Colquhoun, A.R., and J.H. Stewart-Lockhart. "A sketch of Formosa." *The China Review* 13 (1885): 161-207.

A Sketch of Formosa.[1]

[Note: Pp. 161-183, which include the sections entitled "The Dutch in Formosa" and "Chinese Rule in Formosa," are omitted from the following electronic text of Colquhoun's sketch of Formosa.]

Physical Geography.

[P. 184] Formosa is intersected by a range of mountains, varying in height from 200 to 12,000 feet, following the general direction of the island from north to south, and forming its backbone. The range is called by the Chinese Chü-Shan, or Saw Hills. Its western slope is somewhat gradual, and falls on to a large undulating plain on which the Chinese have settled, but on the eastern coast the range descends very precipitously, presenting a most dangerous shore, exposed to the full blast of the Pacific. The western coast has no good harbours, and vessels are often compelled to lie off the island exposed to bad weather. The only harbours are Keelung and Tamsui, in the north, and Taiwan, in the south. The Chinese are confined as yet to the possession of the western plain, and the harbours and villages of the western and northern coasts, and to a few settlements on the east; the main mountain range being inhabited by aboriginal tribes, gradually becoming subject to the Chinese, or exterminated by them, the invariable result of the contact of aboriginal races with those of a superior civilization.

The outline of the coast is very irregular, with numerous inlets and bold headlands. The island presents every variety of country, -- high peaks enveloped by mist and snow, valleys covered with luxuriant vegetation, and the extensive plain on the west, with its rich alluvial soil. Here is found nine-tenths of the whole population of Formosa. Through this plain the rivers, few and shallow, wind from the foot of the hills. On the wild, abrupt eastern coast, where there are few sandy beaches, and on these often a heavy swell, there is only one fertile plain of any considerable extent. This valley, known commonly as Kapsulan, and officially as Komalan, commences some 25 miles south of Keelung, and extends for some 14 miles further south to Suao Bay. Its greatest width is some seven miles, the inland boundary being a semi-circle of mountains. Within the valley, one large rice-field, are situated thirty-five villages and

---

[1] The information in the sketch of Formosa is gained from a study of all available sources of information and from the evidence of those who have resided and travelled in the island. We are under especial obligation to Mr. G. Phillips, H.B.M. Consul in China, and to the Rev. J. Mackay, of the Canadian Presbyterian Mission, who has travelled extensively in Formosa and who has lived amongst the aborigines.

several thriving towns, the principal of these being Lotong, a well-built town with a population of a few thousands, and [p. 185] some trade. Although only settled since the beginning of this century, and in the early years of its occupation the resort of outlaws, it can now boast of a very orderly and respectable community, who live well, owing to the fertility of the soil. The original inhabitants of the plain, called by themselves Kabaran, have been compelled by the Chinese to retire from the open country to the lower hill slopes, where they are forced into contact with the untamed aborigines dwelling within the dense forests. The amount of level land to be found along the whole broken, steep eastern coast, is exceedingly limited, the precipitous and thickly wooded mountains coming for the most part sheer down to the beach, deep water being found close alongside. On the few small bays with patches of plain land which are to be found, Chinese communities have settled. The lower slopes of the hills are being gradually denuded of their covering, the edge of the wooded tracts being invariably the boundary line between the territories of the settlers and the natives. On the east the streams are fierce mountain torrents, more like waterfalls than rivers, rendering navigation of any sort an absolute impossibility.

The great defect of Formosa, in the way of the development of the island, is the absence of good deep-water harbours, and the violence of the monsoons in the Formosa channel, which renders navigation difficult and dangerous. The east coast is not visited by the full strength of the N.E. monsoon, presumably owing to the precipitous and mountainous character of the mountain slope. With practically no harbour of any value on the east coast, those on the west coast are mere roadsteads, with few exceptions, only admitting vessels of light draught, up to ten or twelve feet. The coast line, except in the north, is a succession of sand banks and shoals. From the brief description given of the main ports, which are open to foreign trade, -- Keelung and Tamsui in the north, and Taiwan and Takow in the south, -- it will be seen what enormous, almost insuperable difficulties exist in the way of navigation.

The northern part of Formosa is high and mountainous, with the exception of its north and north-west points, which are low, with reefs extending a considerable distance off the coast. The sea has here a great depth. The scenery in the immediate neighbourhood of Keelung is very fine, with picturesque knolls and undulating wooded hills coming down close to the water-edge, while behind these the mountain-range of Tamsui, generally covered with clouds, rises to 2,800 feet above the sea. The verdure and vegetation here form to the eye a pleasing contrast to the flat western coast, and the general sterile northern mainland. Northern Formosa is volcanic, as might be expected from the fact that it is situated between two great volcanic centres, Japan and the Philippines. The river at Tamsui, and the alluvial plain at the back of the town, form a natural boundary between the Tamsui mountain system and that of the main mountain backbone of the island. The hills here are composed of stratified rocks which have been tilted up by the igneous rocks. At Keelung sandstone is the predominating formation, where it assumes the most fantastic shapes.

North of Tamsui the beach is a field of lava, seamed and cracked, with deep gullies, and is not unlikely the outer edge of a submarine eruption. At Keelung there is at the present day probably volcanic agency at work under the sea. The water is occasionally covered with floating pumice, and the results of volcanic subaqueous movement have been noticed, especially during the earthquake of 1867. There are six sets of volcanic geysers in the district. During the earthquake mentioned the sea receded from Keelung harbour, leaving the anchorage quite dry, returning a few seconds after in two huge waves, sweeping away shipping, and destroying to a great extent Keelung and [p. 186] other towns close by, while even Tamsui suffered considerably.

Keelung is situated on the shores of a bay situated between capes Fuki and Petow, lying some twenty-two miles apart. The portion of North Formosa between these points receives the roll of the heavy sea of the N.E. monsoon, though fairly sheltered during the S.W. monsoon. In the bay is Keelung island, a remarkable black rock rising precipitously on all sides, with a somewhat flat summit, 580 feet in height. The harbour is easy of access, and fairly well sheltered in all except the northerly winds, whose full force is felt. At present the depth of water in Keelung harbour is not sufficient for large ocean steamers to gain the requisite shelter from the N.E. monsoon, owing to the accumulation of ballast, which has for many years been thrown overboard, by the junks. The bad weather often prevents cargo-boats from going alongside the steamers outside. The harbour might be improved by dredging, which has been proposed more than once, but it is more than doubtful whether the effect would be lasting. If the coal-mines are ever to be of any great value, or to turn out profitable, the water must be permanently deepened close to the town.

The so-called harbour of Tamsui, 'Freshwater' town, which is really only the lower reach of the Tamsui river, lies in a valley situated south of the high northernmost range, one of whose peaks stands 2,800 feet high over the harbour. To the south of this again is a double-peaked hill, with a summit 2,000 feet high. In the funnel-shaped entrance is a bar, with only eight feet of water at low tide, and seven to twelve feet rise during spring tide. The anchorage ground, which is of shifting sand, is most insecure. The shore, next the mouth of the Tamsui river, is composed of low ground interspersed with sand hills; on the south are sand and mud flats, stretching for some distance southwards; on the north a stony flat. Hu-wei, the town known to Europeans as Tamsui, is situated some two miles from the mouth of the river, just beyond the old Dutch red fort, which is now the British consulate.

The harbour is really formed by the debouchure of numerous streams rising in the mountains in various directions, and at distances varying from twenty to seventy miles from the mouth. The main branch comes from the south-east, but another important one rises in the north-east, in the immediate neighbourhood of Keelung, a few miles to the south, on the southern side of a hill-pass, the upper reaches being covered with fierce rapids. These streams flow towards Mêngka, called also Bangka or

Banca, where they form a junction, some fifteen miles from the sea, into which they empty themselves. Large quantities of silt are brought down by the river, especially when swollen by heavy rains, the result being a troublesome bank in the middle of the river, and the narrow bar at the entrance, on which the sea at times breaks with great violence. A dangerous surf rises with a fresh breeze, and vessels cannot count on entering, or once within, on leaving the port. In fine weather and at high tide, coasting steamers of small draught can enter, but vessels of any considerable draught do not venture in, on account of the insufficient depth, and the surf-swell. The anchorage has shifted from the southern side, where it was within the memory of native residents, to the northern bank. This has been generally attributed to the wholesale deposit of ballast from junks in the river, never interfered with by the Chinese officials.

