olonial and Indian Exhibition,

LONDON, 1886.

OFFICIAL

HANDBOOK AND CATALOGUE

OF THE

CEYLON COURT.

WITH MAPS AND ILLUSTRATIONS.

FIRST EDITION.

LONDON:
WILLIAM CLOWES & SONS, LIMITED,
Printers and Publishers to the Royal Commission,
13 CHARING CROSS, S.W., AND AT THE EXHIBITION.
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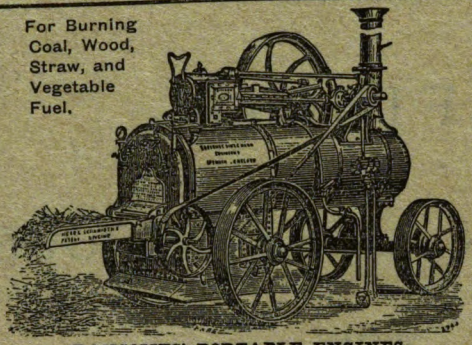

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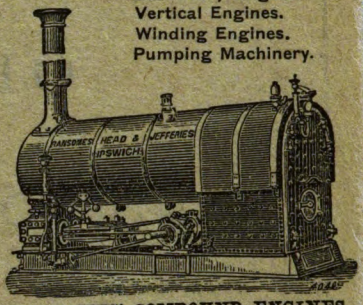

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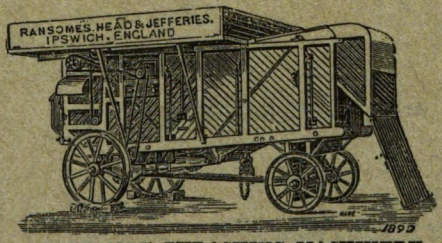

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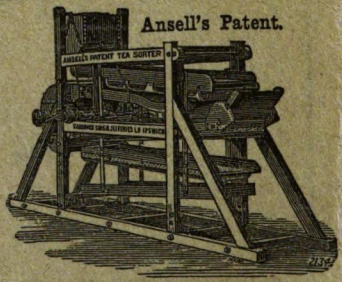

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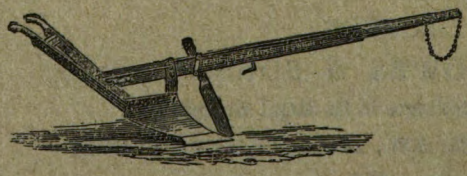

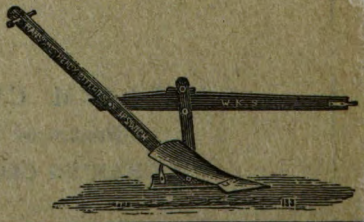

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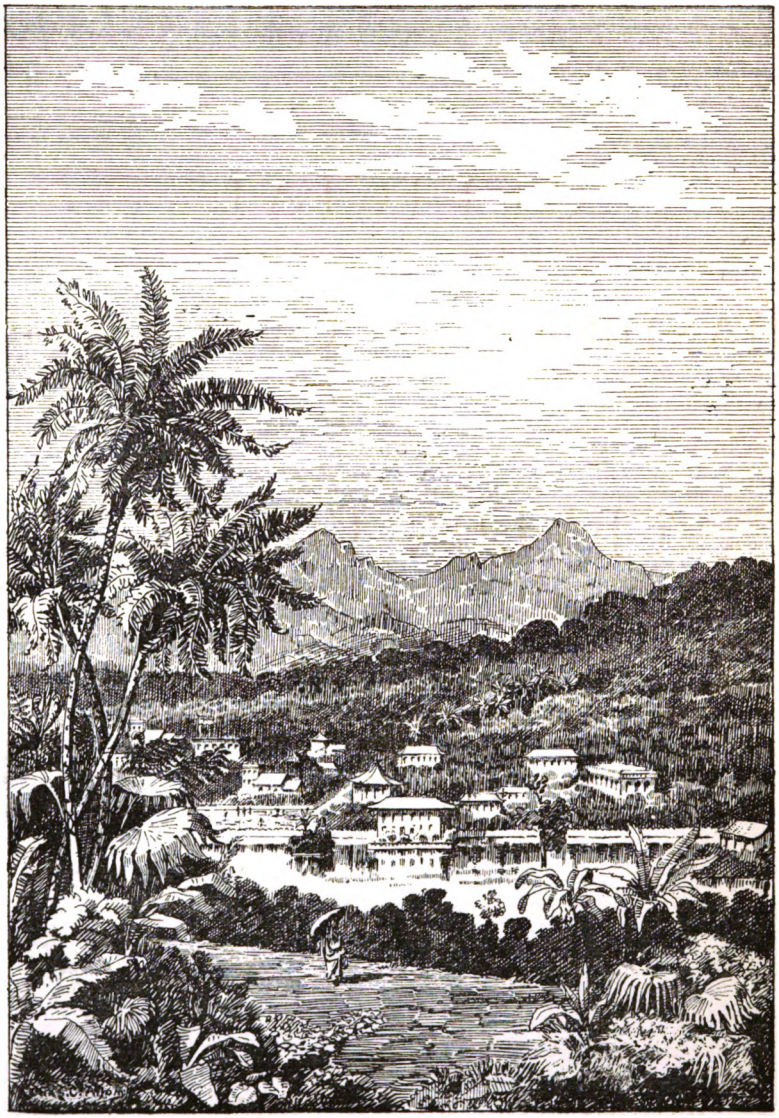

KANDY.

Colonial and Indian Exhibition,

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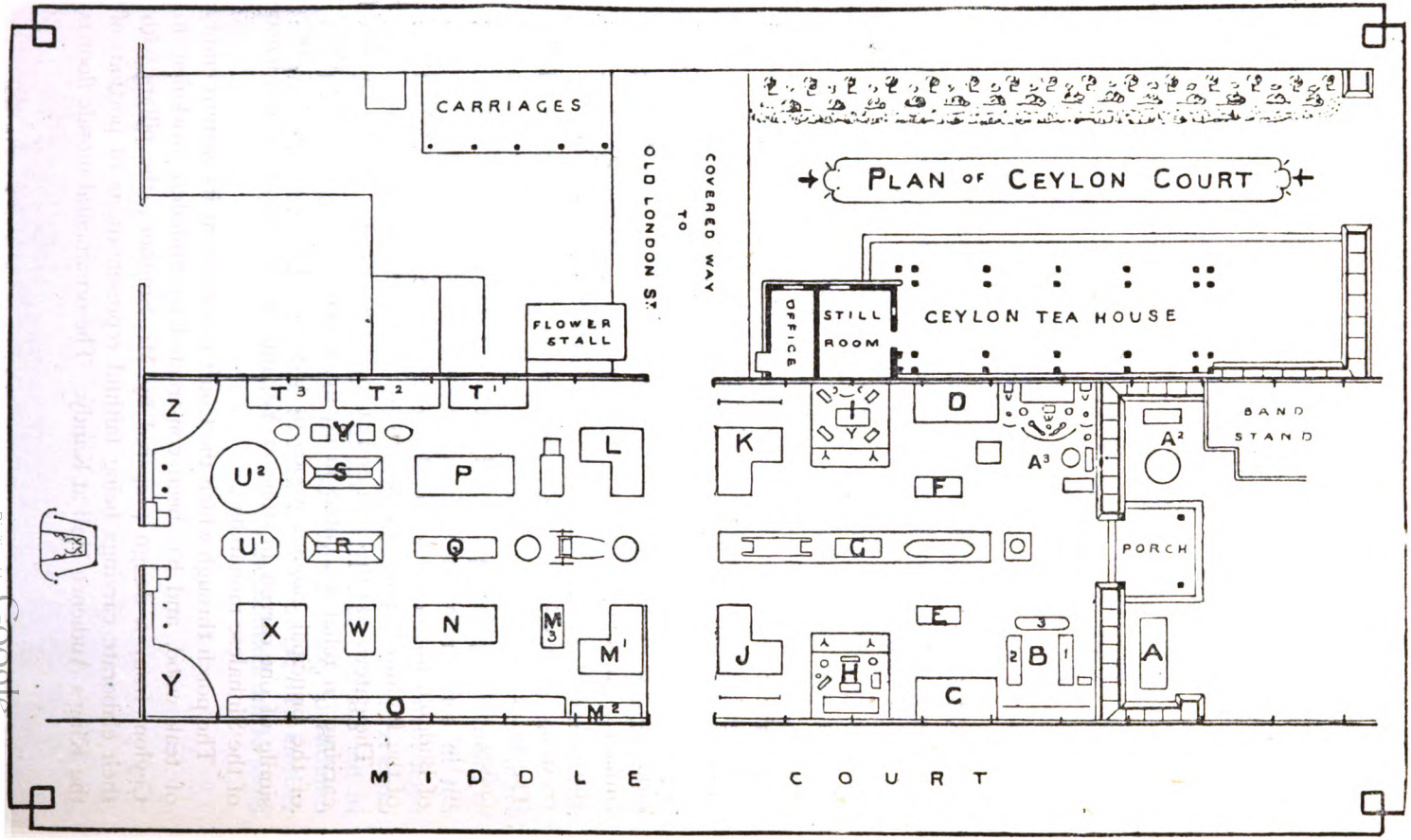
PREFACE.

THIS book is designed to afford visitors information concerning the resources and industries of Ceylon, besides giving a Catalogue of the articles exhibited in the Court. With this object, a map of Ceylon is inserted, as well as a short prefatory account of the island, dealing with its past history, and especially with its progress during the present century while under the British rule.

At the commencement of each section information of a general character is given, as an introduction to the detailed list of exhibits.

It having been found impossible in some cases to group together in the same cases all the exhibits of a similar nature, the cases have been lettered on the ground plan of the Court here given, and these letters are referred to throughout the Catalogue. It is hoped that this arrangement will facilitate the finding of exhibits.

Some of the articles exhibited are for sale at the close of the Exhibition. Where practicable, all such articles have labels attached to them stating their price, and these are quoted in this Catalogue; but in some instances, as for instance lace and tortoiseshell, it has been found inconvenient to label each article separately. In these cases reference is invited to the Court attendant, who has printed lists in his charge. Mr. Hayward, the officer in special charge of the exhibits of gems, is authorised to register the applications of those visitors who desire to have articles for sale retained for them at the close of the Exhibition.



DESCRIPTION OF THE COURT.

THE Ceylon Court is situated at the western end of the North Court, adjacent to the Indian sections. Its dimensions are 150 ft. in length, and 50 ft. in width.

The decorations on the walls and roof of the Court, in which yellow, the sacred colour of Buddhism, predominates, are strictly Sinhalese in their character, and have been carried out by Messrs. Maple & Co., from designs furnished by Mr. J. G. Smither, F.R.I.B.A., late architect to the Government of Ceylon. The dado round the Court, nine feet high above the floor, is ornamented with representations of the mythological animals—the elephant, lion, bull, horse, and goose, as they appear sculptured on ruined monuments in the ancient cities of Ceylon. Higher up, a frieze, a yard in width, is covered with Sinhalese paintings, depicting some of the more popular of the birth stories of Buddha; the frieze is surmounted by an ornamental cresting, and depending from the roof-plate are fringed draperies. The Gautama Buddha is represented on the west wall of the Court, facing the entrance, by a figure in *alto relievo* ten feet high, seated in the conventional attitude of contemplation. Beneath the figure of Buddha, and on either side of the word "Ceylon," are representations of the Buddhist emblems, the sun and the moon.

The gateway at the west end of the Court is noticeable for the fine carvings in relief, executed in ebony, coconut, and tamarind, three of the principal cabinet woods of Ceylon. This gateway is a fac-simile of one carved in stone at Yapahu, an ancient royal residence of the Sinhalese monarchs.

The porch through which the Court is entered at its eastern end is of teak wood, and has been constructed by Sinhalese workmen in Ceylon, from a design prepared by Mr. Smither; the pillars with their elaborate carvings being faithful representations of portions of the King's Audience Hall at Kandy. The ornamental mosaic floor is

the work of Messrs. Minton and Co. of London. The wall which flanks the porch on either side (as well as that outside the Court, between it and Old London) have been designed to represent as nearly as possible the massive walls which surround the Dáladá Máligáwá (the Buddhist Temple of the Sacred Tooth), and other structures, both religious and secular, in Kandy.

In the open space between the Ceylon Court and Old London, and facing the Indian Palace, is the Ceylon Tea-House, from an inspection of which a good idea of Sinhalese timber-architecture may be obtained. The building has been designed by Mr. Smither. It stands upon a raised terrace, the floor of which is paved with ornamental tiles provided by Messrs. Minton & Co., who have also executed the exceedingly effective mural tiling with which the south side and west end of the building are decorated. The frieze ornament is composed of the leaves and blossoms of the tea plant, and that in the band above the dado of lotus-flowers. In each of the four side bays is a framed painting on tiles, the subjects being as follows:—1. (to the left) a view of Colombo from the harbour; 2. Strathellie Estate, factory and bungalow; 3. Galboda Estate, weighing tea-leaf; and 4. View of Devon Estate, Dimbula, showing bungalow and waterfall. Upon the end wall is a painting representing a Tamil girl tea-picking. All these subjects have been faithfully enlarged from photographs taken in Ceylon by Mr. M. H. Clerk.

The woodwork generally has been painted and decorated to harmonise with the architecture, yellow being again the predominating colour, relieved however by red, which has been adopted for the several devices painted thereon.

Seven Sinhalese men have been brought over from Ceylon for the Exhibition. Of these, four are employed as attendants at the Ceylon Tea-House, and form one of its most attractive features. These men are typical low-country Sinhalese, and appear in their national dress. Their custom of wearing combs in their hair, which is tied in a knot at the back of the head, is a very striking characteristic of the country. The chief man of the party is a goldsmith, Wimalasurendra by name, who is one of the cleverest workmen in his trade in Ceylon, and as such has been honoured by the Government with the native rank of Muhandiram of his caste. Two carpenters complete the party, having been specially selected for their ability in their profession; much of the best carving exhibited, both in cabinet woods and in plumbago, is their handiwork.

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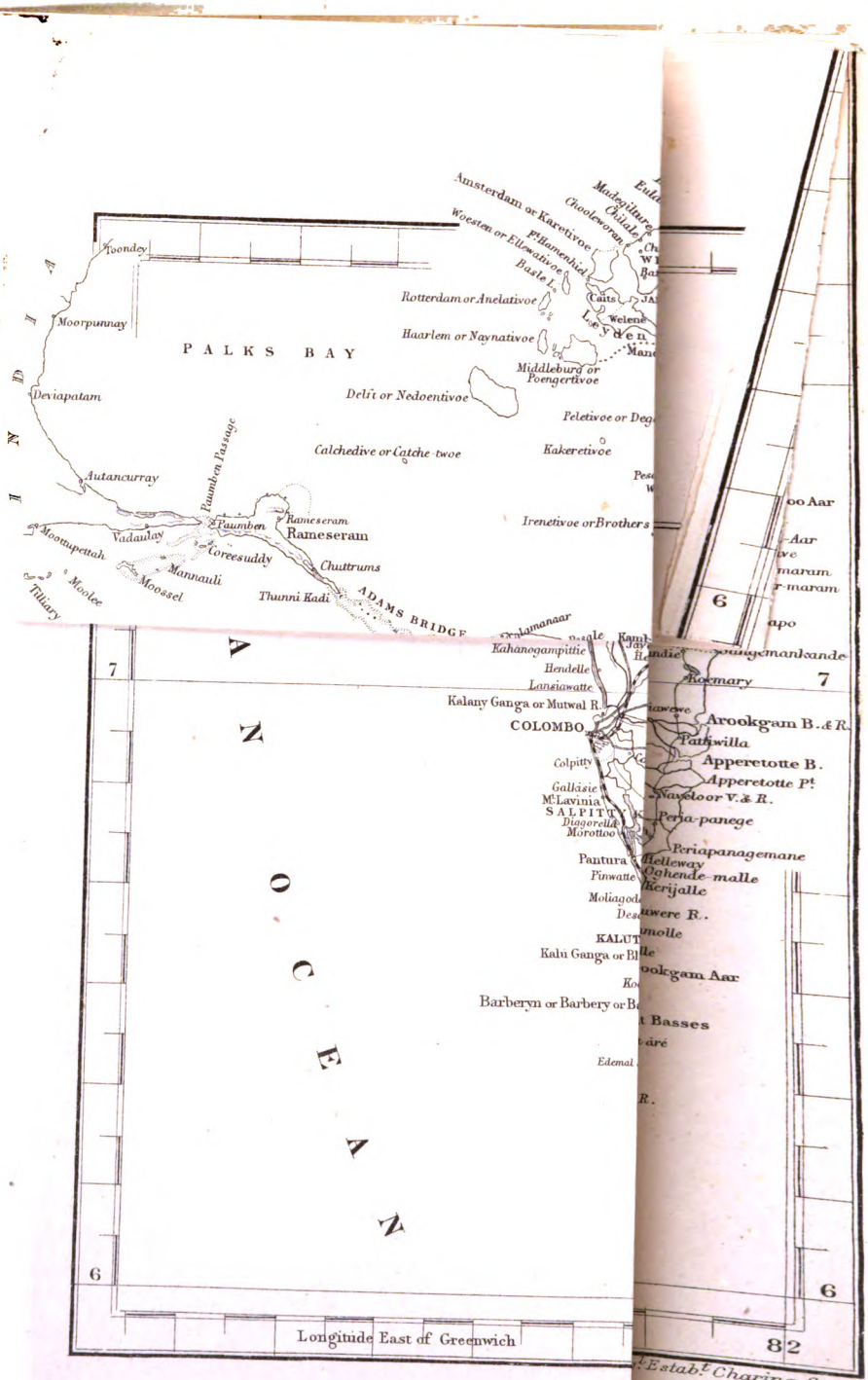

INTRODUCTION.

By ARTHUR N. BIRCH, Esq., C.M.G.

(WITH MAP OF CEYLON.)

THE island of Ceylon (known to the ancients in different ages as Serendib, Taprobane, Lanka) lies in N. Lat. 5° 53′–9° 51′; E. Long. 79° 42′–81° 55′ south-east of the southern extremity of Hindustan, from which it is separated by Palk Straits, a narrow channel only available for vessels of light draught.

The Portuguese were the first European settlers in Ceylon. From early in the 16th to the middle of the 17th century they held continuous though not undisputed possession, giving way at last to the Dutch, who from A.D. 1656 for 140 years continued to govern the maritime provinces of the island, the Central or Kandyan Provinces remaining under their native rulers. In 1796 the last remaining stronghold of the Dutch at Colombo capitulated to the English, and the island became part of the British possessions in the Eastern seas. It was not, however, until some years later (1815) that the King of Kandy was deposed, and the entire island brought within the Crown Colony system of Government, of which it is now the largest and most completely organised representative.

The total area of the island is about one-sixth less than that of Ireland, and contains some 25,365 square miles; the extreme length is 271 miles, the extreme breadth 137 miles. At the end of 1885 the population stood at 2,825,090; the proportion of Europeans to natives is less than 2 per 1,000.

Sinhalese	1,920,000
Tamils	687,000
Moormen	182,000
Other Native Races	13,000
Burghers, or natives of European descent	18,000
Europeans	5,000

The Veddas are supposed to be a remnant of the aborigines of Ceylon. They have no fixed habitations, roaming about the forests of the Southern and Eastern Provinces. Living in caves and hollow trees, their dialect is different from that of the Sinhalese, with whom they have little intercourse.

The Maldive Archipelago, a group of Coral Islets sparsely inhabited by a race of Sinhalese origin, speaking a broken dialect of Sinhalese, is tributary to Ceylon, to which the Sultan of the Maldives sends an embassy annually. These Islands are difficult of access, and intercourse with them is very limited. An interesting ethnological collection from these Islands has been procured for this Exhibition.

For a tropical country, Ceylon is decidedly healthy; from its insular position, the climate contrasts favourably with that of India; there are no extremes of temperature, and throughout the low country the thermometer varies little in the course of the year; the mean temperature at Colombo is nearly 81° F. There is, however, considerable difference in the daily temperature in the hill districts. The coolest months are from December and January; the hottest, March, April, and May.

Sir E. Tennent, who resided in the island for some years as Lieut.-Governor and Colonial Secretary, in his interesting and valuable work on the Colony, writes:—"There is no island in the world, Great Britain itself not excepted, that has attracted the attention of authors in so many distant ages and so many different countries as Ceylon; there is no nation in ancient or modern times possessed of a language or literature the writers of which have not at some time made it their theme. Its aspect, its religion, its antiquities and productions have been described as well by classic Greeks as by those of the lower empire, by the Romans, by the writers of China, Burmah, India and Cashmere, by the geographers of Arabia and Persia, by the mediæval voyagers of Portugal and France, by the annalists of Portugal and Spain, by the merchants and adventurers of Holland, and by the travellers and topographers of Great Britain." Tennent's own enthusiastic description of the island is summed up thus:—

"Ceylon, from whatever direction it is approached, unfolds a scene of loveliness and grandeur unsurpassed, if it be rivalled, by any land in the universe. The traveller from Bengal, leaving behind the melancholy delta of the Ganges and the torrid coast of Coromandel, or the

adventurer from Europe recently inured to the sands of Egypt and the scorched headlands of Arabia, is alike entranced by the vision of beauty which expands before him as the island rises from the sea, its lofty mountains covered by luxuriant forests, and its shores, till they meet the ripple of the waves, bright with the foliage of perpetual spring."

The speed and comfort with which a journey to Ceylon can now be accomplished in less than twenty-one days by the magnificent vessels of the Peninsular and Oriental, Messageries, British India, and other important Steamship Cos., induces many besides the merchant or planter to visit this interesting island. Those in search of tropical scenery and vegetation, or keen in archæology, the naturalist or sportsman, will all alike find ample field for enterprise, well repaying the three weeks spent on the outward voyage. The scenery and vegetation is rich in all that gladdens the eye; while no country in the world can boast of a more varied and interesting insect life to occupy the naturalist. Elephant, leopard, wild buffalo, bear, wild boar, deer of many varieties, with snipe and wild fowl in profusion, will give occupation to the sportsman.

To the archæologist the many ruined cities, with their stone carving and clear close-cut inscriptions, offer infinite variety. Among the most wonderful of these ruins are those of Polonarua and Anurádhapura in the centre of the island. The latter was the chosen capital of King Panduk Abhaya, 437 B.C., and remained the capital of the island for twelve centuries. Historians write that the outer wall of the city enclosed 250 square miles, and was completed in the first century of the Christian era. Nothing beyond the ruins with their interesting records in stone, and the large Dágobas, now remain, except the sacred Bô tree, which still flourishes. Major Forbes, in his work entitled 'Eleven Years in Ceylon,' states that in the reign of King Devánampiya Tissa, which commenced 307 B.C., Anurádhapura received the collar-bone of the Gautama Buddha, his begging dish filled with relics, and a branch of the Bô tree, under which he attained Buddhahood. Thus this relic of past ages has been flourishing for nearly 2,200 years, and is believed to be the oldest living tree of which there is any authentic record. It is held sacred throughout the Buddhist world, and is the goal of many a long pilgrimage. Even the fallen leaves are treasured by the pilgrims and carried to distant lands. Roughly speaking, three-fifths, or say 1,700,000, of the population of Ceylon are Buddhists.

Colombo, on the south-west coast, is now the capital of the island, with a population of nearly 120,000. A breakwater recently completed, under the supervision of Sir J. Coode, at a cost of £650,000, enables vessels of the largest size to lie in safety throughout the heaviest monsoon. It has thus become a first-class port, and from its unsurpassed geographical position is destined to become the centre of the commerce of the Eastern seas. Colombo is distant 2,500 miles from Aden, 600 from Madras, 900 from Bombay, 1,400 from Calcutta, 1,600 from Singapore, 3,000 from Hong Kong, 3,000 from West Australia.

Previous to the construction of the Colombo breakwater, Galle, on the south coast, was the port of call for mail steamers, but the natural harbour of the Island is Trincomalee on the N.E. Coast. This has been for many years the rendezvous of H.M.S. vessels on the East Indian Station, and still remains so ; it is easy of access in all weather, and has a magnificent and safe anchorage.

Turning now to the products of the island, we find Ceylon in ancient days the far-famed land of pearls and precious stones. Much activity is still shown in the search for gems, and the value of the stones annually discovered is considerable. This mining, as well as that for plumbago, is entirely in the hands of the natives. Plumbago, or graphite mines, are largely worked in the Western Province. The produce is chiefly exported to Great Britain and the United States, where it is utilised in the manufacture of pencils, crucibles and portable furnaces. The amount of plumbago raised and exported in 1882 was upwards of 240,000 cwts.

The pearl fishery, though precarious and uncertain, is still in favourable years a valuable addition to the revenue. In the last successful fishery, held in 1881, the Government share realised £59,900. The same primitive system of gathering the oysters exists as in ancient times. When the "superintendent" reports a bed fit for fishing, Government proclaims a fishery to commence on a certain date ; by this date the arid and otherwise deserted coastland at Aripu, on the N.W. coast, is the scene of a bustling town, filled with people of varied races and occupations, including divers and boatmen from the Coromandel Coast, pearl dealers from India, Malay and China, with the necessary accompaniment of merchants and traders of all classes. A limited number of boats and divers are licensed ; every oyster is gathered by the hand of the diver, no dredger or implement of any kind being used. The Government take as royalty two-thirds of the

oysters thus gathered, which are sold by public auction at the close of each day's fishing.

The manufacture of salt still remains a Government monopoly, and produces a profit of from £80,000 to £90,000 per annum, the salt being sold by Government at 4*s.* 8*d.* a cwt. The monopoly is, *prima facie*, open to the obvious objections which attach to all taxes on necessaries of life; and if the circumstances of the country were such as to make it possible for the Government to dispense with the revenue derived from the monopoly, these objections would have much weight. But the relation between the general revenue and the requirements of the island is such that it would be difficult to abandon the revenue derived from salt without at the same time abandoning the execution of public works of material importance, including the extension and the efficient maintenance of means of communication. The significance of such a step to the native population may be realised from the fact that until a comparatively recent date there were districts in the island where the cost of transport added as much as 200 per cent. to the price charged by Government for salt on the seaboard.

Gold, silver, ivory, and tortoiseshell work are also among the important native industries, together with pottery, mats, fans, and wood carving. The beautiful woods indigenous to the island give great scope to the ingenious native carvers and cabinet makers; among the most valuable are, ebony, satinwood, calamander, jak, nedun, palai, ironwood, halmilla, &c. The exhibits of these several industries will repay careful inspection.

The seas surrounding the shores abound in fish, and the coast line, especially in the S.W. and N. Provinces, is thickly populated, and has the appearance of an endless village, the inhabitants of which are thriving, and whose wants are satisfied by a few hours' fishing with the most primitive appliances.

The Sinhalese, however, are mainly an agricultural race, and the vast majority are engaged in tilling the soil. The stupendous* works commenced 500 B.C., and continued by successive kings of Ceylon in construction of innumerable reservoirs or tanks for storing the rainfall for irrigation purposes, testify to the great importance attached to agriculture in ancient times.

* The tank of Kaluwewa submerged an area of over 40 miles in circumference. The retaining "bund," or earthwork, is more than 12 miles in length, with a thickness of over 300 ft. at its base.

The Legislature has for some years voted considerable sums annually from the general revenue for the repair, maintenance, and improvement of these tanks, to the immense advantage of the rural population.

The Sinhalese cultivation is now chiefly confined to the production of their staple articles of food, rice, and dry grains and coconut, with gardens of areka palms, cinnamon, coffee, vegetables and fruits.*

In the northern province of Jaffna the natives are chiefly of Tamil origin; they cultivate largely tobacco, dry grain, breadfruit, palmyra palm, vegetables and tropical fruits of all kinds.

The great agricultural industry, however, which has mainly stimulated the progress and prosperity of Ceylon, thus enabling the Government to undertake the construction of railways and intersect the island with splendid roads and bridges, is coffee planting in the hill districts. Nearly one-fifth of the island is comprised in the hill or mountain zone; the highest peak of the range is Pidurutalagala, 8,296 ft. The most interesting and best known is Adam's Peak. The majority of the plantations lie at an elevation of between 2,000 ft. and 5,000 ft.; here the climate is well nigh perfection, and the luxury of the planter's bungalow, with its European comforts, surrounded by roses and geraniums, with English fruits and vegetables, can be most justly appreciated after the heat of a journey from Colombo to the hill stations.

The coffee plant is not, as cinnamon is, indigenous to Ceylon; but there are now few native hamlets in the Kandy country that have not scattered coffee bushes around their door. It was not, however, till about 1830 that European enterprise was first directed to the cultivation of coffee in the island, since which date it continued with varying success till 1874–5, when the export of coffee reached nearly 1,000,000 cwts., representing at the then ruling price a value of nearly £5,000,000 sterling. These vast returns on capital drove forest land up to an extravagant price, and Crown lands at an upset price of £1 an acre occasionally sold by public auction at from £20 to £24 an acre.

This great prosperity, however, did not continue unchecked. In 1878–9 the effects of the fungus (*Hemileia vastatrix*) known as "leaf disease" had so seriously diminished the crops that planters began to turn their attention to other plants adapted to the climate and soil;

* Fruits include plantains, pine apples, custard apples, mangoes, oranges, limes, melons, breadfruit, &c.

cinchona and tea have both been successfully cultivated, but it is mainly to the latter that the planters now look with confidence to retrieve their fortunes and bring back prosperity to the island.

The extent of tea planted since 1877 exceeds 100,000 acres, and the export has already risen from 2,105 lbs. to 9,000,000 lbs.; the prospects both in crop and flavour have been so successful that large plantations of coffee are being rooted up to make way for tea. It is confidently anticipated that within six years the export will reach 40,000,000 lbs. No country can boast of a better or cheaper labour supply, but it is chiefly imported from India.

The Sinhalese peasants are excellent domestic servants, and are good at felling trees and clearing jungles, irrigation, and other works enforced under the Village Communities Act, but very few will undertake the routine work of the hill plantation labour.

Ceylon has therefore become the favourite resort of emigrants from the Malabar and Coromandel coast, who flock over in thousands and settle on the estates; there are no unnecessary restrictions, and the coming and going of these labourers is made as free and as easy as possible. Public "rest-houses" and hospitals are provided by Government at easy distances along the central road running from Kandy to Jaffna, by which most of the emigrants find their way to the plantations.

In the prosperous years of coffee as many as 150,000 Coolie labourers would migrate to Ceylon in one year, returning to their native villages to spend their savings, and immigrating again for the next harvest.

In addition to coffee, cinchona and tea, cacao is becoming an important item on many plantations, and is of excellent quality; india-rubber, tapioca, vanilla, and other tropical products, are also successfully grown on many properties.

The large cultivation of cinnamon and coconut palm is chiefly in the hands of natives; both thrive best in the low country near the sea. For many years the export of cinnamon was a Government monopoly, but now there are no restrictions on its growth or export; the amount of the cinnamon exported in 1883 exceeded 2,335,000 lbs. The cultivation of the coconut palm, with its multifarious uses, is the most important in the life of the low-country Sinhalese. The spirit he drinks is distilled from the sap; the kernel of the nut is a necessary element in his daily curry; the "milk" of the nut the beverage offered to every visitor; his only lamp is fed from the oil; the nets for

fishing are manufactured from the fibre, as is also the rope which keeps his goat or cow from straying; while the rafters of his house, the thatch of the roof, and the window blinds are made from its leaf and wood. The extent and value of the cultivation of this palm may be gathered from the fact that while, as already stated, its many products are a universal necessity in the daily life of the island population of nearly 3,000,000, the export of oil, copra and fibre exceeds in amount £700,000 annually, and the revenue derived from the excise duty levied on the spirit (arrack) distilled from the sap exceeds £170,000.

With a fixed determination on the part of the local Legislature to continue uninterruptedly an annual vote from public funds for the judicious restoration of the ancient irrigation works, and thus make Ceylon again independent of foreign importations of rice, with a similar determination to push the railway system into the heart of the planting districts, so as to give easy and cheap transport to the seaboard, this beautiful island, from its grand geographical position, its excellent harbour accommodation and healthy climate, is destined to justify its ancient Brahmin title of "The Pearl on the brow of India," or Lanka, "the resplendent."

HANDBOOK

AND

CATALOGUE OF EXHIBITS

FOR

THE COLONY OF CEYLON.

COLONIAL AND INDIAN EXHIBITION, SOUTH KENSINGTON, 1886.

CLASS I.

NATURAL OBJECTS.

SECTION I.

Building Stones. [A.]

THE rocks of Ceylon present but few striking features. Almost everywhere gneiss is found of great thickness, and in various combinations is the common building stone of the country; it is of this that the Colombo Breakwater is formed. It is occasionally found overlaid with dolomitic crystalline limestone and breccia, and shows different structures according to the proportions of its component parts. Limestone is not very generally met with, and it therefore enters but to a limited extent into the economy of the builder; coral stone, on the other hand, forms a very useful and permanent building material in the northern and some of the southern districts. In the Western and Southern Provinces the common building material is "Cabook," or laterite, a material found in abundance, and which can be easily quarried and cut to the required forms. There have long been differences of opinion amongst experts as to the nature and origin of "Cabook," but it is generally believed to be formed by the decay of gneiss rock. An examination of deep cuttings through cabook hills shows unmistakably a connection without any definite line of demarcation between the soil and the laterite, and between the latter and the solid rock beneath. Strongly impregnated with iron in a transition state, cabook gradually hardens

on exposure to the action of the atmosphere, and cabook walls may still be seen of metallic hardness that have resisted the action of the monsoons of two centuries.

THE GOVERNMENT OF CEYLON.—(1) Gneiss Rock from Mahára, Western Province (polished and unpolished). (2) Limestone from the Dolosbáge district, Western Province. (3) Cabook, or laterite, from Colombo. (4) Sandstone from Pamunugama, from the sea coast of the Colombo district. (5) White Coral from Jaffna, Northern Province.

