principally during the summer months. All classes wear dresses made from it.

2nd. Is Shanghai a market for the Grass? Yes; all the Grass exported must pass through Shanghai—it forms a common market commodity here.

3rd. Where are the principal markets for the Grass? Han-kow, Kiu-kiang and Shanghai. At the two former places contracts can be made direct with farmers through native brokers, dealers, and traders for delivery at Han-kow and Kiu-kiang.

4th. Is the Grass to be found in large quantities, and could monthly orders of 10,000 to 20,000 piculs be executed without creating a serious rise in the price? I should say so. There is a very large native consumption of the staple and I scarcely think 10,000 piculs per month for the 4 months of July, August, September, and October, would influence prices at Hankow provided the quantity were contracted for. The Grass has seldom been less than Tls. 8 per picul or above Tls. 9 at Han-kow during the season when it comes largely into market.

5th. What would be the cost of a cargo laid down at Havre including commission, freight, insurance etc? You have herewith a *pro-forma* Invoice. The Grass is dear just at this season and will remain so until the new crop reaches market.

6th. What is China Grass employed for in the countries where it is cultivated? For manufacturing into various fabrics, clothing etc. The great place for manufacturing the fine descriptions of cloth and mixed fabrics with silk is Can-ton, where a large portion of the Grass is sent by the interior roads and water communications. The green Grass is used largely at Ning-po. A considerable quantity of the fibre is also used in making a coarse light cloth worn by the lower class of natives during summer.

7th. Are there different qualities? There are 4 qualities usually sold on this market.

Peu-sz 標 絲 or best quality.
Tow-sz 頭 絲 or No. 2 „
Yu-sz 弍 絲 or No. 3 „
Sam-sz 叁 絲 or No. 4 „

8th. What is the price of each quality?

Present value of	No. 1 quality	Tls.	15½	@	6s.3d.	ex:	=8⅞d per lb.
„ „	„ „ 2	„	15		„		=8½ „ „
„ „	„ „ 3	„	14		„		=7⅞ „ „
„ „	„ „ 4	„	12½		„		=7 „ „

9th. Is the China Grass employed raw or disaggregated and what s it used for in both states? I am not aware that it is used in its raw state but only when prepared for wearing.

10th. By what system is the China Grass disaggregated? Is it through soaking or through chemical process? By soaking in a running stream, beating it, and then bleaching. I am not aware of any chemical agencies being used in its preparation.

11th. What is the percentage of waste produced by the disaggregation in each quality according to the process employed?

About this I cannot give any information, but it could be obtained either at Han-kow or Can-ton I believe.

12th. Can seeds be procured and in what quantity? Yes; at Han-kow, but if a large quantity were wanted, time would be required to collect them. From what I can learn the plant is an annual raised from seed—it exhausts the soil very much and requires large quantities of manure.

I send you some cuttings of the cloths manufactured from Grass with the retail prices here. The coarse blue dyed is in very large native consumption. The fine clothes are principally manufactured at Can-ton; the coarse in this and the neighbouring Provinces.

You have likewise samples of the four descriptions of China Grass in the raw state. The length of the staple and colour appear to regulate price more than the quality. The Grass is packed in bundles weighing about ½ picul each.

II. Notes on the FUNERAL RITES *performed at the obsequies of* TAKEE. *Contributed by* REV. CHAR. H. BUTCHER, A. M., *British Consular Chaplain at Shanghai.*

An unusually eligible opportunity for witnessing the curious funeral rites of the natives was afforded to the inhabitants of Shanghai by the death of Takee, the wealthy Chinese Banker and Mandarin, whose obsequies were performed with unusual cost and splendour by his sorrowing relatives.