In the south, Takow is the only port with a harbour which admits vessels of twelve feet draught. This harbour is formed by a small basin, lying within a great placid lagoon, six miles in length and one to two in breadth, situated parallel to the sea. On the north it is bounded by a rich, flat plain, through which meanders a river, and on the south is a low sand bank, extending southward from Saracen Head, [p. 187] until it rejoins a continuation of the plain. On this is situated the village of Takow, with a population of about 1,000. The entrance to the harbour is only 200 feet wide, lying next to and north of Saracen Head. A narrow ridge of sand runs from this point northwards, curving out but generally parallel to the shore north of the entrance. Over the north and south parts there are ten to twelve feet of water at low spring tides, but on the central portion not more than seven to nine feet. Its loose sands are constantly shifting, especially when freshets occur, and in the S.W. monsoon, when wind and swell beat against the tides, forcing their way seawards from the lagoon. In bad weather the sea breaks heavily on the bar. The anchorage is so confined that vessels cannot swing, and have to be moored head and stern, and a middle spit of sand further reduces the breadth of the anchorage, which is only practicable for small steamers.

Trade is carried on from this place principally with Amoy. From Takow to Taiwan the distance is about twenty miles, the journey being performed either on foot, by chair, or on horseback. A telegraph line has united the two places since 1874, when it was erected by Chinese students, who had been trained in the Foochow dockyard school of instruction. Owing to the surf so common at the Takow harbour, boats similar to those called catamarans are largely used. These are rafts of stout bamboos lashed together, the boatmen using the common Chinese paddle and a large sail, rigged in the ordinary way. The passenger is seated in a large tub placed in the centre of the raft-boat, which has surrounding it a slender-looking, but strong, bamboo railing. These unsafe looking craft face the roughest swell thrown against the coast by the whole force of the S.W. monsoon, yet accidents are not very common. In any case, they are the safest class of boat for the purpose required. Approaching Takow from the sea the prominent features in a very unattractive landscape are on the left Ape's Hill, 1,100 feet high, with its barren, rugged sides rising with a steep slope from the sea. This hill, a

block of coral, whose summit resembles a crater, is believed to be an extinct volcano, which has been alternately submerged and upheaved. Further south is Saracen Head, 173 feet high, a nearly level block, faced on the sea side by precipitous cliffs rising from the water's edge.

For some twenty miles north of Takow is a straight line of beach pierced by four small streams, and there is nothing noticeable until Fort Zelandia is reached, built by the Dutch in 1634 to guard the entrance of the then extensive lagoon-harbour of Taiwan-fu, the capital of the island. This open roadstead, -- known sometimes as the Anping road, from the fishing village of that name which has sprung up round the ruins of the Dutch fort, -- has an anchorage of some six fathoms, but is situated next a series of flat sandy banks, on which the surf breaks heavily. These banks separate the roadstead from a shallow muddy lagoon, next which is a low, flat plain. During the N.E. monsoon, from December to March, sheltered anchorage is found to the south-west of Fort Zelandia. But this position is unsafe during the whole of the S.W. monsoon, and when the monsoon is exerting its full strength, no vessel can lie off the Western Formosa coast, exposed to its full brunt. The bar is so dangerous that cargo-boats cannot pass it for days and sometimes for weeks. The channel of the bar is constantly shifting here, as at Takow and Tamsui, and also like those shoaling rapidly. Good harbours existed formerly with fifteen to twenty feet of water, where junks cannot now enter, and according to the Dutch records, and Chinese testimony, the sea reached, at the time of the Dutch occupation, to the fort inside the city, that is, several miles further inland. From June till September trade at An-ping is stopped, all goods being sent to Takow for shipment. The superintendent [p. 188] of the Imperial Chinese Customs and his staff are here, the British Consul and a medical missionary residing at Taiwan-fu. A mud plain, covered at high water, lies between the two places, communication being maintained by means of a small canal, by which flat-bottomed boats reach the city.

Since the time of the Dutch occupation, some 250 years ago, the whole west coast has undergone great change. The harbours are silting up, and the coast is gradually, though slowly, undergoing a movement of upheaval. The earthquakes which have occurred, -- the worst of these being that of 1782, which lasted twelve hours, accompanied by terrible torrents of rain and tidal waves, -- have largely helped in effecting these changes. During the Dutch occupation Anping was, as may be seen from the maps of that period, an island, while to-day it not only forms part of the mainland, but has a sand bank stretching into the sea for several miles, on which the Chinese fishermen have built a village and temple. The western and northern harbours are therefore likely to present more and more difficulties, as time goes on; and to keep the ports open, even for light draught trading steamers, will be an expensive process. For safe anchorage ground for a fleet it will be necessary to go to the Pescadores. Situated twenty-five miles W. of Formosa, this group of islands has excellent harbours, the best being between Pang-hoo and Fisher Islands, the two largest of the cluster,

which is less in extent than the Chusan group. There are twenty-one inhabited islands in all, of which Panghoo, the largest, is eighty-four miles in circumference. These islands have a barren look, owing to the want of sheltered valleys and the absence of trees. The population, about 8,000, composed entirely of fisher people, is largely dependent upon the mainland and Formosa for food supplies.

The coast of Formosa is fairly well lit, there being lights maintained by the Imperial Chinese Customs, at South Cape, Takow, Anping, and Keelung, There is also a light at the Pescadores.

Trade.

When the ports of Formosa were thrown open by the treaty of 1860, little was known of the island except from the reports of the Chinese, from which source the illustrious but unreliable geographer Klaproth drew his information. The Dutch had done little to increase the store of knowledge regarding Formosa. The Chinese information was based as usual upon an examination of things and men from a standpoint very different from that adopted by a western critic, and in it we find little that is of any real value concerning the capabilities of the country or its inhabitants.

Like all countries shrouded in mystery, Formosa was credited with fabled treasures of the earth, the field, and the forest. It was to be an El Dorado for the merchant and miner; but, as so often is the case, the results by no means justified the exaggerated expectations formed.

The ports opened to foreign trade about the same time as those on the mainland, have not even justified legitimate expectations. The foreign merchant in Formosa has found more difficulties to contend with than his *confrére* on the Chinese cost. There the inland water ways and canals offered channels ready made, and existing markets awaited foreign supplies, for which they were ready to give the native produce in exchange. In Formosa the merchant had to be a pioneer in the strictest sense of the word. Inland markets had to be created; communications were discovered to be almost non-existent; and only the western plain of the island was partially peopled by Chinese settlers, the rest being occupied by the natives, with whom the Chinese were in daily conflict. The administration was even less efficient than in China. The island is highly favoured by nature, but civilized man had not yet succeeded in leaving his mark on any but a very small portion of it. [P. 189] The opposition from the officials, who were then semi-independent, and from the gentry and village elders, the latter very powerful in Formosa, aided by the ignorance of a people chiefly agricultural, with few wants and no capital, formed a barrier more difficult to beat down than is to be found even in China. The increase in the territory occupied by the Chinese settlers, the process of absorption and extinction of the aborigines which is steadily going on, and the enterprise of the Chinese traders, however are working a change. Since 1874 reforms in the system of administration led to a more effective Government. In time, notwithstanding the

difficulty which the want of good harbours presents, the trade of Formosa may be expected to largely increase, the main want being inland communications, roads and railways.

Let us see what the capabilities of the island are in the way of trade.

The increase made up to 1883 is given in the note at the foot of the page [see pp. 194-195]. At Takow between 1868 and 1883 the increase in round numbers was from £350,000 to £900,000, at Tamsui from £280,000 to close on £1,000,000. The duties levied have increased from £35,000 to £80,000 at Tamsui, and from £40,000 to £55,000 at Takow. So that the trade in fifteen years has expanded three-fold, while the duties have not doubled.