A. M. FERGUSON, Esq., C.M.G.—Red Granite from Veyangoda, Western Province.

[The specimens are cut according to the instructions of the Royal Commission into blocks of 24″ × 12″ × 12″ and 13″ × 13″ × 13″, in order to constitute uniform pedestals.]

SECTION 2.

Ores and Minerals. [P. L. A.]

The exhibits consist of iron, ironstone, talc and plumbago. The first exists in far larger quantities than has been generally supposed, and is of excellent quality in some districts, cropping up close to the banks of rivers in huge masses of ore, which, according to the statement of a scientist, contains occasionally as much as seventy per cent. of pure metal. Owing to the alleged presence of a certain proportion of molybdenum in this ore, it is said to be very readily fused, and, as worked by Kandyan smelters in the manufacture of tools, is believed to be of as fine quality as Swedish steel. Notwithstanding the excellence of much of the ironware imported from England, a native agriculturist will in most instances prefer to work with his own home-made cattie or axe, from charcoal smelted ore. Before the time when the entire island passed into the possession of the British Sovereign, and a mutual trade was opened between the natives of the interior districts and English dealers in hardware, there is no doubt that the requirements of the population in the matter of agricultural and artificers' tools as well as of weapons of offence were met by the native blacksmith and the Kandyan armourer. So early even as in the time of the Portuguese they provided themselves with useful copies of the European musket, and met the invaders of their territories with weapons, the make and use of which a long period of warfare had rendered familiar to them. In many parts of the interior heaps of iron slag and charcoal ashes may still be seen, the remains of a bygone industry, and it would appear that in some localities the process of smelting by charcoal is still carried on upon a limited scale. The low price at which iron and steel ware can be

imported and sold necessarily limits the local manufacture within the narrowest bounds, and the industry is practically extinct.

Plumbago, otherwise known as graphite, or popularly as "black lead," is a nearly pure carbon, and is found distributed in great abundance in the Western and North-Western Provinces, at distances from the sea ranging from five to fifty miles. The finest ore comes from pits, or, as they may properly be termed, mines, some of which are sunk to the depth of two hundred feet, in several instances steam pumps being employed to free them from flood waters or springs. The ore is also found in one or two districts of the Southern and Central Provinces, but not nearly of such fine quality as elsewhere. There are about eight hundred pits for plumbago-digging throughout the country, but it is seldom that more than one-third of these are worked at one time, the raising of the ore depending on the demand for it in the market, and on the state of the weather, as the mines are not usually worked during the heavy monsoon rains. An export duty is levied on the shipment of the article, at the rate of five rupees the ton, or 25 cents per hundredweight. From very small beginnings of less than a thousand hundredweights forty-five years ago, the export steadily increased until, in 1883, it amounted to 279,057 cwts.; in the shipping season of 1885 it stood at 197,221 cwts., the demand varying with the activity of the markets in Europe and the United States, the latter country taking one-half of the entire shipments. The yearly value of the plumbago exports now varies from one and a half to two and a half millions of rupees, according to the extent of the trade and the current value in the market, the finest bright silvery lump ranging between Rs. 100 and Rs. 135 per ton, and the lowest quality in the form of dust commanding Rs. 30 to Rs. 45 per ton. The digging for and trade in this article are entirely in the hands of Sinhalese, many of whom realise handsome incomes from the industry. It is estimated that the various processes of mining, lifting, carting, sorting, packing, and shipping plumbago, as well as the making of the casks in which it is exported, provide employment for about twenty-four thousand men, women, and children, when the trade is active. About one-half of the entire export is shipped to the United States, and of the remaining half seven-sixteenths go to the United Kingdom, and the other sixteenth to British India and the Continent of Europe. Its uses are manifold: about one-third of the exports is used in the manufacture of crucibles, one-third for stove polish, and the remaining third for lubricating purposes, for electro-

plating, for paint, and in the manufacture of lead pencils. This last use is one of some magnitude, especially in America and Germany. In the manufacture of lead pencils, the finest graphite only is used; this, after being ground to an impalpable powder and blended with very fine clay by repeated washings, is subjected to enormous hydraulic pressure, and finally cut by machinery into very thin slices and inserted in the wooden stock of the pencil. Blasting powder is rolled in plumbago as a safeguard against damp. It forms an admirable fire-resisting paint, and is also applied to the bridges of pianos and the sides of organs, and imparts a glossy softness to felt hats.

GOVERNMENT OF CEYLON.—Iron.—(P.) Ironstone from the district of Mulliativu. Specimens of iron ore, native smelted from the district of Ratnapura.

[Note. A number of agricultural implements, native made guns, &c., though included under other sections, illustrate the uses to which the ore is locally applied.]

Talc.—(L.) Commercial samples from the Province of Uva.

Plumbago. [A.]

MORGAN BROS., Crucible Co., Battersea, London, S.W.—(1) Specimens to show Plumbago and its uses, such as Messrs. Morgan's well known crucibles; Crude Plumbago as selected for these Crucibles.—Pencils, Stove Polish, &c., &c. (2) Large lumps of Plumbago. (3) A Carved Elephant in Plumbago. (4) A Carving in Plumbago representing Natives in a Jungle, elephant hunting.

A. T. FERNANDO.—(1) Large block of solid Plumbago weighing 3 cwt. 3 qrs. 24 lbs. (2) Trade samples of "Ordinary," "Chips," and "Dust." (3) Model of Cashew Tree with two crows (cut in solid plumbago). (4) Model of Crab (cut in solid plumbago). (5) Model of Lobster (cut in solid plumbago). (6) Model of Barrel. (7) Sifter and Tools used in the industry.

W. A. FERNANDO.—(1) Large block of solid Plumbago weighing 3½ cwts. (2) Samples of best Silver qualities. (3) Trade samples of "Ordinary," "Chips," and "Dust." (4) Cask of uncleaned Plumbago. (5) Model of a Crow and Nest attacked by a snake. (6) Model of a Buddhist Dagoba. (7) Implements illustrating the industry.

W. GUNASEKARA.—(1) Large block weighing nearly 4 cwts. (2) Trade samples of "Ordinary," "Chips," and "Dust."

J. DE MEL.—(1) Large block of pure Plumbago. (2) Trade samples of the various qualities of Plumbago. (3) Graphite and unprepared Plumbago. (4) Quartz Crystal found in combination with Plumbago.

GOVERNMENT OF CEYLON, Kegalla District.—(1) Model of an Elephant in Plumbago. (2) (**Pasdun Korle**) Carved slab of best Plumbago.

SECTION 3.

Gems. [B.]

The earliest records of Ceylon as an emporium of trade between the Eastern and Western world contain references to its precious stones, which with pearls and ivory gave the island a value in the eyes of Greeks and Romans beyond all other Oriental lands, and invested the locality with a glamour second only to that of the diamond mines of Golconda and the region of golden Ophir. Stones of inferior kinds, such as the moonstone and the garnet, are found in

the beds of streams about Kandy, Nuwara Eliya, Badulla and some of the small rivers in the south; but the more precious stones, such as the ruby, the sapphire, the topaz, the alexandrite, and the catseye, must be sought within a radius of thirty or forty miles from Ratnapura (the City of Gems), the capital of Saffragam, a district of the Western Province, though occasionally rubies are found in Uva.

From time immemorial the privilege of digging for gems was held as the exclusive right of the sovereign. This right was relinquished for some time under the British rule, but has been recently revived.

Short of the most popular of precious stones, the diamond, Ceylon in reality produces almost every kind of gem that is valued in the markets of commerce. Diamonds have never been found, and this is somewhat remarkable, as a short distance away on the mainland of India, the famous Golconda mines have produced the very finest ones.

The principal gems of Ceylon are sapphires and rubies, being the true corundum. They are about equal in hardness, and take in each case a variety of colours too numerous to particularize. The *sapphires* of the district of Rakwane are the most highly prized, being of a rich velvety blue; but there are hundreds of distinct shades of colour, from the palest blue azure to an inky black (too dense for any use as ornaments). The two kinds most prized, as commanding a ready sale in European markets, are the rich velvety blue, much sought after by London dealers, and the peacock, or lighter, but extremely rich blue, more valued by Parisian and Continental jewellers. Of these two kinds several fine specimens are exhibited, the property of native Moormen in Colombo.

The *ruby* of Ceylon, although not found of the true "Pigeon Blood" colour, as in Burmah, yet is often a highly valuable gem; it is here more frequently of a rich rose colour, having considerably more light and life than its Pegu rival, and is preferred by many Orientals to the blood ruby, which although the more costly stone is invariably less brilliant than the Ceylon one. It is occasionally marred, as is also the sapphire, by a peculiar silkiness which seems to extend right through its crystallization; but in those cases where the silk is not apparent, and the gem of good rose colour, the ruby ranks in value almost as highly as the pigeon blood stone of Burmah, several having been sold in Europe for large sums of money. A notable specimen of the rose-coloured ruby is exhibited in the collection of Mr. De Soyza, a fine gem, moderately well cut, and valued by him at £450.

The recent finds of sapphires, &c., in Cashmere and other countries have seriously depreciated the value of the Ceylon stone, but by competent judges it is pronounced that a real velvety blue sapphire of Rakwane can even now bear the palm for beauty. Unfortunately the Ceylon lapidary, although exceedingly skilful with his rude appliances, has but one idea, his object being to cut every stone from the rough with as much weight and size as possible, thus sacrificing the beauty of the gem to a desire to keep up its weight. The consequence is that Ceylon stones when in competition with numerous outputs of other mines, are invariably condemned on account of their bad cutting, the term a sapphire "nail," often applied, being a satire on the enormous depth. If a system of educational cutting could be introduced, the value of the gems exported from Ceylon would be doubled; now, when recut by English lapidaries, three or four times the value is obtained in the trade.

Digging for gems, like all gambling speculations, is but too attractive, and great numbers of the rural population neglect the safer pursuits of agriculture for the speculative profits of the gem pits. The process is exceedingly primitive. No European organization or machinery has ever been introduced on this industry. The ground supposed to be more especially rich in precious stones is invariably rented for an annual sum, and coolies are at once engaged in digging; the soil excavated is heaped up on one side, until sufficient is accumulated, and then washed through a trough with variously sized perforated zinc stops, which permit the soil to be washed away, and retain all stones according to their sizes. These stones are placed on a table or flat surface, and the gems are easily distinguished and picked out. Almost every washing yields some kind of sapphire, ruby, or other precious stones, but of such inferior qualities that the cost of cutting would exceed the value when cut: the proportion of gems capable of being cut and really marketable is not more than one per cent.

It is impossible to estimate the annual yield of precious stones in Ceylon. Some returns are attempted by the Government, but there is no doubt that through private sources four or five times the reputed values are each year sent to Europe.

The two principal districts for rubies and sapphires are Ratnapura and Rakwane, and with these gems in the same districts are often associated the much esteemed stone, the catseye. There may be added also the star stone, amethyst, alexandrite, moonstone, aquamarine, chrysolite, chrysoberyl, garnet, topaz, tourmaline, spinels, &c.

The *catseye* is highly valued, and fine specimens have realised large sums; but it is affected by the caprice of fashion more than any other stone, not commanding general admiration as do the sapphire and ruby; the result is that in some years its price is increased by a demand which in others as suddenly falls. There are inferior kinds of stones resembling catseyes, such as the quartz catseye and the crocidolite, which is now stained to resemble the chrysoberyl; but in no case can they compare with the real catseye, which is peculiar to Ceylon. Although found in several districts, the finest have been produced from the gem pits of Morowe Korle. A very fine specimen of this gem is exhibited, the property of a native Moorman, who values it at £3,000.

In the same district of Morowe Korle, and almost exclusively there, is found the beautiful gem called *alexandrite.* This was formerly known only from the northern part of the Russian Empire, and took its name from the Imperial Family, but the specimens are slightly different from those found in Ceylon. The characteristic of this gem when really fine is its rich vivid green hue by day (much darker than the emerald, and slightly bronzed), which by artificial light is completely changed to a deep red; this is supposed to be due to its containing a little copper and oxide of lead. Like the catseyes, this gem occasionally commands a high price in the European markets, and is sometimes sought after by Americans; but any activity in the output of alexandrites at once causes the price to fall very seriously; it is therefore anything but a safe speculation.

Star stones are almost peculiar to Ceylon. They are frequently known under the name of asteria. They vary in colour, but are generally divided into the ruby or red star stone, and sapphire or blue star stone. By skilful cutting, the natives produce a star of six rays, which by sunlight or artificial light is vividly shown; many fine specimens show the star in ordinary light, but if diffused the light decreases the star by reflection: a top light is the best to judge them by. Ordinary specimens are of little value, but a fine stone commands a high price.

Moonstones were credited to other countries in past ages besides Ceylon, and were known to the ancients, who associated the moonlike lustre with the phases of the moon. This stone is found in large numbers in several places, and is not of any considerable value; indeed, the large quantities found prevent its commanding a high price. When well cut it reveals a silvery moonlight lustre more than

a ray in the centre of the stone, shifting as it is moved. As it is a very beautiful stone, it is a pity the prejudice of the trade should prevent its introduction to the cheaper forms of jewellery, as it is in much better taste than many of the common gaudy stones used for such ornaments, and could be supplied at less price.

Chysoberyl, chysolites, topazes, garnets, &c., are all found associated in the same soil as the more valuable gems, and have hundreds of varieties both in colour and general appearance. The more definite kinds of each of these are easily recognisable, but the numerous gradations of tints makes some of these stones difficult to classify, so that dealers with limited knowledge often misapply the names. In many cases the only true test is by the different hardnesses and the specific gravities. Ordinary specimens of these stones are not valuable, but anything very fine commands a fancy price.

A number of fine *garnets* are to be seen hanging in folds round the golden shrine of the Tooth relic at the Dalada Maligawa, Kandy, the sovereigns of Ceylon having held them in much esteem. Garnets of extremely small size but of considerable brilliancy may be seen thickly set in the face of the blocks of gneiss standing in the jungles of the Southern and Eastern Provinces, giving forth brilliant rays in the noonday sun ; these are, however, too small to have any value.

The *Cinnamon stone* is commonly found in the island and often of some size, but it is not much valued.

The very beautiful stone known as *zircon* is classified under many names, according to slight variations of colour, or the imagination of the dealer who introduces it to the market. Tested in the wheel of the lapidary, the zircon is very frequently designated jargoon and hyacinth. Its colour as usually recognised is of a bright red with a yellowish tint, showing in fine specimens a burning fire which the ancients were wont to credit with supernatural power. Many other qualities it was supposed to possess ; amongst others the power of composing the wearer, to sleep and protecting him from unseen enemies.

Another kind of zircon bears a totally different appearance, being almost colourless, and this particular variety is frequently called jargoon by the native experts. It is a whitish crystal with a smoky hue, and has the appearance of an inferior diamond, indeed, it is sometimes dignified with the name of Ceylon or Matara diamond. The true zircon with its rich fiery colour is very rare, and consequently very valuable. From its peculiarity in structure and influence under

heat, it is specially treated in cutting and polishing by the lapidary, a copper plate being used with powdered rotten stone. Unfortunately many inferior kinds are imperfectly finished, and hence the gems called zircon, jargoon, and hyacinth do not stand very high in the commercial standard.

Two or three rare cases of crystallization are exhibited in this collection. First a natural crystal of chysoberyl, in the form of a star of six points, the sides being duplicated. There are instances of this form of crystal having been found before, but it is very rare. Also a common crystal in the natural state, bearing a somewhat grotesque and exaggerated resemblance to a human face. This was discovered in a gem pit of great reputation at Ratnapura, where certain very large and valuable gems were discovered.

A very rare *alexandrite catseye* also exhibited is worthy of notice. It is of a dark bottle-green colour, with the white line, and by artificial light has the ruby tint of the alexandrite.

Attention is also called to a collection of various coloured sapphires, including fifty different tints, which gives the best representation of Ceylon stones ever exhibited, and includes collections made during the last fifty years.

GOVERNMENT OF CEYLON.—A large collection of Sapphires, Rubies, Catseyes, Alexandrites, Star Stones, Moonstones, Zircons, and many other varieties of Stones found in Ceylon.

C. H. DE SOYZA, J.P.—A valuable collection of Ceylon Stones, rough and cut, including Sapphires, Rubies, Catseyes, Star Stones, Moonstones, Amethysts, Cinnamon Stones, Aquamarines, Topaz, Tourmalines, Garnets, Crystals, Kiringee, Pearls, Quartz containing Ceylon Gold.

O. L. M. MACAN MARIKAR.—A large Catseye, a fine blue Sapphire, a Gold Box set with a variety of Ceylon Gems.

A. L. MEERA ISMAIL LEBBE.—A collection of eighteen varieties of Ceylon Stones, rough and cut.

A. L. M. MOHAMADU.—Large water Sapphire Crystal, uncut, £10.

CAPTAIN F. BAYLEY.—A fine Catseye, set in a Bracelet.

A. DE BEER, Esq.—A *parure* of fine White Water Sapphires.

SECTION 4.

Pearls, Pearl Oysters, Chanks. [A 3.]

Pearls have earned for Ceylon a world-wide celebrity from the earliest time. The mode by which this beautiful object is produced by the oyster is no longer matter of doubt. Experiments have shown that it is brought about by the efforts of the creature to rid itself of the irritation caused by the presence within its shell of some minute foreign body, which it effects by coating it with successive thin layers of the brilliant pearly matter composing the inner lining of its shell.

The substance of which pearls are formed is but carbonate of lime, but its soft lustre is the result of the varied reflection of light from the silky unevenness of its surface.

Pearls are obtained from banks on the north-west coast of the island at the entrance to the Gulf of Manaar, where fisheries have been conducted at very irregular intervals from the earliest times by the Kandyan kings, the Portuguese, the Dutch, and the British Governments. This and the salt manufacture and trade are the sole monopolies remaining in the hands of Government. For reasons which have never been clearly defined, the presence of oysters on the pearl banks at Aripu has always been a matter concerning which no reliable information is obtainable, though the causes of their disappearance after having reached the age of two, three, and sometimes four years, are now pretty well established, as they are known to be destroyed in immense numbers by a voracious fish called the ray, or skate. When extremely young, they have sometimes disappeared from the bank in a remarkable manner, and are supposed to have been buried under shifting sands, or washed away by strong currents. Long intervals have frequently occurred between fisheries, the oyster not producing fine mature pearls until its sixth year, when it is of full age. The value of a pearl depends not merely upon its size, but on its approach to perfect rotundity and the clearness and brilliancy of its silky white colour. In seasons of scarcity, the result of few and small fisheries, fine pearls of large size will realize from £20 to £200 each, their marketable value being higher in Asiatic countries than elsewhere.

There are no records showing the results of the pearl fisheries of Ceylon during the rule of the Portuguese in this island, which extended from the early part of the sixteenth to the middle of the seventeenth century, but of the results of the Dutch fisheries there are ample details. From these it appears that there were far longer periods of unproductiveness in that time than during British rule. Twice there were intervals of thirty years duration in which no oysters were taken from the banks, whilst in ordinary years the value of the pearls taken ranged from £4,913 to £8,848. During the years, however, ending with 1749, the amount realised by the Dutch Government was £140,355, after which there were no valuable fisheries until the island passed into the hands of the British, in a number of years none whatever. The better management of the fisheries, and the greater care bestowed on the Aripu banks, led to very important fisheries during the first three years of the new administration, when the total value of the fisheries

was as much as £582,347. From that period to the year 1809 the value of the fisheries ranged from £18,696 to £57,063, whilst in 1814 it was as much as £87,045. Thenceforward there was a gradual irregular decline, to £38,207 in 1835, £23,555 in the following year, and to £9,397 in 1837, after which there was a long break, extending to 1855, without fisheries. From that date to the present time the amounts realised by eleven fisheries have reached a sum of about £216,000, after deducting the expenses attending the proceedings. The prices realised for the oysters, which are sold by public auction on the spot in lots of suitable sizes, vary considerably, according to the demand and to the size of the pearls. Thus, in 1880, twenty-five millions of oysters realised only £20,000, being at the rate of 15*s.* 8*d.* per thousand; in the following year, however, not only was there more competition, but the oysters being fully matured, contained larger pearls, and sold at the rate of £3 5*s.* 8*d.* per thousand, eighteen millions of oysters fetching £59,868. There is a prospect of a good pearl-fishery in 1888.*

The shells of the pearl oyster (*Avicula fucata*) shown are in various stages of growth from one month to six years, at which age they are considered to be mature. There are also shown in bottles examples of the young "spat," or earlier stages of life. After the sixth year the life of the mollusc is very uncertain, though such as live to their seventh year are invariably found to contain pearls of larger size than when at the previous stage. These shells were taken from the banks off Silavatorrai on the north-west coast of the island in the ordinary course of diving operations. When burnt they make a lime which is highly prized by the natives; but unfortunately for any chance of utilising them, the locality of the pearl fisheries is so remote from centres of population as to render the cost of transporting them greater than their commercial value. Some years ago a quantity of these shells was shipped to England in the hope that the mother-o'-pearl lining might give them a value sufficient to leave a small profit on the transaction, but the result was a disappointment.

At Silavatorrai there are vast accumulations of the debris of oyster shells, the results of many previous fisheries; and when it is remembered that in some years as many as forty millions have been taken up by the divers, the extent of the accumulation may be imagined, despite the decay of the shell when acted on by the weather. How

* For an account of the mode of fishing for pearls, see under Class V., Section 2 (p. 84).

densely the pearl banks are packed with oysters may be conceived when it is known that, on the occasion of his last examination of the banks, the superintendent reported the existence of fully eight hundred millions of young oysters, nine-tenths of which would probably disappear before reaching maturity.

Tamblegam Pearls.—This peculiarly formed pearl is obtained from oysters found in a small bay near Trincomalee, on the north-east coast of the island, where alone they exist. Pearls from these oysters are seldom of any great value, being generally small and irregular in form and colour. The fishery is let for about Rs. 500.

The Tamblegam oysters (*Placuna placenta*) are different in form and texture to the true pearl oyster of the opposite coast of the island, being flat, larger in circumference and semi-transparent; they are found in only one locality of limited area, and in shallower water than is the case with the pearl oyster of the Silavatorrai banks; they arrive at maturity in about four years, and the pearls are differently formed, being usually longer and of less size than the others.

They are known amongst the Chinese as the "window oyster," from the fact that, placed over small apertures in the walls of their dwellings, they are made to serve the purpose of miniature windows. The exhibits shown were taken from the Tamblegam beds during last year, and, young though they are, contained a number of small pearls, which were however of little value.

Chanks (*Turbinella Pyrum*) are shells with no contents of value, being sought for by reason of the uses to which they are applied by the natives of India as personal ornaments when cut in different methods; and, when perforated at one end, to sound a loud note of call to temple worship. Large quantities are annually exported to Calcutta, which is their principal mart, the number taken up by divers having sometimes been as great as three millions and a half, but in recent years not more than half that quantity has been taken. This shell is fished for along the northern coasts of the island between Pt. Pedro and Mulliativu, and Jaffna and Manaar; but divers on this work are not allowed to ply their calling to the southwards of Manaar, lest they should interfere with the pearl banks. The Chank fishery is encouraged by the Government not merely for the royalty of one-fifth the value of the fishery, but as a good school for divers for the valuable pearl-fishery. The royalty at one time realised between £100 and £400; but during the last fifteen or twenty years the revenue derived from this source has ranged between £1,318 and

£4,724. The demand for these shell ornaments amongst the Hindoos of Bengal is maintained by the prevalence of a singular caste custom which enjoins the relatives and friends of a deceased person attending a funeral to break all their ornaments as a mark of regard, the master of the house being obliged by custom to replace them. Further information will be found on the descriptive label attached to the exhibit.

GOVERNMENT OF CEYLON.—A Large Box divided into compartments, containing:—Specimens of live (when fished) Chank Shells and dead ones (when dug out) of the five sizes or sorts. Model of the Brass Gauge used in the Customs, Jaffna, for sizing the Chanks. Small Chank Shells. Blowing Chanks, one carved and polished, another fitted with mouthpiece. Blowing Chank mounted in brass and used in a Temple. Bangles and Rings made from Chank Shells. Beads made from Chank Shells. A Small Right-Handed Chank mounted in silver. The lid of the box bears a long descriptive label; also a Map of the Northern Portion of Ceylon showing the parts of the coast where live chanks are fished and dead ones dug out, and figures of the probe and hook used in the latter process.

C. H. DE SOYZA, Esq., J.P. [E.].—Three Strings of Pearls, 316 in number, valued at £1,500.

GOVERNMENT OF CEYLON.—Collection of Pearl Oyster Shells at various stages of growth:—viz.: one, three, six, nine months, one year, two, three, four, four-and-a half, and five-and-a-half years old.

DR. W. C. ONDAATJE.—The following in bottles preserved in spirits:—Full grown Pearl Oysters. Young Pearl Oysters. Soft Parts of ditto, with Drawings. Spat of Pearl Oysters, of two ages.

GOVERNMENT OF CEYLON.—Specimens of Tamblegam Lake Pearl Oysters (*Placuna placenta*), from near Trincomalee.

SECTION 5.

Corals. [P.]

The ordinary coral of the Jaffna coasts forms a rather important article of trade, being taken in considerable quantities to Colombo and Galle by the native craft called dhonies at a trifling rate of freight, and there sold to lime burners, the product of the kiln being more highly prized than that made from the limestone of the country, and second only to that made from marine shells.

Small quantities of red coral, apparently identical with the Mediterranean and Cape Verde species (*Corallium nobile*), have been found on reefs a short distance from the south-east coast of Ceylon, never on the west or north sides of the island, but in such small fragments as to be of trifling value.

DR. W. C. ONDAATJE.—Pink Finger Coral.

DR. W. A. JAYASINHA.—Pink Coral from the Southern Province.

GOVERNMENT OF CEYLON.—White Coral Blocks from Northern Province. Box containing Coral and Lime as prepared for building purposes.

SECTION 6.

Hunting Trophies, Horns, Tusks, Skins, &c. [A 3.]

The most prominent of these are the skulls and tusks of elephants. These huge animals are now only to be found in large herds, in the dense jungles of the eastern and northern districts of the island, where they are remote from the sound of the planter's axe. From all localities where planting operations are carried on the elephant has gradually retired, putting in only an occasional appearance. The tank country between Batticaloa and the Uva mountains is still well stocked with these creatures; for although their numbers were much reduced some years ago by the depredations of Moormen hunters and their slaughter by European sportsmen, the institution by Government of a close season, and the levy of a fee of Rs. 10 for every license to shoot an elephant, have done much to augment their number, and in some of the districts in the vicinity of Hambantota and Yalé they are now quite as numerous as at any former time. Much of the country in which these creatures abound is generally unhealthy, especially that between Batticaloa and Welasse. Probably the best elephant country at the present time is that between Hambantota and the Kumbukkan river, the boundary between the Eastern and Southern Provinces. The largest elephants are to be found in the Tamankadua district of the Eastern Province, where they are often shot measuring ten feet. They are also met with in good numbers in the Northern Province, between Punaryn and Manaar, on the north-west coast of the island. During the months of December, January and February, elephants as well as other animals forsake the dense jungles along the base of the Uva mountains for the comparatively open country near the Eastern sea coast, in order to escape the attacks of the large buffalo flies which abound in forests at that period of the year. Sportsmen may therefore be tolerably certain of finding herds of these animals at no great distance from the sea during the months named. From January to March, and again in August, are the healthiest times for big game shooting, as the ground has then become drier and miasma is no longer to be feared, except in very well-known localities. Native trackers are usually to be engaged at Hambantota, Batticaloa and Trincomalee, and for a moderate remuneration will conduct sportsmen

to the best ground in their respective districts. Bears and buffaloes are to be met with in the jungles above named; the former are also found in the wild country to the north of Trincomalee as well as in the Wanni district of the North-Western Province. They are extremely shy, and are seldom if ever seen in open day. These, however, as well as leopards, can usually be shot in the very dry months by watching for them at night, when they visit water holes or tanks. Buffaloes have become very scarce owing to murrain, which has spread to them from the village cattle, often to a very serious extent. From Hambantota to Potana on the east coast there is an abundance of large game. From Yalé to Potana is perhaps the best shooting-ground in the country. Fine open plains extend on all sides, and deer and buffaloes are to be found in large numbers, the former about the lagoons, the latter, with elephants, in the jungles. This latter game abound on the banks of the Wellaway river.

The Sambur deer (absurdly called "elk" in Ceylon) are common, especially in the hills, where they are hunted with dogs and killed with the knife.

The horns shown in this section are those of the buffalo, elk or Sambur deer, red deer and spotted deer. Elk and deer horns only are exported in quantity as articles of commerce, and they were shipped last year to the value of Rs. 30,000. They are brought to Colombo by native trading vessels chiefly from the Eastern Province.

Elephant tusks are so rarely met with as to be regarded as trophies to be retained for show rather than for sale. Six pairs are shown mounted on handsome carved stands as ornaments, the largest of those shown weighs ninety pounds, but Ceylon tusks do not generally average more than sixty or seventy pounds weight. It is calculated by sportsmen that not more than two or three per cent. of the elephants seen in Ceylon are tuskers, hence the scarcity of ivory in the island.

The feathers of the peacock (*Pavo cristatus*) shown are from the district of Hambantota, on the east coast of the island, where these birds abound amongst the low scrub and open lands about the lagoons and tanks. There is no trade in these feathers, the number of male birds being limited. The peahen is to be met with in large numbers, but sportsmen as a rule find them not easy to approach. When young, the flesh of the hen is excellent, quite equal to that of a well-fed turkey. They are to be found from Tangalle on the south to Batticaloa on the north.

R. BEAUCHAMP DOWNALL Esq.—Glass case containing a group of two Leopards and a Dog, one of the leopards having been knifed by the exhibitor.* Two cases of stuffed Ceylon Birds. A case containing a flying Squirrel, a Jungle Cat, and a Hare. A case containing a flying Squirrel. A case of Ceylon Hawks and Owls. A case of a Ceylon Fishing Eagle and Kites. A case containing a Memmina or Mouse Deer. A case containing a pair of Ceylon Kingfishers. Five stuffed Sambur Heads. Three Axis Heads. Four Buffalo Heads.

GOVERNMENT OF CEYLON.—Head and Forepart of a Rogue Elephant shot by Mr. C. J. R. Le Mesurier of the Ceylon Civil Service, and mounted by Rowland Ward, of 166, Piccadilly. [This exhibit stands close to and just outside of the west entrance to the Court.]

W. W. MARTYN, Esq.—Two Elephant Skulls, two Pads, twelve Tails, six Tushes, two Teeth and six Leg Bones, an Alligator's Head, a Boar's Skull, a Python Skin, and two Toucan Heads.

LORD H. PAULET.—A fine stuffed Buffalo Head.

B. FANSHAWE, Esq.—An Elephant Skull.

E. SWYNEY, Esq.—A Stuffed Flamingo. A Tea Cosey made out of an elephant's ear.

MESSRS. A. ORCHARD & M. GREIG.—A number of Elephants' Pads, mounted and unmounted.

LIEUT.-COLONEL H. W. J. HUBBACK, R.A. — Bear, Scaley armadillo, Leopard skins, 2 Peacock skins, &c.

SIR C. P. LAYARD, K.C.M.G.—Two Crocodile Skulls.

LORD COKE.—A very large Leopard Skin, mounted.

MRS. FISHER.—An Elephant Pad, mounted.

C. A. MURRAY, Esq. C.C.S.—Peacock Tails.

Besides the foregoing a number of Buffalo, Sambur and Axis Horns have been contributed, principally by the Government of Ceylon, Messrs. R. Beauchamp Downall, W. W. Martyn, F. C. Fisher, and a number of others.

Skins of leopards, bears, red and axis deer, and buffalo have been exhibited by Messrs. F. C. Fisher and others.

The following gentlemen have lent tusks for exhibition:—

C. H. DE SOYZA, Esq.—Six pairs of Tusks, mounted on stands of Calamander, Tamarind and Ebony. These include two, six feet three inches long, the longest in Ceylon.

HULUGALLE, R.M.—Three large Tusks.

W. S. MURRAY, Esq.—Single large Tusk.

GOVERNMENT OF CEYLON.—Pair of Tusks. For sale at £40.

CAPTAIN M. W. SKINNER, R.E.—Pair of large Tusks.

D. C. DE SILVA.—Small Tusk, for sale at £3.

SECTION 7.

Zoological Collections.

No attempt has been made to form anything like a Natural History Museum, but some animals of interest or beauty are exhibited. The coast near Trincomalee is especially rich in marine shells and the collection shown was largely obtained thence. The Butterflies exhibited are a carefully selected typical series of correctly named examples. Ceylon possesses a large reptile fauna; there are however very few, not more than 5 or 6 poisonous snakes, of which the Cobra (*Naja tripudians*) and the Tic-polonga (*Daboia Russellii*) are

* A detailed account of the episode which resulted in the death of this magnificent leopard is printed separately. Copies can be obtained from the Court attendant.

by far the commonest; the specimens of snakes are preserved in spirit in bottles.

SIR C. P. LAYARD, K.C.M.G.—A collection of thirty-seven species of Ceylon Snakes in bottles. [P.] A large collection of Ceylon freshwater and marine shells in trays. [C. D. & L.]

A. P. GREEN, Esq.—A selected series of Ceylon Butterflies in four double cases. [L.]

CLASS II.

FOOD PRODUCTS.

SECTION 1.