We paid our visit seven days before the interment in the evening at about 8 o'clock, and at the time the exterior of the house was brilliantly illuminated. A large orchestra was erected, fronted with small panes of glass bordered with cotton, pucked, twilled and twisted into the most intricate lattice work. Here sat the minstrels looking-down on the people and reposing after their exertions during the day. On entering the first Hall, we found the ancestral tablets of the deceased ranged in a long line to the right and to the left, and the scarlet umbrella, the mark of his rank. This court and the rooms through which we subsequently passed were lighted with various oil lamps and chandeliers, as well as with innumerable paper lanterns of very quaint pattern and device. Indeed, the general aspect of the whole place resembled the transformation scene in an Easter Extravaganza, rather than a mansion lately bereft of its master clad in the solemn trappings of mourning. Passing through three of these rooms, between walls covered with white and the blue hangings emblazoned with inscriptions from the Classics, we approached a shrine or inner chamber separated from us by a barred Portal, on which were the two Chinese characters "Ling Mun" 靈門 signifying GATE OF THE SOUL. Into this we were courteously admitted and found ourselves facing a rude picture of the defunct Mandarin Before this was spread a table laden with fruit, sweet meats, and the other mysterious delicacies of Chinese confectionary, and on the right side of the board heaped with this veritable *"feralis cœna"* stood one of the wives (or widows?) of the departed, her forehead bound with the white bandage or fillet, and her hands busily employed in keeping alight the pipe of her deceased husband. On the left, stood another and younger wife, like the elder, attired in mourning and with a face marked by the deep drawn traces of tears and vigils. Immediately beneath the Portrait lay the "Taou-tih-king" 道德經 (Bible of the

Taouists) and on the walls at the side hung girdles, robes, and caps made of the coarsest grass cloth, the appropriate vesture of mortification and mourning.

There remained one other sight. Behind the centre shrine on a raised bier was deposited the coffin, covered with a rich crimson pall, and upon this was laid a cap supposed to be that of the son of the deceased, though in the present case this was a fiction of etiquette, as there was no direct male heir but an adopted child, a boy of eleven years old. A stream of people continued to pour through the house; H. E. the Taotai of Shanghai being one of the visitors. Some few sat at small tables and drank tea, but the majority moved sedately to the SOUL GATE, and after looking around at the inscriptions, retired with a grave salutation to their acquaintances and friends.

But the observances in the house were insignificant compared with the out-door procession.

First came a huge paper figure resembling an elaborate scare-crow or the Guy Fawkes of an English 5th of November. This was the *Kei-loo-shin* 開路神 or literally, "opening the road spirit," the pursuivant and herald of the dead in the realms beyond the grave called also "The devil seer." Next came a trophy of great value, the *Tsing* 旌 or plumed standard granted to Takee by the Emperor. Then followed a crowd, scattering lavishly to right and left the paper sycee that diverts the malignity of evil spirits by exciting, and then disappointing, their cupidity.

The long line of red ancestral tablets and the well known retinue of the Taotai followed. Next, borne by four men came the Tsi-ty-yung 印敕 or Imperial Seals, another testimonial of the favour of the Court of Peking. After a space or gap of some twenty yards, the most sumptuous portion of the pageant followed. Two and two came the Taouist priests gorgeously robed in amber satin vestments, stiff with brocade and gold embroidery. We are certain that no more costly sacerdotal robes excite the admiration of Mediævalists at home than those whose brilliant colours flashed through dull lines of dirty coolies and reeking hawkers in the streets of Shanghai. To find vestments of equal magnificence we must examine the relics of the Episcopal Founders still treasured in our venerable Colleges, or failing the reality, we may glean some idea of their "shape and sheen" from the Pall of Ambrose of Milan in Vandyke's well known picture.

After this glittering group, a scarcely less conspicuous band than their predecessors and rivals, came the Buddhist priests in vestments of scarlet, then a band of children, neither dirtier nor cleaner than those who usually beset our highways; next the chair of the deceased containing the Shin-tsu-Ba 神主牌 veiled with red crape. This mysterious tablet is considered the seat of the human soul, now *in*

happiness, and is covered with a close drawn veil lest the departed should be perturbed or vexed by beholding the sorrow of those he loved.