The principal imports are cotton and woollen goods and opium, chiefly in the hands of foreigners. Both cotton and woollen manufactures find a ready sale among the aborigines and Chinese. There are no cloth manufactures of any importance in the island, except a rough texture almost unfit for use, and a sort of open grass cloth made by the savages. The practice of opium smoking is unfortunately rapidly on the increase, the savages having learnt the habit from the Chinese with great alacrity. The use of the pipe is said to be a preservative against the deadly fevers of the Formosan forests. The people prepare the opium, which is brought over in the raw state, every village having a small boiling-shop. The poppy is as yet hardly cultivated in the island. Numerous small articles, chiefly for barter, such as bangles, brass-ware, ink-stones, isinglass, and so on, have been introduced into the island, and a considerable trade in native produce is also carried on by Chinese traders from the mainland. As Formosa is capable of producing nearly all the articles now imported from the mainland, the trade will probably before long change its character. The Customs returns unfortunately give no estimate of the junk-borne trade, which is important.

The chief exports of the island are coal from Keelung, tea and camphor from Tamsui, besides rice, sugar, indigo, hemp and timber from Tamsui and the two southern ports. But the industries of Formosa are as yet hardly developed at all, principally owing to the absence of interior communications, and the dangerous navigation and bad anchorage on its coasts. With proper communications it would be possible to a considerable extent to avoid these dangers. The export trade of the South is confined to sugar, turmeric, the fruit called *lung-ngans*, and sesamum seed. Sugar forms over nine-tenths of the exports. The export of rice from the island, which at one time was so great as to earn for Formosa the title of 'the granary of China,' has dwindled down, until it has almost ceased. This is to be accounted for by the fact that the improved communications along the China coast enable rice to be carried cheaper from Indo-China and central china to the north, and elsewhere.

It is unnecessary to say much regarding the coal-mines of Keelung, the only production which gives it any importance. At one time most extravagant estimates

were formed of the value of Keelung as a centre of coal production and distribution. The coal exists, of fair quality, and can be turned out at a rate of 5 to 5 1/2 dollars per ton at Hongkong against 6 to 7 [p. 190] dollars for Japanese, 8 to 9 dollars for Australian, and 8 1/2 to 11 dollars for English. But Keelung coal will never compete with Japanese or Australian coal for the purposes of commerce. It is a small bituminous mineral, good for domestic purposes and for steamers making short passages, but otherwise it is quite unsuitable. It burns rapidly, cakes the furnace, and makes a large quantity of smoke, choking the tubes. The consumption is one-half greater than Welsh coal, one-quarter greater than Japanese coal, and its evaporating power 30 per cent. less, whilst the necessity for the frequent sweeping of the tubes causes loss of speed. As a self-productive coaling station it has a distinct value for any naval power seeking to establish itself in these seas, and this has been recognized by the French. The value of such a coaling station has been well illustrated by the use made of Hongkong by the French since the commencement of the Tonquin campaign. But they will have to defend it with forts, and a garrison will have to be left in a most unhealthy and dispiriting climate. Moreover the harbour is very defective, and a naval depôt and harbour would have to be founded at the Pescadores. The native method of mining is exceedingly primitive and wasteful, horizontal tunnels being worked into the hill sides, slightly inclined upwards to permit the egress of water accumulated. The orifices often are not larger than just sufficient to permit a man to crawl in and excavate small lumps of coal. Mining on the European method has of recent years been carried on under an English engineer, who, employed by the Chinese government, organized a proper system of working. Still the mines have never been worked as efficiently as they should be, and it seems improbable that they ever will be while under Chinese administration. In various parts of the north coal is found in many small seams, from old anthracite to recent peat. But the seams are always thin, and never of a quality to compare with European coal. The best coal in the north is said to exist at Nuan-Nuan, on the Tamsui side of the pass next Keelung, but the passage down the stream, which is impeded by rapids, makes it costly.

The trade in camphor, at one time very valuable, has diminished and now has little value. The trade was formerly in the hands of wealthy foreign firms. But in the early years, after the Customs were established, the camphor trade was a monopoly, in the hands of the Taotai, the chief official in the island, who farmed it out to Chinese. These monopolists bought the camphor from the mandarin at sixteen dollars the picul, and sold it at Hongkong at 28 dollars, for shipment to India, where it was largely in use for lubricating the body and other domestic purposes. Camphor-wood, the gigantic laurel (*laurus camphora*), is found throughout the whole mountainous interior occupied by the wild aborigines. At present it is only obtained from the narrow belt of debatable ground between the settlements of the Chinese and the territory of the aborigines on which the Chinese settlers are pressing forward with unremitting energy. The manufacture is attended with constant danger, from the natural jealousy of the savage towards the Chinese and their encroachments. The camphor tree has been the greatest

incentive to the Chinese colonist to push forward. They enter into relations with the savages, wherever they can, gain or take permission to cut down the trees, and remove them to extract the camphor. Much of this valuable timber is wantonly or ignorantly wasted, it being no uncommon practice to burn large numbers of the trees to further felling operations. The trees are selected with care for the abundance of their sap, many being too dry to repay the labour and trouble of extraction. The best part of the tree is secured for sale as timber, and the refuse cut into chips. These are sometimes boiled in iron pots, one inverted on another, and thus the sublimated vapour is produced. The instrument used for cutting the wood into chips is a gouge [p. 191] with a long handle. The stills, according to one of the Customs reports, are commonly constructed thus: -- 'A long wooden trough, frequently hollowed from a tree trunk, is fixed over a furnace, and protected by a coating of clay. Into this trough water is poured, and a board perforated with numerous small holes is placed over it. The chips are placed over these holes, and covered with earthenware pots. Heat being applied in the furnace, the steam passes through the chips, carrying with it the camphor, which condenses in the form of minute white crystals in the upper part of the pots. From these it is scraped out every few days.' These stills are moved to convenient sites from time to time, or camphor is manufactured in the towns, the chips being brought thither in baskets. Great caution is exercised in purchasing the camphor brought down by the producers in baskets, as it is not infrequently adulterated with alum, powdered cuttle-fish, or a peculiar mucilaginous substance obtained from the rattan creeper, which grows in great quantity. The first is detected by taste, the others by a suspension of a small quantity of the camphor in a glass of water, which is at once made turbid by their presence. Burning also detects adulteration by the residue left behind. The camphor is either stored in large vats, or packed directly into tubs or boxes, in which it is exported. No new trees are planted by the Chinese, and the camphor-wood supply must in time fail. The devastation of the forests, however, is tending to the gradual settlement of the inland portions of the island by the Chinese. Other timbers, but none of them valuable for the purpose of export, are plentiful in the inner hill-forests.

The demand for tea has largely increased, and wider tracts of hill country are being put under cultivation. The tea is not of a superfine quality, but it finds a ready market in America principally, but also in Australia. It has not a bad flavour, but the coarse preparation of the leaf and the faulty packing, are disadvantages which will have to be overcome. As the tea plantations are situated so close to the river and harbour at Tamsui, the industry should increase. Tea has been tried on the east coast, but not successfully. No European has yet made tea planting pay, nor can he compete with the Chinese middleman, who can live cheaply, work cheaply, and speaks the language in common use.

Grass-cloth fibre and jute are also exported in small quantities. The first is exported to China to be woven into summer grass-cloth. Manufactured grass-cloth and other cloths are sent to Formosa to be dyed with the fresh Formosan indigo, famed

throughout China for its bright and durable tints. The northern districts produce indigo, which, packed in large tubs, is shipped in the liquid state, to Amoy and Shanghai principally. Rice or pith-paper, the delicate substance so much in use by artificial flower-makers and painters especially in the south of China, is exported in large quantities from Tamsui, where the pith, the *aralia papyrifera*, is cut into sheets ready for the artist's brush. Petroleum is found some few miles south of Tamsui, and is said to resemble resin-oil more than the rock-oil of America or the Burmese earth-oil. In 1877 two Americans were engaged by the Chinese Government to work the petroleum wells, but they were hampered in their work, and as in all similar undertakings, the management was Chinese, and a couple of years saw its entire collapse.