Coffee (*Coffea arabica*). [**R. U.** and **V.**]

This is placed first in our list of the food products of Ceylon, as it formed for many years the most valuable of our exports, providing employment for a larger number of labourers than any other European industry in the island. The abolition of slavery in the British West Indies, followed by a decline in the cultivation of coffee in those islands, at the precise time when the interior of Ceylon was opened up by roads and bridges, led the then Governor, Sir E. Barnes, to commence the cultivation of the plant a few miles from Kandy, at an elevation of about eighteen hundred feet above sea-level. His example was shortly afterwards followed by a few private individuals, to whom free grants of Crown lands were given, with highly successful results. A reduction of the import duty on coffee in England, soon afterwards followed by abundant crops of the berry in the first plantations, led to a rapid demand for land for coffee-planting: five shillings an acre were charged for land for a few years, the price being ultimately raised to 20*s*. High prices and abundant crops soon caused a large flow of capital into the country. Good forest land was eagerly competed for at public sales, realising ten pounds the acre, until in 1870 it was estimated that there were upwards of 150,000 acres under this cultivation divided into 1,000 estates, giving employment to a quarter of a million of coolies, and to about 50,000 in connected industries in Colombo; the exports of the bean having risen to 885,728 cwts., the shipments of native or village-grown coffee being 128,177 cwts. During the thirty years covered by the growth of the industry to these large proportions the article had become firmly established as

a favourite in the markets of the world, its fine flavour commending it to all lovers of the bean, the price realised being above the produce of all other countries with the exception of that from Mocha. The flourishing course of the Ceylon coffee industry was chequered by one or two crises in the commercial and planting world, but properties rose steadily in value, and before the collapse of the enterprise from leaf disease as much as £90 to £130 an acre were paid for highly cultivated properties in favoured localities.

This industry led to an increase in the importation of rice for coolies' use from two millions to five millions of bushels yearly, yielding by import duty a revenue of a million and a quarter of rupees. The cultivation, commenced under all the disadvantages of inexperience, had at the period last named matured into skilful culture, whilst at the same time improved modes of preparation by coffee curers in Colombo left scarcely anything to be desired. Some districts had been found unsuitable for the successful growth of coffee, and these were gradually abandoned as the trees ceased to bear. These mostly ranged in altitude from a thousand to eighteen hundred feet above sea-level, and the fact became established that what is known as fine mountain berry was chiefly to be grown at altitudes between three and five thousand feet above the sea.

In 1873 the exports of coffee, both plantation and native, amounted to 951,591 cwts.; three years later they had declined to 665,626 cwts.; rallying in the following year to 974,333 cwts., a total never again realised. The shipments have since gradually declined, until in 1883 they were only 260,053 cwts., "native" coffee showing no larger quantity than 14,472 cwts. In 1884 the shipments of both descriptions amounted to only 311,969 cwts. In 1885 they were 310,922 cwts., whilst the estimate for the current season is not above 200,000 cwts.

The cause of this heavy falling off in production is to be found in the ravages of a fungus (*Hemileia vastatrix*) which first appeared in one of the Eastern coffee districts of the island in the year 1869, extending in the course of a few years over the greater part of the interior, with the result that not a single district is now free from it. The investigations of experts have failed to discover any remedy for this pest, which threatens the existence of coffee throughout the island.

The range of prices of Ceylon coffee has been as great as the decline in the production. In 1838 good plantation coffee sold in

London at 103*s.*, in the year 1849 it had fallen to 38*s.*: it has since touched 130*s.*, and at the present time, after several fluctuations, is quoted at 66*s.* Price appears to exercise little if any influence on consumption in Great Britain, the average taken per head of the population having varied very slightly during a number of years.

The following figures show the consumption of coffee in various countries:

Holland, average per head of population,			21·0 lbs.
Denmark	,,	,,	13·89 ,,
Belgium	,,	,,	13·48 ,,
Norway	,,	,,	9·80 ,,
United States	,,	,,	7·61 ,,
Switzerland	,,	,,	7·03 ,,
Sweden	,,	,,	6·11 ,,
France	,,	,,	2·73 ,,
Austria	,,	,,	2·13 ,,
Greece	,,	,,	1·42 ,,
United Kingdom	,,	,,	1·0 ,,
Italy	,,	,,	1·0 ,,
Russia	,,	,,	0·19 ,,

G. H. D. ELPHINSTONE, Glenlyon, Dimbula.—Coffee.

N. C. DAVIDSON, Beriagalla, Haputale.—Coffee.

PLANTERS' ASSOCIATION OF CEYLON.—Specimens of coffee exhibited in barrels, made in Ceylon, from the following estates: Oononagalla, Dambekelle, North Poondooloya, Middleton, Warleigh, Kintyre, Kelburne, Wiharagalla, and a special exhibit from Messrs. Bosanquet & Co, Colombo, of low-grown coffee. They show, First, the parchment coffee in the state in which it is sent from the estates to Colombo to be cured; Secondly, the pea-berry, or round beans, which are separated in course of preparation, and which generally command a fancy price in the trade; Thirdly, the large size coffee; and Fourthly, the ordinary, or bulk.

G. H. D. ELPHINSTONE, Logie, Dimbula.—Coffees.

MESSRS. WHITTALL & CO., Colombo.—Native Coffees.

CEYLON LAND AND PRODUCE CO., North Matale.—Liberian Coffees.

CEYLON LOW-COUNTRY PRODUCE CO., Udagama, Southern Province.—Liberian Coffees.

JAMES WESTLAND, Wiharatenne, Haputale.—Liberian Coffees.

SECTION 2.

Tea (*Camellia Thea*). [T. and V.]

The cultivation of the tea-plant in Ceylon dates from about the period when leaf disease made its first serious attacks on coffee. It was introduced experimentally in 1842, but only to be abandoned, and it was not until it was planted on two estates in the Upper and Lower Hewaheta districts that the cultivation can be said to have been systematically taken in hand. Some years, however, elapsed before any general attention was paid to this new and little understood product; and when at length the opinion of the home

trade was given in favour of Ceylon tea, it was still regarded as a doubtful industry.

The alarming effects of the fungus pest on coffee by degrees caused attention to be given to the growth of tea, and this was strengthened by the favourable accounts received by the pioneers of the new industry of the quality of their early shipments. Still the attachment to the old enterprise was so strong amongst the planting community that some years elapsed before any large extent of land was planted with tea, and then only on abandoned or poorly bearing coffee estates. The necessity for adopting the use of special appliances in machinery and buildings was in the first instance a difficulty; but when it came to be seen how fatal to the coffee enterprise the fungus pest was likely to be, planters possessing the means to embark in the new industry no longer hesitated, and before half-a-dozen years had elapsed from the date of the first small shipments in 1873, the exports of the leaf had risen to more than half a million lbs.

The earliest plantings were on portions of old coffee, and when a few years later that cultivation began to show signs of failure in several localities, planters were more strongly induced to regard tea as a successful substitute for their old industry—coffee.

The enterprise has been too recently established in Ceylon to enable any reliable data to be given as to average produce per acre at different altitudes: there is at present a very limited acreage in what is considered full bearing, but, so far as present limited experience enables us to judge, the yield ranges from 250 lbs. to 500 lbs. per acre, though larger quantities are given on some favourably situated estates. The question of quality, as dependent upon altitude or of permanency of yield, has not yet been answered. Tea grown at three hundred feet above sea-level has sold as high as leaf from a plantation five thousand feet high: and again, as regards old coffee land, two estates which invariably command the highest prices are for the most part portions of old coffee plantations. Nor does experience as yet enable any positive statement to be made as to the comparative permanent yield of new forest land and old coffee estates.

How the Ceylon tea industry has grown within the last ten years may be seen by reference to the figures below giving the exports for each season ending 30th September. It should be noted, however, that tea was exported, probably by way of obtaining the opinion of experts on its quality, as early as 1873; moreover the local consumption of island-grown tea has gone on steadily increasing, until at the present

time the importation of tea from China to Ceylon has practically ceased.

Export of Tea from Ceylon :—

Season ending 30th September,		1876	282 lbs.
,,	,,	1877	1,175 ,,
,,	,,	1878	3,515 ,,
,,	,,	1879	81,595 ,,
,,	,,	1880	103,624 ,,
,,	,,	1881	277,590 ,
,,	,,	1882	623,292 ,,
,,	,,	1883	1,522,882 ,,
,,	,,	1884	2,262,549 ,,
,,	,,	1885	3,796,684 ,,

That this increase in the sale of Ceylon teas in the London market is the result of high quality is shown by the following quotation from the circular of a leading firm of tea-brokers :—" The characteristics which distinguish the best Ceylon teas are richness of flavour combined with strength in cup, and in some cases a closely twisted 'tippy' leaf —the results of most careful cultivation and systematic attention to every detail of manufacture. The finest type of Ceylon teas has a merit of its own, which is not unlikely to command a market for itself: while for such as do not possess this distinctive fine character, prices will always follow, more or less regularly, the movements of the general market."

This merit arises from a high culture of the plant, and a thoroughly scientific and mechanical manipulation of the leaf during the process of manufacture. On a Ceylon Tea Estate the leaf is never allowed to be handled, from the moment it passes into the factory to the time it is bulked in a huge heap, preparatory to packing in chests; every stage in the delicate operation is passed automatically, and thus the most rigorous cleanliness and freedom from possible taint is secured. Consumers will do well to bear this in mind when weighing the qualities and prices of Ceylon teas as against those from China. There is moreover the argument in favour of tea from a British Colony that the national feeling is daily becoming stronger to consume articles grown in our own empire over those of foreign countries. There is good reason to expect that the island will ultimately produce forty or fifty million pounds of good tea annually, and it is confidently hoped that the whole of this quantity will be taken by the tea-drinkers of Great Britain and the United States, in preference to an equal quantity of the poor, thin teas from Shanghai and Foochow, even though at a trifling advance on price.

The experience gained to the present time of the cost of tea-cultivation in Ceylon leaves no doubt of it being a highly profitable enterprise, without calculating upon more than an ordinary annual yield of 300 lbs. an acre. Even in the event of present home prices declining two or three pence per lb., there would still be an ample margin of profit over first outlay and working expenses. The universal employment of machinery in substitution for manual labour not only turns out the prepared leaf in a far *cleaner* condition than could be the case by hand work, but it effects a sensible saving in the cost of the article.

1. Three satinwood cases, made at the Ceylon Government Factory, containing samples of teas as ordinarily prepared in Ceylon, from the thirty-six following estates, and sorted into the various grades of Broken Pekoe, Pekoe, and Pekoe Souchong.

The two side cases contain a series of photographic views by Mr. M. H. Clerk, illustrative of twelve operations connected with the cultivation and manufacture of tea. Above these cases is also a series of photographs exhibited by Mr. A. M. Ferguson, C.M.G., of Abbotsford Estate, showing views from different points on the property, and giving an insight into the cultivation of coffee, cinchona, and tea; also paintings from life of the Assam hybrid tea plant, Arabian and Liberian coffees, Cacao and Malabar cardamoms. A diagram prepared by Messrs. Gow, Wilson, and Stanton, tea-brokers, shows the progress of Ceylon tea.

PLANTERS' ASSOCIATION OF CEYLON.

Commercial Teas.

1. DOLOSBAGE & YACKDESSA ASSOCIATION, St. Helen's, Dolosbage. Elevation, 3,200 feet. Rainfall, 200 inches.

2. HUGH PARRY, Hardenhuish, Ambegamuwa. Elevation, 3,400 to 3,800 feet. Rainfall, about 190 inches.

3. MACKWOOD & CO., Gallebodde, Ambegamuwa. Elevation, 2,300 to 2,500 feet. Rainfall, about 200 inches.

4. K. A. W. LEECHMAN & CO., Ambegamuwa. Elevation, 1,800 to 5,500 feet. Rainfall, about 180 inches.

5. Per CEYLON COMPANY, LIMITED, Vellaioya, Ambegamuwa. Elevation, 2,800 to 4,200 feet. Rainfall (average for five years), 181·25 inches.

6. SHELTON AGAR, Agarsland, Balangoda. Elevation, 2,300 feet. Rainfall, 150 inches.

7. ARTHUR E. SCOVELL Strathellie, Yackdessa. Elevation, 2,500 feet. Rainfall, annually, 180 inches.

8. C. S. ARMSTRONG, Rookwood, Hewahette. Elevation, 5,000 to 5,700 feet. Rainfall, 93 inches.

9. Per DIMBULA ASSOCIATION, Waltrim, Dimbula. Elevation, 4,300 feet. Rainfall, 110 inches.

10. Per MASKELIYA ASSOCIATION, Dalhousie, Maskelyia.

11. JAMES H. BARBER, Blackstone, Ambegamuwa. Elevation, 2,500 feet. Rainfall, 160 to 200 inches.

12. Per DOLOSBAGE & YACKDESSA ASSOCIATION, Yellangowry, Dolosbage.

13. A. FEATHERSTONHAUGH, Bridwell, Dickoya.

14. DIMBULA ASSOCIATION. Diagamma, Dimbula.

15. KELANI VALLEY ASSOCIATION, Avisawelle.

16. J. H. DE CAEN, Helbodde Pusselawa. Elevation, 3,400 feet. Rainfall, 136 inches.

17. DOLOSBAGE & YACKDESSA ASSOCIATION, Gallamudone, Dolosbage. Elevation, 3,000 to 4,000 feet. Rainfall, about 200 inches.

18. MASKELIYA ASSOCIATION, Elfindale, Maskeliya.

19. ERIC S. ANDERSON, Deanstone, Medamahanewera. Elevation, 3,500 feet. Rainfall, 120 inches.

20. H. H. KIRBY, Hiralouvah, Haldumulla.

21. MASKELIYA ASSOCIATION, Scarborough, Maskeliya.

22. R. S. FRASER, Kandenewera, Matale East. Elevation, 2,400 feet. Rainfall, 110 inches.

23. J. L. ANSTRUTHER, Dunsinane, Pundaloya. Elevation, 4,000 to 4,800 feet. Rainfall, 125 inches.

24. GILES F. WALKER, St. John Del Rey (Bogawantalawa), Dickoya. Elevation, 4,200 to 4,500 feet. Rainfall, about 120 inches.

25. THOMAS GRAY, Bunyan, Maskeliya.

26. DOLOSBAGE & YACKDESSA ASSOCIATION, Dedugalla, Dolosbage.

Other Teas.

F. W. BYRDE, Avisawelle.—Teas, indigenous Assam variety.

S. D. FOWLER, Oliphant, Newera Elyra.—Teas, China variety.

KELANI VALLEY ASSOCIATION, Dewala Kanda, Avisawelle.—Fancy Teas.

KELANI VALLEY ASSOCIATION, Dunedin, Avisawelle.—Fancy Teas.

JAMES H. BARBER, Blackstone, Ambegamuwa.—Fancy Teas.

GEORGE D. JAMIESON, Mariawatte, Kaduganawa.—Fancy Teas.

JOHN MAITLAND, Lauderdale, Rakwana.—Fancy Teas.

GEORGE KYD, Windsor Forest, Dolosbage.—Fancy Teas.

J. ROYDON HUGHES, Galboda, Ambegamuwa.—Fancy Teas.

A. E. WRIGHT, New Brunswick, Maskeliya.—Fancy Teas.

HUGH FRASER, Kandenewera, Matale.—Fancy Teas.

There are also samples from about 150 Ceylon estates shown in the exhibits of Messrs. H. S. King & Co. (Tea Trophy) in the North Court.

SECTION 3.

Cacao (*Theobroma Cacao*). [R.]

The cacao plant, like that of tea, was introduced experimentally into Ceylon many years before its cultivation was undertaken as a business pursuit; certainly before 1819. Of a consignment brought from Trinidad about the year 1835, a few plants were put out in the Government Garden, as well as in some other grounds at Kandy, and years afterwards seeds from them were planted in the Pallakelle Estate, in the vale of Dumbara, a few miles to the eastward of the mountain capital, about the bungalow, with an eye to the picturesque rather than the practical. The soil being a rich deep loam, and the position well sheltered from winds, the twenty or thirty young plants that resulted from this seed grew apace, and in the course of time matured and bore fruit; but no heed was taken of these beyond gathering a few of them occasionally for use in the bungalow. In

1873, however, a few bags of the seed were shipped to London and reported upon by the brokers as worth 70*s.* per cwt., which led to the trees being cared for, and a nursery formed, from which nearly all the present plantations have been stocked. The altitude of the vale of Dumbara, where this tree has been successfully cultivated, is 1,600 feet above sea-level, with an average rainfall of less than sixty inches, which is now, however, considered insufficient for the yield of abundant crops. The favourable reports upon the early shipments of this new product by London brokers, and the readiness with which the plant was found to thrive in suitable localities, free from wind and favoured by rainfall, soon led to a large extension of this cultivation.

In the Matale, Kurunegala, and Kegalla districts, this tree thrives and yields as abundantly as in Dumbara, and although the exports of the bean have not answered expectation, the chief cause is well known to have been a drought of great severity. The tree thrives well at sea-level, and even up to 3,000 feet; but the soil must be of a good friable nature and of some depth, for the tree is a deep feeder. The early plantings of cacao were under deep shade, but this has been found objectionable when in excess, a little lofty shade and complete protection from wind being, however, necessary. In suitable soil and with sufficient rainfall, the growth of the tree is rapid, and at three years of age it will begin to give crop, and continue to increase in yield up to its tenth or twelfth year, when it will have attained maturity. The decrease in the shipments of this bean in 1885 was owing to the attacks of an insect pest, combined with a prolonged drought, the result having been in some cases the death of very many trees and the abandonment of more than one cacao plantation.

The exports of this bean have grown from very small beginnings —say, 122 cwts. in 1880, to 3,588 cwts. in 1883, 9,863 cwts. in 1884, and 6,758 cwts. only in 1885. The quality of Ceylon cacao has become so well appreciated in European markets that it has commanded the highest prices of the day, and is sought for by the best makers of French chocolate on account of its fine qualities.

The exhibits shown in the Ceylon Court are from estates in each of the chief cacao-growing districts of the island, Dumbara, Matale, Peradeniya, and Kurunegala. What the quality of the bean is may best be learnt at the Ceylon Tea-house, where a cup of cacao or the article itself in packets, may be obtained.

PLANTERS' ASSOCIATION OF CEYLON.

1. WILLIAM JARDINE, Udapolla, Polgahawella.—Cacao.

2. WILLIAM JARDINE, Udapolla, Polgahawella.—"Caracas" Cacao.

3. R. S. FRASER, Wariapolla, Matale.—Cacao, Washed.

4. R. S. FRASER, Wariapolla, Matale.—Cacao, Unwashed.

5. CEYLON COMPANY IN LIQUIDATION, Bulatwatte, Matale.—"Forastero" Cacao.

6. H. J. VOLLAR, Pallekelle, Dumbara.—Cacao.

7. J. A. FERDINANDUS, Goodview, Kandy.—"Caracas" Cacao.

8. J. A. FERDINANDUS, Goodview, Kandy.—Cacao.

9. J. H. BARBER, Lewelle, Kandy.—Cacao.

10.—THOMAS HUXLEY, Peradeniya, Kandy.—Cacao.

11. WHITTALL & CO., Beredewelle, Matale.—Cacao.

12. EDMUND JEFFRIES, Gangarowa, Peradeniya.—Cacao.

13. D. C. WOOD, Ingrugalla, Dolosbage.—Cacao, yellow.

14. D. C. WOOD, Ingrugalla, Dolosbage.—Cacao, red.

15. J. K. INGLETON, Rajawelle, Dumbara.—Cacao.

16. THE CEYLON LAND AND PRODUCE COMPANY, LIMITED. North Matale, Matale.—Cacao.

Models of pods of the different varieties of cacao grown in Ceylon may be seen in life-size on the top of the case.

SECTION 4.

Spices.

(*a*). CINNAMON (*Cinnamomum zeylanicum*) [**X.**].—This spice was a commercial object with the first European settlers in the island, the Portuguese, and when the maritime provinces of Ceylon fell into the hands of the Dutch they lost no opportunity of extending the trade by the cultivation of the plant on a large and improved basis. The British, who became masters of the island in the later years of the last century, were equally solicitous regarding a trade which was capable of yielding such large returns. In the early part of the present century, and down to about 1840, the first quality of this spice commanded as much as eight shillings a pound, second sorts selling for six shillings. Until 1833 the cultivation and trade in cinnamon were vested solely in the Government, who maintained a large and costly establishment under highly paid European supervision, for the proper care of the fine plantations which yielded the eight thousand bales, which then formed the total export of the spice. In the year above named the monopoly was abandoned, the Government sold off their large stocks of the spice, as well as their gardens, which have since been cultivated by private individuals. Larger crops and competition from inferior spice from the Malabar coast and China

have gradually lowered the value in the home markets, and the best Ceylon cinnamon is now selling at a little more than a shilling a pound, so that only very well cultivated and carefully managed properties yield an income to the proprietors. An inferior description of this spice is shipped under the name of "Chips," being the cuttings from imperfectly-grown cinnamon branches. The exports of these two kinds are shown by the figures below :—

	Cinnamon in Bales.	Chips.
1885	1,574,022	628,914
1884	1,796,372	538,577
1883	1,402,429	336,872
1882	1,599,327	394,731
1881	1,319,406	321,722
1880	1,395,534	474,484
1879	1,219,208	188,518
1878	1,298,304	259,174
1877	1,063,107	284,664
1876	1,262,250	258,381

Chips are largely used in the manufacture of Thorley's food for cattle, as well as in perfumery, and in the distillation of cinnamon oil, a good deal of which is also made in the island. The current value of cinnamon is now about 1*s.* 3*d.* for first quality, nine pence to eleven pence for second sorts, and six pence to eight pence for third quality, prices which leave no profit for the cultivators of ordinary gardens.

S. D. A. RAJAPAKSE.—(1) One bale Kadirana, very superior. (2) One bale Kadirana, superior. (3) Three bales Kadirana, plantation.

H. DE SILVA ARACHCHI.—(1) One bale Kadirana, superior. (2) One bale Kadirana, plantation.

G. DE CROOS.—(1) One bale Ekelle, No. 1 quality. (2) One bale Ekelle, No. 2 quality.

GOVERNMENT OF CEYLON.—(1) Six packages Maradána, Crown Gardens, all qualities. (2) One package Wild Cinnamon, Kegalla District.

J. F. DRIEBERG.—(1) Five parcels (net 50 lbs.) Ekelle, all qualities. (2) 1 parcel (net 25 lbs.), Ekelle, superior. (3) 4 parcels Ekelle, unquilled.

J. DE MEL.—Small bale Moratuwa, plantation.

(*b*). CARDAMOMS (*Elettaria cardamomum*). [**S.**] This aromatic product is the seed of a reed-like plant, growing abundantly in the hill districts of Travancore, Malabar, Coorg and Munzerabad. It belongs to the natural order of gingers (*Zingiberaceæ*), and is a little like the flags found along the banks of rivers in England ; and if one can imagine these as growing in clusters like sheaves of corn, seven to eight feet apart, and from eight to twelve feet high, with spreading

umbrageous tops, beneath open forest, a good idea of a cardamom plantation can be formed. The flowers and fruit-capsules appear on racemes which spring from the base of each stem (rhizome), the former being a creamy white with deep pink markings. In Ceylon there are two kinds of the cultivated plant: the ordinary Malabar kind, which throws out its racemes horizontally over the surface of the ground, and is the kind most usually grown; and the Allepey (commonly called the Mysore) kind, which has upright racemes, is very robust in growth, and not so particular in its requirements as the Malabar, standing drought and a high altitude better. It is not, however, as productive as the Malabar is when under thoroughly suitable circumstances. There is also a native Ceylon variety of the plant with the capsules much longer, but this is not cultivated, though the Sinhalese gather the capsules in the jungles, and prepare them without any special care for exportation. Upon plantations in Ceylon the seed-capsules are usually cut off by coolies with scissors. They are then spread out in trays and slowly dried, and when this is complete they are bleached; this, with packing, finishes the operation, the chief aims always being to prepare them without splitting the capsule and to have them of a whitish straw colour, full and solid. If gathered immature, the seeds are of a light colour, and the general appearance is termed by the trade "lean." The market is a variable one, the consumption being limited, so that one large and successful clearing may influence the prices. India is a great consumer of the spice, for cooking and masticating purposes.

1. **J. A. SPENCE, Yalarissa.**—Cardamoms.

2. **H. J. MARTIN, New Laxapanagalla, Maskeliya.**—Cardamoms, Malabar.

3. **H. J. MARTIN, New Laxapanagalla, Maskeliya.**—Cardamoms, Mysore.

4. **H. A. SWAN, Gammadua, Matale.**—Cardamoms.

5. **LIQUIDATOR ORIENTAL BANK, Havilland, Dolosbage.**—Cardamoms.

6. **HUGH FRASER, Kandenewera, Matale.**—Cardamoms, Malabar.

7. **H. A. DOVE, Nagalla, Matale.**—Cardamoms, Mysore.

8. **T. S. DOBREE, Tarifa, Nitre Cave.**—Cardamoms.

9. **A. M. WHITE, St. Martins, Nitre Cave.**—Cardamoms.

10. **E. S. ANDERSON, Enselwatte, Medemahanewera.**—Cardamoms, Malabar.

11. **E. S. ANDERSON, Deanstone, Medemahanewera.**—Cardamoms, Mysore.

12. **E. S. ANDERSON, Kobinella, Medemahanewera.**—Cardamoms, Malabar.

13. **E. S. ANDERSON, Kobinella, Medemahanewera.**—Cardamoms, Malabar.

14. **CAREY, STRACHAN, & Co., Katooloya, Knuckles.**—Cardamoms, Mysore.

15. **CAREY, STRACHAN, & Co., Katooloya, Knuckles.**—Cardamoms, Malabar.

16. CAREY, STRACHAN, & Co., Katooloya, Knuckles.—Cardamoms, Indigenous (Ensal of the Sinhalese).

17. JAMES WESTLAND, Golconda, Haputale.—Cardamoms, Mysore.

18. JAMES WESTLAND, Golconda, Haputale.—Cardamoms, Malabar.

Bottles of Cardamom Seeds from various estates stand on the top of this case, and also a series of views by Mr. Malcolm H. Clerk, illustrative of various operations incidental to tea making.

(*c*). NUTMEGS AND MACE. (*Myristica fragrans*). [**P.** and **S.**] This well-known spice is not largely produced, the annual value of the exports being Rs. 26,000. It is grown in the low country and in the Kandyan districts, at altitudes ranging from a thousand to eighteen hundred feet, chiefly by natives.

R. BOT. GARDENS, Peradeniya.—Nutmegs and Mace from trees over 60 years old growing in the Gardens.

N. S. FERNANDO.—Samples grown in Kalutara district.

GOVERNMENT OF CEYLON.—Nutmegs from Kégalla district.

J. L. DEWAR, Roseneath, Kandy.—Nutmegs.

J. L. DEWAR, Roseneath, Kandy.—Mace.

(*d*). CLOVES (*Eugenia caryophyllata*). These are produced to even a more limited extent than the previously named spice. The tree thrives in similar localities to the nutmeg, and is highly ornamental. They both come into bearing when about seven years old, and continue to give crops for half a century, as may be seen in the case of trees yielding fruit at that age in the vicinity of Colombo and in Peradeniya Botanic Gardens. The value of the yearly shipments of this spice is not more than Rs. 6,000.

Exhibits from **R. BOT. GARDENS, Peradeniya. N. S. FERNANDO, Kalutara District. GOVERNMENT OF CEYLON, Kégalla District.**

(*e*). PEPPER. [**P.**] Black Pepper (*Piper nigrum*) is commonly grown by the natives, but is not an export from Ceylon. Several varieties are recognised by the growers.

A. G. K. BORRON, Crystal Hill, Matale.—Pepper, 3 varieties.

NAJAWELLE COFEEE CO., Najawelle, Dumbara.—Pepper, 1 variety.

GOVERNMENT OF CEYLON.—Uncleaned and cleaned pepper from Kégalla District.

SECTION 5.

Paddy and Rice (*Oryza sativa*). [O.]

This grain forms the food of some hundreds of millions of people in the tropical and sub-tropical countries, which are its proper home. It is easily digested, but not so nutritious as wheat or maize; but it can be grown where those could not be cultivated, provided there be a sufficient supply of water for its irrigation. The amount of water required for this purpose varies in different localities, whilst there are descriptions of the grain known as hill or dry paddy, which can be cultivated on hill sides without the use of water, but in nutritive properties these cannot compare with the ordinary rice grown on irrigated land. An average sample of Indian rice yields on analysis —water 13, nitrogen 6·3, starch 79·1, sugar 0·4, fat 0·7, salts 0·5. In Oriental countries this grain is universally employed in a boiled state and eaten with or without curry. In Europe it is chiefly employed for domestic use in puddings, but large quantities of the inferior descriptions are used in distilleries, in the form of flour, for sizing cotton goods, and for many blending purposes for cheapening other articles. Universal as the cultivation of this cereal is in Ceylon at the present time from the slopes of the loftiest hills to the verge of the ocean, it was unknown to the aborigines of the island, having been introduced by Wijayo, the first warrior immigrant from the Indian countries, B.C. 543. He located his followers and built his first city on the bank of a considerable river, which afforded abundant facilities for the irrigation so necessary in this cultivation. From that time to the final overthrow of the native dynasties in the island, the sovereigns of the country were ever the lords and cultivators of the soil. To build tanks and construct watercourses were regarded as amongst the wisest acts of a beneficent ruler, and how vast some of these were is attested by the extensive ruins which are to be found scattered in profusion along the sites of the ancient capitals of a perished dynasty. To-day the traveller along the thoroughfares of the island is struck with the wide expanse of waving fields of paddy, yet the extent cannot compare with the endless tracts which must have gladdened the eyes of the ancient sovereigns of the country. During the period when Anuradhapura and Pollanaruwa were in the zenith of their glory, it is believed that the population of

the country was five times its present number, yet all these were fed by island-grown grain. To-day all this is changed with the larger irrigation works of the Sinhalese in ruins, a portion only having been repaired, and others in course of restoration, and village tanks without number fallen into decay; there are districts in which the cultivation cannot produce more than sufficient to give each person one bushel and three-quarters of rice in the year.* In the Batticaloa, Matara and Anuradhapura districts much good work has been done towards restoring the old irrigating tanks and channels, and in the latter especially a marked improvement is visible in the physical condition of the people. About half the rice consumed in the island is imported from India, an import duty being levied on it of 5*d.* the bushel, the supposed equivalent of the tithe on home-grown grain of one-tenth the produce; but it is evident that the one tax being fixed in price decreases in its comparative amount in times of high prices, whereas the native-grown grain at one-tenth actually yields a larger amount of taxation in times of scarcity and dearness. The levy of one-tenth (now in some districts one-fourteenth) on all paddy grown has come down to us from the time of the native rulers, but in those remote days the grain was delivered into the royal granaries, and there stored against times of dearth, when it was distributed to the people, or it was issued to the labourers who were called out to toil at the construction of irrigation works, which were raised for the use of the people who helped to build them; these were therefore fed on the tithe collected from their own harvests. The tithe is now being commuted for a fixed money payment annually; and as all newly-opened lands are exempted from tax for a certain number of years, a great incentive has been given to the cultivation of abandoned fields.

The present yield of paddy in the various provinces of the island may be taken as follows:—

	Paddy.
Western Province	2,750,000 bushels
Southern ,,	2,000,000
Eastern ,,	1,250,000
Central ,,	1,875,000
Northern ,,	1,000,000
North-Central ,,	500,000
North-Western	1,300,000
	10,675,000 = 5,337,500 bushels rice.

The imported rice amounts to five or six millions of bushels.

* *Vide* Annual Report on North-Western Province, 1884.

The varieties of paddy grown in Ceylon are very numerous, extending throughout the country to several hundreds. They possess different characteristics, and are sown according to the time most suitable for them, and to the period which each requires before being ripe for the sickle. There are two harvests in each year, dependent on the south-west and north-east monsoons. For what is known as the Maha harvest, the sowings begin about the first week in July, continuing to the end of August. The Maha harvest commences about the middle of January, and continues till the end of February. The Yala harvest should be sown for in March, April, and May; the reaping takes place from the 15th July to the 15th September. The various kinds of paddy require from three to six months from time of sowing to that of reaping; the amount of irrigation water needed by these varies very materially. Along the western and southern coasts, and in the Central Province, the period of growth is never less than three months and a half, and from that to six months. From the Northern Province there is one sample of rice, "perunella," which takes so long as six months to mature; all other varieties from that part of the island maturing from three to five and a half months. The local selling price of paddy varies considerably in different seasons, according to abundance or poverty of yield, as well as the means of transport to other markets. At times it will sell at less than a rupee a bushel, at other times at one rupee and a half to two rupees the bushel. The exhibits of paddy and rice are from various districts of the Western, Central, Southern, Northern, North-Western, and North-Central Provinces. Many of these varieties are extremely nutritious, and as such are preferred by Sinhalese to the best Indian varieties.

The annual revenue derived from the tithe on paddy grown in the island during the last ten years has been as follows:—

1884	Rs. 864,332	1881	Rs. 732,763	1878	Rs. 1,025,475
1883	871,739	1880	774,561	1877	1,004,389
1882	746,230	1879	798,048	1876	802,581

The decrease in 1879 and onwards is due to the effect of the commutation, which has been purposely made less heavy than the tax originally paid in kind to the Government renters.

GOVERNMENT OF CEYLON.—Exhibits from the following districts:—

Colombo (Siyane Korle); Kalutara; Negombo (Hápitigam Korle); Ratnapura and Kegalla districts of the Western Province; from the Kandy district of the Central Province; from the Northern, North-Western and North-Central Provinces. A separate collection is shown by the Ceylon Agricultural Association.

SECTION 6.

Fine Grains, or Dry Grains. [O.]