More Buddhist priests of the 2nd Rank vested in green, profusely embroidered, followed, and then the distinguishing mark of the procession to out-siders, namely, the close clustered mass of tall narrow silk and satin banners inscribed with sentences recommending the soul of the departed to the genii, and enumerating the benevolent acts of his life to insure him a kind reception in Spiritland. Full of a curious symbolism was the next object that met the eye. In a basket-like frame covered with white and blue was the mourning lantern *Djur Lan* 球藍, hung *before* the dead man's face that he might recognize his friends in the other world.

The group that followed accorded more closely with the customs of the West, and included indeed almost all the funeral pomp we generally regard as necessary. The friends of the dead man with his little adopted son supported between two kinsmen and arrayed in the grass cloth mourning garments we had seen in the shrine. Then the the massive Coffin from LINTIN now covered with green instead of crimson, and surrounded with a paper representation of the *Seen Hok* 仙鶴 or Fairy White Stork that flies higher than any other bird and has been compared by some to the classic Phœnix.

The long cortege was closed by thirty-nine chairs containing the wives in mourning garments, and their female friends crowned with chaplets of white China asters.

With such pomp and circumstance was Takee borne to the Joss Houses near the Maloo, then through the streets to the river side where amidst salvoes of cannon his body was placed on board the Steamer *Kiangse*, which was to convey it to the last resting place at Ningpo.

The pageant will long be remembered by the natives with admiration and pride, and from the strange picture of the unanimity of two rival Priesthoods, as well as from the many quaint and mysterious symbolical rites, these obsequies deserve the attention of every thoughtful foreigner.

III. Traces of the Judicium Dei, or ORDEAL IN CHINESE LAW. *Contributed by* W. T. STRONACH ESQ.

It is provided by law that an injured husband may at once put to death his wife and her seducer, if he finds them *flagrante delicto;*— but to prevent abuses, he must forthwith cut off the heads of the delinquents and report the affair to the magistrate. The man is examined, and his deposition taken. The two heads are then placed

in a large tub of water. The water is stirred round rapidly which as a natural consequence brings the heads together in the middle. If they meet mouth to mouth or cheek to cheek, the statement of the husband is fully established;—if otherwise the husband will be suspected of having killed his wife in a passion, and then waylaid some one against whom he had a spite and murdered him, and will be punished accordingly. If he is acquitted by the above process, twenty or thirty lashes of the bamboo are administered, for not having taught *feu madame* better morals, and he receives a small present to assist in procuring a successor.

IV. Remarks on the WATER WE USE *in Shanghai. By* DR. LAMPREY, *Surgeon H. M's 67th Regiment.*

The difficulties some portions of the population of China labour under in regard to drinking water, and the necessity for boiling water previous to use, render the practice of drinking water hot, general throughout the country. The well water of the city and settlement of Shanghai is, generally speaking, unfit for use. It contains a large amount of impurities, consisting chiefly of nitrate of lime, derived from sewers and surface drainage, the soil being found to contain a large amount of lime. This nitrate of lime is found exuding above the surface of the damp floors and of old buildings where it effloresces. A small quantity put into good water gives it the unpleasant taste noticed in the river water. The muddy water of the Wongpoo contains from 25 to 29 grains per gallon of alluvial matter suspended in it—it also contains much impurity and organic matter, but on being filtered through animal charcoal it loses a large amount of impurity and becomes sufficiently wholesome for use. It still retains a taste, which most river waters have. The amount of the impurities of the Wongpoo water was compared with those of the water supplied to other large communities, and the advantages the rivers of China have over those of Bengal and other places were pointed out, viz:—The rivers of China are not made the receptacle of the dead and the sewage of the towns, like the Ganges, &c. The chemical constituents of the sewage of towns though largely thrown over the land in China are immediately appropriated by the growing vegetation and otherwise become modified by contact with the soil. The absence of waste uncultivated jungles in China shews that the source of vegetable organic matter is less than in India. The Lake water though shown to be a bright sparkling water, contains a large amount of impurities, which were greatly reduced by the filtering process. Compared with the river water it has less organic matter in suspension, and was found to keep better than it. The filtered Lake water has a decided advantage over all the waters supplied to Shanghai. The important

results are shown by reference to the following table, exhibiting the impurities of one gallon of the several waters treated of.