One of the valuable products of Formosa, at present undeveloped, is sulphur. Within the volcanic district of the north three extensive *solfataras* are found. The first of these occurs at a place about five miles east of Tamsui, situated at a height of 430 feet above the sea level. These were at one time largely worked, but for some years have been stopped by the authorities. They are inferior to others, distant about three miles in a north-easterly direction, to reach which a pass of 2,500 [p. 192] feet high has to be crossed. These stand in a rocky gorge, elevated 1,750 feet above the sea. The third *solfatara* is near a village called Kim-pao-li, some seven or eight miles north-west of Keelung, situated at a height of 1,450 feet. At these sulphur-pits the process of manufacturing sulphur is carried on by the Chinese in a very rough way, in shallow iron pans about three feet in diameter, built over brickwork furnaces, which are fed with wood fuel. The loose lumps of sulphur found deposited here and there, and the earth impregnated with sulphur are gathered and heated in the pans. A light frothy slag rises to the surface and is skimmed off, and deposited in wooden moulds, which are made in the shape of water buckets. These are constructed of movable staves, so that when the sulphur has solidified, the hoops can be taken off, and the staves removed. A very curious attempt made by the Chinese authorities not only to suppress this manufacture, but actually to set nature at defiance, deserves passing notice. The Government, entertaining fears lest the sulphur-pits should be used during the rebellions to which the island has so often been subject, after one of these outbreaks in 1833, issued an Imperial edict directing the Viceroy of Fuhkien to devise means for suppressing the manufacture. The local civil and military authorities were ordered to proceed to the pits four times annually, and have those which emitted smoke and vapour filled up with earth, and set fire to those which gave forth sulphur. The attempt was made, but it is hardly needful to say had very shortly to be abandoned.

The cultivation of sugar, the staple of southern Formosa, has acquired large proportions within the last few years. The sugar export represents 96 per cent. of the entire export trade of southern Formosa and nearly 50 per cent. of the entire trade of the island. The coarse brown sugar which forms the greater part of the export, is in demand not only in Europe but also largely in Japan, as well as at Hongkong and the various ports. It is somewhat similar in quality to the *taal* of the Philippines. Formosa

might be made a large sugar producing country and its quality greatly improved. The defects, as in tea and other industries, are the bad communications, and the defective method of cultivation, owing to ignorance, want of capital, and absence of machinery. Though Formosa has very great disadvantages to deal with in its difficult and dangerous coast and navigation, that a large industry can spring up in face of similar difficulties is evidenced by Barbadoes, with its rock-bound coast, open roadsteads, and absence of good harbours, very similar to the Formosan coast.

The cultivation of the sugar-cane is entirely in the hands of peasant settlers, principally Hakkas and Fuhkienese, whose annual outturn is limited, as they usually have other small crops to attend to. The plodding perseverance characteristic of the Chinese agriculturist in his own country is apparent everywhere, but so also is the opposition to reform. No effort is made to improve the cane. The old methods are strictly adhered to, in preference to the scientific system now introduced nearly everywhere. The consequence is the sugar-cane is deficient in sap and growth, and must be renewed every two years. The peasantry are obliged by poverty to have resort to the middleman for funds, raised as mortgages on the standing crops, and, it need hardly be said, have to pay dearly for their loans. The cane is sent to a public crushing mill, instead of there being one attached to each plantation. The method of crushing the sugar is still more rude and costly than the mode of cultivation. Two rough circular stones, turned by oxen or water-buffaloes, form the mill. The cane being passed once or twice between the stones, the juice runs out from beneath the rollers through a bamboo tube to the boiling shed. The loss is 50 per [p. 193] cent. by this process, whilst by a good modern machine it could be reduced to one third that amount. The waste in the boiling also is great. One or two attempts to introduce improved methods have hitherto been failures, not owing so much to any blind antagonism of the people to the introduction of machinery, as to the foolish arrangements made by the directors, men quite untrained, who either do not employ skilled Europeans, or fail to get the right class of men. Similar reasons have operated to bring about failure at the Keelung and Kaiping coal mines, and elsewhere.

Sugar is mostly grown in the neighbourhood of Taiwan, the rich flat lands lending themselves admirably to its growth. It could also be produced in considerable quantity south of Tamsui, but the absence of proper communication in that district makes it impossible to get it to market at a remunerative rate. The process of refining is better understood at Taiwan, simply because the sugar goes there. It is exported mainly to Japan, American, and England.

Amongst other articles turmeric root, used as an aromatic, and to produce a brilliant saffron dye, is exported. If permanence could be given to the colour, its value would be greatly enhanced. The groundnut also is largely grown, principally on account of the oil possessed by the seed. The nuts, after being heated, are pressed between two iron plates by means of wedges, the oil finding an exit through a hole in the lower part of the press into a receptacle below. The oil is used locally for various

domestic purposes, and the crushed nuts are formed into cakes for shipment to Amoy and other places, where they are used mostly as manure, but sometimes as food for cattle.

Although the native junk trade has in some measure decreased owing to the introduction of the foreign steamer, still the advantages under which the junk trading to Formosa performs its work, will enable it to long hold its own. This will be understood when the character of the voyages made to the mainland is explained. The distance is short, occupying frequently one day only, the winds are tolerably certain at fixed seasons, and the Formosan coast has many small harbours, with draught sufficient on their bars to admit junks where no steamer can enter. The working expenses are exceedingly small, the freights low, and they can afford to wait in port a long period for discharge and shipment. The greater portion of the junk trade is with Chinchew, a port situated a short distance north of Amoy. Occasional cargoes go to Foochow and Ningpo. An important feature is the local coasting trade, carried on in junks of from ten to twenty-five tons burden. During the stormy winter months this trade entirely ceases, but for the greater part of the year a large trade is carried on between Tamsui and Keelung, and other ports on the west coast, as well as Suao Bay on the east coast, in rice, camphor, sugar, and other produce to be re-exported to the mainland. The piracy which existed until recent years along the coast has almost entirely ceased.

[Note: Table No. 3, "Value of trade at Tamsui" (1874-1883), and Table No. 6, "Value of trade at Takow" (1868-1883), are omitted.]

Cities and Communication.

[P. 196] The chief harbours of Formosa having been described, it is now proposed to say something of its principal cities and communications. The capital of Formosa, Taiwan-fu, is a prefectural city with about 70,000 inhabitants, quadrangular in form, five miles in extent, and surrounded by a battlemented wall twenty feet high. Within are the houses of the chief citizens, the *taotai* and other officials, and several temples. The town has no importance, except as an administrative centre, and trade emporium. Some 3,000 troops are usually stationed here under a *Chentai* or Brigadier General, but the place itself could offer no resistance, once the fort at Anping was silenced. The empty spaces in the town give it a rural and dispiriting aspect. The want of bustle and stillness of the place prove that its importance as a trading station is gone. This has resulted from the silting up of the rivers communicating with the coast, and from the shoaling of the coast itself. The neighbouring flat country is cultivated and fertile, mainly producing sugar and rice. To seaward of the town lies an extensive suburb containing the chief business quarter. The village of Anping lies situated round the ruins of the former Dutch stronghold, Fort Zelandia, on sand and mud banks, undergoing the process of rapid accretion. The old Dutch fortress was built in 1630, as the inscription over the main gateway on the northern side shewed; 'Te Catel Zeland,

gebowed anno 1630.' It consisted of a central keep, erected on a small hill, believed to have been partly artificially built, and formed a bastioned fort, 60 yards square. At about 100 yards distance on the northern side a wall followed the course of the lagoon shore, and met the keep at its western and northern angles, its own angles being also protected by a kind of bastion. The walls, very thick but hollow in the centre, were built of small bricks especially brought from Batavia for the purpose, and were extensively loopholed. A second fort, named Provintia, was subsequently built by the Dutch near the mouth of the Formosa river, on the side, as they called it, opposite to the fort on the island of Taiwan. This fort stands inside the city of Taiwan, and is known as 'the Red-haired houses.' To illustrate how the coast has altered, it may be mentioned that its position is now more than a mile from the bank of the present river, and several miles from the coast.

In this neighbourhood carts of a very rude description are in use, and a few roads, hardly however meriting the name, have been made. The carts, which have to be used on the very indifferent roads, which in bad weather become almost impassable, are strongly, though roughly constructed of thick wooden planks battened together, and fashioned into shape. The jarring noise made by the carts when near at hand is a constant annoyance to foreigners, though at some little distance the sound is not unpleasant.