The above terms are employed indiscriminately to designate the small cereals and pulses which are grown with but little cultivation or moisture on dry land, in contradistinction to the wet cultivation of low lands on which paddy is grown. Amongst the dry grain there is a hill-paddy, dark coloured and of low nutritive properties. It is generally believed that the aborigines of Ceylon produced no other grain than such as these prior to the arrival of Wijayo and his numerous followers, who first imparted a knowledge of paddy cultivation by means of irrigation. The list of fine grains known to the Sinhalese of the South and the Tamils is rather long, but the most commonly known and cultivated are Kurrakan (*Eleusine Coracana*), Amu (*Paspalum scrobiculatum*), Meneri (*Panicum miliare* and *P. psilopodium*), Tana-hal (*Setaria italica*), Muneta (*Phaseolus Mungo*), and Kollu (*Dolichos biflorus*). Not only is the value of these grains very low as articles of food, but, partaken of continuously and without other nourishment, they render those who consume them liable to sickness, causing fever, diarrhœa, and sometimes dysentery. On the other hand, if properly cooked and eaten with other food, some are fairly good substitutes for rice. Fine grain is seldom grown where there is a sufficient supply of water for the cultivation of paddy; but where seasons are uncertain, and the rainfall so unreliable, as in many districts of this island, it follows naturally that villagers should endeavour to supplement these precarious rice crops by a harvest however poor of some description of fine grain. How extensive this cultivation is throughout the country may be gathered from the fact that the tithe on the fine grain harvested varies from Rs. 50,000 to Rs. 60,000, representing a total value of crops of Rs. 500,000 to Rs. 600,000. The aggregate of fine grains grown throughout the interior must be much larger than these figures indicate, seeing that in many districts of the island no tithe is levied on their cultivation. *Maize, or Indian Corn* (*Zea Mays*) is not cultivated to a great extent in Ceylon; though where it is cared for it is found to yield abundantly. In the Southern, Central and North-Central Provinces it thrives with moderate care and culture, but has never become a favourite food of the people, its chief use being for cattle, which are extremely partial to it. It may be

found in many up-country bazaars, but not nearly equal in quality to the maize of India or Canada. The exhibits shown are by the Ceylon Agricultural Association and by the Committee for the North-Central Province.

SECTION 7.

Starches. [P.]

ARROWROOT (*Maranta arundinacea*). East Indian arrowroot, although of good quality generally, is not usually esteemed as highly as that made in the West Indies, where Bermuda arrowroot has long taken the lead amongst nutritive starches. Small parcels of Ceylon arrowroot have, however, been valued very highly in the London markets, but the demand for the article has never been such as to lead to any extended cultivation, and all that is produced in the island of this and the starches hereafter named is for local consumption.

CASSAVA (*Manihot utilissima*). This flour is the produce of the tubers of a tall plant which grows very readily in any light soil: originally introduced into the East from South America, it appears to have been thoroughly acclimatised, but refuses to yield successive crops on the same ground year after year without the aid of manure. The root partially dried and scraped is found to yield a fine flour which when sun-dried forms a most nutritious diet, and in the unprepared state the roots are eagerly devoured by cattle. This cultivation has been largely extended in the maritime provinces, but the whole produce is taken for local consumption, none finding its way to the export market.

GOVERNMENT OF CEYLON.—From the Puttalam District, Flour of Kurakkan, Palmyrah. From the Jaffna District, Kettul Root Flour, Tapioca. Palmyrah. From the Kegalla District, Flour of Rice, Arrowroot, Kitul Flour, Jak Flour, Manioc (Tapioca), Talipot Flour.

SECTION 8.

Vanilla (*Vanilla planifolia*). [S.]

This delicately flavoured and perfumed product is the fruit of a climbing orchid which thrives only in rich moist ground and under somewhat lofty shade. The flowers usually appear during the hot dry months of the north-east monsoon, from January to April, and fruit well in the vicinity of Kandy; with care the plant has borne

fruit also in the neighbourhood of Colombo. The flowers have to be fertilised by hand, Vanilla being a native of Mexico, and Ceylon bees and other insects being unable to accomplish the task. The pods mature about the commencement of the following north-east monsoon, and continue to increase in size and ripeness until about January. They are gathered when they begin to show an orange tinge, and are then air-dried with cotton wool round them to prevent them splitting open with the action of the hot noon air. The cultivation of vanilla has been pressed on the attention of planters for more than thirty years, but never much taken up, though there is no reason why it should not prove highly successful.

J. H. BARBER, Blackstone, Ambegamuwa.—Vanilla.

J. G. PERERA, Ragama.—Vanilla.

SECTION 9.

Jaffna Moss, or **Sea Moss** (*Gracilaria lichenoides*). [**P.**]

This nutritious seaweed, an excellent substitute for isinglass for making jellies, is found along the north-west coast of Ceylon in considerable quantities, and is in common use locally as a nutritive article of food for persons of weak digestive powers. It has been occasionally exported to Europe, but does not appear to have met with a sufficient demand to render the business remunerative, and it has now ceased to be shipped. There is, however, a demand for it locally, many residents in the island using it freely as a nutritious article of diet, its low price commending it to economical housekeepers.

THE CEYLON GOVERNMENT.—From the Puttalam District.

D. M. ROSAIRO, Mudliar.—From Bay of Kalpentyn.

SECTION 10.

Sugar and Jaggery. [**P.** and **X.**]

The exhibits of cane sugar are from near Galle, the only locality in which the article is now produced in any large quantity. Forty years ago the cane was extensively cultivated in the Vale of Dumbara, near Kandy, but although a success as regards the supply of local demand, it never became an article of export, as the granulation being imperfect it could not endure a voyage to Europe without serious

loss in drainage. The cane was afterwards grown at Peradeniya, at Katukande, and some other places in the low country, but the industry was eventually abandoned as profitless, and at the present time the Messrs. Winter are the sole makers, having the command of the local market for soft sugar, crystallized sorts being imported. It should be remarked that several varieties of sugar cane are extensively grown by natives, especially near the towns, the cut joints being a favourite article of food.

JAGGERY, a coarse description of sugar, is manufactured from the sap of the palmyrah palm (*Borrassus flabelliformis*). Nearly 7,000 cwts. (value £2,000) were exported from the Northern Province of the island during the past year. The trade in jaggery might be made of great importance, there being at present an active demand from Europe. The home consumption is very large. Jaggery is also largely made from the sap of the Kitul Palm (*Caryota urens*).

Sugar.

WINTER & SONS, Baddegama, near Galle.—Cane sugar; four qualities.

E. A. JAYASINHA, Nagoda, near Galle.—Cane sugar; three qualities. Sugar from the coconut palm.

GOVERNMENT OF CEYLON.—Sugar from Kitul palm; district of Kegalla.

Jaggery.

GOVERNMENT OF CEYLON.—Samples from Jaffna; jaggery of Palmyrah palm, in packets of Palmyrah leaf, as sold in the bazaars. Candy and crystal jaggery and treacle from the Kitul palm, Kegalla District. Jaggery syrup from Jaffna.

SECTION 11.

Arrack, Spirits of Wine, and Rum. [X.]

Arrack, which is a delicate wholesome spirit obtained by double distillation from the sap of the coconut, is made at various places along the southern coast of Ceylon. Regularly licensed stills are established for the manufacture of this spirit, which is in general use amongst the native population of the island, as well as exported to the Madras Presidency under private contract for the supply of the native troops of the Madras army. The mode of preparation, &c., will be found described in Class V., Sect. 4, under the heading "Model of Arrack Still."

The Government of Ceylon derives a large revenue from the annual sale of licenses by public auction. The purchasers, who are called renters, buy the arrack from the distillers, who pay a yearly fee of one hundred rupees for the privilege of distilling. The distillers may sell their spirits wholesale only, the removal from their stores

being carried on under Government permit. The renters purchase the arrack wholesale at as low a price as practicable, and make their profit by retail sale, the rate of which is prescribed by official regulation, but which is practically evaded by a liberal admixture of water, &c.

The following have been the amounts at which arrack rents throughout the island have been sold during the last ten years :—

1876 .	Rs. 2,163,958.76	1881 .	Rs. 1,547,502.44
1877 .	. 2,179,037.80	1882 .	. 1,477,952.88
1878 .	. 2,013,774.61	1883 .	. 1,455,187.14
1879 .	. 1,667,471.61	1884 .	. 1,402,199.10
1880 .	. 1,638,970.28	1885 .	. 1,535,500.00

The renters are of course interested in having as many arrack shops in each district as possible, as encouraging the sale of their spirits, but Government, though desirous of obtaining a good revenue from this source, very properly place restrictions on their number. The number of taverns licensed throughout the island was, in 1869, as many as 1,494, but in the following year they were prudently reduced by four hundred; their present number is 1,075. The following shows the yearly amounts realised by Government on the license for the privilege of distillation of arrack, each still paying Rs. 100 annually.

1876 . .	Rs. 10,410	1881 . .	Rs. 7,360
1877 . .	. 9,870	1882 . .	. 19,100
1878 . .	. 8,940	1883 . .	. 20,900
1879 . .	. 8,400	1884 . .	. 20,400
1880 . .	. 7,830		

In addition to the licensing of stills, wholesale dealers have to pay an annual licence to Government of Rs. 100; the amount derived from this is, however, very small, as may be seen below.

1876 . .	Rs. 1,230	1881 . .	Rs. 790
1877 . .	. 1,860	1882 . .	. 600
1878 . .	. 1,260	1883 . .	. 6,250
1879 . .	1,080	1884 . .	. 2,700
1880 . .	. 1,860		

The price of arrack wholesale ranges from fifty to eighty cents per gallon. The retail sale is fixed by Government at rates varying in the different provinces from Rs. 3 to Rs. 3·33 per gallon, and it is on this difference in price and on adulteration the renters realise their profits, which are occasionally very large. The exhibits comprise

arrack of a great variety of ages, from three to twenty years in wood, the oldest being of remarkably delicate flavour. It was old spirit of this kind which half a century ago formed the basis of "Rack Punch." The ordinary arrack of Ceylon, which is extremely pure, should offer inducement to British distillers in replacement of much of the present material employed in the distillation of inferior brandy and whisky.

ARNOLD DIAS of Panadure.—Two small casks, Spirit of Arrack. One small cask, Arrack, 35 years old: a liqueur. One small cask, Arrack, 20 years old: a liqueur. One large cask, New Arrack. One small cask, Polwákara, or toddy once distilled (arrack being toddy distilled twice or more). One small cask, Arrack Vinegar.

CEYLON AGRICULTURAL ASSOCIATION.—One large cask of Ceylon Arrack (commercial sample).

CEYLON GOVERNMENT.—Arrack distilled from the Palmyrah Palm.

MESSRS. WINTER & SONS, Baddegama.—Samples of Rum.

SECTION 12.

Preserves and Pickles. [P.]

GRAPE JAM is made from Jaffna-grown grapes boiled in syrup, the seeds being removed during the boiling; two pounds of grapes to one pound of sugar in a pint of pure water is the proportion in which it is prepared. The jam keeps a long time if preserved in air-tight bottles. The average price of a pound of grapes is 30 cents.

MANGO JAM is prepared by boiling the mango in syrup after removing the skins and stones, and the sour juice squeezed out by the free use of forks, and soaking in fresh water; two pounds of mango to one pound of sugar is the proportion in which it is prepared. The average price of a pound of mango is three cents.

BILIMBI JAM.—This jam is made by removing nearly three-fourths of the juice of the fruits of *Averrhoa Bilimbi*, by the use of forks, and soaking in fresh water, squeezing the fruit and boiling them in syrup. The cost of 100 fruits is about 3 cents, and the proportion of sugar used is similar to that used with mangoes.

NELLI JAM.—This jam is prepared by soaking the fruit of *Phyllanthus Emblica* in pure water and boiling the juice in syrup; the proportion of sugar and fruit is the same as that with mangoes. The cost of 100 fruits is about 6 cents.

CITRON AND LIME PICKLES.—Citrons and limes in both the Northern and Western Province are first cut into four parts, with one

end kept to hold them together, and salt inserted and dried for some time. The Brahmins use curry stuffs and the sediment of the lime juice for preserving it, whilst others use vinegar.

MANGO PICKLE.—Well matured but not ripe mangoes are cut lengthwise in halves, and the kernel of the seed is removed. The pieces being washed and salted for a day or two, the space occupied by the kernel is filled up with a preparation of well-chopped papaw fruit, garlic, onion, chilly mixed with ground mustard and vinegar, and the two halves are brought together and tied up and put into a large-mouthed bottle or jar filled with vinegar; after remaining so for a week, the pickle is fit for use.

GOVERNMENT OF CEYLON.—From Kegalla District, Pickles: onion, lemon, papaw, bean, China peas, cocoanut cabbage, ratacochchi, cayenne pepper, chillies, curry chillies, chilly vinegar, ginger, weralu, nutmeg. Preserves: mango, candied pumpkin, arecanut, lovilovi jelly, kambaranja, tampala, nutmeg. From Jaffna District. Grape jam.

SECTION 13. [P.]

Beche-de-mer: Trepang, or Sea-Slug (*Holothuria sp.*).

The trade in the Northern Province in Bêche-de-mer is chiefly in the hands of a few Chinese who resort to Jaffna annually and return to China with the article cured by them. Some of them have, however, recently acquired lands and made a permanent settlement at Kalmunai near Jaffna, and buy up the Bêche-de-mer cured by the natives, who have learnt the process of curing from the Chinese. They employ Mohammedan divers and the natives of the country in fishing for the "slugs" as they are called. The price per hundred paid by them is: for 1st sort R. 1 (one rupee); for 2nd sort Rs. 0.50 (fifty cents); and 3rd sort Rs. 0.25 (twenty-five cents). The slug is found in all parts of the western coasts of the province in from two feet to seven or eight fathoms of water. The process of curing adopted by the Chinese is as follows: A long clay fireplace is set up with shallow iron basin-shaped pans, open to the air, bedded into it to the number of four or five. Into these pans the slugs are packed and allowed to simmer in their own juice. When sufficiently cooked, the slugs are taken out and dried in the sun; they are then placed in a "drier," consisting of a hut, in which are fixed a number of rudely-constructed trays made of jungle sticks; beneath these burns a fire of green wood emitting a dense smoke. The

slugs are afterwards once more dried in the sun, and then packed for shipment to China and Singapore.

When cured, the first sort is that which weighs 10 slugs and under to the pound: the 2nd sort, 20 and under to the pound; the 3rd sort, above 20 to the pound. At Singapore they realise from thirty to thirty-five dollars a pical of 33 lbs.

The export has ranged very widely in various years; in 1872 there were 1,021 cwts. exported, valued at Rs. 64,770; in 1878 there were but 134 cwts. shipped, value Rs. 2,480; in 1885 the exports amounted to 525 cwts., worth Rs. 19,544.

GOVERNMENT OF CEYLON.—From Jaffna District, Three sorts as cured by the Chinese. From Puttalam, dried specimens.

SECTION 14.

Edible Birds' Nests. [P.]

The edible-nest swallow, or rather swift (*Collocalia francica*), is widely distributed in Ceylon with the exception of the northern and north-western districts. It does not confine itself to any one altitude, even its building station extends from the sea-side to the highest hills. These swifts select for their breeding places large dark and gloomy caverns, in the darkest parts of which they build their famous nests. These may number only a few, or thousands, and are not always made of the same substance. The nests in Ceylon are very poor in nutritive properties in comparison with those of Java, Borneo and China, while for the "white variety" so high a value as three dollars per catty (30 lbs.) can be secured. The Ceylon nests have much less of the glutinous matter which is so prized by the Chinese. The nests are closely built together against the face of some overhanging rock, and if one can judge by the accumulation of guano below them, the same nest is used frequently; the fallen nests are often found among the refuse on the floor of the caverns where these birds build. Naturalists are still divided as to the real origin of the isinglass-like matter that enters so largely into the composition of these nests; but the bird has on either side of the gullet two large glands, which if pressed in a bird just shot emit a viscid matter, which doubtless is the substance used in nest building. The bird is a very insignificant-looking little creature, of a somewhat smoky colour, darker on the head, wings and tail,

than on the other parts of the body. The Javan and Bornean representative of the species are blue, but the two are said to be identical. The article is prepared for export to China by natives of that country, who pay Government a small annual sum for the exclusive privilege of collecting the nests in certain caves chiefly in the Morowa Korle of the Southern Province: the yearly value of this article of export does not exceed four thousand rupees.

GOVERNMENT OF CEYLON.—From Puttalam District, Edible birds' nests.

SECTION 15.

Dried Fish. [P.]

The consumption of dried salted fish amongst the Sinhalese and Tamil population is very large, and as nearly the whole quantity used in the country has hitherto been imported from the coasts of India or the Maldive Islands, can readily be ascertained. The yearly value of dried salt fish imported into Ceylon is about Rs. 800,000 or Rs. 900,000, an amount so considerable that the local Government, desirous of retaining in the island the large sum of money yearly paid to Indian dealers for dried fish, has made strong efforts to form and encourage fish-curing establishments by private enterprise in the near vicinity of the salt depots, whence that preservative can be readily obtained and for this purpose, at a nominal amount above the mere cost of manufacture. Three or four fish-curing yards have been established during the past year, and, judging from present results, with every prospect of success. The fish prepared at these places is pronounced superior in quality to the imported article, and the new industry has the further advantage of affording remunerative employment to a considerable number of the poorer classes. This salt fish is used very extensively in curries, and also boiled or grilled as a separate dish eaten with bread and potatoes or other vegetable, and is found a most welcome article of diet amongst communities who are precluded by distance in the interior from obtaining fresh fish.

The exhibits of this useful food of the people are from the fish curing grounds at Hambantota. It was found that over 110,000 cwts. of cured fish were imported annually into Ceylon from other countries, when that quantity could be produced in the island itself. The issue of salt from the Government stores at a cheaper rate was permitted

on the condition that all curing was to be carried on within a yard, and under Government supervision, so as to prevent the salt being used for any other purpose or taken outside for sale. The first yard opened was at Hambantota, on the 15th October, 1885, and the fresh fish admitted into it up to date (26th March) amounted to 1,073 cwts., the quantity taken out after curing, 657 cwts. Another yard was opened on the 15th instant, at Pattanangala, a small bay thirty-eight miles from Hambantota towards Batticaloa. Fifteen boats went down there, and already over 150 cwts. of fresh fish have been cured. Thargle, an isolated spot with no people living in the neighbourhood, is a favourite resort of the fishermen for two or three months at the commencement of the year, when favouring winds enable the boats to sail out and return without difficulty. The results so far therefore are very encouraging.

The fish when landed are at once cut open and cleaned, and parallel slits made into the fleshy parts lengthways, about an inch apart. After being cleaned in salt water, they are taken into the yard, where a good dressing of salt is applied. The salt is well pounded and rubbed in. The fish is packed into medium-sized barrels in layers, with a sprinkling of salt between, and allowed to remain so from twelve to fifteen hours; at the end of which time, or early the next morning, they are taken out and again thoroughly cleaned in salt water, after which they are spread out to dry on raised platforms made of dry sticks. The drying process is continued for four days, after which the fish is ready for removal. It is probable that if more boats were available, and fishing stations established all round the coast, enough fish could be caught and cured during the three months alone to supply the whole of Ceylon with dried fish.

GOVERNMENT OF CEYLON.— From Hambantota, Sample of Dried Fish. | From Puttalam District, Dried Turtle; Dried Venison.

SECTION 16.

Salt.

The manufacture of salt as an article of food is conducted by Government as a monopoly as a simple and efficacious means of raising a revenue. The consumption of salt in tropical countries is universal, the vegetable diet of the people necessitating its use very freely. So important is it as an item in the daily dietary of Orientals, that both the Portuguese and Dutch were frequently able to bring

pressure to bear upon the Kandyan Kings by refusing to permit the transport of this much-needed condiment to the interior, they being in possession of the entire coast line of the country, thus cutting off all access to the salt deposits of the sea-board. An account of the mode in which the manufacture of salt is carried on in Ceylon will be found in Section 6 of Class V. in the description of the model of the Government Salt Works at Puttalam. The manufacture is mainly conducted by two Government establishments at Puttalam on the west coast, and at Hambantota on the south coast, where the work is performed by contractors paid according to the quantity produced during the dry months of the year. A limited quantity is also produced in the Northern and Eastern Provinces. The price paid by Government to their salt contractors is somewhat less than four rupees the ton, and as the selling price to salt dealers is at the rate of a little more than forty-seven rupees the ton, the profit is considerable even after deducting the cost of establishment, supervision, &c., leaving somewhere about nine hundred per cent. profit. The consumption of salt throughout Ceylon gives an average for the entire population of twelve pounds per head of the whole population, whilst that in India does not reach half that quantity.

The collections of salt at the different establishments depend very materially upon the season. A continuance of fine dry weather enables the contractors to realise a large harvest, whereas should unseasonable showers fall before the close of the season, much of the produce may be lost, and occasionally there may be none brought to store. The following figures show the results of the salt collection during the last ten years, and the revenue derived from the sale of the article :—

COLLECTED AT THE GOVERNMENT SALT PANS.

	Southern Province.	Eastern Province.	North-West Province.	North Province.	Total Cwts.	Rs.
1875	62,158	28,252	162,987	128,042	381,439	810,633
1876	86,370	18,997	332,607	151,718	589,692	784,816
1877	28,526	11,182	282,454	...	322,162	840,750
1878	...	...	180,149	11,772	191,921	960,933
1879	49,096	6,725	140,519	78,386	274,726	838,274
1880	136,757	20,986	159,524	122,138	439,405	885,639
1881	94,177	12,176	333,831	157,107	597,291	850,725
1882	10,677	23,010	345,833	68,784	448,304	867,968
1883	92,176	826	155,461	60,154	308,617	860,054
1884	109,393	20,301	379,421	160,744	669,859	819,541
1885						

CLASS III.

DRUGS.

SECTION 1.

Cinchona Bark. [Q. and U 2.]

Although several other species of cinchona have been cultivated in Ceylon, occasionally with success, *C. officinalis* and *C. succirubra* are the principal kinds grown to any large extent at the present time, the more robust *succirubra* being the general favourite. So long ago as 1861 some of the first seed imported from South America was sown at Hakgala, a Government botanic garden on the south-east slopes of the central mountain plateau, at an elevation ranging from 5,400 feet to upwards of 6,000 feet. The object of the Government in introducing the plant was not to undertake the production of the bark, but to induce private planters to do so. In following years, seed of *C. officinalis*, and plants of *C. succirubra*, *C. Calisaya*, and some other varieties were received and put out in the Hakgala Garden, where they throve vigorously. With a view to induce planters in suitable localities to undertake a cultivation which it was believed would be profitable to the grower and beneficial to mankind, seeing that the supply of good South American kinds was failing, the Government issued young plants free of charge, at the same time affording information as to the more suitable localities for their growth. By the latter part of 1860, upwards of fifty planters had made application for about 500,000 plants, of which 180,000 had been actually given out; yet notwithstanding their favourable reports as to growth, there was but little further demand for these plants for some years. So satisfied were all at this period with the old product, coffee, that few would enter upon any other cultivation, and there were even instances of cinchona, planted by a predecessor, being rooted out by a newcomer as rubbish. The first results of Ceylon-grown cinchona, as shown by analysis of its alkaloid products, was ascertained in 1866, and these were most favourable; yet so great was the indifference to the new industry, that it was not till 1872 that planters realised the fact that they were neglecting a profitable business in not taking up cinchona-growing. A charge of five rupees per 1,000, instead of a free gift of

plants, was fixed at the nurseries, and this seems to have stimulated the demand, for in 1873, 670,500 plants were sold; in 1874, 826,000; in 1875, 794,500; and in 1876 the large quantity of 1,196,000. Of these, the *succirubra* and *officinalis* were still principally from cuttings, the *Calisaya* mainly from seed. Thus, in the six years, 1873–78, nearly 4,000,000 plants were sent out to planters, in addition to large plantings in private nurseries. In 1866–67, seed was first produced by *succirubra* and *officinalis*, and this was also largely distributed. Much of this produced trees of an intermediate character, and was doubtless the result of natural crossing. These hybrids are known in Ceylon as *C. robusta*, and are much esteemed.

From this time the rapid extension of cinchona planting became an established fact, the serious decline in the yield of coffee in some of the chief producing districts, consequent on the inroads of leaf disease, being the chief inducement for the movement. In recent years the fact has been realised, though warnings were unheeded, that cinchona will not thrive anywhere; much disappointment was caused in the failure of young plantations, but principally to those whose expectations were extravagant and unwarranted, and whose course of action could only tend to inevitable failure. To others, however, cinchona has afforded very good returns, and the cultivation has undoubtedly been of the very greatest assistance to the Colony during the past few years of serious depression. At the present time, cinchona is cultivated throughout the hill country, within the zone of coffee estates, as well as somewhat above and below it, and frequently with success and profit. The methods of harvesting the bark of cinchona trees have been by uprooting, by coppicing, by stripping, and more recently and generally, by shaving, or taking off very thin shavings of the bark. The bark, which is soon reproduced after stripping or shaving, has been usually, though not invariably, found to yield a larger percentage of the more valuable alkaloids than the original bark. How often trees may be shaved without impairing their health is an open question, depending probably on local circumstances. Many experienced planters advocate the shaving of the tree at five years, again at six, and then at seven to have it coppiced, taking care that before the tree is cut down a good-sized sucker is allowed to start from the collar. This prevents too great a shock to the tree, and the sucker will grow at an even greater rate than a young plant of the same age. That some limit to the successful and constant shaving of the cinchona tree exists we are

all ready to admit, but what that limit is, or what modifications of the system may be best for both the tree and the planter, time alone can decide. One thing is certain, the shaving process has enabled many men to obtain handsome and continuous returns from their cinchona trees without destroying the value of those trees, which no other system that we know of has been able to do; and while this is so, we must give the palm to it as the best yet discovered.

Some of the finer varieties of cinchona, such as *C. Ledgeriana*, have at times yielded as high as 10·50 per cent. of sulphate of quinine from trees three and a half years old, grown at an altitude of 3,200 feet; but at the present day there are few barks which yield 4 per cent., and by far the larger portion of the renewed shavings at present give only from 1·50 to 2·50 per cent. A very large proportion of the cinchona shipments of late years have been strippings of the branches and twigs, yielding not more than one-half per cent. of quinine, so that whilst the shipments under this head would seem to imply a large over-stocking of the market, nearly all has been taken, because a far larger quantity than formerly was needed to yield a given amount of the medicinal alkaloids.

The following figures show the very rapid development of this new industry of the island :—

Season ended 30th September,		1885 . . .	11,678,360
,,	,,	1884 . . .	11,492,947
,,	,,	1883 . . .	6,925,595
,,	,,	1882 . . .	3,099,895
,,	,,	1881 . . .	1,209,720
,,	,,	1880 . . .	1,208,518
,,	,,	1879 . . .	373,511
,,	,,	1878 . . .	171,497
,,	,,	1877 . . .	56,589
,,	,,	1876 . . .	16,842
,,	,,	1875 . . .	18,731

The larger exports of the last two years, so far exceeding expectation, have materially lowered the value of the article in the home market, the former quotations having fallen nearly one-half; the market rate is, however, still remunerative in favourable localities and under good management.

1. FRED TATHAM, Yarrow, Nilambe.—Ledgeriana Barks.

2. LANKA PLANTATION CO., Gonagalla, Dickoya.—Various Barks.

3. S. M. KAY-SHUTTLEWORTH, St. Leonard's, Uda Pusselawa.—Various Barks.

4. F. G. A. LANE, Blair Athole, Dickoya.—Succirubra Bark.

5. F. G. A. LANE, Lynsted, Bogawantalawa.—Officinalis Bark.

6. F. G. A. LANE, Newton, Dickoya.—Succirubra Bark.

7. JAMES WESTLAND, Kelburne, Haputale.—Succirubra Bark.

There is also (**U 2**) a Cinchona Trophy, showing sections of the various species of trees and the various modes in which the bark is taken, and also specimens of quill bark. The estates which have contributed chiefly to these are Stair, Glenlyon, Wangieoya, Waltrim, Troup, Cranley, Newton and Dalhousie, Ormidale, Glentilt, and St. Andrews in the Maskeliya District.

SECTION 2.

Medicinal Preparations. [P.]

SULPHATE OF QUININE.—This exhibit is shown by the makers, Messrs. Symons and Cochrane, cinchona analysts of Colombo, where the alkaloid in question was manufactured with no intention of entering upon it on any extended scale, but simply to demonstrate the practicability of producing as good and pure a cinchona alkaloid in Ceylon as elsewhere.

SECTION 3.

Native Medicinal Plants and Medicines. [O and P.]

In Sinhalese medical practice disease is held to be a disturbance in the equilibrium of the three humours—air, bile and phlegm, which pervade the human system. These agents preside over certain vital functions, and while susceptible of being affected by temperature, diet, drugs, habits, &c., react on the organs whose functions they control. Every individual is supposed to be born with a predisposition to some one of these humours, or to a modification of one of them in combination with some proximate principle, corresponding with the nervous, bilious, phlegmatic and sanguineous temperaments formerly recognised in the practice of Western medicine. The object of treatment is therefore to ascertain the mutual relation existing between these three humours in the patient, and to bring about an equilibrium between them. Crude as this theory may appear, it is essentially the system which, borrowed from India by the Greeks and Arabians, entered more or less into all European systems of medicines till the close of

the seventeenth century. Of the five or six hundred different causes of disease recognised in Sinhalese medicine, more than a fourth are ascribed to the abnormal conditions of the three humours, and the rest to vitiation of the seven proximate principles of the human body, viz., blood, flesh, fat, &c. Hence diseases are not classified by their symptoms so much as by their causes, and accidental symptoms are not only confounded with essential ones, but receive special treatment as distinct diseases. The treatment accordingly is more theoretical than empirical, every symptom being referred to some deranged humour, which alone receives attention, and has to be rectified according to the rules laid down by the recognised authorities. The true significance of any group of symptoms as indicating any definite morbid condition, or any particular stage of disease, is barely if at all realised by the native practitioner, their only value being to assist the memory to recall the particular Sanskrit stanza which details the orthodox treatment to be adopted under the special circumstances. No attempt is made to anticipate or arrest morbid changes, or guide them to a healthy issue, except in so far as this is included in the general line of treatment, for the simple reason that a pathology based on actual observation of the dead body finds no place in native text-books of medicine, and no native practitioner, however experienced, would care to verify by a *post-mortem* examination the fanciful theories on which their system of medicine is founded. A very common practice with native practitioners is to allow a disease to progress for some time with a view to "mature" it, or "to bring it to a head," before any attempt is made to remove it. A quick recovery, whether under European or native treatment, is deprecated as likely to lead to a relapse, since sufficient time has not been allowed for the restoration of a permanent healthy equilibrium between the contending huomurs. They have great faith in critical days, and in the influence of the different phases of the moon, each of which is supposed to preside over its own set of organs; so that purgatives, for instance, however much they may be needed in any given case, are never prescribed on the day (kala) on which the moon exercises its influence on the bowels, emetics on the day on which it presides over the stomach, &c. As they seldom make use of powerful or hurtful remedies, however, and are content in the majority of cases to relieve disease chiefly by acting on the emunctories by means of emetics, purgatives and low diet, native practice is usually not often mischievous even when it fails to effect a cure. In most cases the treatment only serves

to change an acute disease into one of chronic character, while recovery from a simple affection is protracted, the patient being kept half starved on gruel, and made to swallow huge quantities of infusions and decoctions of medicinal herbs, villainously compounded, the number of ingredients in each potion increasing in direct ratio with the continuance and severity of the disease. A mild form of fever, for instance, would be treated with a decoction of the "Five Minor Roots" —*Desmodium gangeticum*, *Uraria lagopodioides*, *Solanum Jacquini*, *Solanum Indicum*, and *Tribulus terrestris*, which are believed to cure fever due to deranged phlegm, catarrh, &c. A severer form would be ascribed perhaps to deranged air, requiring the use of the "Five Major Plants"—*Ægle Marmelos*, *Calosanthes indica*, *Gmelina arborea*, *Stereospermum suaveolens*, and *Premna speciosa*. In remittent fever, &c., all ten may be prescribed together, and in typhoid fever, with head symptoms, the same with the addition of eight or ten other ingredients. When conducted by intelligent and skilful practitioners, native practice is not unlike the modern treatment of European medicine, viz., that of trusting to nature for efforts to restore health, while placing the patient under the most favourable conditions for recovery by means of suitable diet and regimen, medicinal treatment being directed chiefly to the relief of the more urgent symptoms. Unfortunately however the practice of native medicine has fallen into the hands of a class of men the majority of whom are ignorant and unskilful, and who do not possess even the little knowledge which may be gathered from the study of medical books in the vernacular. It must be admitted however that the Materia Medica of the Sinhalese will compare favourably in many respects with the Pharmacopœia of the most enlightened countries of the West. Not only is every class of medicine well represented, and supplied in profusion by the boundless prodigality of nature in Eastern tropical climes, but some of the vegetable productions are valuable enough to deserve a place in the medicinal resources of Western science, while very many can easily and usefully replace the more expensive drugs of the same class which are imported into the Colony for use in hospitals.

DIRECTOR, ROYAL BOTANIC GARDENS. A collection of native Vegetable Drugs principally from the Central (Kandyan) Province.

This is an extensive though by no means complete series of the vegetable drugs used by the native village practitioners of the Kandyan Provinces, so far as they are indigenous or wild Ceylon plants. The common *bazaar* medicines (mostly imported from India), which are also largely employed, are not included here. The uses given under each head have been taken down at first hand from the mouth of the *vederales*, or village doctors themselves, adapted however to modern medical phraseology as far as possible.

It must not however, of course, be supposed that they are in all or even in a large majority of cases based on any real properties. Much is traditional merely, or empiric, in much the same way as in the middle ages and up to the seventeenth century in Europe, numerous plants which are known to be quite inert, were credited with "virtues" on the authority of older writers and astrologers. The extreme complexity of Sinhalese prescriptions (many of which are of great antiquity and handed down from generation to generation) must often render it impossible to distinguish the effects of any particular ingredient.

1. *Abrus precatorius* (Olinda-wel).— The juice of the green leaves is used for purification of the blood, especially in females. The root, for sore throat, leprosy, stiffness in the joints, paralysis and nervous diseases. Externally it is applied to ulcers and sores.

2. *Abutilon asiaticum* (Anódá).—The root is used in mild fevers—it is tonic, diuretic and stimulant. The water of the boiled leaves is employed as a gargle for sore mouth and for fomentation to relieve pain in piles.

3. *Acacia concinna* (Hinguru).—The juice of the wood is used for murrain in cattle.

4. *Acalypha indica* (Kuppa-méniya).—The whole plant is used in worm complaints, also to expel wind. The juice of the leaves is emetic, and is externally applied to bad sores and ulcers.

5. *Acanthus ilicifolius* (Ikili).—Used as a bitter tonic in fever.