	Sld. mat.	Org. mat.
	grs.	*grs.*
Lake water not filtered	40	4
Lake water filtered through carbon cylinders	28	2
River water filtered through filtering paper by which 25 grains of alluvial matter was taken from it	60	10
River water filtered through carbon cylinders	28	4
Well water not filtered	88	16

In a climate like this, where so many circumstances favour the prevalence of illness, such as fever, dysentery and at times cholera, it becomes a very important matter that this great necessary of life—the water we use—should not be in any way injurious. A perusal of sanitary reports shows how the health of a community depends on good water, especially during the prevalence of any epidemic such as cholera, consequently every effort should be made to deprive the water of all impurities at the cost of whatever labour and expense. Rain water is generally neglected at Shanghai. Were this water collected, filtered, preserved in proper jars, and filtered again before use, it would be far better than lake or river water. The living animal and vegetable organisms found in the waters of Shanghai bear a general resemblance to those found in Europe—and while the presence of the former indicated a very impure condition of the water, the latter are generally admitted to possess a purifying effect. Investigations with a microscope afford an interesting subject for research. But the more important subject for investigation is the nature of the chemical impurities of the water. Without being much of a chemist a great deal of useful chemical facts may be ascertained by carefully evaporating a given quantity of water. Weighing the residue and submitting this residue to greater heat and again weighing, it will show the amount of solid matter and of organic impurities. This has been done and the result is that given in the foregoing table.

V. Remarks by R. A. JAMIESON ESQ., *made upon exhibiting a* TO-LO PALL *to the Society.*

The pall was taken along with a quantity of other loot at Soochow in December, 1863, and was accidentally picked up by Major-General Cooke some months afterwards at Ningpo. Attempts had been made to trace its history but without success. The nature of the pall was sufficiently explained by an inscription, a translation of which is submitted to the meeting, but in addition the speaker would observe that these *to-lo* palls are presented by the Emperor to Manchu and Mongol Princes after death as an especial mark of favour. Thus in a *Peking Gazette* of the 15th day of the 10th moon of last year a

pall of this kind is decreed to the junior Lui-chin-wang. But one instance has occurred of a Chinaman having been presented with this mark of Imperial favour. The case alluded to is that of Tsao Cheng-yung, a native of Anhuei, who, after having filled the office of Tsai-seang for several years, died in the second or third year of Tao-kuang. Without the Emperor's permission, no official or other person could be buried in a *to-lo* pall, but it might be mentioned that the lamas in some lamaseries in Thibet are said to keep these palls and let them out to families desirous of securing the happiness of their deceased friends.

In China, however, the regulation before mentioned obtains and the *to-lo* pall or shroud is buried with the corpse over which it is placed. For this reason it seemed probable that the specimen on the table had been taken, probably by the rebels, from the coffin of some high provincial officer. On inspection it would be seen that the upper surface was surrounded by a handsome woven border, containing a number of Thibetan characters in circles formed by other characters of the same language. Attempts had been made to obtain a translation of these from the Buddhist priests in Shanghai, and the environs, but no one could be found sufficiently acquainted with the sacred language of Buddhism. It might be guessed that the honourable and distinctive position accorded to the characters in question pointed them out as names or titles of Buddha, but this of course was a mere supposition. Within the border were several circles and squares for the most part containing Thibetan characters, but in a few instances devoted to Chinese. Thus the invocation to Buddha, as also the *to-lo-ching*, or commemorative inscription, are in Chinese, and occupy conspicuous positions at the right and left top corners respectively. The parts of the body to which different portions of the pall are to be applied are also pointed out by Chinese characters enclosed within right or circular lines. The parts specified are:—

Yu chien and *Tso chien*, the right and left shoulders; *Chi chien*, the navel; *Mi chu*, the organs of generation; *Yu hsi* and *Tso hsi*, the right and left knees; *Yu chio chang*, and *Tso chio chang*, the right and left sole.