The climate in winter is healthy and pleasant, not so cold as Hongkong, but with a clear bracing air. The N.E. monsoon, intercepted by the mountain range acting as a screen, is little felt, but a north-easter fills the air with sand and dust from the plain, which penetrate every crevice of the houses, and makes it disagreeable out of doors. The heat in summer is oppressive, for days together the thermometer never falling below 90˚, when the nights are almost unbearable. In the day time it frequently reaches 100˚. The S.W. breeze, which brings fresh air to the coast, is lost in crossing the plain and Europeans are compelled to go to Takow for a change. Heavy rains fall in summer.

Takow a town with about 2,000 inhabitants, is a place of little importance and no interest. It is a long straggling village, chiefly inhabited by fishermen, with a few buildings of semi-European design, occupied by several foreign [p. 197] merchants and customs employes. Numerous banyan trees and shrubs grow luxuriantly in the barren, sandy soil. On the other side of the lagoon the aspect is altogether different, -- a rich tropical vegetation bordering the river, with bamboos, palms, mimosas, and other similar trees in abundance. Further inland, extending to the hill spurs of the higher main range, is the level plain, rich and highly cultivated, studded plentifully with sugar plantations and villages.

Tamsui, called by the Chinese Hu-wei, is situated within a reach of the debouchure into the sea of the stream known to foreigners as the Tamsui river. The harbour and physical features of the neighbouring country have already been described. The town is unwalled, contains a few thousand inhabitants, and is of no

consequence except as the residence of the foreign merchants. Mêngka, or Bangka, a town of some 20 or 30,000 inhabitants, is the administrative centre. The real protection of Tamsui consists of the bar at the entrance, and the bad weather in the winter months. These natural defences have been supplemented by the White Fort on the north point of the entrance, a useless defence, and by an earth-work further inland, on a slight rising ground, in which one or more Krupp guns have lately been placed by the Chinese. The old Dutch red fort is still in fairly good condition, and forms now the English consulate. Twatutia, a somewhat populous town lying some few miles further up than Bangka, is the great centre for collecting, firing, and packing the teas. The level tracts of rich soil which extend to the foot of the mountains are well cultivated, affording abundant crops of rice, sugar, maize, and indigo, while tea grows luxuriantly on the hill-slopes.

Keelung stands at the head of the bay, a small and exceedingly dirty town, with about a thousand inhabitants. It is joined to the suburb of Sow-wan, on the south side of the harbour, by a stone causeway. The coal-mines are about a mile E.S.E. of the town, on the southern banks of a small shallow stream, which branches off in that direction. The trade is unimportant, coal being the only valuable produce, while ground-nut oil, camphor, and camphor-wood are also exported in small quantities.

The climate in the Tamsui district is not healthy even for Chinese, far less for Europeans. From the latter end of November to early in May is the rainy season. The dampness of the air makes it cold, and chills are frequent, although the thermometer shows a high register as compared with the same latitude on the coast of China. The rainfall of Formosa is doubtless responsible in a large measure for the continued and almost cloudless sunshine experienced on the China coast between Foochow and Canton, during the N.E. monsoon. The constant rain in north Formosa is due to its propinquity to the Japanese Gulf-stream (the *Kuro Shiwo*, the Black current of the Japanese), over whose heated waters the north-east wind blows. The wind, coming into contact with the lofty mountain ranges of Formosa, precipitates its surcharge of moisture on the island, and about twelve miles west to seaward. The wind then passes to the South China coast, relieved of by far the greater part of its moisture, and China thus escapes, at the expense of Northern Formosa, the very trying and depressing winter weather. The summer heat is tropical, and the changes sudden. Tamsui is occasionally visited by violent storms. In the dense tropical forests of the interior highlands, where the sun, owing to the thick foliage, rarely penetrates, dangerous fevers are frequent among the aborigines, while to the Chinese settlers they are deadly. Few Europeans have yet tested the forest climate. The rain falls about half the number of days in the year, the rain-fall being about 120 inches. For two-thirds of the wet season the sun is completely obscured, the mountains being hid, and the ground saturated. It is, however, [p. 198] the continuous character of the rain which tells, resembling closely our 'Scotch mist,' or mountain rain. The aspect of North Formosa is dreary and cheerless beyond description during the regular 'north-easters.' Typhoons are frequent between June and October, their occurrence being very irregular.

Sometimes these are of singular violence and do a large amount of damage to life and property.

The inland communication in the neighbourhood of Tamsui is very defective. The journey from Tamsui to Keelung can be made by boat or chair, the time taken being eighteen hours by water in ascent, and ten by chair to a village situated at the rapids near the head of the stream. The distance by water is some thirty-five miles, the river being tortuous, with numerous fierce and shallow rapids, for which boats of special construction are sued, some thirty-five feet in length and seven feet to beam. These craft draw only some six to nine inches when laden, and are skilfully managed by a crew of two, recruited at the rapids by a third or fourth boatman. Between the head of the rapids and Keelung it is necessary to walk, or use a chair, over an exceedingly steep ridge some six hundred feet in height, next to which the French are now fortified. With Mêngka or Bangka there is daily communication from Tamsui by steam-launches and row passage-boats, the voyage taking on the average three or four hours. Tuk-cham, a town of some little importance situated in a sugar district, with a harbour for junk-traffic from Chin-chew, north of Amoy, lies thirty miles south of Tamsui, from which it is five hours journey by sea with the monsoon, the overland trip by chair taking a day. Two important centres of trade in the north will some day be brought into effective communication with Tamsui, namely, Kapsulan on the east coast and Tukcham. The communication will have to be by land, for no dependence can be placed on junks, or even on steamers, owing to the frequent bad weather.

The climate of Keelung is worse than that of Tamsui. The N.E. monsoon is generally attended with rain. The mortality in the coal-pit region is great, the Chinese collies dying off as fast as they begin to work. The difficulty of getting coolies to live in this unhealthy region is one of the chief obstacles to the successful working of the coal-mines. The great heat in summer and the constant bad weather in winter, with the rapid changes, make the climate more trying. The form of fever prevalent at Keelung and Tamsui is attended with much vomiting, and is said to be of a typhoid nature. The Chinese even at Tamsui suffer terribly from this type of fever, hundreds being carried off in some years, while ordinary fever is also very common and fatal among them. The staffs of the Chinese officials formerly in charge of the mines suffered so severely at different times that they refused to reside there. The east coast is reported to be even more prejudicial to health. In subduing the small part of it now in their hands, a fearful amount of life has been lost by the Chinese. Indeed it has been less on account of the onerous bush-fighting, bad as that is, than the sickness which decimates the troops, that the Chinese have been so slow in conquering the country. It is on record that of the 9,000 northern soldiers landed in Formosa in the summer of 1874 (not including a considerable staff of reserve men and coolies, who suffered more) within twelve months 1,485 officers and men, had died, the majority of the deaths being from jungle fever. The French no sooner landed in Keelung, where they as yet occupy only the heights next the harbour, where there is some chance of preserving health, than they began to

experience what the climate of Formosa is for the European. The small force under Admiral Courbet has been greatly weakened by sickness, a considerable number of men being sent away by each French mail steamer, calling fortnightly at Keelung, as well as by each available transport.

[P. 199] The communications, so important to the administration and development of any country, are all in a very backward condition, as might be expected under Chinese administration. But some allowance must be made for the Chinese on account of the very great natural difficulties they have to contend with, especially the bad climate.

Since 1874 some interest has been shewn in the construction of roads and means of communication between various parts of the island. Considerable military reinforcements sent in that year enabled the work of clearing and constructing roads to be carried on. A road, or rather track, has been opened from Tamsui to Suao Bay, and some progress has been made with one from Suao Bay running southwards parallel to the east coast. In the south a road has been constructed, from a point about twenty-five miles east of Takow, across the summit of the mountain range to a village called Pelam. In 1874 such a road was of importance as a base of operations, should the Japanese expedition have attempted a flank movement through the savage territory. The road also intercepted the converging point of a number of forest tracks used by the aborigines, leading to various places of some importance in the south, and communicating with Tamsui and Suao Bay in the north. All this military road-making has had to be accomplished by bodies of workmen protected by soldiery, every workman having one soldier to guard him. During the wet summer in the south, and the wet winter in the north, little progress can be made, so that the working season, -- always the dry weather, -- is necessarily short. These mountain roads, it must be remembered, are no roads in the European sense of the work; they are mostly footpaths, impassable for chairs or beasts of burden. In many portions they are carried up the beds of the hill torrents, and are then only available in the dry season. No one who has not been in Formosa, or in some similar country, can realise the difficulties to be encountered by the engineer or traveller.