6. *Acorus Calamus* (Wada-kaha).—Used in bowel complaints of children as a stomachic and carminative.

7. *Acronychia laurifolia* (Ankenda).—The bark is used, and is a good remedy for obstinate ulcers and indolent sores. The root bark and leaves are applied to dislocations; also used as a purgative for calves.

8. *Adhatoda Vasica* (Atátódá).—The root, leaves, flowers and bark are used in diseases caused by excessive phlegm; also in menorrhagia. It is also a remedy for rheumatic pains.

9. *Adenanthera pavonina* (Madatiya).—The leaves and the bark, in composition with other medicines, are used to reduce the swelling caused by sprains and bruises. In cases of snake bite by the polonga, if the wounded part is stroked with a bundle of the leaves several hundred times, it is believed that the poison will be expelled.

10. *Adiantum caudatum* (Tuda-wediya).—A component of healing ointments.

11. *Ageratum conyzoides* (Hulan-talá).—The whole plant is used for cuts and bruises.

12. *Albizzia stipulata* (Kabal-márá).—The juice of the bark is used in boils in young children.

13. *Allophylus Cobbe* (Kobbé).—The leaves and bark are used as poultice in dislocations.

14. *Alpinia Galanga* (Kalu-wála.)—The rhizome employed as a stimulant expectorant in cough; also skin diseases arising from impure blood.

15. *Alpinia nutans* (Rankíriyá).—The rhizome is used for bowel complaints caused by entozoa.

16. *Alstonia scholaris* (Ruk-attana).—The bark cures sores and ulcers, and is a good tonic for rheumatic and intermittent fevers.

17. *Alternanthera triandra* (Mukunu-wenna).—A cooling local application for giddiness and complaints of the head; also used as a vegetable curry in indigestion.

18. *Alyssicarpus bupleurifolius* (Aswenna).—A mild astringent. The root is used in composition with other medicines in mild fevers, and the leaves locally applied to wounds and bruises.

19. *Amarantus paniculatus* (Rana-tampalá).—For boils. It is believed to purify the blood.

20. *Amorphophallus campanulatus* (Kidáran).—The tubers are used in bleeding piles and in dyspepsia.

21. *Anamirta paniculata* (Titta-wel).

22. *Andropogon muricatus* (Sevendara).—The roots are used in bilious fevers.

23. *Andrographis paniculata* (Hín-bin-kohomba).—A bitter tonic used in malarious fevers.

24. *Anisomeles ovata* (Yak-wanassa).—The leaves, bark, and root are used in colic, catarrhal fever, and as a vapour bath in severe head-ache.

25. *Aponogeton crispum* (Kekatiya).—In pains of women during pregnancy.

26. *Areca Catechu* (Puwak).—Applied externally to ulcers, and used as a tooth-powder for strengthening the gums; internally to expel worms and to check diarrhœa.

27. *Aristolochia indica* (Sap-sanda). Used in cobra bite in composition with other medicines; also in bowel complaints of children, and to improve appetite and digestion. It is an ingredient in a cholera bitter of much repute.

28. *Arisæma Leschenaultii* (Wal-Kidáran).—The leaves used in piles and dyspepsia; also an ingredient in medicinal ointments.

29. *Artocarpus nobilis* (Del).—The juice of the bark is used to kill maggots; also in cattle diseases.

30. *Artocarpus integrifolia* (Kos).—Thé powdered charcoal of the wood of the root is used for malignant ulcers and sores.

31. *Asparagus falcatus* (Hátá-wáriya).—The roots are demulcent, diuretic, and tonic; given in bilious dyspepsia.

32. *Atalantia zeylanica* (Yakináran).—The leaves and roots are used in catarrhal fever, cough, and similar diseases.

33. *Atalantia Missionis* (Pamburu).—The leaves and bark are used in rheumatism.

34. *Ægle Marmelos* (Beli).—The root, bark, and leaves are used in flatulency, &c., and form a good medicine in low fever with biliousness and diarrhœa. The unripe fruit boiled, and then baked under hot ashes, checks diarrhœa and dysentery. The tender fruit, dried and boiled as tea, is used as a drink in chronic diarrhœa. The ripe fruit is cooling and laxative, and a good remedy for piles; and the sweet-scented extract from the flowers is used as a lotion for sore eyes.

35. *Ærva lanata* (Pol-kudu-pala).—Much employed for coughs, as a vermifuge in children, and in indigestion.

36. *Æschynomene indica* (Diya-siyambalá).—The whole plant is used in diabetes and dysentery.

37. *Azadirachta indica* (Kohomba).—The juice of the leaves is used for injuries to the eye, and to kill intestinal worms. The bitter bark in fevers and convulsive diseases. The fruit is vermifuge and purgative. The oil extracted from the seeds is a good external remedy for rheumatic pains caused by exposure to cold air.

38. *Bambusa vulgaris* (Una).—The young shoots and roots are used as a cooling tonic, useful in coughs, consumption, and asthma.

39. *Barleria Prionitis* (Katu-karandu).—A cooling diuretic tonic: the whole plant is used in urinary and paralytic affections, rheumatism and jaundice, and hepatic obstruction with dropsy.

40. *Barringtonia speciosa* (Múdilla).—The bark is used as an emetic in cases of severe catarrh.

41, 42. *Barringtonia racemosa* (Diya-midella), and *B. acutangula* (Ela-midella).—The bark is very astringent, used in snake bites, for sores and ulcers, and in dislocations.

43. *Basella alba* (Niviti).—The whole plant is used as a cooling and demulcent remedy, especially used in cases of stricture of the urethra.

44. *Bassia longifolia* (Mí).—The bark is slightly astringent and rather pleasant. It is given to promote appetite, and in fevers with rheumatism. The oil extracted from the seeds is used externally.

45, 46. *Bauhinia tomentosa* (Kaha-petan), and *B. racemosa* (Mayila).—The bark is used. It is a very astringent tonic; purifies the blood and cures ulcers and cutaneous diseases.

47. *Benincasa cerifera* (Alu-puhul).—The juice of the green leaves is a safe and certain cure in burns and scaldings. The fruit is nutritive and diuretic, and is used as an antidote for poison by arsenic, &c.

48. *Boerhaavia diffusa* (Pita-sudu-palá).—Very carminative; expels wind, checks bleeding piles, and helps digestion.

49. *Bombax malabaricum* (Katu imbul).—The leaves are used for diarrhœa in cattle. The root is said to possess restorative, astringent, and alterative properties, and is used in cases of diarrhœa, dysentery, &c., and externally applied to swellings and for rheumatic pains.

50. *Brassica juncea* (Aba).—Seeds are very pungent and used as a rubefacient poultice in gout and inflammation. The leaves are used to promote appetite and to improve digestion.

51, 52. *Breynia rhamnoides* (Gas-kayila), and *B. patens* (Wal-murunga).—The bark is used in diseases of cattle, especially for young calves, as an anthelmintic.

53, 54. *Bridelia retusa* (Keta-kála) *and B. Moonii* (Pat kála).—Bark and leaves used externally for dispersion of the blood in bruises, also to boils and tumours on the legs.

55. *Callicarpa lanata* (Illa).—The leaves and bark are used in composition with other medicines to remove flatulency.

56. *Calophyllum tomentosum* (Kína).—The bark is used for dislocations and bruises, also to dispel swelling.

57. *Calophyllum Inophyllum* (Domba).—The kernel of the fruit is applied to indolent ulcers, and in hoof disease of cattle. The oil extracted from it is used for malignant sores. An infusion of the leaves is employed to clear the eyes. The root bark is used for rheumatic pains. The resin is emetic and purgative.

58. *Calotropis gigantea* (Wará). — The green leaves are locally applied to dispel swellings. The root is a useful tonic, good in coughs and catarrhs. The milk of the plant is internally used as a cure for leprosy.

59. *Canarium zeylanicum* (Kekuna).—The resin is used in composition with other drugs for a vapour bath in cases of cobra bite. It is also used as a fumigation to drive away snakes and insects from dwelling-houses.

60. *Canna indica* (Butsarana).—The flour obtained from the rhizome is used in place of arrowroot, and locally applied to boils and abcesses.

61. *Capparis horrida* (Welangiriya).—The bruised leaves are used for enlarged tonsils, snake bites, sores, and ulcers.

62. *Cardiospermum Halicacabum* (Penelawel).—The whole plant is used in cases of rheumatism, nervous diseases, orchitis and dropsy. Used also as a hair wash to remove scurf.

63. *Carallia integerrima* (Dawata).—The bark is used as a wash for ulcers.

64. *Careya arborea* (Kahata).—The bark is used for foul ulcers, and in sore throat, also for hoof diseases in cattle; it is very astringent and mucilaginous.

65. *Caryota urens* (Kitul).—The bark and roots are locally applied to cuts and wounds.

66. *Casearia esculenta* (Wal-waraká).—Wood and bark used in dislocations.

67. *Cassia alata* (Rata tora).—The wood is used as an alterative.

68. *Cassia auriculata* (Ranawará) —The

bark and roots are used as an alterative. The dried leaves also used for the same purpose prepared as a tea.

69, 70. *Cassia occidentalis* (Peti-tóra) and *C. Tora* (Peni-tora).—Are used to purify the blood. The seeds are externally applied in skin diseases. The latter plant is said to be a remedy for cough.

71. *Cassia Fistula* (Ehela).—In cases of rheumatic fever the tender leaves are used as a mild purgative, and the bark in composition with other medicines is used for rheumatism.

72. *Celastrus paniculata* (Duhudu).—The bark is used; it is considered to strengthen the brain, purify the blood, and cure internal and external sores and boils. Locally applied in rheumatic and gouty pains.

73 to 76. *Celosia argentea* (Kiri-henda); also *Amarantus spinosus* (Katu-tampalá), *A. paniculatus* (Rana-tampalá) and *A. polygonoides* (Kúra tampalá).—They are used as cooling medicines in cases of eye diseases and urinary troubles.

77. *Celtis cinnamomea* (Gúrenda).—The wood, which has a disgusting odour, is used as a fumigation at child-birth. Internally it is taken in composition with other medicines in cases of cutaneous diseases.

78. *Centranthera procumbens* (Dutu-satutu).—The whole plant is used in cases of intermittent fever, and for sore eyes.

79. *Cerbera Odollam* (Gon-kaduru).—The bark and wood are used for sores and ulcers.

80. *Cinnamomum zeylanicum* (Kurundu).—The bark and roots are used as a stimulant, stomachic and aromatic.

81. *Cissampelos Pareira* (Diya-mitta).—The roots are used in fever and diarrhœa. The plant also cures ulcers.

82. *Cleidion javanicum* (Okuru).—The oil extracted from the seeds is used in sore mouth; and for the sore feet of cattle.

83. *Clematis smilacifolia* (Nara wel).—The leaves and bark are used in composition with other medicines for dislocation, rheumatism, and boils and abscesses.

84. *Clitoria ternatea* (Nil-katarolu).—The root is used as a mild purgative; it is also diuretic.

85. *Cochlospermum Gossypium* (Kini-hiriya).—The flowers, roots and bark, are used in combination with other medicines for diseases caused by wind.

86. *Cæsalpinia Bonduc* (Kumburu-wel).—The tender leaves are a good vermifuge for little children. The seeds are used as a febrifuge.

87. *Colubrina asiatica* (Tel-híríya).—The bark is used in medicinal oils for rheumatic pains.

88, 89. *Commelina benghalensis* (Diya-menériya), and *C. clavata* (Girá-palá).—A very cooling medicine given in bilious fever and to reduce bile.

90. *Connarus monocarpus* (Radáliya).—The wood and bark are used in medicinal oils for abscesses and boils.

91. *Cordia Myxa* (Lólu).—The leaves are used in asthma, and to lighten the tightness of the chest in severe colds and coughs.

92. *Coscinium fenestratum* (Weni-wel).—The woody stem is used; it is an excellent stomachic and a popular remedy in fever. Also promotes appetite, and is used to cure blood-shot eyes.

93. *Cratæva Roxburghii* (Lunu-warana).—The leaves are used as a remedy for gouty swellings, the bark to sharpen the appetite, and in disorders of the urinary organs.

94, 95. *Crinum zeylanicum* (Goda mánil), and *Pancratium zeylanicum* (Wal-lúnu).—Used to remove phlegm in coughs; externally applied to whitlows.

96. *Crinum asiaticum* (Tolabo).—The juice of the leaves is employed in ear-ache. The bulb is externally used for boils, and internally as an emetic.

97. *Crotalaria laburnifolia* (Yakberiya).—The whole plant is used for diseases of the gum and in sore throat, and externally for sores and eruptions.

98. *Crotalaria verrucosa* (Nil-andana-híriya).—The leaves are used for bowel complaints.

99, 100. *Croton lacciferum* (Gas-keppitiyá), and *C. aromaticum* (Wel-keppitiyá).—Used in external piles.

101, 102. *Curculigo orchioides* (Hín-bintal), and *C. Finlaysoniana* (Maha-bin-tal).—The tuberous roots are an ingredient in a medicinal oil to cool the head, and also given internally in cases of impotency, debility and piles.

103. *Curcuma longa* (Kaha).—Used in skin diseases, also as a cooling wash in ophthalmia.

104. *Cyathocalyx zeylanicus* (Kekala).—The bark is used in intermittent fever, it is tonic and astringent.

105, 106. *Cyathula geniculata* (Bin-karal-heba), and *Achyranthes aspera* (Gas-karal-heba).—Are used in cases of dysentery; they promote digestion and increase appetite.

107. *Cycas circinalis* (Madu).—The flour of the seeds is used in rheumatic affections, also in snake bite, especially "polonga" bites.

108. *Cyclea Burmanni* (Kehi-pittan).—The whole plant is used for cattarrhal fever, cough and asthma.

109. *Cynanchum pauciflorum* (Kan-kumbalá).—Locally applied to dispel rheumatic affections.

110. *Cyperus rotundus* (Kalandurá).—The rhizome is used in fever, diarrhœa, dyspepsia, and stomachic complaints. It is considered to be diaphoretic.

111. *Cryptolepis Buchanani* (Wel-rukattana).—Employed for snake bite and in convulsions.

112. *Datura fastuosa* (Attana).—The roots are used in bites by mad dogs; it is thought to cure insanity. The whole plant dried and smoked as tobacco, is beneficial in asthma.

113. *Delima sarmentosa* (Korasa-wel).—The juice of the stem is used as an emetic, and to relieve rheumatic pain.

114, 115. *Desmodium triflorum* (Hín-undupiyali), and *D. heterophyllum* (Maha-undupiyali).—Used in cases of fever caused by catarrh.

116. *Dichrostachys cinerea* (Andara).—The bark is used for rheumatism.

117. *Dillenia indica* (Hondapara).—The fruit is used to cure pimples on the eyelids, and the bark externally to dispel swellings in dislocation.

118. *Dillenia retusa* (Godapara).—The bark is externally used to induce the formation of matter in boils; also to reduce the swelling of dislocated joints.

119. *Diospyros embryopteris* (Timbiri).—The bark only is used; it is astringent, and used for sores and ulcers.

120. *Dipterocarpus zeylanicus* (Hora).—The resin is used in devil ceremonies, and the leaves and bark to reduce the swelling of the joints of cattle caused by overwork.

121. *Dipterocarpus hispidus* (Bú-hora).—The resin is used by the natives in bad cases of cobra bite, and the oil that exudes from the bark is locally applied to cattle attacked with murrain.

122. *Dodonæa viscosa* (Eta-werella).—A poultice made of the leaves and bark is applied to dislocations in cattle.

123. *Dœmia extensa* (Meda-hangu).—Used for rheumatic pains, cough, excessive phlegm, and externally for sore eyes.

124. *Doona zeylanica* (Dún).—The bark is used in cattle diseases, and also to stop bleeding.

125. *Dregea volubilis* (Kiri-anguna).—Given in mild fever in children, and to women after child-birth to improve the secretion of milk. It is also said to cure asthma

126, 127. *Drosera Burmanni* (Wata-ressa), and *D. indica* (Kandu-lessa).—Are used in the composition of medicinal oils.

128. *Drymoglossum heterophyllum* (Panan-Peti).—Used as an eye wash; also to cool the head.

129, 130. *Eclipta erecta* (Kíkirindi), and *Wedelia calendulacea* (Ran wan-kíkirindi).—Used to purify the blood, to cure cutaneous diseases, and to cool the head.

131. *Ehretia buxifolia* (Hín-tambala).—Used externally in eye diseases.

132. *Elephantopus scaber* (Et-adi).—Used externally for bruises and cuts.

133. *Elettaria cardamomum* (Ensál).—Used for flatulency, also in diseases in the brain in composition with other drugs as a snuff.

134. *Eleusine indica* (Wal-kurakkan, Belatana).—Used for sprains and dislocations.

135. *Embelia Ribes* (Wel-embilla).—Bark and leaves rather acid and slightly astringent, promote digestion, and purify the blood; locally used for boils, ringworm, and skin diseases.

136. *Emilia sonchifolia* (Kadu-pahara).—Used for cuts and wounds.

137. *Entada scandens* (Pus-wel).—The juice of the bark and wood is used to poison fish; also to cure ulcers and sores.

138, 139. *Epaltes divaricata* (Hín-mudamahana), and *Sphœranthus indicus* (Mudamahana).—Bitter and astringent tonics. They promote digestion, cure bleeding piles, and destroy intestinal worms. Also employed with benefit in diseases of the bladder and urinary passages.

140. *Eriocaulon quinquangulare* (Kokmota).—Used in fever of children with predominance of bile. Also for consumption with expectoration of blood.

141. *Eriodendron anfractuosum* (Imbul).—The bark is used for intermittent fever, and as an antidote to fever. The juice of the leaves is used in diseases of cattle.

142, 143. *Erythroxylum monogynum* (Tevaturum), and *E. lucidum* (Bata-kirilla).—The leaves of these plants are used to expel intestinal worms. The former is also used by the poorer class of people to appease hunger in time of famine.

144. *Eugenia operculata* (Bata-domba).—The bark is used as a local wash for sores and itches, also as a gargle for sore throat, and a lotion for ringworm.

145, 146, 147. *Eugenia aqueu* (Wal jambu), *E. Jambolana* (Maha-dan), and *E. caryophyllœa* (Dan).—The juice of the green leaves of the above is used in dysentery with discharge of blood, and bowel complaints; and the infusion of the dried bark in cases of diarrhœa of children.

148, 149. *Euphorbia tortilis* Sinuk), and *E. Tirucalli* (Nawahandi).—Given as a purgative, and locally applied for blistering.

150. *Euphorbia rosea* (Múdu-dada-kíriya).—The whole plant is used in composition with other drugs for diseases of the head.

151. *Euphorbia antiquorum* (Daluk).—It is used as a purgative in cases of dropsical affections and cutaneous diseases, also in snake bites.

152, 153, 154. *Euphorbia parviflora* (Eladada-kíriya), *E hirta* (Bu-dada-kíriya), and *E. thymifolia* (Bin-dada-kíriya).—The whole plant is used in coughs and asthma, and externally for cuts, bruises, and ulcers.

155. *Evodia Roxburghiana* (Lunu-ankenda).—The fresh bark is used in dislocations and bruises of cattle; as a decoction it is supposed to possess digestive properties. The leaves are used to cure snake bite.

156. *Evolvulus alsinoides* (Vesnu-Kránti).—The whole plant is used as a good tonic, to promote the appetite, to cure mild fever; it is a pleasant bitter.

157. *Exacum zeylanicum* (Bindara).—Good tonic and very bitter, used in mild fevers.

158. *Feronia elephantum* (Diwul).—The green fruit is used to check diarrhœa and dysentery. The leaves are a good remedy for catarrhal fever and headache in infants; the juice of the buds is employed for injuries of the eye. The ripe fruit cures hiccough and affections of the throat, and also checks excessive discharge of urine.

159. *Ficus altissima* (Nuga).—Used as a wash for ulcers, and internally to check diarrhœa.

160. *Ficus glomerata* (Attika).—The bark and fruit are used in dysentery and bowel complaints.

161. *Ficus hispida* (Kota-dimbulá).—The bark is used in convulsive diseases.

162. *Ficus infectoria* (Kalaha).—The bark is used for chewing in place of betel leaves for strengthening the gums.

163. *Ficus religiosa* (Bó).—The bark is used for bowel complaints, as an astringent and cooling tonic, also as a wash for foul sores and ulcers.

164. *Filicium decipiens* (Pehimbiya).—The leaves are used for boils as a poultice.

165. *Flacourtia Ramontchi* (Uguressa).—An astringent tonic used in fevers and dysentery, also to check purging and to relieve nausea.

166. *Fluggea Leucopyrus* (Hín-katu-pila).—The leaves are used to kill maggots in sores and ulcers, also for fumigation in fevers of children.

167. *Garcinia Morella* (Gokatu).—The bark and leaves possess the same medicinal properties as the Goraka, but the gum is a strong purgative and used in dropsy.

168. *Garcinia Cambogia* (Goraka).—The bark and leaves are used for obstinate constipation, and are externally applied to reduce inflammation, and local pain, and heal cuts and wounds.

169. *Garcinia echinocarpa* (Madol).—The leaves and bark are used in dropsical affections, also as a vermifuge.

170. *Gardenia latifolia* (Galis).—Used in compounding a medicinal oil, and for fumigation.

171. *Girardinia zeylanica* (Gas-kamhambiliya).—The root and bark used for fever and boils.

172. *Gloriosa superba* (Niyangalá).—The tuberous roots are used in snake bites. They are also locally applied to expedite delivery.

173. *Glycosmis pentaphylla* (Dodan-paná).—The bark, leaves and roots are used. Supposed to be very refrigerant, used in fever, rheumatic affections and biliousness. Fumigation with the leaves is a popular remedy in headache caused by catarrh.

174–175. *Gmelina asiatica* (Demata), and *G. arborea* (Et-demata).—The bark is used in bilious fever, indigestion and stomach-ache.

176. *Grewia microcos* (Keliya).—The bark is used in painful constipation of bowels

177. *Gymnema lactiferum* (Kurinnan).—The leaves are used as a vegetable to promote the secretion of milk after child-birth, also in cases of dysentery and snake bite.

178. *Gynandropsis pentaphylla* (Wéla).—A reputed cure for cobra bite, and a remedy for convulsive affections and typhus fever, also used for ear-ache, head-ache and tooth-ache, and intestinal pains caused by worms.

179. *Gyrinops Walla* (Wallá).—A good vermifuge, also believed to strengthen loose teeth and check decay.

180. *Hedyotis nitida* (Pita-sudu-pala).—Used in nervous diseases and intermittent fever. Considered a blood-purifier.

181. *Hedyotis auricularia* (Geta-kola).—Used for cooling the bowels, and in cutaneous diseases.

182. *Hemidesmus indicus* (Iramusu).—The root is used to purify the blood, promote appetite, and cure skin diseases and syphilis. Called native sarsaparilla.

183. *Heptapleurum stellatum* (Itta).—Used in dislocations and for stomach-ache in calves.

184. *Herpestis Monniera* (Lunuwila).—The whole plant is used as a mild purgative to cure eruptions on children, and in small pox to keep the bowels free and to relieve head-ache. It is also used as a fomentation for erysipelas and elephantiasis.

185. *Hibiscus angulosus* (Kapu-Kinissa).—The whole plant is used in rheumatism, and as an aphrodisiac.

186, 187. *Hibiscus surattensis* (Hín-nápiritta) and *H. furcatus* (Nápiritta).—Are locally used as a poultice to boils, the leaves are used for snake bite.

188. *Holoptelea integrifolia* (Goda-Kirilla).—The juice of the bark is used to kill maggots in ulcers of men and beasts, also to destroy intestinal worms in children.

189. *Holarrhena mitis* (Kiri-walla).—The bark and wood are used as a mouth-wash to strengthen the gums, and internally to destroy intestinal worms, and check mild low fever and dysentery.

190. *Hunteria corymbosa* (Mediya).—Locally used to reduce swelling caused by bruises and cuts.

191. *Hydnocarpus venenata* (Makulu).—The fruit is poisonous, an oil from it is used in cutaneous affections and leprosy.

192, 193. *Hydrocotyle javanica* (Maha-gotu-kola) and *H. asiatica* (Hin-gotu-kola).—A good tonic chiefly given to children for bowel complaints. It purifies the blood, checks slight dysentery and promotes digestion; it

also cures nervousness, and skin diseases; and is a reputed cure for offensive breath.

194. *Hydrolea zeylanica* (Diya-Kirrilla).—Used for cuts and bruises and for dislocations.

195. *Hygrophila spinosa* (Katu-ikiri).—The whole plant is used in diabetes, it checks excessive bile and phlegm, and purifies the blood.

196. *Impatiens flaccida* (Kúdalu-mal).—A very cooling medicine, useful in nervous and urinary diseases, and in menorrhagia.

197. *Indigofera tinctoria* (Nil-awari).—The plant is used in diseases of the kidney, enlargement of the spleen, and whooping cough of children.

198. *Ipomœa aquatica* (Kan-Kun).—Used to cool the bowels.

199. *Ipomœa Beladambœ* (Bin-tamburu).—Used in medicinal oil for the head to check giddiness, and to keep the head cool.

200. *Ipomœa coccinea* (Waha-tella).—Used in catarrhal fever.

201. *Ipomœa digitata* (Kiri-badu).—The bulb is used to cure impotency, and to increase the secretion of milk.

202. *Ipomœa Turpethum* (Trasta-wálu).—The root is used in cases of fever, dropsy, and rheumatism, a good purgative for various complaints, and a substitute for jalap.

203. *Ixora coccinea* (Ratambalá).—The flowers and the bark are used for blood-shot eyes, and the leaves for sores and ulcers, and internally for diarrhœa.

204, 205. *Jasminum Sambac* (Pichcha), and *J. angustifolium* (Wal-pichcha).—Astringent and bitter, used for pot-bellied children and as a mouth-wash to strengthen loose teeth.

206. *Justicia Betonica* (Sudu-puruk).—Used externally to boils and abscesses to bring out the core.

207, 208, 209. *Kæmpferia pandurata* (Amba-kaha), *Curcuma Zerumbet* (Harankaha), and *C. aromatica* (Dada-kaha).—Applied to wounds and bruises; also used in medicinal oils, and as a cooling wash in ophthalmia.

210. *Klugia Notoniana* (Diyanilla).—A cooling medicine given in biliousness and dysmenorrhœa.

211. *Lagenandra lancifolia* (Ati-udayan).—Used in nervous fever.

212. *Lagenandra toxicaria* (Ketala).—An outward application to boils to reduce pain.

213. *Lagerstrœmia Flos-reginæ* (Muruta).—The root is used in composition with other drugs to draw out thorns, &c., from the sole of the foot, and to reduce swelling.

214. *Laportea crenulata* (Má-ussá.—For foul ulcers; the bark and wood used.

215. *Lasia spinosa* (Kohila).—A well-known remedy for piles.

216. *Lasiosiphon eriocephalus* (Naha).—Externally applied to foul ulcers to destroy maggots, particularly in hoof-diseased cattle.

217. *Leea sambucina* (Burulla).—Used in cattle murrain, to expel worms from children, and locally to cure ringworm and the obstinate sores caused by burns. The ripe fruit is a cure for warts.

218, 219. *Leucas mollissima* (Sudu-tumba), and *L. zeylanica* (Geta-tumba).—Used in dog bite, and in mild fever caused by indigestion; also to relieve pain caused by intestinal worms.

220. *Limonia alata* (Tumpat-kurundu).—Leaves and bark are used in fomentations for rheumatic pains.

221. *Litsea sebifera* (Bómi).—The bark is locally used in dislocation; also in bruises to produce dispersion of extravasated blood.

222. *Litsea zeylanica* Dawul-kurundu).—Used in snake bites.

223. *Mangifera zeylanica* (Amba).—The juice of the bark internally used to check diarrhœa.

224. *Marsdenia tenacissima* (Muruwá-dúl).—The leaves are used for flatulence and convulsions.

225. *Memecylon umbellatum* (Kora-kaha).—The roots are used in flatulency, &c.

226. *Mesua ferrea* (Ná).—The oil obtained from the seed is used for various diseases in cattle, also for rheumatism in men. The dried flowers are very stimulant and used in mild cases of fever, and with other drugs as snuff for brain diseases. The bark is astringent, and used in composition with other medicines for rheumatic fever with diarrhœa.

227. *Mezoneurum enneaphyllum* (Goda-wawuletiya).—The whole plant is used for sickness after child-birth. Also given to cattle suffering from worms.

228. *Michelia Champaca* (Sapu).—The bark only is used in low fever. Considered to be a good tonic and febrifuge. It is bitter and aromatic.

229. *Mimosa pudica* (Nidi-kumba).—Used in cobra bite, and supposed to be a real cure. In case of anything falling into the eye the whole plant is chewed, and it is believed that the foreign body will be expelled.

230. *Mimusops Elengi* (Múna-mal).—The bark is used for decaying gums; also for snake bite.

231. *Mimusops hexandra* (Palu).—The bark is employed as a gargle for sore throat; also to purify the blood.

232. *Mirabilis Jalapa* (Sendrika).—The juice of the plant is applied for scalds, wounds and bruises; also to boils.

233. *Monochoria hastæfolia* (Diya-habarala).—Very cooling; used to remove bile.

234. *Morinda citrifolia* (Ahu).—The leaves are used as outward application for sores and wounds, &c.; also internally for diarrhœa.

235. *Moringa pterygosperma* (Murunga).—The bark of the tree and of the root is used; it is acrid, and pungent; internally used for

promoting the appetite and help digestion, and externally as a rubefacient in cases of collapse; the leaves for wounds from dog bites.

236. *Munronia pumila* (Bin-kohomba).—The juice of the green leaves internally used in mild leprosy. The whole plant, which is very bitter, is used in cases of constitutional debility and remittent fever. A good substitute for chiretta.

237. *Murraya exotica* (Ettériya).—The roots and bark are used; good tonic and stomachic; generally used in windy complaints and indigestion.

238, 239. *Murraya Kœnigii* (Karapincha), and *Clausena indica* (Mígon-karapincha).—The leaves of the first used to flavour curries, and the roots, bark, and stalks of both in fever caused by indigestion; they are also supposed to be a good remedy for dysentery.

240. *Mussænda frondosa* (Mussenda).—For inflammatory swellings, locally used.

241. *Myristica Irya* (Iriya).—The bark is used in medicinal oils for sores.

242, 243. *Myristica laurifolia* (Malaboda), and *M. Horsfieldia* (Ruk).—The bark is used for dislocations, and also for ulcers.

244. *Nelumbium speciosum* (Nelun).—The stem is used in cases of intermittent fever and dysentery. The stamens of the flower are cooling and astringent, and used in bleeding piles and in parturition.

245. *Nephelium Longana* (Mora).—The bark is used in mild fever, and the fresh juice to cure ear-ache.

246. *Nymphæa Lotus* (Olu).—The tubers are used for blood-shot eyes, also to reduce thirst in cases of intermittent fever.

247, 248. *Ocimum canum* (Hín talá), and *O. sanctum* (Maduru talá).—Used in fumigation to drive away mosquitoes, and internally in cases of catarrh and cough with pain in the sides.

249. *Ocimum gratissimum* (Otala).—Used in fumigation, and as a vapour in cobra bite; also locally applied to dispel swellings.

250. *Odina Woodier* (Hik).—A decoction made of the bark is used as a gargle in cases of malignant sore throat, also used externally to cure ulcers and sores.

251. *Oldenlandia corymbosa* (Wal-patpádagam).—A bitter tonic and febrifuge used for bilious fever with irritability of the stomach, also for diarrhœa.

252. *Ophiorrhiza Mungos* (Dat-ketiya).—A safe remedy for tooth-ache; the leaf used.

253. *Oroxylum indicum* (Totila).—The bark is used as a bitter tonic. It dispels rheumatic swellings, reduces phlegm, and checks fever, diarrhœa and dysentery.

254, 255. *Osbeckia aspera* (Bówitiya), and *O. octandra* (Hin-bowitiya).—The roots and leaves are used externally to boils and abscesses.

256. *Oxalis corniculata* (Hín-embul-embiliya).—The fresh juice of the leaves is used in bleeding piles, the green leeves are eaten as salad to promote appetite, and as an antidote to datura poisoning.

257. *Pandanus zeylanicus* (O-kéyiyá).—The juice of the root is used in medicinal oil for cooling the head and dispelling giddiness, also to increase the growth of the hair.

258. *Pandanus fœtidus* (Dunu-keyiyá).—Used in irritability of the stomach.

259. *Pandanus fascicularis* (Múdu-keyiyá). Externally applied to the head for the growth of the hair.

260. *Panicum antidotale* (Krimisastru).—A good worm medicine for children.

261. *Paramignya monophylla* (Wellangiriya).—The root is used. It is very aromatic, and a valuable remedy in dysentery.

262. *Pedalium Murex* (Et-nerenchi).—The whole plant is used in gonorrhœa and other disorders of the urinary passages.

263. *Pericopsis Mooniana* (Nedun).—The bark is used in medicinal oil for rheumatism and convulsions.

264. *Phyllanthus indicus* (Karawu).—The bark is used in sprains and bruises of cattle.

265, 266. *Phyllanthus Niruri* (Pitawakká), and *P. Urinaria* (Rat-pitawakka). — The whole plant is used in marasmus and jaundice, and locally applied for bruises.

267. *Phyllanthus Emblica* (Nelli).—The fruits are a cooling laxative, used in dyspepsia.

268. *Pimpinella Heyneana* (Wal-asamodagan.—Used in place of the true Asamodagan (*Ptychotis Ajowan*) in bowel complaints.

269. *Piper Betle* (Bulat-wel).—Carminative, stimulant, aromatic, and astringent.

270. *Piper Chawya* (Siwiya-wel).—It reduces phlegm, and is supposed to be stimulant, aromatic, and carminative; used in cases of indigestion.

271. *Piper longum* (Tippili).—The roots and the dried flower-spikes are used in cough, hoarseness, and dyspepsia.

272. *Pistia Stratiotes* (Diya-parandella).—Used to induce a free flow of urine.