It is to be noticed that the Invocation and Commemorative inscription are written in sentences of seven characters each, somewhat resembling the form of Chinese verse but wanting in the rhythm which is observed by the poets. At the end of the fourteenth line of the Invocation occurs the following, which is evidently a phonetic translation of a Thibetan chaunt. Read as Chinese it is destitute of meaning:—

An lo tê lei, lo tê lei' ma ho san pa, wa lo tê la,
Chi lo tê lei, lo tê lai, ma shu pi shu, ti piao ta ya,
Sa li wa pa' pan hung fa chi.

Then follow the four lines:—

In the three regions, &c.,

as given below, at the end of which there is another burst of a chaunt, probably part of the foregoing:—

An pa tê mei, pa tê mei, san pa wa ma, ho su ko.

The following rough translations of the Chinese inscriptions were then read:—

(Circle in the right top corner under five lines of Thibetan.)

The true words which purge away guilt.

(Circle in the left top corner under five lines of Thibetan.)

The true words of pure and clear light.

INVOCATION.

(Right top corner.)

O fortunate habitation of the supreme Buddha (*lit.*, three precious ones.)
Buddha, not to be compared with the sons of men!
Supreme Buddha, dwelling in the clearness of light!
Yet has deigned to assume the precious tonsure.
Wherefore he is now highest among t the gods,
Having fulfilled the laws of his godlike being as above declared.
In this manner, little by little, he conveys instruction,
That perfection may be attained by the subjugation of the appetites.
Having learned this doctrine I am fully acquainted with it.
There is no doctrine to be compared with it for excellence.
If indeed it be studied but by fits and starts,
At dissolution, the soul will remain grovelling.
By accepting this creed the evils of life may be avoided,
And quickly will the fruition of the holy doctrine be enjoyed.

In the three regions (Heaven, Earth and Air) impurtity cannot rest on me.
Any more than it could rest on a pure lily.
In the three regions there are little bursting forth.
Swiftly shall I fly to the blissful fields.

COMMEMORATIVE INSCRIPTION.

(Left top corner.)

At the time of my death.
I shall see the incomparable Julai;
In the sea I shall behold the sacred ones entrusted with the care (of man.)
As I have with sincerity for ever adopted the pure belief,
Up will spring visible bodies which I shall then recognise,
Eight mighty *pu sa* will explain the pure doctrine;
Dying, I shall be born into the beauteous land, the country of delights,
Fu-li and So-po welcoming me,
Where Shi-cha pre-eminent occupies a dignified position,
This pall which I bear will then prove most requisite.
I shall reach the bright domains of purity, and learn the deep and excellent doctrine.
How wise then to leave the delights of home, and the attractions of the world.
To disregard all craft and cleverness,
And disdain affairs of seeming importance,
That thus may be obtained the incomparable wisdom—
That thus speedily may the individual be absorbed in the deity!

EXPLANATORY LEGEND.

(Between the feet.)

This *to-lo* pall was made by Su in accordance with the book styled Mei-o-chü, the volume which dissipates evil influences). Su said this (volume of) Mei-o-chü contained Woi-tê-wang's secret charm. Incomparable is its excellence, its depth immeasurable. If for a departing spirit's benefit it be transcribed in its exact words and style of writing, and placed over the body of the dead, that is to say over the forehead, the throat, the heart and the genitals, or if it be inscribed on a cap or mantle, the soul will thereby learn to use the secret spell of Julai Buddha. And the advantages of this are as follows:—Evils have no more power over the soul, its grievous sins will be washed away, and it will not be cast into hell nor will it fall into the region of hungry ghosts, or of brute beasts. None of these calamities will befall it, but, on the contrary, it, enfranchised, will be born into the blissful regions of the west, the abode of the lily (or lotus). There at the time of death will it appear before Amito-fu, and will receive at his hands the histories of Pu-ti. If the sins of the soul have been so grievous that it cannot hope to gain the western climes, the region of purity, yet bearing this it may obtain a new birth, when amongst men and in Heaven practising every virtue, it may eventually gain the land of the lily (lotus) and gather the fruits of Pu-ti's instruction.