The condition of the roads in the plains of western Formosa is most defective. A track, made for administrative and military purposes, runs from north to south on the western side of the island. The distance, from Tamsui to Taiwan, some 200 miles, takes in ordinarily fair weather ten days on foot, while in bad weather it is impassable. The 'road' passes along paths a foot or less broad, through paddy fields, following here and there a local cart-road, and then leaving it again. These cart-roads become during the rainy season water-channels or river-beds draining the surrounding country. To cross them the foot passenger has often to wade up to the waist. The permanent rivers during the period of rains become dangerous to pass, the ferry-boats or rather rafts, made of bamboo, insufficiently manned, being not unseldom swept away by the current. Between Tuk-cham and Tamsui, the road is somewhat better than the portion

further south, but only a little better. The whole of the land communications, therefore, are practically useless for the purposes of trade, except in the immediate neighbourhood of Taiwan and other towns, where there is flat country surrounding them. Between Keelung and Tamsui, there is a mountain pass, and a narrow hill-torrent some sixteen miles in length rendering the creation of any road communication, which would be valuable to trade, almost impossible. It would be necessary to construct a railway. The disadvantage occasioned to the administration from the absence of communications, is proved by the fact that the least time in which an official answer can be received at Tamsui from the capital in the south is fourteen days, while it often takes several weeks. Effective communication from north to south by means of the telegraph, and a good road or railway, are absolutely necessary for efficient government. The island must also be connected with the mainland by telegraph, in order that the control, centred as it [p. 200] is for the present in Fuhkien, and which must always be somewhere on the mainland, should be rapid and effective. The value of speedy communication by telegraph has already been recognized in China, where over 3,300 miles have been constructed, thus spreading a network from the extreme north to south, and from east to west along the sides of the main waterways. The connection of Formosa with the mainland is all the more desirable on account of its isolated position, intensified by the bad weather during six months of the year, which makes sea communication difficult and uncertain both from north to south, and from the island to the mainland.

The Aborigines of Formosa.

Like the aborigines of the Island of Hainan -- the Li, -- and the Miau-tsz, or indigenous inhabitants of Yunnan and other provinces of China, the aborigines of Formosa are divided by the Chinese into two classes.

1. The Chehwan [footnoted characters]-- the raw, untamed aborigines.

2. The Sekhwan [footnoted characters]-- the subdued, civilised aborigines.

The Chehwan, the 'raw' or untamed aborigines, as their name in Chinese implies, were the original occupiers of the soil of Formosa, being formerly spread over the whole of its area. Though not yet subdued, they have been slowly but surely driven back by the Chinese settlers from the west coast to the mountainous districts of the interior by a twofold process: either, on the one hand, being induced by the fair promises of the Chinese to part with their lands for a consideration far below their proper value, or, on the other, being forced to retire, though not without a severe struggle, before the superior strength of the immigrants from the neighbouring mainland. As a consequence of these two processes of ejection, the Chinese settlers have succeeded in obtaining possession of the country lying between the west coast and the central mountain range, and have also planted a few settlements on the east coast, whilst the aborigines are confined to the mountainous region; the divide between the

two territories being distinctly defined by the line of forests, which are cleared by the Chinese as they advance in order to allow of the land being reclaimed for agricultural purposes. The region occupied by the aborigines is very mountainous and thickly wooded, and is drained by streams which are little more than mountain torrents. A very small proportion of the land has been brought under cultivation, for, in addition to the natural aversion of its inhabitants to peaceful agricultural pursuits, the country is so mountainous and the soil so rocky that the extent of level ground available for cultivation is limited.

The aborigines, or Formosans proper, who are spread over this wide expanse of territory, stand very low in the scale of civilisation. In stature they are short, being considerably below the average height of an European. Their complexion is of a light reddish brown. Their jet black hair, which is perfectly straight, is worn long and unshaved, parted down the centre, and usually gathered together at the back by a band of cloth, though sometimes it is allowed to hang loose. They have a broad face with low brows, a nose straight but wide at the nostrils. Their general expression is dull and heavy, though somewhat relieved by their dark eyes, which are strikingly bright. The ears of both sexes are pierced for earrings, the women wearing in them carved bamboo tubes from which are suspended glass beads of different colours and flat pieces of bone.

One of their most peculiar characteristics is the habit of tattooing. The female tattoo consists of three sets of blue lines, with four in each set, which run from the ears to the corners of the mouth, where one half of the lines curve [p. 201] off over the upper lip and meet under the nose, the other half descending under the lower lip and meeting on the chin. The middle set of lines differs from the others in having the interstices filled up with diagonal lines, forming a kind of diamond pattern. The male pattern is made up of two or three sets of horizontal lines, with four lines in each set, which run down the centre of the forehead and chin, to which is added a tattoo on the chest by any one who has succeeded in killing a Chinaman and bringing his head home as a trophy. This tattoo on the chest consists of short parallel lines joined by a horizontal one -- a parallel and horizontal line being added for each head taken. Aborigines with as many as twenty-nine of these lines have been met!

Another peculiarity in the appearance of the male portion of the aborigines is the absence of the eye teeth, which are knocked out when they are quite young. By some the absence of these teeth is supposed to improve the wind for hunting, whilst others consider it increases the beauty of their appearances!

The dress of the aborigines is often almost preadamite in its simplicity, being merely a piece of cloth tied round the loins. In addition to this scant covering a kind of coat is sometimes worn, consisting of a large piece of cloth, which they weave themselves, embroidered with red, obtained by unravelling the treads of "Spanish stripes' and respinning them. This coat is hung loosely over the shoulders, reaching in some cases to the waist, in others to the knees, the rest of the leg being left uncovered.

Caps of rattan are worn plaited into different shapes, the most common being of the nature of a skull cap. The arms and neck are adorned with bangles of shell or beads. The women dress in a short petticoat and sleeveless jacket made of the same cloth as that worn by the men and embroidered in a similar manner with red threads. They also wear a sort of mocassin or gaiter tied round the calf of the leg and to which are often attached rows of small jingling bells. Their heads are uncovered, and their hair, which is parted down the middle, is tied up in different styles, the most common being to plait it and bind it behind with red cord. In parts of the island caps, jerkins, and mocassins made of deerskin, and tanned by the aborigines themselves, are worn. The chief is naturally more gaudily arrayed than the rest of the tribe. His coat, which is of the same shape and material as that commonly in vogue, is adorned with beads and shells stitched on in rows; on his gaiters are rows of bells, and on either side feathers are inserted, while his cap is ornamented with beads and feathers, and in front with the top part of an unused opium pipe bowl!

The dwellings are generally of the rudest kind, being mere huts made of bamboo and rattan, with roofs thatched with grass, split bamboos (these being in some cases made in imitation of tiles), or slate stone. The entrance to the hut is so narrow and low that one has to stoop to enter it. The interior of the house consists of one room only, which is so low that the occupant cannot stand erect. Three sides of this room are occupied by beds made of split bamboo, 2 or 3 feet in width and 4 or 5 feet in height, and about the length of an average sized man. The hearth, which is made of a few stones on which a fire is continually kept alive, is in the centre of the room, which generally wears a most blackened appearance, as there is no means of escape for the smoke either by chimney or window, the huts not being possessed of either of such apertures. The centre post in the room is adorned with the skulls of animals which have been taken in the chase, and which before long are rendered jet black by the action of the smoke. The outside of the house possesses the ornaments dearest of all to the aborigines -- the skulls and queues of their hated foes, the Chinese, which are hung under the eaves above the doorway. The greater the number [p. 202] of these, the higher the estimation in which their possessor is held, and unless a man is possessed of at least one Celestial skull, he is doomed to pass his life in bachelordom, for he is not allowed to join the ranks of Benedicts without this *sine qua non*. In front of the hut is the granary, consisting of a square kind of bin made of bamboo work, built on four timber piles, which are covered by a large piece of slate or wood to prevent the rats and other vermin attacking the grain. The domestic animals are dogs, pigs, fowls, and cats.