273. *Plectranthus zeylanicus* (Iri-weriya).—The roots and leaves are used in cases of dysentery and diarrhœa to promote the appetite and dispel pain; also used in medicinal oil.

274, 275. *Plumbago zeylanica* (Ela-netul), and *P. rosea* (Rat-netul.)—Increases the digestive powers, and is useful in dyspepsia, cures piles and cutaneous diseases, reduces swellings, and destroys intestinal worms.

276. *Pogostemon Heyneanus* (Gan-kollankola).—The dried leaves powdered are used as snuff for diseases of the brain.

277. *Pongamia glabra* (Magul-karanda).—The root is used as a tooth-brush, not only to clean the teeth, but to check decay. The juice of the root bark is used for itches and sores. The green juice of the bark and of

the leaves are externally applied to relieve rheumatic pain. The oil extracted from the seeds is used for Malabar itch, and a poultice made of the green leaves applied to ulcers infested with worms.

278. *Portulaca quadrifida* (Hín-genda-kola).—The fresh juice of the leaves is cooling, refrigerent, and stomachic; used for bleeding piles, scalds and burns and boils.

279. *Portulaca oleracea* (Genda-kola).—The whole plant is used for diseases considered to be caused by bile; also applied externally in burns, scalds, and erysipelas.

280. *Portulaca tuberosa* (Uru-genda).—Possesses the same qualities as above.

281. *Pothos scandens* (Póta-wel).—The leaves and stem are used for rheumatism; also for dysentery.

282, 283. *Premna serratifolia* (Midi), and *P. latifolia* (Mahamidi).—A bitter tonic, used largely in a variety of affections; it is stomachic and carminative.

284. *Pterocarpus marsupium* (Gammalu).—The bark is used in acute diarrhœa; it is very astringent.

285, 286. *Randia religiosa* (Et-kukurumán) and *R. dumetorum* (Kukurumán).—The root is used for diarrhœa and bilious attacks. The pulp of the fruit is a good and safe emetic.

287. *Ranwolfia serpentina* (Eká-wériya).—Used for cobra bite.

288. *Rhinacanthus communis* (Anitta).—The root and leaves are used in cutaneous diseases, it is a safe remedy for Malabar itches and ringworms.

289. *Ricinus communis* (Endaru).—The root is used for wind and costiveness.

290. *Saccharum procerum* (Rambuk).—The juice of the stems and leaves is given after child-birth.

291, 292. *Salacia reticulata* (Himbutu-wel) and *S. prinoides* (Hín-himbutu-wel).—The woody stem is used in diabetes.

293. *Samadara indica* (Samadara).—The root-bark is used internally to purify the blood, and a decoction made of the leaves as a wash in cutaneous diseases.

294. *Sanseviera zeylanica* (Niyanda).—The juice of the leaves is used to remove irritability of the stomach.

295. *Sapindus laurifolius* (Kaha-penela).—The juice of the bark as well as of the fruit is applied to the nose in cases of lock-jaw.

296. *Sapium indicum* (Kiri-makulu).—The oil extracted from the seeds is given in bowel complaints of children.

297. *Sarcocephalus cordatus* (Bak-mí).—Used in dislocations, cuts and bruises, sores, ulcers and boils.

298. *Schleichera trijuga* (Kon).—The juice of the leaves is given internally in biliousness, and externally applied as a cooling remedy to the head in giddiness, insanity and other disorders of the brain.

299. *Scolopia Gaertneri* (Katu-kurundu).—The roots are used locally for skin diseases.

300. *Sesamum indicum* (Wal-tala).—The seed is used to relieve constipation, and the oil extracted from the seed applied to allay pain and strengthen the joints.

301. *Sesbania grandiflora* (Katuru-murunga).—The wood and bark are used in medicinal oils, for diseases of the brain. They are also employed in catarrhal fever and headache.

302, 303, 304, 305. *Sida humilis* (Bewila), *S. rhombifolia* (Kotikan-bewila), *S. mysorensis* (Girivedi-bewila), and *S. cordifolia* (Binbewila).—The roots are used in rheumatic fever, and are considered to be cooling, astringent and tonic, to check perspiration and increase appetite. The leaves of all the varieties are applied to the head for cooling it and to relieve giddiness, and also used with other medicinal drugs in fever. A decoction of the root is given to women during gestation to facilitate delivery.

306, 307, *Smilax ovalifolia* (Maha-Kabarasa), and *S. zeylanica* (Hín-Kabarasa).—Used as alteratives.

308. *Solanum trilobatum* (Wal-tibbatu).—The whole plant is used in asthma and catarrhal fever

309. *Solanum verbascifolium* (Hekirilla).—Used in cobra bite.

310, 311. *Solanum xanthocarpum* (Elabatu) and *S. Jacquini* (Katu-wel-batu).—Slightly bitter, increases the appetite, helps digestion, cures cough, and kills intestinal worms.

312. *Solanum indicum* (Tibbatu).—Used for catarrhal fever, pain in the chest, cough, asthma and toothache; the fruit destroys intestinal worms.

313. *Solanum ferox* (Mala-batu).—Used in cutaneous diseases.

314. *Spilanthes Acmella* (Akmella).—The leaves and flowers are used for toothache and sore throat; also to check the diarrhœa of women at child-birth.

315. *Spondias mangifera* (Embarella).—The bark is used for rheumatism.

316. *Sterculia Balanghas* (Nava).—The bark is used as bandages for dislocated joints and broken arms.

317. *Sterculia fœtida* (Telambu).—The ashes of the bark are applied to indolent ulcers and sores, malignant sore-throat and raja-boils.

318. *Streblus asper* (Geta-netul).—The bark is used for dislocation and bruises, the juice of the bark for boils.

319. *Stereospermum suaveolens* (Palol).—The bark is used for bilious fever, a very cooling and diuretic tonic.

320. *Strychnos Nux-vomica* (Goda kaduru).—The bark is used as a tonic in cases of diseases of the nervous system and in rheumatism, also externally applied to purify foul ulcers and to cure itch.

321. *Strychnos potatorum* (Ingini).—Used to clear water from impurity, externally applied to strengthen the sight, and internally in cases of gravel and for convulsions in children.

322. *Symplocos spicata* (Bómbu).—The leaves and bark are used externally for dislocation. The water of the boiled leaves used as an eye wash.

323. *Tabernæmontana dichotoma* (Divikaduru).—The seeds are used for sores and ulcers.

324. *Tamarindus indica* (Siyambala).—The tender leaves are used to reduce inflammatory swelling in sore eyes; as a poultice to boils and abscesses. The fruit is used to flavour curries, as well as for its wholesome qualities; the seed is employed in tooth-ache, and also for chronic diarrhœa.

325, 326. *Tephrosia tinctoria* (Alu-pila), and *T. villosa* (Bú-pila).—These are used for diseases in children, such as cough, asthma, and whooping cough, also to purify the blood and to check mild cases of diarrhœa.

327. *Terminalia Chebula* (Aralu).—The bark of the nut is good for fever, asthma, urinary disorders, eye diseases, costiveness, chronic diarrhœa, flatulence, vomitings, hiccough, heart disease, enlarged spleen and liver, and skin diseases. The roasted nuts are used as a tooth powder.

328. *Terminalia Belerica* (Bulu).—The nuts are used; they are are very astringent, employed in eye diseases, fever, cough, hoarseness, and to purify the blood.

329. *Terminalia glabra* (Kumbuk).—The bark and the wood are used; they are an astringent and cooling tonic, and considered good for heart disease.

330. *Thespesia populnea* (Súriya).—The bark is used as an outward application in skin diseases and in swellings, and the leaves as a decoction in constipation of the bowels in cattle; the leaves boiled as a fomentation to boils and eruptions.

331. *Tinospora crispa* (Titta-kinda).—Used in combination with other medicines in cases of mild intermittent and rheumatic fever; a valuable febrifuge.

332. *Tinospora malabarica* (Bú-kinda).—Said to possess the same medicinal properties as the above, and used when the other is not procurable.

333. *Tinospora cordifolia* (Rasa-kinda).—The stem is used in fever, skin disease, jaundice, rheumatism and syphilitic affections, and is a valuable tonic.

344. *Toddalia aculeata* (Kudu-miris).—The plant is used in constitutional debility and low nervous fever with cold shivering fits. It possesses bitter tonic and aphrodisiac properties.

335. *Tragia montana* (Wel-kahambiliya).—Given in mild fever in children caused by bowel complaints.

336. *Trichopus zeylanicus* (Bim-pol).—Used in medicinal oils.

337. *Trichosanthes cucumerina* (Dummella).—The root is used for expelling intestinal worms, and the leaves and stem are good for bilious disorders and to promote appetite. It is also used in cutaneous disease, and to regulate the menstrual discharge.

338. *Trichosanthes palmata* (Titta-Hondala).—The fruit used for foul ulcers; the root for cattle medicines.

339. *Triumfetta rhomboidea* (Epala).—The whole plant is used, and is supposed to possess cooling and diuretic properties. The juice of the leaves is used as a cure for mumps.

340. *Tylophora asthmatica* (Bin-nuga).—The whole plant is used. It is a good emetic in cases of malignant dysentery, it also cures diarrhœa and sores and ulcers. A substitute for ipecacuanha.

341. *Typhonium divaricatum* (Polon-ala).—Used in snake bites.

342. *Vernonia anthelmintica* (Sanni-náyan).—Used in fever with convulsions, and to remove excessive phlegm in cough; externally used for cutaneous diseases.

343. *Vernonia cinerea* (Monara-Kudimbiya).—Slightly astringent and pleasant bitter; used locally to wounds and sores, and internally to promote perspiration.

344. *Vernonia zeylanica* (Pupula).—The stem is used for cuts and wounds.

345. *Vateria acuminata* (Hal).—The resin is used in acute cases of gonorrhœa. The oil obtained from the fruit and bark is locally applied in rheumatism.

346. *Vatica Roxburghiana* (Mendora).—The leaves and bark are said to possess similar properties to the last.

347. *Vitis adnata* (Wal-diya-labu).—Used in cattle diseases.

348. *Vitis Linnæi* (Wal-niviti).—The wood of this is used in medicinal oils for ulcers and sores.

349. *Vitis quadrangularis* (Híressa).—The juice of the stem is used for ear-ache and eye diseases, and internally for piles, bowel affections, and as a mild purgative.

350. *Vitex Negundo* (Nika).—The leaves, bark and root are used in tooth-ache and rheumatism, in eye diseases, and as a tonic to reduce phlegm, promote appetite, expel wind, and destroy worms.

351. *Vitex altissima* (Mílla).—The leaves and bark are used for fomenting rheumatic swellings.

352. *Wissadula zeylanica* (Kiri-kaju).—Locally applied to cuts and wounds.

353. *Withania somnifera* (Amukkará).—Used for coughs and asthma.

354. *Wormia triquetra* (Diya-para).—The root is used in biliousness, externally for swollen testicles.

355. *Wrightia zeylanica* (Sudu-idda).—The

juice of the bark and wood is used for diseases of the ear, and boils on children.

356 *Xylopia parviflora* (Netawu).—The bark is used in composition with other medicines to cure ulcers.

357. *Xylopia Championii* (Dat-ketiya).—The leaves are used with salt and turmeric for cobra bites.

358. *Xyris indica* (Ran-manissa).—Used in medicinal oil for cutaneous diseases and ringworm.

359. *Zingiber cylindricum* (Wal-inguru).—A well-known stimulant and aromatic in indigestion and fever; externally used for paralysis and rheumatism.

360. *Zizyphus Jujuba* (Maha-debara).—The dry leaves are used in cough and asthma, hiccough, and heart disease. The fruit is said to possess antidotal properties in cases of stinging by wasps.

361, 362. *Zizyphus Œnoplia* (Hín-craminiya), and *Z. rugosa* (Maha-craminiya).—The bark is used in fermenting toddy, and also as a remedy for swellings, dislocations, and eye diseases.

N. S. FERNANDO, Colombo.—A collection of 170 Bazaar Drugs &c. in bottles [Lists have been separately printed, and can be obtained in the Court on application].

W. A. JAYASINGHA, Balapitimodera.—A collection of 89 indigenous native drugs from the Western Province.

Dr. W. C. ONDAATJE.—Nux Vomica seeds and pulp from Hambantota.

R. S. FRASER, Kandanewera, Matale.—Calabar Beans grown on the estate (*Physostigma venenatum*).

A. G. ROBSON, Ankanda Estate, Matale.—Seeds of *Cola acuminata* (Cola nuts) grown on the estate.

CLASS IV.

RAW PRODUCTS AND MANUFACTURES.

SECTION I.

Oil Seeds and Oils. [P. and X.]

COCONUT OIL [**X.**].—The tree producing the nut (*Cocos nucifera*) which yields this oil may not be indigenous, but in any case it was found growing in abundance by the first Europeans who settled on the island. Yet the trade in the oil is of comparatively modern date, this product never having been shipped to Europe by either Portuguese or Dutch. To a former governor of Ceylon, Sir Edward Barnes, who formed the first coffee plantation, belongs the credit of inaugurating a trade in this oil with England. He imported a small steam-engine and mill-stones for crushing the dried kernel, or copra; and when at the close of a few years the experiment was shown to be a complete and profitable success, the machinery was sold to a mercantile firm in 1834. During the past fifty years, the cultivation of the coconut palm has been largely extended, and the manufacture of the oil greatly increased, as may be seen by the following figures, showing the quantity exported in each shipping season ending September 30th.

1876 .	Cwts. 194,306	1879 .	Cwts. 213,622
1877 . . .	152,416	1880 . . .	316,503
1878 . . .	112,825	1881 . . .	247,113

1882 . Cwts. 183,768	1884 . Cwts. 423,830
1883 . . . 306,299	1885 . . . 274,998

In the year 1836 the export oil trade received a considerable impetus by the action of agents of Price's Patent Candle Company, of the Belmont Factory, who in 1836 erected large steam mills at Hultsdorf, a suburb of Colombo, which proved so successful that other large and costly oil manufactories were afterwards established, in which the newest and most powerful hydraulic steam works were put up. Yet notwithstanding the investment of so much capital in powerful machinery for oil making, steam has never been able to efface the simple native mill, or checko, from competition, and at the present time there are said to be eight hundred of these primitive mills at work throughout the country. Owing to the presence in this oil of a large proportion of stearine or fatty saponaceous matter, it becomes solid at a low temperature ; in warm climates it is perfectly limpid and bright. The stearine, extracted from it by pressure, is employed in the manufacture of soap and candles, the well-known "Belmont" candles being largely composed of this substance. In Ceylon the natives use it when fresh for cooking purposes, and it is considered by them as an excellent oil for the hair, for which purpose it is used freely. The oil of the bright yellow, or "king" coconut, made by boiling the dried kernel in water, is highly esteemed by all classes of natives and many Europeans, as a soft and efficacious oil for the hair; it is devoid of the strong nutty aroma of the ordinary oil. When solid, in cool weather, the oil is beautifully white ; when liquid, as is the purified oil shown by Messrs. G. & W. Leechman, it is of a bright pale straw colour clear as water. In Ceylon it was at one time commonly used for burning in lamps, but kerosene oil has now entirely superseded it amongst Europeans, and to a great extent with the better class of natives.

CASTOR (*Ricinus communis*,).—This plant grows freely on almost any soil, in the low country, where there is not much shade ; indeed, when once introduced on any land, it is often found difficult to eradicate. It is a free seed-bearer, but is not a favourite plant with the natives, as it is supposed to be prejudicial to health when grown in any quantity near habitations, thus it is not extensively cultivated in Ceylon.

CASTOR OIL.—The produce of the seeds of *Ricinus communis* is not made in this island for commercial purposes, though met with in bazaars in outlying districts, inhabitants of the towns preferring

to employ the imported article from Madras, which is much finer in quality than the locally made oil.

GINGELLY, or SESAMUM SEED.—The plant producing this small seed (*Sesamum indicum*) grows freely in most parts of India, and is cultivated to some extent in the Jaffna and Kurunegala districts. It is largely exported from India to Europe, but only moderately so from Ceylon, though there is no sufficient reason why it should not become an important article of export, for it is most readily grown and is a profitable cultivation. At present the local production of this seed is consumed in the country in the manufacture of oil, which is much esteemed by natives, both for cooking and burning. The value of this export is about Rs. 7,500.

MUSTARD SEED (*Brassica juncea*).—This seed is but little cared for in the island, and though a free grower in the most indifferent soil, has never been a favourite product with the natives.

CROTON SEED (*Croton Tiglium*).—The little tree producing these seeds, which afford Croton oil, is not native to Ceylon, but is common enough in gardens, and called Jayapala. Within the last few years its cultivation has been taken up by a few European planters, and is said to be profitable.

KEKUNA OIL (from *Aleurites moluccana*).—This is sometimes called candle nut oil, for the reason that the seeds, when strung upon a thin strip of bamboo and lighted, burn like a candle. These contain fifty per cent. of the oil, which is expressed by the ordinary native mill, and exported to Europe, where it is employed in soap-making, and is found to be far better than olive oil for cloth dressing. The kekuna tree thrives up to an altitude of 2,000 feet, but is not a native in Ceylon.

KOHOMBA, or MARGOSA OIL.—The nim, or margosa tree (*Melia Azadirachta*, Linn.) grows freely in the light sandy soil of the eastern and northern districts of the island. From the fruit is extracted, by boiling or pressure, a fixed acrid bitter oil, deep yellow, with a strong disagreeable flavour. It is used medicinally as an antiseptic and anthelmintic. Medical practitioners say they have found this oil as efficacious as cod liver oil in cases of consumption and scrofula. The oil is applied externally to foul ulcers, and used as a liniment in rheumatic and spasmodic affections, and in headaches from exposure to the sun. By native practitioners the oil is much used in suppurating scrofulous glands.

CAJU, OR CASHEW NUT OIL (from *Anacardium occidentale*).—This is obtained from the small edible nut produced by an introduced tree,

which thrives in any light soil. The oil thus obtained is of a pale straw colour, sweet and bland, but owing to the large demand for the nuts by natives for food, very little of the oil is made, and scarcely any for export The nuts are said to yield about forty per cent. of their weight of oil.

MI OIL.—This yellow and semi-solid oil is expressed from the fruit of a large evergreen tree common to Ceylon and South India—the *Bassia longifolia.* It is not an oil of commerce, and is rarely seen even in native bazaars, but native medical men prescribe it as efficacious in certain cutaneous disorders. The residuum, or oil-cake, left after extracting this and the preceding oil is frequently baked and employed afterwards for washing the hair, being supposed to possess very cleansing properties.

OIL CAKE.—Poonac and gingelly oil cake are exhibited. These oil cakes are the remains of the crushed kernels and seed of the coco-nut palm and the gingelly. They are both used as food for cattle, and form an excellent manure when applied to land in a semi-decomposed condition. It has been found in Europe that a small portion of coconut poonac mixed with the ordinary food of horses tends to impart a glossy appearance to the animals' coats, and at the same time promotes their general health. In this way it has come to be used pretty generally by French military authorities for cavalry horses. The export of the coconut poonac has not much increased of late years, owing to the raw material "copra," from which it is produced, being largely shipped to European Continental ports. The yearly extent of the export is 36,000 cwts.

CEYLON AGRICULTURAL ASSOCIATION.—One barrel Coconut Oil.

G. & W. LEECHMAN, Colombo.—Trade samples of Coconut Oil; in a collection of coconut palm products separately described under section 13.

D. SMITH, Esq., M.P.—King Coconut oil. (*Vide* section 14).

J. F. DRIEBERG, Esq.—King Coconut Oil; Coconut oil.

GOVERNMENT OF CEYLON, Kegalla District.—King Coconut, and Coconut oil.

CEYLON AGRICULTURAL ASSOCIATION.—Poonac, or oil cake, and Copra.

G. & W. LEECHMAN, Colombo.—Poonac, or oil cake. (*Vide* section 13).

GOVERNMENT OF CEYLON, North Central Province.—Gingelly Oil Cake.

D. SMITH, Esq., M.P., & MESSRS. G. & W. LEECHMAN.—Both exhibit Copra and Poonac.

HORREKELLY ESTATE CO., Limited.—Trade samples of Copra from the estate.

GOVERNMENT OF CEYLON.—Oils from Northern Province:—Gingelly, Punnai, Palai, Illupai, Margosa, Castor.

CEYLON AGRICULTURAL ASSOCIATION.—Dummala, Na, Gingelly, Mi, Domba, Kékuna, Mustard and Caju Oils.

R. BOTANIC GARDENS.—Oils from Central Province: Caju (*Anacardium occidentale*), Aba (*Brassica juncea*), Kékuna (*Aleurites triloba*), Kohomba (*Azadirachta indica*), Endaru (*Ricinus communis*), Domba (*Calophyllum Inophyllum*), Tala (*Sesamum indicum*), Okuru (*Cleidion javanicum*), Kirimakulu (*Sa-ium indicum*), Mi (*Bassia longifolia*), African oil palm (*Elæis guineensis*).

JAMES WESTLAND, Wiharatenne, Haputale.—Croton Oil Seed, two varieties.

R. S. FRASER, Esq., Wariapola.—Palm-oil nuts.

SECTION 2.

Essential Oils. [P. and X.]

CITRONELLA OIL.—This oil is distilled from the citronella grass (a cultivated variety of *Andropogon Nardus*), largely cultivated in the western and southern districts of Ceylon for this purpose by both Europeans and natives. There are about ten thousand acres of land under this cultivation, but owing to over-production, the selling price is now so low as to have ceased to be remunerative, and growers are now abandoning many of their grass fields. From a few thousand ounces a dozen years ago, the export trade, chiefly to England and the United States, has enormously increased, as may be seen from the following figures, showing the shipments for the last five years:—

1881	Ounces 1,760,677
1882	2,666,912
1883	3,335,780
1884	4,827,620
1885	5,721,112

The result of this large increase in the supply has been a heavy reduction in the selling-price of the oil in Ceylon, from three rupees to one rupee for a bottle of 22 ounces. The oil is used chiefly by soap-makers, but to some extent also by perfumers in the composition of pomatum and other scented preparations. The process of manufacturing this essential oil differs in no way from that adopted in Europe in the distillation of cinnamon and other oils. Most of the oil now shipped to New York goes in bulk packed in iron drawers, weighing several cwts., and not in bottles. It is, however, still exported to London in glass. The total area under this cultivation is about ten thousand acres. It requires scarcely any cultivation for the first year or two, but after four or five cuttings it needs manuring and digging. It is cut twice a year. During the last four or five years the shipments of this oil have increased from 1,760,677 ozs. to 5,721,112 ozs.

LEMON-GRASS OIL is produced by a grass rather coarser than the preceding, called *Andropogon citratus*, and yielding a less proportion of essential oil. The plant producing it receives scarcely any cultivation, and is mostly in the hands of natives in the Southern Province. It has an odour so similar to that of verbena that it is sometimes called oil of verbena. Like the citronella oil, it is largely employed in the manufacture of scented soaps as well as in pomades and other articles of perfumery, but chiefly in the manipulation of Eau-de-Cologne. It grows very freely in almost any light soil with a good rainfall, but cannot stand long droughts, hence its cultivation has been chiefly confined to the Southern Province, where as much as a hundred to a hundred and fifty inches of rain fall within the year. The demand for this oil is far less than for the kindred oil of citronella, not more than 8,719 ozs. having been exported last year. The local value of the article put up in glass bottles is about one rupee per 22 ozs.; its manufacture is entirely in the hands of natives.

OIL OF CINNAMON (from *Cinnamomum zeylanicum*).—Distilled in considerable quantities from the broken quills of cinnamon and the coarser portions of the bark which are incapable of being worked with the usual quills. This oil is of a pale golden colour, highly aromatic in odour, and of an extremely sweet and delicate taste on the tongue, but is rarely to be had of fine quality from the circumstance that in its distillation a good deal of coarse trunk and root bark is mixed with the true cinnamon pieces. Its uses are various in confectionery, perfumery, and medicine. The finest pure oil always commands a high figure, as much as a rupee the ounce, but ordinary oil about one-fourth of that price. The shipments of this oil have been as follows:—

1881	Ounces 41,719
1882	18,762
1883	76,224
1884	104,185
1885	117,023

The greater portion has gone to the United Kingdom. The leaves of the plant yield a greenish coloured oil, having somewhat the odour of cloves; it is employed to a large extent in veterinary medicines, but its value is not more than two pence the ounce.

CEYLON AGRICULTURAL ASSOCIATION.—One bottle of Cinnamon Oil.

J. F. DRIEBERG, Esq.—One bottle of Cinnamon Bark Oil. One bottle of Cinnamon Leaf Oil.

J. DE MEL.—One bottle of Cinnamon Bark Oil.

J. & K. GIKIYANAKANDA.—Three bottles of Citronella Oil.

WINTER & SONS, Baddegama.—Six bottles of Citronella Oil. Six bottles of Moluc.a Lemon Grass Oil.

E. A. JAYASINHA, Galle. — One bottle of Citronella Oil.

D. SMITH, Esq., M.P., exhibits Cinnamon Bark and Leaf Oil in his special exhibit, detailed under Section 13.

CEYLON AGRICULTURAL ASSOCIATION.—One bottle of Beli-flower water (from flowers of *Ægle Marmelos*).

SECTION 3.

Resins and Gums. [P.]

GAMBOGE.—Excellent gamboge is afforded by the Gokatu or Kana Goraka tree (*Garcinia Morella*). Little has been as yet done to develop this product commercially, but a consignment sent to England three years ago fetched £14 5*s.* per cwt.

HAL.—This is a good clear white dammar resin, obtained from a handsome tree peculiar to the island (*Vateria acuminata*).

RATADEL.—This gum is an exudation of the bread fruit tree (*Artocarpus incisa*). The yield is not large, but the gum is clear, and answers well for a variety of purposes.

HORA.—Gum-resin, an exudation from the Hora tree (*Dipterocarpus zeylanicus*), a large tall-growing tree, to be found from sea level up to altitude of 3,000 feet.

DOON.—The product of the *Doona zeylanica.* This gum is colourless and of a resinous nature, and when dissolved in turpentine or spirits, makes an excellent and useful varnish.

NEEM.—A transparent yellow gum from the Neem, or Margosa tree (*Azadirachta indica*). It is used by native practitioners as a mild stimulant in cases of bowel complaints: the tree itself is believed to keep off attacks of fever.

KEKUNA.—A fragrant gum-resin which exudes from the stem of *Canarium zeylanicum.* This is used for burning, and is believed to drive away snakes.

GROUND RESIN ("Bindummala").—Is dug up from beneath the surface of the ground, often at some depth. It is no doubt the produce of trees which have long died out, and cannot be with certainty referred to any existing species.

GOVERNMENT OF CEYLON.—From North-Central Province:—Kaju, Dummala, Vakai, Hik, Velam, Kayappu, Na, Dun, Satinwood, Odai, Margosa, Wood-apple, Kolaluccada. From North-Western Province, Hik and Bindummala.

Dr. W. C. ONDAATJE.—Resin of *Doona cordifolia.* Forms an excellent picture-varnish.

SECTION 4.

Dyes and Dye Stuffs. [P.]

The most valuable dye stuff shipped to Europe from Ceylon is Orchella weed. This is a lichen (*Roccella Montagnei*) which grows on the stems of coconut palms and the lower branches of jungle trees near the coast in the Puttalam, Calpentyn, and Jaffna districts; the quantity collected is not large, the yearly export ranging from 800 cwts. to 1,100 cwts., worth in the London market about £36 the ton. It is exported in tightly-pressed bales, and is of comparatively recent discovery as a Ceylon article of commerce.

SAPANWOOD. This wood is from the stem, root and branches of a tree (*Cæsalpinia Sappan*) long ago introduced into Ceylon and growing in most of the maritime districts of the south and west of the island. It is of tolerably rapid growth in almost any soil. When immature, the wood possesses but little colouring matter. It is freely exported to the United Kingdom; the following figures showing the shipments during the last five years:—

	Cwts.
1881	9,756
1882	10,561
1883	11,404
1884	2,413
1885	2,834

A decline in the home value of this dyewood has caused it to be neglected of late years, the tree no longer being much cultivated, as was formerly the case, generally as a hedge or boundary fence to native gardens or plantations.

JAK WOOD. The wood of the Sinhalese *kos gaha* (*Artocarpus integrifolia*) dyes an extremely useful yellow, and is employed by the natives for dyeing house mats, fibres for ornamental purposes, as well as for giving to cotton and silk cloth the peculiar pale canary colour which is required for the robes of the Buddhist priesthood. It is not exported.

MILILLA WOOD (*Vitex altissima*) dyes of a paler yellow than the preceding, but is not in very general use amongst the natives.

CHAYA ROOT (*Oldenlandia umbellata*). This root is collected in the Northern and Eastern Provinces, and is in general use amongst native dyers for colouring cotton cloths. Used with mordants it has lasting properties.

MYROBALANS.—The fruits of *Terminalia belerica* and *T. Chebula*, both growing pretty freely in the island, and known amongst the Sinhalese as *Bulu* and *Aralu*. The fruit of the latter is more highly esteemed than that of the former. When used with iron salts, it gives a black dye; applied with turmeric and indigo, it yields a green colour, and with catechu a brown dye. Employed with alum, the nuts give a tolerably good yellow dye. Myrobalans are exported under the name of gall-nuts to the annual value of Rs. 28,000.

ANATTO. This useful and rather delicate orange-red dye is obtained from the pulp surrounding the seeds of the *Bixa Orellana*. This dye is largely used in Europe and India in dyeing silks, and also for colouring cheese and other articles. The pulpy matter is separated from the seeds by boiling, and when dried pressed into cakes and shipped. It is imported into England chiefly from French Guiana, where it is native; but the plant is an ancient introduction to Ceylon and now semi-wild.

GOVERNMENT OF CEYLON.—Anatto seeds from Kégalla district.

JAMES WESTLAND, Wiharatenne, Haputale.—Anatto.

A. G. K. BORRON, Crystal Hill, Matale.—A collection of Anattos, with illustration.

GOVERNMENT OF CEYLON.—Orchella Weed from Puttalam District.

D. M. D. ROSARIO, Mudliyar.—Orchella Weed from Kalpentyn.

GOVERNMENT OF CEYLON.—Chaya Root from Jaffna.

SECTION 5.

Tanning Substances. [P.]

A number of useful tanning barks exist in the island, most of which are known to but a few villagers, the number employed by Colombo tanners being comparatively few. Many are used almost entirely for tanning sail cloth and ropes and nets for fishing The bark chiefly employed is that of the Ranawara (*Cassia auriculata*), very common in the dry, sandy parts of Ceylon. The Aralu tree (*Terminalia Chebula*) yields a bark which forms an admirable tan. Another species of *Terminalia*, *T. glabra*, the Kumbuk of the Sinhalese, is largely used by native tanners, and imparts the reddish-brown colour so peculiar to country-tanned leather.

The bark of the Kadol, or Mangrove (*Rhizophora mucronata*) is much in use amongst native tanners, but when tried in Europe it is found somewhat ineffective, and is now only employed as a pre-

liminary tan, requiring the aid of Myrobalans. The fruit of the Timberi (*Diospyros Embryopteris*) is freely used as a most useful tan for nets, and also for coating the planks of boats to preserve them from the attacks of marine animals. The only process required is to steep the half-ripe fruit in cold water for a few hours, when the preparation may be used.

The bark of the Australian "black wattle" (*Acacia decurrens*) is being shipped from Ceylon experimentally from trees planted six years ago on estates in the Dimbula coffee districts as boundaries and break-winds. Each tree stripped gave 22 lbs. dried bark. It is a question whether the value of this bark as a tanning substance will enable a price to be realised sufficient to do more than cover railway and steamer freight. In Australia the cost of carriage from the interior, where no water transport exists, is so heavy that the bark is there boiled down to a thick substance in a highly concentrated form, which of course reduces the cost of freight on the solid tanning principle. This plan may have to be adopted in Ceylon, as the tree is valuable for fuel in tea factories.

D. M. D. ROSARIO, Mudliyar.—Ranawara Bark from Kalpentyn. Kadol Bark from Kalpentyn.

SECTION 6.

Fibres and Ropes. [P. and Walls.]

Coir, the product of the coconut palm, is an article of export of considerable value; and kitul fibre is also of some importance. The following are also shown:—Wara (*Calotropis gigantea*); Plantain (*Musa textilis*); Niyandä (*Sanseviera zeylanica*); Katali (*Polyalthia suberosa*); Banian (*Ficus bengalensis*); Velam (*Acacia leucophlœa*); Attikka (*Ficus glomerata*). All of these latter are employed by villagers and others in making ropes and cordage for domestic, agricultural, or hunting purposes, the fibre of the plantain being the only one which has received attention with a view to commercial uses, but hitherto without success, in consequence of the price of labour and the amount of manipulation required to fit the fibre for export. The Niyanda is largely used by natives in the making of fine coloured mats, whips and ornaments used in temple processions. The fibre of the kitul palm (*Caryota urens*) is exported to the United Kingdom to the value of about Rs. 30,000 annually, and is there used in the

manufacture of brooms, brushes, and some few ornaments. In Ceylon, especially in the Southern Province, it is employed to make baskets, which, ornamented with silver work, find a ready sale on the spot, very few being exported to Europe. The most important of the island fibres is that of the coconut coir, which has for many years past formed a rather large item of export trade in the various forms of prepared fibre, yarn and rope. The following figures show the extent of the export trade in yarn and fibre during the last ten years :—

		Yarn. Cwts.	Fibre. Cwts.
Season ended 30th September,	1885	84,057	12,732
,, ,,	1884	85,195	13,672
,, ,,	1883	68,896	18,009
,, ,,	1882	65,885	6,199
,, ,,	1881	43,747	6,117
,, ,,	1880	57,838	5,862
,, ,,	1879	51,915	9,676
,, ,,	1878	55,671	5,347
,, ,,	1877	55,590	3,624
,, ,,	1876	48,974	6,769

The yarn goes to the United Kingdom, the fibre to England and the United States. Coir yarn is largely used in England by matting manufacturers, and the fibre for filling mattresses and cushions of all kinds, after undergoing a baking process. In Ceylon coir yarn is employed very generally for a great variety of purposes, amongst others for fastening together the planks of dhonies, or native square-rigged vessels, in which nails are seldom employed, by reason of their liability to rust, whereas coir resists the action of salt water with impunity. These preparations of coir fibre are noticed in section 16, under the head of "Products of the Coconut Tree."