SUMMARY OF PROCEEDINGS.

January 10th, 1865.

SIR HARRY S. PARKES, K. C. B., in the chair.

The following gentlemen were elected members of the society; W. Cochran, R. C. Brown, Rev. C. H. Butcher. J. McL. Brown, W. Saunders, T. Battison, E. Solbe, W. H. Tapp, J. M. Taylor.

The Revised rules were submitted to the Society and adopted.

The Report of the year 1864 was read, adopted, and ordered to be printed.

The officers for the ensuing year were then elected as follows:—

Sir Harry S. Parkes.	*President.*
J. Henderson, M. D. G. F. Seward Esq.	*Vice-Presidents.*
C. T. Jones Esq	*Local Secretary.*
Rev. C. H. Butcher. Rev. F. R. Michell. C. Alabaster Esq. T. W. Kingsmill Esq. J. Thorne Esq. T. Dick Esq.	*Councellors.*
F. Carnie Esq.	*Treasurer.*

The following books were presented to the Society's Library:

1st Volume Chinese and Japanese Repository. D'Anville's Atlas.

A vote of thanks was passed to the Retiring Officers and the meeting then adjourned.

February 10th, 1865.

SIR HARRY S. PARKES, President, in the chair.

The following gentlemen were elected members of the Society: E. Milsom Esq., H. S. Bidwell Esq., J. Newbery Esq.

Dr. V. D. Collins read a paper entitled "Northern Chinese Sugar Cane or Sorghum and its uses."

Dr. Lamprey then read a paper entitled "Geology of the Great Plain."

Votes of thanks were passed to Drs. Collins and Lamprey.

March 10th, 1865.

SIR HARRY S. PARKES, President, in the chair.

Messrs. Tyson and H. G. Hollingworth were elected members of the Society.

The President read a paper on the "Remains of Ancient Cambodia" by Dr. Bastian to whom a vote of thanks was passed. A paper on "China Grass as a partial substitute for Cotton" by R. Jarvie Esq. was read and a vote of thanks passed to that gentleman. Some discussion ensued in which the President, Messrs. Dunn, Hanbury and others took part.

April 15th, 1865.

SIR HARRY S. PARKES, President, in the chair.

The following gentlemen were elected members of the Society: Dr. Meyer, Capt. Blakiston, A. Howell Esq., G. B. Dixwell Esq., G. H. C. Salter Esq., F. P. Knight Esq., Capt. Castilla.

A Communication from the Irkutsk Branch of the Russian Imperial Geographical Society was read.

The Secretary read the first portion of a paper entitled "Notes of a Journey to the Potteries of Kin-tê-chen and the Gree Tea Districts", by A. Little Esq.

After some remarks by the President and Mr. R. Hart, a vote of thanks was proposed to Mr. Little and carried.

The President then read a paper by T. Sampson Esq., on Coolie Emigration. Some discussion ensued in which the President, Messrs Lawrance, Hart, Kingsmill, Lynill and Dr. Johnston took part.

A vote of thanks was passed to Mr. Sampson.

May 10th, 1865.

SIR HARRY S. PARKES, President, in the chair.

The following gentlemen were elected members of the Society: P. A. Myburgh Esq., M. C. Morrison Esq., W. T. Lay Esq., T. Watters Esq.

Communications were read from Mr. Consul Meadows, Mr. Lindau, Rev. S. R. Brown and Dr. Hepburn promising to assist in promoting the objects of the Society.

Two copies of a new Chinese Testament, "A journey through Japan" by Mr. Lindau, and a block of Shantung marble, were presented to the Society.

June 7th, 1865.