The food of the aborigines is of the simplest kind, consisting chiefly of rice and the flesh of animals killed in the chase, generally the wild bear and the deer, eaten half cooked. In eating their food they use neither knives, forks, nor chopsticks, but simply their hands. The food is not placed on plates, but on one common trencher or mat, around which the household sits and eats. They drink a liquor manufactured from millet, and for soup the water in which the sweet potato is boiled. They are exceedingly

fond of *samshu*, or any ardent spirit, a fondness of which the Chinese have not been slow to avail themselves, never allowing an opportunity to pass of making them intoxicated, when they can extort from them very much what they please. Their fruits are neither of great delicacy nor very plentiful, but the pine-apple, banana, and orange grow abundantly.

The aborigines are divided into clans, which are again subdivided into tribes. Over each tribe a chief presides, who is vested with absolute power and who takes the lead in all matters appertaining to the tribe. The chieftainship is not hereditary, but where the son is not incapable, he generally succeeds to his father.

Marriage out of the clan is preferred to marrying within it. The marriages are arranged by the parents of the bride and bridegroom. When the engagement has been made, a present of game or wine is sent by the bridegroom to the parents of the bride, which is supposed to clinch the bargain. Engagements are of short duration, sometimes lasting for not more than a week. On the wedding morn the bride, accompanied by her nearest relatives and co-villagers, male and female, proceeds towards the house of the bridegroom with singing, shouting, and dancing. The bridegroom, on hearing these sounds, goes forth with his friends and relations to meet the bride and to escort her to his house. Sometimes a separate dwelling is provided for the married couple, but often they have to rest contented with a corner under the paternal roof. Feasting, singing, and dancing are kept up for several days, after which all disperse to their respective homes. After marriage it is common for the husband to leave his own family and to enter that of his wife, and in a family where there are several sons, they can all leave their own family with the exception of the youngest, who must remain at home to support his parents. Marriages are held to be binding for life, and in the event of the death of the husband or the wife, the survivor cannot marry again for at least one year. A husband can, however, reject his wife for unfaithfulness, and she cannot take unto herself another husband until her former one has been remarried. Should she remarry before her former husband, she is liable to be punished at the discretion of the chief of the clan, who sometimes allows the injured husband to inflict corporal punishment on the erring wife. Children of both sexes are treated with great kindness, not only by their own parents, but also by the whole of the clan. The boys are trained from an early age for the chase, which they commence to follow before they are over ten years old; the girls are taught to spin and to weave, to hew wood and fetch water, and to dress the animals killed in the chase.

The most common mode of burial seems to be that of digging a hole in a retired spot, in which the body is placed in a standing posture without any coffin, and covered over [p. 203] with earth. The spot, which is called *malin*, is ever afterwards regarded as an unlucky one, and seldom if ever visited. In the north the corpse is said to be buried in a stooping position, without a coffin, near the dwelling of the deceased, and 'the ordinary belongings of the departed are hung up before the grave, a practice similar to that common on the burial of a North-American Indian.' The period of mourning

extends over a month, and is observed by the whole tribe, who do no work for three days. The nearest relatives shut themselves up for the same time without preparing any food, which is supplied to them by their clansmen, and during the remainder of the month cease from all labour, and indulge in no amusements.

The aborigines, like other uncivilised peoples, are very superstitious. They worship the spirits of the stream, the forests, and mountains, and when any trouble comes upon them or threatens them, they cry in a low wailing tone upon these spirits to protect them. They are also firm believers in augury. Whenever about to make a raid against the Chinese, or to set out on a hunting expedition, they watch carefully the flight of birds. Should a bird fly in the direction they intend to go, the omen is considered favourable, and they proceed on their way in the full faith that their journey will be successful. If, on the other hand, the flight of the bird is in an opposite direction, they postpone their departure until a more auspicious occasion. While friendly to strangers, they are ever ready to avenge any wrong inflicted on their clan. They hold it as a principle that the murder of any of their kindred should be avenged, and they never rest until their object has been fulfilled. A strange custom exists among them of pledging friendship, not unlike one of the methods of drinking healths in western lands. Two persons put their arms round each other's necks, and with their heads placed close together drink out of the same bamboo tube, which does duty for a cup. Another common mode of showing friendship is for two persons to eat salt from the same dish.

The aborigines are possessed of no literature, and are unable to read or to write. They have not even any means of keeping time, and when they have made an appointment for any date, their only means of keeping a check on the days as they pass is by means of a tally of stones or grass, one stone or one knot in the grass representing a day. They are great hunters, being little devoted to agriculture. In fact their cultivation, consisting chiefly of millet, indian corn, mountain rice, sweet potatoes, ground-nuts, etcetera, is only carried on by them to an extent sufficient to meet their immediate wants. They use no plough, but turn up the soil with the Chinese hoe, the labour being entirely manual. Their crops are cut with the Chinese knife or sickle, the grain being threshed out by beating it against wood or stone, after which it is carried to the granary in a kind of kreel very similar in shape to that employed by the Scotch fish-wife.

Their chief weapons are the spear, the bow with arrows of reed tipped with iron, and a long knife worn at the side in a sheath, but they are sometimes also armed with jingals and short iron swords, obtained from the Chinese by barter. The spears are made of bamboo and tipped with iron, the shafts being adorned with hair taken from the heads of Chinese who have been murdered by them. The animals they hunt are deer, wild pig, bear, and a species of leopard. Men, women, and children all smoke tobacco in pipes made of bamboo, the tobacco being grown by themselves.

In concluding these remarks on the life and manners of the unsubdued aborigines, it should be pointed out that the customs among the different tribes vary considerably, in the same way that their dialects do, and that what has been attempted is to give a general description, embodying the customs which are most prevalent.

[P. 204] The *Sekhwan*,[footnoted characters] the subdued or civilised aborigines, are most commonly known by the name of Pepohwan,[footnoted characters] 'barbarians of the plain,' from the fact of their dwelling in the plains, in contra-distinction to the aborigines proper who inhabit the mountains. At the present day, however, the Pepohwans are not merely confined to the plains, but are found all over the island except in the central range. A large settlement of them, consisting of no less than 4,000 persons spread among 36 villages, inhabit the Kapsulan valley on the east coast.

The *Sekhwan* are much superior in physique not only to the aborigines proper, but also to the Chinese. They are tall, straight, and somewhat slightly built. Their complexion is much fairer than that of the aborigines; their eyes are very large and bright, lending an expression of frankness to the whole face. The mouth is wide, the lips sometimes thick and sometimes thin; the nose is better shaped than that of the untamed aborigines, and more aquiline than that of the Chinese; their hair is jet black, straight, and long. Having come under the pale of Chinese civilization, the men have to wear the queue, though the women do not adopt the 'teapot' arrangement of hair common among Chinese women, but dress it by winding it into plaits coiled round the head and bound together by red thread, and in some cases have 'fringes' combed down low on the forehead. The men wear the short jacket and wide loose trousers of the Chinese, to which is sometimes added a piece of cloth hung from the shoulders in the same manner as among the aborigines. The women also wear wide trousers, and a broad-sleeved jacket reaching the waist. The head covering of the men consists of a turban, somewhat similar to that common among the Fukienese.

The Pepohwans on the coast maintain a livelihood by fishing, while those living inland are tillers of the soil, though the large majority of them would much prefer a hunter's life, which they dare not pursue as the savages would kill them as readily as they would the Chinese. They are exceedingly poor, having mortgaged their lands to their evil genius, the Chinese middleman, to whom they have to pay rent in kind. Their food is of the simplest kind, generally rice with some few vegetables or fish, and is eaten with the fingers. The weapons they use are similar to those employed by the Chinese. Their houses are built *à la chinoise* and present a more cleanly appearance than those of their civilizers. Their life is spent chiefly out of doors, and when not occupied with domestic concerns or cultivation, they employ their time in weaving cloth. In addition to their own language, they all speak Chinese , for the officials have not been slow to recognise the importance of education as an instrument of civilization, and aid to effective government, and accordingly schools have been established among the civilized aborigines, many of whom are able to both read and write Chinese. This

knowledge of the Chinese language also renders them capable of acting the part of go-between between the uncivilized aborigines and the Chinese in their bartering transactions, though in many instances these transactions are performed without the intervention of the Pepohwans by the uncivilized aborigines themselves, their representative being generally a woman.