COIR AND JUNGLE ROPES.—Coir rope is the only description exported, and that to a less extent than formerly. The export to the United Kingdom has practically ceased, but coir ropes are still shipped to the Straits, where they are used on board native trading-vessels as cables, hawsers and for running rigging. The manufacture of coir rope is carried on chiefly in the vicinity of Galle and Colombo, being entirely the produce of hand machinery. The use of jungle ropes, of which a variety are shown, is confined to the rural districts in the forming of fences, house-building, lashings of rustic bridges, tethering of cattle, &c.; whilst ropes of buffalo hide and kittul fibre are usually employed in the capture of such wild animals as leopards,

elephants, &c. The following figures show the annual shipments of coir rope:—

	Cwts.		Cwts.
1885	11,419	1880	7,290
1884	11,473	1879 . . .	8,201
1883	11,792	1878	7,810
1882	7,179	1877	3,641
1881	11,640	1876	4,212

G. DE CROOS.—Coconut coir, No. 1 quality. Ditto, No. 2 quality. Ditto, No. 3 quality.

A. T. FERNANDO.—Coconut fibre and yarn.

RAPHAEL PERERA.—Coconut fibre, one packet. Ditto, Yarn, three packets.

CLARK SPENCE & CO. — Trade samples of Coir Yarn.

GOVERNMENT OF CEYLON.—Specimens of Coir Brooms.

D. SMITH, Esq., M.P. and G. W. LEECHMAN of Colombo, exhibit samples of coir and manufactured articles made of coir in their respective collections of the products of the coconut palm, *vide*, sections 13 and 14.

RAPHAEL PERERA.—Kitul fibre of all qualities.

GOVERNMENT OF CEYLON, Kegalla district.—Ropes and Brooms made of Plantain fibre, Kahata fibre, Aloe fibre and Coconut Fibre. Jungle ropes, viz.—Walapatta, Belipatta Midella, Puspatta, Hide rope, Hana rope. North-Central Province.—Liniya fibre, Náwá fibre, hemp, ropes made of creepers, fishing-lines made from Kalawel. Northern Province.—Ropes of *Phœnix zeylanica* fibre. North-Western Province.—Six Kitul and other fibre ropes Kegalla.—Samples of *Sanseviera* fibre.

A. PAYNE, Handen Kande, Kurunegala.—Samples of Neyanda and Green Aloe fibres.

A. M. WHITE, Esq., Ettapolla, Matale.—Aloe fibre.

SECTION 7.

Cotton and Silk. [P. and K.]

COTTON was formerly grown in the eastern and northern districts for spinning purposes, but the importation of cheap cotton twist from Europe has completely destroyed this cultivation.

The few exhibits of cotton cloth shown are made in the Saffragam, Galle, and Batticaloa districts. Twenty years ago the cotton cloth industry of Ceylon was one of some importance, and the Batticaloa and Chilaw table linen was famed for its cheapness and durability, whilst the coloured cottons of the Jaffna district were equally noted for their brightness and lasting quality. Superseded by cheaper cloths from Europe, these once famous industries have languished. The dyed cloths of Batticaloa are poor representatives of the former manufacture. Jaffna has sent nothing, and the white cottons of Saffragam and Galle are the only exhibits worthy of notice, and they are well made and durable.

KAPOK.—Within the last few years the cottony covering of the seeds of the common red-flowered Katu Imbul tree (*Bombyx mala-*

baricum) has become an article of export, and its value has risen with the ever-increasing demand for it, chiefly for export to Australia. Cotton of this description has been fetching in Colombo about eighteen or twenty rupees per cwt. for "cleaned," and there is reason to believe that were freight obtainable to Australia at a moderate rate, a large and profitable business in this article might be carried on. No systematic cultivation of it has been as yet tried. This substance can only be used for stuffing, having no properties which allow of spinning. The Malay name "Kapok" is properly applied to the cotton of the white-flowered Imbul (*Eriodendron anfractuosum*), but has been transferred to the present substance, called "Pulun" by the Sinhalese, by the planters.

SILK. The white and yellow cocoons shown are exhibited by Mr. Ross, who first imported "seed" of the *Bombax Mori* from Japan, and endeavoured to rear the worms on his estate in the Matale district, a warm and rather dry locality, about 1,200 feet above sea level. After a number of disappointments, the experiments gave some promise of success, and the silk pioneer, finding that in Matale *six* crops of silkworms could be reared within the year, *i.e.*, during the hot months of January, February, March, April, and part of May and August and September, set about planting mulberry cuttings along roads and boundaries with the view of taking up the industry. Four millions of eggs were obtained from Japan. They came in ice, and this killed many of them; but many thousands hatched and passed through the various stages, but more slowly than the former lot. The latter took thirty days only from the hatching of the eggs till the completion of the various stages, the others took six weeks. The cocoons now exhibited are part of the result of this last attempt, and some of these have been favourably commended and valued both in Marseilles and Lyons. The mulberry cultivated is the common *Morus indica*, grown throughout Ceylon. On this the worms feed readily and thrive. It is grown in hedges and propagated by cuttings. For feeding the worms men and boys were employed plucking the leaf and bringing it in bags to the store, where it was spread out to dry, if, as often happened, it was wet. The eggs were spread out on boards in a dark place, and over them laid gently young leaflets of the mulberry; on these the young worms readily passed. Both were then placed on trays made about twelve feet long by eighteen inches wide of reapers and ceiling cloth. In these trays each day's hatching was kept separately and passed on

from tray to tray, and thus kept thoroughly clean and healthy. At the final stage, the worms were lifted by hand and placed upon a heap of twigs laid upon the floor of the house. Here they spun, and when the proper time was indicated by the rattling of the chrysalis within, the cocoons were put to bake in a hot-air chamber for a short time, at a temperature of 240°. The cultivation of the mulberry in the warmer parts of Ceylon, such as Matale valley, at about 1,200 feet altitude above sea level, requires no attention beyond the putting down of the cuttings, and keeping them clear of jungle and weeds. The work of sericulture is interesting and light; it could easily be managed by families of natives, many of whom have the mulberry growing about their homes and gardens, so that, with some inducement, which they always need in the introduction of new industries, there should be no reason why Ceylon, producing six crops of silk per annum, should not with this "product," as with others, take the lead as to quantity and quality, and so tend to the raising of many natives of these dry districts from a state of indolence and want to one of comparative activity and well-being.

GOVERNMENT OF CEYLON.—Ordinary cotton, and tree or pillow cotton from Kegalla district.

J. P. WILLIAMS BROS.—Peruvian Cotton grown in Ceylon.

A. ROSS, Matale.—Tree Cotton.

J. WESTLAND, Wiharatenue.—Cotton.

GOVERNMENT OF CEYLON.—Native made cotton cloths woven in the districts of Walapane, Dumbara, and Ratnapura.

A. ROSS, Matale.—Cocoons of silk-worms (*Bombyx Mori*) reared in Matale.

SECTION 8.

Mats and Basket Work. [On the Walls, X.]

The exhibits of coloured mats are from the Maldive Islands, a dependency of Ceylon, from Dumbara in the Central Province, and from Kurunegala in the North-Western Province. Plain mats, usually poor in quality, are made in almost every district of the island, from various kinds of sedges, and are in common use in Native and European households, as well as in drying native coffee and other products; also in the preparation of the common mat or rush bags in such general use throughout the country for storing and carrying grain of all kinds to market. The coloured mats from the Maldives are in every way superior to those made in Ceylon in texture and design, being soft, glossy, and at the same time very durable; the colours are somewhat sombre, and are yet in strict harmony with the classical style of the pattern. These mats are

frequently obtainable in Colombo after the arrival of the annual trading fleet from the Maldives, at lower rates than in the islands, viz., from Rs. 3 to Rs. 5. The Kurunegala and Dumbara coloured mats are of a lively bright colour, but poor in design. They are made from the fibre of the Niyanda, or *Sanseviera zeylanica*, a common enough plant, growing freely up to 1,800 feet above sea-level. They are made by the Kinnaruga caste, residing mostly in outlying villages, who resort to this occupation solely as a help to their ordinary means as cultivators of the soil, working at home between crop times, and are usually sold for one or two rupees each.

RATTAN WORK.—This is a trade of some importance in Colombo, where a number of workmen, chiefly Malays, are constantly employed. The two principal employers of labour, themselves Malays, are A. C. Sumps and T. J. Ramlan. Subjoined is a list of their exhibits with the prices attached.

An attractive exhibit under this head is the peculiar basket work from the Kalutara district, in which there is a considerable trade. These baskets, which are made in sets or nests of twelve each, are woven from the fibre of the leaf of the Indi palm, which is dyed and woven into various patterns.

GOVERNMENT OF CEYLON.—Numerous coloured mats from the Dumbara district. Mats, Baskets &c., from the Jaffna district made from the leaves of the Palmyrah Palm.

IBRAHIM DIDI, Vizier to the Sultan of the Maldive Islands.—Mats from the Maldives. (See also in Class VIII., section 6.)

W. FERGUSON, Esq., F.L.S.—Mats made from the rare sedge (*Lepironia mucronata*) on the southern coast.

S. D. G. GUNAWARDENE, Colombo.—Cuscus Grass Mats.

GOVERNMENT OF CEYLON.—Small articles of furniture, &c, ornamented with the stems of the clouded or spotted Bamboo (*Teinostachyum maculatum*) "Ranabata" of the Sinhalese, mainly procured through the assistance of Mr. P. de Saram, Police Magistrate of Avisawella.—10 nests of Kalutara Baskets, at £1 10*s.* per set of 12. Of the same material, 8 cigar cases, 6 purses, 6 betel bags at 3*s.* each.—Silver mounted basket of Matara work. Price £3 10*s.* Ditto £2. Ditto £2.

A. C. SUMPS, Colombo.—Rattan-work. Tables, oblong and round, flower-stands, letter-trays, baskets, liquor-stands, walking-sticks. Also cuscus-grass fans. (*For sale.*)

T. J. RAMLAN, Colombo.—Rattan-work. Tables, chairs, flower-stands, card-trays, tea-poys. (*For sale.*)

Section 9.

Timbers and Cabinet Woods. [Y, Z, and P.]

With the exception of some extensive sandy tracts near the coast in the dry districts and the grassy downs called "patanas" in the hills, the whole of Ceylon to the summits of the highest mountains was originally covered with dense forest. This has, however, long ceased to be a characteristic of the country. In the thickly populated districts of the south-west of the island, with its abundant rainfall, there is now but very little primary or virgin forest remaining; its destruction has been principally due to the practice for centuries of the indolent practice of "chena" cultivation, in which the growth of ages is sacrificed to one or two crops of dry grain. In the hills the agent of destruction has been European enterprise, hundreds of square miles having been completely cleared in opening coffee and cinchona estates; between 3,000 and 5,000 feet there is now no forest save small isolated patches; above 5,000 feet land is no longer sold. The vast proportion, however, of the dry districts of Ceylon, which is sparsely populated, and comprises nearly four-fifths of the area of the island, is still a forest country, but the trees are for the most part small, and in only a few places are these forests of much value. It is however from them that the few timbers of commercial importance are chiefly obtained. These are ebony, satinwood, halmilla, wewarane, palu, milla, and a few others of less importance, the principal ports of export being Trincomalee and Batticaloa. Teak is not a native of Ceylon, but grows commonly planted in the south-west parts of the island. The Colony does not as yet possess any organised Forest Department, but a Forest Act has been recently passed.

The cabinet woods of Ceylon, if not very numerous, are of sufficiently good quality to merit attention. The most attractive of these, calamander, "Kalu-médiriya" of the Sinhalese, is unfortunately extremely scarce, being of slow growth, and the forests in the south of Ceylon where it grows, being now denuded of all trees capable of being converted into furniture. Tamarind, especially the root, is a very beautiful wood for cabinet purposes, and "Kadumberiya" is but little inferior to calamander. Satinwood trees are common enough in

the northern, eastern, and north-western forests, but the proportion of these which yield "flowered satinwood" is very small, and this description of wood is therefore comparatively high in price.

DIRECTOR, ROYAL BOTANIC GARDENS.—A series of hand specimens of the principal Woods of Ceylon, botanically determined and named.

This collection is a portion only of a very large series brought together in Ceylon. The rough logs from which they were cut were collected in various parts of Ceylon, principally by the Foresters attached to the Government Agencies, and were sent in under their native names (Tamil or Sinhalese, according to the district). These names have always been preserved with the specimens, though they are often vaguely applied. Great pains has therefore been taken to ascertain with accuracy the actual species to which each belongs. In cases where dried specimens of the leaves, &c., could be obtained, the correct botanical identification was not often difficult, but a large number of the woods were not accompanied by such specimens, and of these many remain as yet undetermined. As unnamed specimens can be of but little interest or value, they are not exhibited here.

As the object aimed at in this series was to exhibit generally the woods of the island, many of the inferior kinds, only used for domestic purposes by the natives, are included, as well as the more important timbers and rare or little known woods. The blocks are of varying diameters, being lengths of about 15 inches of whole stems, with the bark left on, cut so as to show besides a transverse section, also vertical and tangential ones, and to afford a sloping surface on which the names both botanical and native are painted.

In the following Catalogue the letters (with numbers) in brackets refer to the province or district of Ceylon whence the specimen was obtained. E. = Eastern; W. = Western; C. = Central; N. C. = North Central; and N. = Northern, Provinces; and Hg. refers to the neighbourhood of Hakgala (mountains of Central Province), and Hn. to Heneratgoda (Western Province.) These numbers are stamped on the under surface of the specimens.

The native names on the specimens from the E. and N. Provinces are Tamil; on the rest, Sinhalese. Names marked with an asterisk are not truly native to Ceylon.

Names printed in italics are those of reserved trees under the Forest Act. The limits of space does not unfortunately admit of any details as to properties and uses.

1. Acronychia laurifolia. Ankenda (W. 83.)
2. Actinodaphne speciosa. (Hg. 47.)
3. Adenanthera pavonina. Madatiya, *S.* Manchadi, *T.* (E. 33.)
4. Adina cordifolia. Kolon. (N.C. 49.)
5. Ægle Marmelos.* Beli, *S.* Vilva-patri. *T.* (N. 55.)
6. Aglaia Roxburghiana. Kanna-kombu. (E. 78.)
7. Agrostistachys indica. (C. 100.)
8. Ailantus malabarica. (Hn. 2.)
9. Alangium Lamarckii. Kal-anninchil (N. 57).
10. Albizzia amara. Uyil. (N. 44.)
11. *Albizzia odoratissima.* Suriya-mara, Hurihi. (W. 86.)
12. Albizzia stipulata. Kabal mara. (C. 51.)
13. Allæanthus zeylanicus. Allandu. (C. 66.)
14. Allophylus zeylanicus. (C. 74.)
15. Alstonia scholaris. Ruk-attana, *S* Enimpalai, *T.* (E. 34.)
16. Anisophyllea zeylanica. Welipenna. (W. 14.)
17. Antiaris innoxia. Riti. (C. 56.)
18. Aporosa latifolia. Maput-Kebella. (C. 13.)
19. Aporosa Lindleyana. Barawa-embilla. (C. 21.)
20. Artabotrys zeylanicus. Yakada-wel, (Hn. 12.)
21. *Artocarpus integrifolia.** Kos. (W. 29.) Jack.
22. *Artocarpus nobilis.* Del. (C. 32.)
23. *Atalantia Missionis.* Pamburu, *S.* Kurundu, *T.* (E. 69.)
24. Atalantia monophylla, Perum Kurundu (N. 99.)
25. *Azadiracta indica.* Kohomba, *S.* Vempu, *T.* (E. 40.)
26. Barringtonia acutangula. Ela-midella, *S.* Adampu, *T.* (N. 109.)
27. *Bassia fulva.* Wana-mi. (W. 103.)
28. *Bassia longifolia.* Mi. *S.* Illupai *T.* (E. 4.)
29. Bassia neriifolia. Gan-mi. (C. 71.)
30. Bauhinia racemosa. Atti. (E. 50).
31. Bauhinia tomentosa. Petan, *S.* Tiruvatti, *T.* (E. 18.)
32. *Berrya Ammonilla.* Hal-milla, *S.* Katamanakku, *T.* (E. 73). Trincomalee Wood.
33. Bridelia Moonii. Pat-Kala. (W. 52.)
34. *Bridelia retusa.* Kéta-Kala. (C. 10.)
35. Butea frondosa. Parasu. (N. 41.)
36. Callicarpa lanata. Illa. (C. 15.)
37. Calophyllum bracteatum. Walu-Kina. (W. 68.)

38. Calophyllum Burmanni. Surrepunnai. (E. 43).
39. *Calophyllum Inophyllum.* Domba, *S.* Thommakottai, *T.* (E. 17.)
40. *Calophyllum tomentosum.* Guru-kina. (C. 75.)
41. Calophyllum trapezifolium. (C. 97.)
42. *Calophyllum Walkeri.* Kina. (Hg. 69.)
43. Campnosperma zeylanicum. Aridda. (W. 21.)
44. Canarium zeylanicum. Kékuna, *S.* Pakkilipal, *T.* (E. 52.)
44*a*. Canthium didymum. Panu-karawu. (C. 72.)
45. Canthium montanum. (Hg. 65.)
46. Canthium parviflorum. Karai. (E. 62.)
47. *Carallia integerrima.* Dawata. (W. 13.)
48. Careya arborea. Kahata. (W. 67.) Patana Oak.
49. Cascaria esculenta. Wal-waraka, *S.* Kakka pulai, *T.* (E. 47.)
50. *Cassia Fistula.* Ehela, *S.* Tirukkondel, *T.* (E. 81.)
51. Cassia marginata. Ratu-wa, *S.* Vakai, *T.* (E. 64.)
52. *Cassia siamea.* Wa. (C. 64.)
53. Celtis cinnamomea. Gurenda. (C. 55.)
54. Celtis Wightii. Meditella. (C. 45.)
55. *Chætocarpus castanocarpus.* Hédoka. (W. 42.)
56. *Chickrassia tabularis.* Kulankik. *S.* Kal-otthi, *T.* (E. 1.)
57. *Chloroxylon Swietenia.* Buruta, *S.* Mutirai, *T.* (N. 2.) Satinwood.
58. Chrysophyllum Roxburghii. Lawulu. (Hn. 20.)
59. Cinnamomum litseæfolium. (Hg. 42.)
60. Cinnamomum zeylanicum. Kurundu. (W 105). Cinnamon.
61. Cipadessa fruticosa. Hal-bembiya. (C. 62.)
62. Cleidion javanicum. Okuru. (C. 57.)
63. Cleistanthus pallidus. Visa. (E. 20.)
64. Cordia Myxa. Lolu, *S.* Naravilli, *T.* (E. 59.)
65. Cratæva Roxburghii. Lunu-warana, *S.* Mavalingu, *T.* (E. 75).
66. Croton oblongifolium. Milla-kunari. (E. 6.)
67. Cullenia excelsa. Katuboda. (W. 11.)
68. Cyathocalyx zeylanicus. Ipetta. (W 77).
69. Cynometra ramiflora. Galmendora, *S.* Attu-katupulli, *T.* (E. 93.)
70. Dalbergia frondosa. Vel. - urruva. (N. 59.)
71. *Dialium ovoideum.* Gal-siyambala, *S.* Katapulli, *T.* (E. 2.)
72. *Dichopsis grandis.* Kiri-hembiliya. (W. 73.)
73. Dichrostachys cinerea. Andara, *S.* Veduthal, *T.* (N. 45.)
74. *Dillenia retusa.* Godapara. (W. 3.)
75. Dimorphocalyx glabellus. Taintukki. (E. 36.)
76. Diospyros crumenata. Chemel-panichai. (E. 30.)
77. *Diospyros Ebenum.* Kaluwara, *S.* Karunkali, *T.* (N. 3, NC. 78.) Ebony.
78. *Diospyros Embryopteris.* Timbiri, *S.* Panichai, *T.* (E. 29.)
79. Diospyros insignis. Poruwa - mara. (W. 26.)
80. Diospyros montana. Vellai-kurunkali. (N. 38.)
81. Diospyros oocarpa. Vellai-karunkali. (E. 23.)
82. *Diospyros ovalifolia.* Vedu-kunari. (E. 22.)
83. *Diospyros quæsita.* Kalu - médiriya. (W. 118.) Calamander.
84. *Diospyros Thwaitesii.* Ho-médiriya. (W. 88.)
85. Diplospora Dalzellii. Vella. (E. 19.)
86. *Dipterocarpus zeylanicus.* Hora. (W. 13.)
87. Dodonæa viscosa. Varal. (Hg. 89.)
88. Doona cordifolia. Beraliya. (W. 104.)
89. Doona trapezifolia. Yakahalu. (C. 76.)
90. Elæocarpus glandulifer. (Hg. 43.)
91. Erythrospermun phytolaccoides. (Hn. 29.)
91*a*. Eugenia aquea. Wal-jambu. (C. 99.)
92. Eugenia assimilis. (C. 85.)
93. *Eugenia bracteata.* Pandi-kayan. (E. 12.)
94. Eugenia caryophyllæa. (Hg. 66.)
95. Eugenia Gardneri. Dambu, *S.* Nirnaval, *T.* (E. 9.)
96. *Eugenia Jambolana.* Maha - dan, *S.* Naval, *T.* (E. 51.)
97. Eugenia lissophylla. Maha-kurétiya. (W. 76.)
98. Eugenia olivifolia. (C. 95.)
99. Eugenia operculata. Bata domba. (W. 7.)
100. Eugenia rotundifolia. (Hg. 50.)
101. Euodia Roxburghiana. Lunu - aukenda. (C. 42.)
102. Euonymus Walkeri. (C. 49.)
103. Eurya japonica. Neya-dasse. (Hg. 35.)
104. Ficus laccifera. Kos-gona. (W. 46.)
105. Ficus religiosa. Bo. *S.* Arasu, *T.* (N. 114.)
106. Ficus Tsiela. Kal-itti. (N. 36.)
107. Filicium decipiens. Pehimbiya (W. 50.)
108. Flacourtia Ramontchi. Uguressa, *S.* Kutukali, *T.* (E. 63.)
109. Flacourtia sepiaria. Mul-anninchil. (N. 56.)
110. Garcinia Cambogia. Goraka. (W. 12.)
111. Garcinia spicata. Ela-gokatu, *S.* Kokottai, *T.* (E. 42.)
112 Garcinia terpnophylla. Kokatiya. (W. 95.)
113. Gardenia latifolia. Galis. (W. 58.)

114. Gelonium lanceolatum. Pot pattai. (E. 49.)
115. Gironniera reticulata. Wal-munamal. (C. 33.)
116. Gleneia zeylanica. Wal-mora, *S.* Kuma, *T.* (E. 46.)
117. Glycosmis pentaphylla. Dodan-pana. (W. 74.)
118. Gmelina arborea. Et-demata. (C. 9.)
119. Gmelina asiatica. Demata, *S.* Kumil, *T.* (E. 86.)
120. Grewia polygama. (N.C. 22.)
121. Grewia tiliæfolia. Daminiya. (W. 91.)
122. Gyrinops Walla. Walla. (C. 69.)
123. Gyrocarpus Jacquini. Tanakku. (E. 60.)
124. Harpullia cupanioides. Pundalu. (C. 61.)
125. Hemicyclia Gardneri. Gal-wira. (N. C. 93.)
126. Hemicyclia sepiaria. Wira, *S.* Virai *T.* (E. 45.)
127. Heritiera littoralis. Etuna, *S.*, Chomuntiri, *T.* (E. 85.)
128. Holarrhena mitis. Kiriwalla, Kirimawara. (W. 24, W. 98.)
129. Holoptelea integrifolia. Goda-Kirilla, *S.*, Ayil *T.* (E. 70, N. 92.)
130. *Homalium zeylanicum.* Liyan. (W. 82.)
131. Hydnocarpus alpina. Atta-sankulai. (E. 25.)
132 Hydnocarpus venenata. Makulu. (W. 65.)
133. Ilex Wightiana. Andun-wenna. (W. 75.)
134. Ixora parviflora. Maha-ratambala, *S.* Pankirai, *T.* (N. 82.)
135. Ixora Thwaitesii. Goda-ratmal, (N.C. 33.)
136. Kokoona zeylanica. Wana-potu. (C. 78.)
137. *Kurrimia zeylanica.* Uru-honda, Etheraliya. (W. 106; W. 40.)
138. *Lagerstrœmia Flos-Reginæ.* Muruta. (C. 63.)
139. Leea sambucina. Burulla. (C. 73.)
140. Ligustrum Walkeri. Bora. (Hg. 81.)
141. Limonia alata. Miladi-Kurundu. (E. 38.)
142. Litsea fuscata. (C. 94.)
143. *Litsea sebifera.* Bo-mi. (C. 68.)
144. Litsea tomentosa. Landittan. (C. 47.)
145. Litsea zeylanica. Kudu-dawulu. (W. 31.)
146. Maba buxifolia. Tuvarai. (E. 77.)
147. Macaranga digyna. Gal-ota. (W. 9.)
148. Macaranga indica. (C. 93.)
149. Mallotus albus. Bu-Kenda. (C. 54.)
150. Mallotus philippinensis. Hampirilla. (Hn. 19.)
151. Mallotus zeylanicus. Marithinni. (N. 78.)
151*a*. *Mangifera zeylanica.* Etamba. (C. 34.) Wild Mango.
152. Mastixia tetrandra. Duju-taliya. (W. 39.)
153. *Melia dubia.* Lunu-midella. (C. 31.)
154. Meliosma Arnottiana. (Hg. 54.)
155. *Memecylon capitellatum.* Dodan-kaha. (W. 25.)
156. Memecylon parvifolium. Weli-kaha. (Hg. 44; C. 101.)
157. Memecylon rostratum. Hin-kuretiya. (W. 45.)
158. Memecylon umbellatum. Kora-kaha, *S.* Pandi-Kayan, *T.* (E. 3; N. 34.)
159. Memecylon sp. Venkali-kayan. (E. 35.)
160. Mesua ferrea. Na. *S.* Naka *T.* (W. 63; N. 103.) True Iron Wood of Ceylon.
161. Mesua Thwaitesii. Diya-na. (W. 81.)
162. Michelia nilagirica. Wal-sapu. (Hg. 26.)
163. *Mimusops Elengi.* Munamal, *S.* Makulai, *T.* (E. 5.)
164. *Mimusops hexandra.* Palu, *S.* Palai, *T.* (N. 1.)
165. *Mischodon zeylanicus.* Tammana. (N.C. 15.)
166. Morinda citrifolia. Ahu *S.* Manjuvenna *T.* (E. 54.)
167. Murraya exotica. Etteriya. (N.C. 69.)
168. Murraya Kœnigii. Karapincha. (N.C. 115.)
169. *Myristica Horsfieldia.* Ruk. (C. 38.)
170. Myristica laurifolia. Malaboda, *S.* Pal-manika, *T.* (E. 11.)
171. Myrsine capitellata. (C. 82.)
172. Nephelium Gardneri. Nurai. (N. 68.)
173. *Nephelium Longana.* Mora, *S.* Nurai, *T.* (E. 27.)
174. Nothopegia Colebrookiana. Bala. (C. 55.)
175. Odina Woodier. Hik. (N.C. 41.)
176. Peltophorum ferrugineum. Iya-vakai. (E. 39.)
177. *Persea semecarpifolia.* Wéwarane (N.C. 2.)
178. Phyllanthus cyanospermus. Kuluniyan. (W. 48.)
179. *Phyllanthus indicus.* Karawu. (N.C. 73.)
180. Phyllanthus polyphyllus. Nelli. (N. 97.)
181. Phyllanthus pycnocarpus. (Hg. 76.)
182. Pityranthe verrucosa. Dikwenna, *S.* Vitpanai, *T.* (E. 21.)
183. Pleurostylia Wightii. Siru-piyari. (E. 16.)
184. Polyalthia longifolia. Nara-illupai. (E. 37.) Dry country.
185. Pometia eximia. Gal-mora. (C. 37.)
186. Pongamia glabra. Magul-Karanda. (W. 4.)
187. Premna serratifolia. Midi, *S.* Erumemullai, *T.* (E. 67.)

188. Premna tomentosa. Bu-seru. (N.C. 1.) Thari, *T.* (N. 66.)
189. Psidium Guyava.* Pera, *S.* (Hg. 82.) Guava.
190. Psychotria Thwaitesii. (Hg. 61.)
191. *Pterospermum suberifolium.* Velanga, *S.* Vinanku, *T.* (E. 13.)
192. Putranjiva Roxburghii. Vitchurunai. (E. 66.)
193. Pygeum zeylanicum. Golu - mora. (C. 43.)
194. Salacia reticulata. Himbutu-wel. (N. C. 129.)
195. Salvadora persica. Uvai. (N. 121.)
196. Samadera indica. Samadara. (W. 61.)
197. Sapindus emarginatus. Nai-Kottan. (E. 58.)
198. Sapium indicum. Kiri-makulu. (C. 44.)
199. *Sarcocephalus cordatus.* Bakmi. (W. 34.)
200. Sarcococca pruniformis. (Hg. 91).
201. *Schleichera trijuga.* Kon, *S.* Kulu, *T.* (E. 74.) Ceylon Oak.
202. Semecarpus Gardneri. Badulla. (C. 65.)
203. Semecarpus nigro-viridis. Badulla. (W. 85.)
204. Sideroxylon tomentosum. Mul-mukil. (N. 77.)
205. Sonneratia acida. Kirilla, *S.* Kinnai, *T.* (E. 100.)
205. Stephegyne parvifolia. Hélamba, *S.* Chelembe, *T.* (E. 41.)
206. Sterculia fœtida. Telambu, *S.* Katuthaingai, *T.* (E. 31.)
207. Stereospermum chelonoides. Sunumadala, *S.* Vit-patri, *T.* (E. 24.)
208. Streblus asper. Pirasu. (N.C. 19.)
209. Strombosia zeylanica. (C. 40.)
210. *Strychnos Nux-vomica.* Goda-kaduru, *S.* Kanchurai, *T.* (E. 44.)
211. Strychnos potatorum. Ingini, *S.* Tetta, *T.* (N.C. 28. E. 89.)
212. Symplocos bractealis. (Hg. 51.)
213. Symplocos læta. (Hg. 72.)
214. Symplocos obtusa. Labu. (Hg. 48.)
215. Tabernæmontana dichotoma. Divikaduru (C. 67).
216. *Tamarindus indica.** Siyambala, *S.* (W. 107).
217. *Tectona grandis.** Tekka. (W. 49). Teak.
218. Strychnos micrantha. Eta-kirindiwel. (Hn. 14.)
219. Terminalia belerica. Bulu. (C. 26).
220. Terminalia Catappa.* Kottamba. (W. 79).
221. *Terminalia glabra.* Kumbuk, *S.* Maruta, *T.* (E. 26).
222. Terminalia parviflora. Han-palanda. (W. 30).
223. Tetrameles nudiflora. Nigunu (E. 57).
224. *Thespesia populnea.* Suriya. W. 100).
225. Trichadenia zeylanica. Titta. (C. 81).
226. Vaccinium Leschenaultii. Boralu (Hg. 88).
227. Vateria acuminata. Hal. (C. 77).
228. Vatica obscura. Tumpalai. (E. 28).
229. *Vatica Roxburghiana.* Mendora. (W. 61).
230. *Vitex altissima.* Milla. (C. 52).
231. *Vitex Leucoxylon.* Nebedda, *S.* Minachi, *T.* (E. 56).
232. *Walsura Piscidia.* Kiri-Kon, *S.* Sadda-veppu, *T.* (E. 15).
233. Wendlandia Notoniana. Rawan-idala. (C. 5).
234. *Wormia triquetra.* Diyapara. (W. 16).
235. Wrightia angustifolia. Vitpalai. (N. 105).
236. Wrightia tomentosa. Palmadankai. (E. 68).
237. Ximenia americana. Siru-illanthai. (E. 72).
238. Xylopia parviflora. Atu-Kétiya. (W. 33).
239. Zizyphus Jujuba. Maha-debara. (N.C. 129).
240. Zizyphus Œnoplia. Hin-eraminiya, *S.* Per-illanthai, *T.* (E. 71).

GOVERNMENT OF CEYLON.—Planks of the following useful or ornamental Timbers—Tamarind, Jak, Satinwood, Ebony, Nédun, Pamburu, Suriya, Sapu, Wa, Suriyamara, Calamander, Gal-siyambala, and Kitul (used as a panelling to the wall of the Court).—Sections (discs) of Palu, Kumbuk, Satinwood, Del, Hora, Mora, Mango, Pehimbiya, Ayil, Vel-velam, &c.—Pieces of stems of Coconut, Indi (*Phœnix zeylanica*), &c.—Four Palmyrah Palm stems (*Borassus flabelliformis*) from Jaffna, two of them decorticated and polished. The capitals are carved from Palmyrah wood by natives.

CAPTAIN M. W. SKINNER, R.E.—A collection of 100 small specimens of Ceylon Woods in a Coconut Wood Cabinet.

DON HENRIC LOKUDERENDANA, Galle.—A box of small samples of Ceylon Woods.

SECTION 10.

Tobacco and Cigars. [P.]