SIR HARRY S. PARKES, President, in the chair.

The following gentlemen were elected members of the Society: M, le Viscomte Brenier de Montmorand, T. Kroes Esq., E. Whittall Esq., A. Robinson Esq., the Hon. A. Burlinghame, T. Sutherland Esq., Herr von Tettenborn, N. Trubner Esq., M. Giquel, H. Beveridge Esq. The President then announced that the Ex-Taotai of Shanghai had kindly placed rooms in his house in Ningpo Road, at the disposal of the Society.

A paper by Mr. Noetzli entitled "Incidents connected with a Journey to Cambodia" was then read and a vote of thanks passed to the author.

The President announcing his approaching departure, the following resolution was proposed and carried unanimously.

"That this meeting, while congratulating the President on his recent appointment as British Minister in Japan, cannot but look with regret on his approaching departure, which will deprive the Society of those services he has so ably rendered as President since its resuscitation."

June 22nd, 1865.
Special Meeting.

G. F. SEWARD Esq , Vice-President, in the chair.

The following address to the President on his departure as Minister in Japan was read and adopted unanimously.

To SIR HARRY S. PARKES, K. C. B.

SIR:—

It does not seem fitting to allow you to preside for the last time at a meeting of our association without some expression of the feeling to which your approaching departure has naturally given rise. We desire to convey to you our sincere thanks for the care and assiduity with which you have laboured to revive the North China Branch of the Royal Asiatic Society. Its resuscitation is mainly owing to your indefatigable and unremitting exertions. Amidst the pressure of harassing official duties you have always found time to engage in correspondence, to attend meetings, to peruse and select papers, in a word to further in every way possible the best interests of the Society. We feel that though we might hope to find a President like yourself well versed in the Chinese language and literature, like yourself courteous and diligent, we can hardly expect to find any one who will unite as you have done, wide oriental experience with patience to encourage the humblest student and readiness to accept the smallest contribution to the general stock of knowledge. This kindness and patience so essential at the institution or revival of a scientific Society, we shall indeed miss when you say farewell to us, and the recollection of many instances when both have been conspicuous makes us heartily regret the deprivation we shall sustain. Our loss is deep in proportion to our appreciation of the benefits you have conferred upon us, and we are assured that to you the North China Branch of the Royal Asiatic Society owes whatever *it is* and to you whatever *it will be.*

We should only discharge a portion of our present task however, were we to omit to offer our congratulations on the occasion which calls you from Shanghai. It must be gratifying to you to receive so important and responsible a charge, as you are assured thereby of the estimation in which your past services have been held by Her Majesty's Government. The record of these services is not to be looked for in

the transactions of a learned Society—they are part of the history of Foreign Intercourse with the East—but we cannot fail to recognise the same energy in your public career which, employed in a smaller field, has revived our little association.

The duties of Her Britannic Majesty's Minister in Japan will tax your resources yet more than your previous position has done, and we can only earnestly hope that you will be blessed with health and strength to fulfil the trying duties which lie before you in your new scene of usefulness, and may you see the two great results you have laboured throughout your public life to obtain, viz: the overthrow of the policy of prejudice and exclusion, and the mutual understanding of the Eastern and Western nations.

The President thanked the Society and took formal leave of it.

July 6th, 1865.

G. F. SEWARD Esq., Vice-President, in the chair.

The following gentlemen were elected members of the Society: C. Dillon Esq., A. C. Dulcken Esq., Rev. M. Kauffman, J. Sparrow Knight Esq., Dr. Reid, Dr. Falconer, R. Watmore Esq., A. Littledale Esq.

A Brick from the Porcelain Tower at Nanking, and some Shanghai Snakes were presented to the Society.

A Translation of a Japanese manuscript relating the particulars of the arrest, imprisonment, and death of Père B. Shirotte by the Rev. S. R. Brown was read and a vote of thanks passed to the Translator.

A discussion ensued in which the Chairman, Mr. Wylie and Mr. Kingsmill took part.