The Chinese Government permit the [Sekhwan] to elect their own headman, or native official as he is called, who decides the petty quarrels and disputes of the villagers, and from whose decision an appeal can be made to the District Magistrate. Each village has also a '*tung-shi*,' or 'interpreter,' who was originally employed for purposes of interpretation, but the Chinese language being now so widely spread among the Pepohwans, his duties as an interpreter are merely nominal, and his chief function is to collect the land tax, which [p. 205] has to be paid to the Chinese Government. The *Sekhwan*, the 'civilized' aborigines as they are called, are in reality civilized in name only. In their modes of thought and actions they are still nearly as uncivilized as their neighbours, the *Chehwan*, their customs differing but slightly from those existing among the untamed aborigines. The spirit of revenge is common to them both. In fact the Pepohwans or *Sekhwan* have exalted this principle into a religion, for in some places temples have been found in which the objects of adoration do not assume the form of idols, but are the skulls of their victims, to which they render a most devoted worship. The truth is that they are only civilized so far as they are compelled to be, and are only too ready whenever they can to throw off the restraints imposed upon them by the Chinese, for whom the have little liking, and to revert to their original ways.

Among a people divided into so many tribes, and so little advanced in the scale of civilization, as the aborigines of Formosa, it is no matter for surprise that the variety of dialects prevailing among them is very great. In fact it is probable that each tribe, and their number is very great, has a dialect peculiar to itself. But notwithstanding this great variety, the philological information concerning the language collected by those who have been resident in the island, such as Hobson, Taintor, Bullock, and Phillips, clearly shows that not only are these dialects closely related to one another, but that they all belong to the Malayo-Polynesian or Oceanic family, which spreads itself over 'nearly all the islands from the coasts of Asia, Southward and Eastward, from Madagascar to the Sandwich Group and Easter Island, from New Zealand to Formosa.' Various lists of the most common words in many of these dialects have been collected, showing at a glance the close resemblance they bear to one another. A further comparison of these with their equivalents in the languages spoken in the north and south of the Philippines, -- the Tagalog and the Bisaya -- in the Celebes, Borneo, Sumbawa, Lambok, Java, Tahiti, Hawaii, New Zealand, and elsewhere, demonstrates their common origin. From this similarity of language, we may infer an affinity of race, and there seems to be little doubt that the Formosans of to-day are descended from the same stock as the inhabitants of the Malay Archipelago, and the other members of the

Maläyo-Polynesian Family.

It still remains to be definitely determined to which branch of this great family the aborigines of Formosa belong. And here there lies ready for the philologist and the ethnologist a wide field of exploration, which careful and patient research cannot fail to render both instructive and interesting.

Conclusion.

To sum up briefly, the most important facts elicited are the following: --

1. Formosa was practically a *terra incognita* until 250 years ago, although its existence was known to western navigators and to the Chinese on the mainland. The Chinese records are nearly valueless, while the Dutch reports are greatly inferior to those on Japan drawn up by the *savant* doctors of the Dutch East India Company. Most of our information regarding the island is the result of the journeys and observations made by missionaries, merchants and officials who have been resident in the island since 1860, when the Treaty of Tientsin threw open the ports to foreign trade.

2. At the commencement of the seventeenth century the whole Eastern trade was in the hands of the Portuguese and Spaniards, their respective bases for trading and military operations in the China seas being Macao and Manila. The Dutch, who had recently recovered their independence in Europe, having established their East India Company, determined to secure [p. 206] for themselves this trade, and commenced a struggle for supremacy in the Eastern seas. They besieged Macao, and, being repulsed, seized upon a strategic point of great value, namely the Pescadores, and built there a stronghold. To this the Chinese objected. Negotiations were entered into, broken off, and resulted in reprisals along the China coast, followed again by further negotiations and reprisals, much in the same manner that the French operations have for some time past been carried on. The Chinese at last discovered their inferiority in arms, tactics and organisation, but never despaired of being able to wear out their enemy. The Hollanders found that, though the Chinese were greatly inferior in warfare, their forces increased steadily in numbers the longer the operations were protracted, and therefore became more and more anxious to come to terms. A compromise was offered by the Chinese and accepted, whereby the Dutch were to occupy Formosa, to which the Chinese seem to have been neither claim nor title. The Dutch went to Taiwan in 1624, where they found several Japanese trading settlements. The Spaniards established themselves soon after in a stronghold at Keelung. The Dutch at first confined themselves to commercial operations around their fort at Taiwan, but soon came into collision with the Japanese, the quarrel with whom was arranged by a Jesuitical policy comprising two abject acts, -- the surrender to Japan of their Governor who had seized two Japanese junks, and the suppression of the teaching of Christianity in Formosa, the converts to which were then being persecuted by the Japanese in their own country. Conflict with the Spaniards was from the first inevitable. After a brief struggle, which

the Spanish commanders could not maintain owing to want of support, the Durch became masters of the three strongholds of Formosa, -- Keelung, Tamsui, and Taiwan.

3. The Dutch succeeded in establishing themselves in Formosa without any great expenditure of men or money owing to the disorder in the Chinese empire consequent on civil war and foreign invasion. Only small colonies of fugitive Chinese settlers were found by the Dutch on their arrival, scattered here and there along the western coast, who had crossed from the mainland to escape the horrors of war. These formed the nucleus of the 2 1/2 or 3 millions of Chinese now in Formosa, who, having first settled on the plain, have steadily carried on the process of pressing onwards and driving back the aborigines into their mountain forests. The Chinese settlers at first accepted gladly the Dutch rule, but owing to various reasons became unfriendly, then bitterly opposed to the Dutch, and eventually enabled Koxinga to deal the death-blow to the Dutch rule, which had been maintained throughout by means of considerable garrisons established in their three strongholds.

4. The reasons for the Dutch downfall were: --

I. Divided counsels and vacillation; the incapacity of the governing body at Batavia to grasp the real state of the situation, though fully informed by exceptionally able and strong Governors; their disinclination to expend money on their colonial defences and navy, -- precisely the same causes which brought about the downfall of the Spanish supremacy in the East.

II. The injudicious system of government which did not aim at securing the goodwill of the people, ending in turning them into active enemies, who, siding with Koxinga, expelled the Dutch after an occupation of some 40 years.

III. The policy adopted of suppressing in Formosa the teaching of Christianity, in order to secure and maintain trade with Japan, thus retarding the progress of education, and giving the natives a poor opinion of their standard of morality.

5. The chief steps in the Chinese colonization and rule were: first, the arrival of small communities of fugitive Chinese settlers; [p. 207] second, the rule of Koxinga and his son and grandson; third, the Chinese rule proper. The isolated position of the island and the absence of inland communications led to the semi-independence of the local officials, which here, as elsewhere in China, meant misrule, oppression, discontent, and frequent rebellions. The only noticeable improvement in the administration has come with each of the occasional 'scares,' notably the Japanese expedition in 1874, and the threatened action of Russia in 1879. The scare over, nothing more was done till the next one. The Chinese have not yet seriously attempted the development of the island, dependent as it must be upon the improvement of the harbours and island communications, a most expensive and difficult task, owing to the physical difficulties and the bad climate.

6. The permanent occupation of the island, which was difficult 250 years ago, is less easy to-day, when the Chinese population has so largely increased, and the rule of the Imperial Government has been considerably strengthened. To occupy and bring the island under effective control would necessitate the maintenance of strong garrisons in an unhealthy climate, and the stationing of a considerable fleet on a coast notorious for its inclement weather.

7. The lessons for England are: (a) the value of information regarding and true appreciation of colonial interests and feelings, (b) the danger of divided counsels and vacillation, (c) the necessity to safeguard its interests and trade supremacy by colonial defences and naval forces, (d) the danger of 'scares,' with their hurried, ill-considered preparations, hardly commenced before abandoned.

In the consideration of these points there is ample food for reflection for every Englishman in the Colonies or Mother Country.

A.R. Colquhoun.

J.H. Stewart-Lockhart.