Dr. Lamprey then read a paper on "Shanghai Water" and received the thanks of the Society.

August 8th, 1865.

G. F. SEWARD Esq., Vice-President, in the chair.

Mr. Goodwin was elected an Honorary Member.

The following gentlemen were elected members of the Society: J. S. Forsyth Esq., H. Gribble Esq., F. H. Bell Esq., Dr. Jones, F. Whitmore Esq.

A paper on the Agricultural Mongols by the Rev. J. Edkins, and some notes on the same subject by C. Mitchel Grant Esq. were read.

After some few remarks by the President and Mr. Goodwin, a vote of thanks was proposed to Messrs. Grant and Edkins and passed.

September 8th, 1865.

G. F. SEWARD Esq., Vice-President, in the chair.

The following gentlemen were elected members of the Society: A. Maintz Esq., E. A. Reynolds Esq., Capt. Roundy, O. Brown Esq., W. Kidner Esq., H. Lang Esq.

A Copy of the translation of Wheaton's International Law by Dr. Martin, was presented to the Society.

The loss the Society had sustained by the death of its indefatigable Vice-President, Dr. Henderson, was brought forward.

Mr. Jamieson exhibited a To-lo Pall and delivered a very interesting explanatory lecture on it.

Mr. Goodwin pointed out the similarity between Chinese and Egyptian customs.

A short paper on "Trial by Ordeal" by Mr. Stronach was read, followed by a discussion in which Messrs. Alabaster, Kingsmill, Jamieson, and Seward took part.

Mr. Kingsmill read some "Notes on a trip inland from Nanking to Shanghai."

Votes of thanks were passed to Messrs. Jamieson, Kingsmill and Stronach.

October 9th, 1865.

Rev. C. H. BUTCHER, Vice-President, in the chair.

Mr. Gilfillan was elected a Member of the Society.

The Marquis de Pereira was elected an Honorary Member.

The Corresponding Secretary was directed to obtain from the Royal Asiatic Society, the affiliation of the members of the North China Branch.

A number of valuable works including contributions by Mr Trübner were laid on the table.

A Paper on the "Fauna of Formosa" by Mr. Consul Swinhoe was read, followed by a discussion in which the Rev. Mr. Butcher, and Messrs. Gamble and Kingsmill took part.

The continuation of the translation of the Narrative of the Persecution of Père Battiste Shirotte was then read, and the thanks of the Society voted to Messrs. Swinhoe and Brown.

November 13th, 1865.

G. F. SEWARD Esq., Vice-President, in the chair.

Sir. E. Hornby, Dr. C. A. Winchester, J. Breuell Esq., were elected Members of the Society.

H. E. Jose R. C. da Amaral was elected an Honorary Member, Lt. M. Castro Sampaio a Corresponding Member.

Sets of charts and Blue-books, presented by the Foreign Office and Admiralty, were laid on the table.

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A proposition that the Society should aid in publishing a new edition of the Chinese Classics was brought forward. A further portion of the Rev. S. R. Brown's Translation was read.

Mr. Jamieson read a paper on the Hieroglyphic Character of the Chinese Written Language and received the thanks of the Society.

A discussion ensued in which Messrs. Wylie, Schereschewsky, Goodwin, Dulcken and Knight took part.

The President gave a short Narrative of a Missionary Tour through fourteen of the eighteen Provinces of China by Mr. Bagley.

December 12th, 1865.

G. F. SEWARD Esq., Vice-President, in the chair.

Messrs. Gilfillan, F. Youde, O. Hughes, W. H. Gracie, G. R. Corner, Drs. Thin and Dunscombe, were elected Members of the Society.

S. Wells Williams, LL. D. was elected an Honorary Member, and Lt. Silveira, Dr. Jenkins and Dr. McCartee, Corresponding Members.

Various Pamphlets and Reports were presented to the Society.

The Secretary presented a series of pictures illustrating the tortures of the Buddhist Hell and read some explanatory Notes.

Mr. Kingsmill read a Retrospect of the year.

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