The cigars from Dumbara Valley near Kandy, in the Central Province, at an elevation of about 1,300 feet, are manufactured by Mr. Ingleton, who carries on a rather extensive trade in them, but almost entirely for local consumption. In the Jaffna, Manaar and Mullitivoe districts of the Northern Province, tobacco is extensively cultivated by the native villagers, who display great aptitude in the industry, and are untiring in their care of the plant, which during long periods of dry weather requires an abundant supply of water. The plants are irrigated by means of bamboos and small water channels, and manure is also freely supplied, though the abundance of lime in the soil acts as a liberal fertiliser. The tobacco of Jaffna is chiefly exported to the Indian coasts, where it finds a ready market for the manufacture of cigars. The tobacco industry is indeed the main support of the population. The price of tobacco ranges from Rs. 15 to Rs. 30 per thousand leaves, and of Jaffna cheroots form Rs. 2 to Rs. 10 per thousand. Tobacco is also grown in the Chilaw and Negombo districts of very fair quality; the leaf being taken to the Colombo market for sale, where it is highly esteemed, but usually the curing of the leaves is defective, added to which native cultivators are too often in the habit of allowing the leaves to become old and coarse before gathering, with the view of increasing the weight, by which means its flavour is much deteriorated.

GOVERNMENT OF CEYLON.—Parcels of tobacco, dried leaves of various sorts for cigar-making and chewing, grown at Jaffna and Manaar in the Northern Province. Cigars of six sorts for native smoking.

PLANTERS' ASSOCIATION OF CEYLON.

J. K. INGLETON, Dumbara.—Tobacco.

J. K INGLETON, Dumbara.—Cigars, 12 varieties.

SECTION 11.

India-rubber. [P.]

Many exotic plants affording India-rubber have been introduced into Ceylon. The most important ones affording the Para (*Hevea brasiliensis*), Panama (*Castilloa elastica*), and Ceara (*Manihot Glaziovii*) varieties were introduced in 1876. All thrive well, and the latter has

been rather largely planted. The industry has not as yet however been found to be profitable to European planters, and the natives have not taken it up.

J. K. INGLETON, Esq., Rajawella Coffee Estate Co., Dumbara.—Ceara Rubber.

R. S. FRASER, Esq., Kandanuwara, Matale.—Ceara Rubber and Seeds.

SECTION 12.

Special Exhibit.—Products of the Coconut Palm. By MESSRS. G. & W. LEECHMAN of Colombo. [X.]

In other sections of this class have been noticed the oil, the yarn and the poonac resulting from the manipulation of the dried kernel of the coconut, a fruit which has of late years become familiar to most dwellers in British towns. Under the present head will be found details connected with the many miscellaneous uses to which not only the fruit but the leaves, the midribs, the wood, and, in short, every portion of this truly national tree is put by the dwellers in the maritime districts of Ceylon. So universal is the adaption of this tree to the many wants of the tropical resident that it may be said that a Sinhalese possessed of but a few coconut palms need care for little else. How multifarious are its uses is truly described in the following passage :—When the Sinhalese villager has felled one of these trees after it has ceased bearing (say in its seventieth year) with its trunk he builds his hut and his bullock stall, which he thatches with its leaves. His house bars are slips of the bark, by which he also suspends the small shelf which holds his stock of home-made utensils and vessels. He forms his little plot of chillies, tobacco, and fine grain with the leaf stalks. His infant is swung to sleep in a rude net of coir string made from the husk of the fruit; his meal of rice and scraped coconut is boiled over a fire of coconut shells and husks, and is eaten off a dish formed of the plaited green leaves of the tree, with a spoon cut out of the nut-shell. When he goes a fishing by torch light, his net is of coconut fibre, the torch or chule is a bundle of dried coconut leaves and flower stalks; his little canoe is a trunk of the coco palm tree, hollowed by his own hands; he carries home his net and his string of fish on a yoke or pingo, formed of a coconut stalk. When he is thirsty, he drinks the fresh juice of the young nut; when he is hungry he eats its soft kernel. If he have a mind to be merry, he sips a glass of arrack, distilled from the fermented juice of the palm, and dances to the music of rude coco-

nut castanets ; if he be weary, he quaffs "toddy," or the unfermented juice, and he flavours his curry with vinegar made from this toddy ; should he be sick, his body will be rubbed with coconut oil ; he sweetens his coffee with jaggery or coconut sugar, and softens it with coconut milk ; it is sipped by the light of a lamp constructed from a coconut shell and fed by coconut oil. His doors, his windows, his shelves, his chairs, the water gutter under the eaves, all are made from the wood of this tree. His spoons, his forks, his basins, his mugs, his salt-cellars, his jars, his child's money box, are all constructed from the shell of the nut. Over his couch when born, and over his grave when buried, a branch of coconut blossoms is hung to charm away evil spirits.

6 Ordinary Coconuts with husk.
10 King Coconuts with husk.
12 Maldive Coconuts with husk.
8 Sweet Coconuts with husk.
8 Medicinal King Coconuts.
12 Husked Maldive Coconuts.
2 Dwarf Coconuts.
White Ceylon Coconut Oil.
Good Merchantable Ceylon Coconut Oil.
Arrack.
Vinegar.
Jaggery, or Crude Sugar.
3 Coconuts with husk, shell and kernel, ripped and dried.)
14 lbs. Coconut Bristle Fibre.
Coconut Coir Rug, coloured border.
Coconut Coir Rug, plain.
Coir Yarn, very fine.
Coir Yarn, extra fine.
Coir Yarn, No. 1.
Coir Yarn, No. 2.
3 Cakes of Coconut Poonac.
Ekel Fish Trap.
10 Dried Coconut Kernels or Copperah.
2 Ornamental Coconut Shells.
11 lbs. Mattress Fibre.
4 Coils Coir Rope.
Coir Bag for Copperah.
Coir Bag for Coals.
Twilled Coir Matting, plain.
Twilled Coir Matting, coloured.
Twilled Coir Matting.
4 Coconut boards.
Plaited Coconut leaves, or Cadjans, for thatch of native hut.
Coconut Fibre Brooms, with coconut handle, for cleaning roofs.
Coconut Ekel Brooms without handle.
Coconut Ekel Brooms with coconut handle.
Coconut Leaf Broom.
Coconut Flower Stalk Torches, or "Chules."
2 Coconut Leaf Torches, or "Chules."
Coconut Leaf Mats.
Coconut Wood Huskers.
Coconut Flower Stalks.
Coconut Strainer made from the fibre of coconut stalk.
Coconut Fibre Brushes for white-washing.
Coconut Fibre Duster.
Coconut Shell Scoops with coconut handles.
Coconut Shell Ladles.
Coconut Shell Tunnels.
Coconut Fibre Broom.
Half-Combed Coconut Husks.
Brushes for Stencil Plates.
Coconut Shells.
Coconut Coir Bag for feeding horses.
Coconut Coir Scrubber for horses.
Coconut Wood Walking Stick.
Coconut Leaf Bags.
Coconut Rafters for roofing huts.

SECTION 13.

Special Exhibit. [N.] Products of a Low-Country Estate. Exhibited by DAVID SMITH, Esq., M.P.

Mr. Smith, who was for many years resident on his Kadirani estate near Negombo in the low country, sends a special exhibit of the products grown on that well-known cinnamon and coconut estate, similar to the exhibits which have been repeatedly successful at previous Exhibitions from 1862 onwards.

1 bale Cinnamon, Superior.
1 bale Cinnamon, Superior No. 1.
1 bale Cinnamon, No. 1.
1 bale Cinnamon, No. 2.
1 bale Cinnamon, No. 3.
1 bale Cinnamon, No. 4.
1 bale Cinnamon Chips.
1 bag Cinnamon Chips.
1 bag Cinnamon Clippings.
1 bundle peeled Cinnamon Sticks.
2 small parcels raw Cinnamon Bark.
1 small parcel Twigs and Leaves.
1 Cattie for cutting sticks.
3 Peeling Knives (1 iron, 1 brass, 1 copper).
1 Knife for scraping cinnamon.
1 Tripod and Stick, used in scraping bark.
1 Board, Measuring Stick and Lift, used in piping.
1 Grooved Measurer for cutting quills equal lengths.
1 Rubber, used for loosening bark when not peeling well.
1 Knife, used in the grooves.
½ bottle Cinnamon, leaf oil.
2 bottles Cinnamon Oil.
1 bottle King Coconut Oil.
1 bottle Ordinary Coconut Oil.
1 bottle Coconut-palm Arrack.
1 bottle Coconut-palm Vinegar.
1 slab of Coconut-palm Wood, to show grain.
4 Coconut Wood Walking Sticks.
2 Spathes, ordinary coconut.
6 Coconut Shell Ladles.
4 Spoons made from Coconut Shells and Coconut Wood.
1 Fork made from Coconut Shells and Coconut Wood.
2 Coconut Ekel Brooms, used for sweeping up leaves, &c., in gardens.
1 Coconut Ekel Broom, used for sweeping floors.
2 Coconut Cigar Trays.
2 Coconut Coir Brooms.
1 Coconut Coir White-washing Brush.
4 Coconut Cadjan Tats.
1 pair Coconut Cadjans, used for thatching houses.
1 piece Coir Matting.
Several pieces of Copperah.
3 quills Cinchona Bark.
1 King Coconut.
1 Ordinary Coconut, red variety.
1 Ordinary Coconut, green variety.
1 Ordinary Coconut, yellow variety.
1 Maldive Coconut.
1 Navase Coconut, husk edible when young.
3 Coconut husks.
2 parcels Coconut Fibre.
1 parcel Coconut Yarn.
1 piece Coconut Checku Poonac.
Several pieces Coconut Mill Poonac.
Cardamoms.
Tea.

Ten Photographs in Frames relating to the Cinnamon, viz.:

1. Shows a Cinnamon bush with one man cutting out the mature sticks fit for peeling, and another trimming them.

2. In this picture the process of peeling or removing the bark is shown.

3 and **4.** Here the women are seated on the ground, each has a tripod about 15 inches high before her.

5. Illustrates the method of piping or making the quills.

6. Shows the next operation. The quills are taken down from the "drying lines," they are rolled, the grooves adjusted, overlaps trimmed, and cut to exact measurement.

7. After the final finish or handling described above, the quills are dried in the sun—covered with mats or sacks.

8. The quills are counted, tied into bundles and taken into the store to be weighed. They are then sorted into the different qualities by professionals.

9. Represents the final process—baling and marking. The bales are now ready to be sent to Colombo for shipment to London by steamer.

10. Gives a front view of the Superintendent's bungalow at Goloa Pokuna Estate.

CLASS V.

MEANS OF TRANSPORT, IMPLEMENTS, MODELS.

SECTION I.

Carriages and Carts. [Carriage-shed and centre of Court.]

The carriages exhibited by Mr. Pate, and Mr. Peries, both carriage-makers of Colombo, are constructed entirely of Ceylon woods, ebony, satin, halmilla and suriya, portions of the iron-work and fittings being from Europe. The solidity and durability of these carriages have obtained for them a well-deserved repute in the Australian colonies, to which they are now exported from Ceylon in increasing numbers, as they can be landed in any of the Australian ports for much less than the price of locally made carriages, notwithstanding a rather heavy import duty. The price of the four-wheeled dog-cart is £120, of the sociable £80, and of the two cars £40 each.

The exhibits of models of bullock-carts give a very correct representation of the class of vehicle which, previous to the construction of the railway, carried the entire produce of the country from the interior to the seaports. The loads which these carts are capable of carrying vary from twelve to twenty hundredweights; the cattle employed being, at the present time, of the Indian coast breed, larger than the Sinhalese bullock, though the latter are still employed to some extent, and frequently prove hardier than the Indian cattle. The cost of a pair of fine coast bullocks will occasionally be as much as Rs. 200, the average being about Rs. 125, while the small country cattle are obtainable for from Rs. 80 to Rs. 100 the pair. Carts cost from Rs. 50 to Rs. 100 each. These carts are sometimes owned by wealthy proprietors, who carry on the transport of the interior by contracts entered into with Columbo mercantile firms, the agents of coffee estates, and as a rule with praiseworthy regularity and fidelity. The substitution of railway transport for that by carts in some of our leading planting districts has changed these relations, and except for the Uva district, to the north-east of the Central Province, carts are now only employed in short journeys, or within the towns; though a few of the more enterprising of their owners still

compete with the railway in more than one direction. The stages performed by good cattle in each day naturally depend upon the features of the country around; but on roads of easy gradients they will work two stages daily—early in the morning and late at night—of eight miles each. The number of carts licensed to ply for hire in Ceylon has decreased, owing to the action of the railway, to about a fifth of their former number.

GOVERNMENT OF CEYLON.—Model of bullock-cart used by Sinhalese, drawn by two bulls, 2*l.* Model of bullock carriage, or hackery, drawn by a single bull, 2*l.* Full-sized hackery, or bullock carriage, drawn by a single bull, 5*l.* Model of bullock-cart, drawn by two bulls, 2*l.* Bullock-cart with bulls, as used by Tamils in the Northern Province, 2*l.* Palanquin, carried by porters, 2*l.*

A. PATE & SON, Colombo.—Full-sized Four-wheeled Dog-cart of satin-wood. Full-sized Landau. (See Labels.)

JOHN PERIES.—Balmoral Car, satin-wood. Mail Phaeton. (See Labels.)

SECTION 2.

Boats.

The models of boats comprise ferry boats, canoes, catamarans, and ballams. The first named are usually for foot passengers across streams, either two small hollowed-out trees lashed together, or one large ballam capable of containing a dozen persons. For ferrying across rivers, and for the conveyance of carts and horses as well as foot passengers, a large flat-bottomed boat is used, though at the present time the need for these is gradually disappearing, as rivers are spanned by the iron-rail bridges described below. Catamarans are the rudest and most primitive of any description of craft, as may be seen by the model of one in use for the conveyance of Her Majesty's mails across the narrow strait which separates the north of Ceylon from the south coast of India. They are extremely safe, and being composed of very light wood, cannot be sunk, though frequently overturned in the breakers. Only once during many years have the mail bags been lost, even in the most stormy weather. The model of a trading dhonie, with its attendant ballam shown, is exhibited, and gives an excellent representation of the craft which performs the coast carrying trade of the island. They are nearly all built on the south coast of the island, whilst square-rigged country craft are built in the small ports of the north. They vary in size from about twenty to seventy tons burthen, and cost from Rs. 25 to Rs. 40 per ton; square-rigged vessels average 60 tons, and cost Rs. 80 to Rs. 100 per ton.

The number of the two classes of vessels now on the Colombo shipping register is 949, of an aggregate burthen of 89,000 tons. The square-rigged vessels are owned by Moormen chiefly; the dhonies are mainly the property of Sinhalese, who work them in shares with the crew, much in the same way as prevails with regard to fishing-boats in the north of England and Scotland. The owner receives one-third of the vessels' earnings, the remaining two-thirds being divided in certain well-defined shares between the tindall, or commander, and crew, the former's share being twice that of each of the other's. Eight to fifteen men compose the crew of a dhonie according to its tonnage, and they are mostly relatives or connections of the owner and belong to the same village. These simply-constructed and carefully-navigated craft carry on a considerable coasting trade during the fine weather of the north-east monsoon, when land and sea-breezes alternate day and night, enabling them to make their way slowly but securely from the northern districts of the island, laden with coral, to the south-west coast, returning with cargoes of European or Indian commodities. In this way they will perform generally three or four trips during each north-east monsoon, being laid up on the beach for repairs and refitting during the boisterous weather prevalent in the south-west monsoon. They are essentially fine weather craft. Their rigging is entirely of country-made coir rope, their sails of home-grown, home-spun cotton, and their hulls of a light but rather durable wood, the planks and keel containing no metal nails, the entire fabric being held firmly together by means of wooden pegs and coir yarn, the seams of the planks and decks being coated with indigenous resin, whilst the hull is usually scraped and anointed with a blend of lime and an oil specially obnoxious to marine animals.

Model of a Pearl Fishing-boat.—This exhibit was constructed under the personal supervision of Captain Donnan, Superintendent of the pearl fisheries, by the men of his department. The figures are the work of a Portuguese modeller, a native of Colombo, and show the correct attitudes and positions of those engaged in the work. The pearl banks of Ceylon are situated on the north-west coast of the island, and are distant about eight or ten miles form the shore, only a portion of which is visible from the boats while fishing, so that it is necessary to note the precise locality of each bank by buoys. These fisheries occur at irregular intervals, and the number of oysters taken up is as uncertain as the occurrence of the fishery, by reason of the excessive mortality amongst young oysters, and their destruction by

enemies. The fishing can take place only during the very calmest period of the north-east monsoon, namely in the months of February, March and April, and the number of boats with their respective complements of divers and crews depends on the speculations regarding the nature of the fishery. In 1888 and 1889 it is confidently expected that as many as three hundred millions of oysters will be fished, requiring every boat and every diver procurable in Ceylon and South India. During the months named the wind blows off the land during the night, and off the sea during the day, facts which enable the large fleet of fishing boats to reach the pearl banks by daylight on each morning, returning with their cargoes shortly after noon. The boats are divided into two fleets, one flying red flags, the other blue, and these go out to their work on alternate days. The process of lifting the oysters by the divers is as follows :—Seated on the edge of the boat's side, over which a heavy stone attached to a rope is hung ready to be dropped at a moment's notice, the diver places one foot on either side of it, and grasping the rope in one hand, with the other he seizes another rope to which a net is attached, and on a signal given by him, the stone and rope is detached from the gunwale of the boat, and descends rapidly to the bottom, carrying him with it. Throwing himself flat on the ground, and relieving his net of the stone, which is at once drawn up ready for another plunge, he with his right hand gathers into the net with lightning rapidity as many of the oysters as are within his reach, when, at the expiry of perhaps half a minute or a little more, he pulls the suspended rope which is held in the hand of a boatman above, who at once gives it a sudden jerk upwards, which gives him sufficient impetus to regain the surface rapidly. Instances have been known of divers remaining under water a full minute and even longer, but these are rare, and divers who have a good season for work before them do not care to over-tax their staying powers by such feats. As it is, they rarely attain to old age, living to no greater age than forty or fifty years. The net and diving-stone used by the pearl fisher in the pursuit of his vocation are shown beside the model, but the rope by means of which the pearl fisher descends to the scene of his labours, the length of which depends upon the depth of the water in which the oysters are found is not exhibited. The diver could make his descent to the pearl banks without the aid of a stone, but not nearly so rapidly as with it. So soon as the boats reach the shore, their contents are removed by the boatmen, and deposited in sheds, or "kottoos," erected for the purpose

along the beach, where they are well guarded during the night, and ordinarily sold at so much per thousand to the highest bidder on the following day. The price realised by them varies from twenty to seventy rupees the thousand, the value depending to a great extent on the average yield of a sample of five thousand lifted in the early part of the fishery. Much, however, depends on the extent of the fishery, as well as on an attendance of buyers, who, when a good fishery is anticipated, flock over from India in large numbers. Attempts are sometimes made to lower the price by a combination amongst the buyers, in which case the Government officials will suspend the auction until fair offers are made, which is usually the result of firmness on their part. The process of removing the pearls from the oysters is tedious and most offensive, for the contents of the molluscs must be allowed to decay before the pearls can be detached, and as a result the stench is not only very powerful but occasionally detrimental to health, notwithstanding all the precautions insisted upon by the health officer in charge. As may be imagined, the crowds which are attracted by the fishery are very great, for not only are there many hundreds of pearl dealers, large and small, but there are thousands of petty traders brought there for the supply of the daily wants of the pearl merchants, and the official subordinates and labourers. The desert sandy beach is at such a time covered by myriads of huts and tents, in which may be procured goods from Europe and Asia of every conceivable description, and the scene presented by this motley assemblage at night is most remarkable. Thanks to the precautions taken by the fishery authorities and the police, sickness rarely makes its appearance on these occasions, and only once has cholera broken out.

1. CEYLON GOVERNMENT.— Models of:—Ballam, or fishing-boat of Northern Province, fitted for diving, either for pearl fishery or chank fishery, 5*l*. **2.** Fishing-boat used by Sinhalese on the west coast, 5*l*. **3.** Catamaran, or raft of logs tied together, in general use in Northern Province, 2*l*. **4.** Double canoe, used by Sinhalese on rivers and in very calm weather on sea, 5*l*. **5.** Dhoney, a sea boat, with outrigger of large size, used in trade to coast of India, and on Ceylon coast, 5*l*. **6.** Oruwa, fishing canoe, with outrigger, used on sea and rivers; remarkable for safety in bad weather, and very fast sailer, 3*l*. 10*s*. **7.** Ditto, 5*l*. **8.** Baruwa, or padda boat, used for transport of goods by river and canal, 5*l*. **9.** Fishing-boat used by Sinhalese on west coast (same as No. 2), 2*l*. **10.** Oruwa, fishing canoe with outrigger (same as No. 6), 1*l*. **11.** Catamaran, or raft of logs lashed together (same as No. 3), 3*l*. 10*s*. **12.** Model of pearl fishing Ballam, showing the divers in the operation of collecting pearls.

SECTION 3.

Agricultural Implements. [Walls.]

The exhibits under this head are those in common use by native agriculturists. Not only are they the implements of the Sinhalese cultivators of the present time, but they represent the unchanged habits of the people in all that relates to agriculture. The Sinhalese plough of to-day is a counterpart of the implement used two thousand years ago, and may be found in daily use by the husbandmen of lower India. Those who may be disposed to regard an implement so simple and small as a poor remnant of barbarism will do well to remember the nature of the work for which it is intended, and that it has for thousands of years performed its part in the husbandry of the East. Designed only to operate on land subject to repeated flooding from a water supply more or less abundant, the rude and fragile implement is not ill adapted to the work it has to perform, and to the diminutive cattle by which it is drawn. So long as the available water supply is ample for the saturation and softening of the rice fields, the plough of antiquity serves its purpose sufficiently; but in seasons of drought, when the clouds refuse their aid, when rivers become mere streams, and the streams are mere sandy gullies, when the sky is as brass and the earth as iron, then the poor village implement is of no avail, the starving cattle are powerless, and the husbandman abandons himself to despair.

Of late years Western intelligencehas come to the aid of Eastern indifference with light sharp ploughs, costing but a few rupees, and capable of being worked by a pair of ordinary country cattle. These ploughs have been tried by native cultivators in the Western and North-Western Provinces of the island, and apparently with success, having turned up stiff land in half the time required with the ordinary plough. But much time and trouble will be needed to overcome the deep-seated prejudice of Orientals against innovations.

MAMOTIES, CATTIES, AND AXES.—Whilst the plough is home made, agricultural tools are in most instances imported from Europe. Forty years ago this was not the case. At that time the village blacksmith plied his calling as busily as ever did his confrère in old England, and the tools he provided for his fellows were as excellent in quality as they were solid and durable. A well-made cattie, such

as Cinnamon peelers delight to handle in crop time, is a very perfect tool, and was for many years without a competitor among the many importations from Birmingham and Sheffield. But British manufacturers learnt the quality that was required, and eventually supplied it at a lower price than that at which the village tool could be produced. The importation of English tools into Ceylon has, during the last twenty years, assumed large proportions, the greater portion, however, being for use by Indian coolies on European estates.

GOVERNMENT OF CEYLON, Kegalla District.—Collection of Village Implements. Ditto in ivory (miniature).

S. DIAS BANDARANAYAKA MUDLIAR.—Agricultural Implements.

SECTION 4.

Models.

(*a*). *Model of Arrack Still.* [**W.**]—In a previous section the extent of the trade in arrack has been noticed. The process and arrangements for conducting an arrack distillery will now be described. The first steps of the intending distiller is to select the site of his distillery, which he determines chiefly with regard to the facility for securing on lease for the year a suitable number of coconut trees varying from eight hundred to a thousand in the immediate vicinity. He then, after having erected his building and apparatus, which consists of a still varying in capacity from 150 to 200 gallons with its appurtenant vats, &c., submits the same to the approval of the headman of the district, who, if the requirements of the law are fulfilled by the nature of the preparations made, and no other objection to the issue of a licence exists, grants him a certificate to that effect on behalf of Government, and upon the production of this certificate at the Kachcheri, or Revenue office, accompanied by a fee of Rs. 100, a licence to keep and use a single still is issued. The preparation of the trees consists in coupling as many as possible into a single group by means of a dozen strong ropes fastened near the summit of the stem and stretched from tree to tree, so as to form a bridge or footway between each tree and its neighbour, with six similar ropes about four feet higher than the twelve, which serve the purpose of a hand rail or balustrade. This preliminary operation is performed about three weeks before it is intended to commence distillation, in order that the toddy drawers may pass with ease from tree to tree "preparing the flowers," a process which consists of beating

once a day with a short but heavy wooden instrument the long spathe or sheath in which the immature flowers of the coconut are enfolded. Such treatment under an experienced hand has the effect in about seven days of reducing the whole flower to a pulp without breaking the sheath or envelope in which it is contained, and when this result has been attained, and the pointed end of the spathe cut off, the juice produced by this bruising of the flowers will trickle out slowly into a small earthen pot which is fastened to the end; the juice which thus falls is sweet toddy, and quickly ferments; this toddy is collected from each tree every morning and carried to the distillery, where, when the amount has reached 150 gallons (or such quantity as will fill the still), it is distilled. Every morning when the toddy drawer collects his toddy he must again cut off a thin slice from the open end of the inflorescence, which by exposure to the atmosphere would otherwise rapidly dry up or heal, and so obstruct the passage of the juice; he must do this likewise again every evening. Each toddy drawer works about 100 trees, eight or nine are therefore required for the service of each still. The first distillation produces a liquor termed "polwakara," measuring one quarter of the toddy used. It takes four repetitions of this process therefore to obtain sufficient polwakara to fill the still again; when, however, this quantity is secured, the polwakara is again distilled, and produces what is called talwakara, or "arrack," which measures only half of the polwakara, or one-eighth of the toddy used to produce it. The strength of this polwakara varies from 18" to 20" under proof; to increase that strength the process of distillation must of course be repeated, in which case the product is termed "ispiritu" (anglice, "spirit"). The average product of a still of 150 gallons during the eight months of distillation is usually thirty leaguers, or 4,500 gallons.

ARNOLD DIAS of Panadure.—Large model of an Arrack Still, and implements used in toddy drawing.

GOVERNMENT OF CEYLON, Negombo District.—"Pot" Arrack Still (the simple contrivance used for illicit distillation).

GOVERNMENT OF CEYLON, Colombo District.—Model in Plaster of two Coconut Trees with natives drawing toddy, &c.

D. F. DE SILVA.—Model in Satinwood and Ebony of three Coconut Trees and natives engaged in drawing toddy.

(*b*). *Model of Native Oil Mill.* [**A 2.**]—This shows the native mode of extracting coconut oil from copra, the dried kernel of the coconut. It is a simple and inexpensive method, and although not so effective as the steam machinery introduced by Europeans for the same purpose, it has held its ground for the last half a century against steam crushers

and hydraulic presses; and notwithstanding the erection of large and costly steam oil mills in the neighbourhood of Colombo, the "checkoo," or bullock mill, continues to creak and grind as it creaked and ground fifty years ago. When copra is scarce or dear and oil is not to be made, the pair of bullocks are turned out to graze, costing their owner nothing; but when the large oil factory is compelled to stand idle, the interest on capital invested has to be reckoned, in addition to which an accident to the machinery may involve an outlay of some hundreds of pounds. There are at the present time about nine hundred of these bullock mills in operation in the Western and Southern Provinces, but chiefly in the former. The oil produced by them, although when purchased inferior in colour to "mill oil," shows no perceptible difference after fining, and realises an equal price in the home market. A checkoo will turn out about five gallons a day, but this small quantity multiplied by the number of bullock mills, furnishes, in the aggregate, considerable parcels of oil, which are bought up by dealers and middlemen, who contract with the Colombo or Galle merchants for fixed quantities to be supplied within a given period at a stipulated price, contracts in which they very rarely fail.

(*c*). *Model of Salt Works.*—The principal salt works in Ceylon are at Puttalam, on the north-west coast, and at Hambantota on the east coast. The salt manufacture at Puttalam, as represented in the model, differs only from that at Hambantota and other places in the one feature of the brine from which the salt is deposited being drawn from an extensive lagoon, and not direct from the sea. This lagoon is about twenty-eight miles long, and varies in width from four to eight miles, and it opens to the sea at Dutch Bay, a distance of twenty-eight miles from Puttalam. The water within this area is comparatively calm, and exposure to the rays of the sun and the constant wind blowing over its smooth surface causes rapid evaporation, so that the water in the lagoon is considerably more dense than the actual sea-water. This makes the deposit of salt easy and the process rapid. There are usually two collections in the year, but the first or "yala" collection is generally carried on over a small area, and as the time is short, the collection is usually small. The second collection, called the perumpukam or "maha" harvest, commences about June and continues until the north-east monsoon rains commence in the early part of October. The first operation is the enclosure by means of a dam of a certain area of the lake. The object of this is threefold: 1. To prevent the constant motion of the water under

tidal influence, and the consequent mixing with the water of the lake. 2. To encourage evaporation. 3. To cause the organic impurities of the water to settle, which they would not do if the water were in constant motion. When the water has been retained for a sufficient time within this enclosure it is again conducted by means of channels into smaller and shallower enclosures, called "warming pans," where evaporation is more rapid and the brine becomes thoroughly condensed. Meanwhile preparations are being made in the crystallising beds, called "waikkals," for the final reception of the brine. The area is cut up into waikkals by means of bunds about three feet above the level of the beds, and about fifteen feet broad. These bunds are used for the deposit of salt as soon as it is collected, and before it is stored in the manufacturer's kottus. The waikkals or beds lying between these bunds are again subdivided by means of small ridges into beds more or less rectangular in shape, and usually about 12 by 20 feet. These are arranged in two rows; between each of these is a small channel by which the brine is brought down from a larger channel connected with the warming pan. The soil of the waikkals is a nasty sour mud impregnated with chloride of sodium and other salts. The loose mud is first cleared away from the beds by means of wooden scrapers, the surface is then well-stamped and clean white sand sprinkled over it. As soon as the weather appears to be settled, the brine is let into the waikkals, and after eight or ten days the salt begins to be deposited. It is however rarely "drawn" under twenty-one days, by which time a crust of salt varying from one to two inches and (near the edges) over three inches in thickness is deposited under the water. When a large collection is being carried on, the waikkals present the appearance of newly-fallen snow, but of course the effect is marred by the mud bunds between the waikkals and the water which overlies the salt. The manufacture is carried on at different stations in and around Puttalam, and the outturn varies from about 50,000 to 500,000 cwts. of salt in one year, according to the nature of the season and the energy of the manufacturers in commencing in good time. In Puttalam the manufacture is carried on by persons (chiefly Moormen) who own the land, and the entire work is done by a kind of contract system. The whole of the operations are carried on by the manufacturers under the supervision of Government officials, and employment is thus given to over 1,000 persons. For three or four months (sometimes a year) after the salt is collected it is left in the sheds of the manufacturers until the moisture is drained off. As soon as the collection is completed the manufacturers are paid the

moiety value on the estimated amount of the collection; the balance being paid after the salt is weighed into the Government stores a few months later. The salt is conveyed to Colombo by boats which ply along the canal and to the interior districts by cart, and is sold by retail at about six cents per quart in Colombo and elsewhere. In the Puttalam district it is sold by retail at two cents per pound.

(*d*). *Models of Elephant Kraal.*—Two models in ebony and satin-wood are exhibited showing an elephant kraal, or corral, an enclosure into which wild elephants are driven in order to be captured. Of these models the larger, which is in front of case D, is shown by D. F. de Silva of Colombo; this model, which is rendered with much spirit, illustrates a kraal from a native's point of view; little regard being given for proportion, but great stress laid on the distinguished visitors who are in the stands.

The second model, which adjoins case G, has been executed at the Govt. Factory under the supervision of Mr. E. C. Davies, and in the exhibit of the Ceylon Government. This very clever design deserves some study, as it shows the wild elephants in the kraal in many positions. A rush of the herd can be seen at one side repelled by a few natives with guns and spears outside the stockade; and elsewhere wild elephants have been noosed and tied up, or are being inveigled towards a convenient tree by trained elephants guided by mahouts.

Kraals are generally undertaken on the occasion of visits of eminent persons; the driving in of the elephants from over a large tract of country employs many hundreds of men day and night, who slowly converge from all points on the kraal.

(*e*). *Model of a Rail Bridge.* [**A 2.**]—This has been prepared to show the method of constructing road bridging with waste rail bars. Hitherto waste rails have been utilised as bearing beams and standards for foot bridges. The initiation of the system of constructing cart-road bridges wholly of waste rail-bars, particularly the piling work, is original and worthy of attention. In Ceylon timber bridges of ordinary construction have to be renewed after ten years wear, whilst the life of a solid rail-bar bridge is good for a century, without further attention than an occasional coating of tar. This is no small matter when it is known that the rate of trussed iron bridging has hitherto averaged Rs. 180 per foot lineal against structures which will do the same work and with equal durability at from one-third to one-fourth the cost. Again, the system is free from complicated detail, enabling country artificers to erect long lengths of bridging in

a very short space. The bridges are particularly well adapted for crossing swamps, and where large waterways are required for the passage of floods. In ordinary cases, the piles are made up of three rail-bars interlocked, the joints broken at seven feet intervals, always having two bars in the solid; over each joint a red hot iron collar is shrunk, and the pile made up to the required lengths. The piles are driven in with the ordinary pile driver, using a heavy ram with a low fall and rapid stroke. In sloppy ground where the lengths are over twenty feet the piles are packed in timber secured with iron collars, in other places the piles are cased in cement cylinders of twenty-four inch diameter. Occasionally cross trees of short lengths of rail-bars are interlocked between the joints to prevent slipping. Since the date of introduction upwards of eight hundred feet lineal of this class of bridging have been erected, effecting a large saving to the Colony; the system is now being extended throughout the roads of Ceylon.

(*f*). *Model of Satinwood Bridge, Peradeniya.* [**A 2.**]—This large model, kindly lent by the authorities of the South Kensington Museum, represents the light and beautiful structure spanning the Mahaweli-ganga, near the Royal Botanic Gardens, Peradeniya. The bridge is constructed entirely of satinwood, thoroughly seasoned and was opened for traffic in 1831. The total span is 205 feet.

(*g*). *Model of Breakwater at Colombo.* [**A 2.**]—This shows the mode of construction adopted in this great work, and the general character of the setting machinery by means of which the blocks were placed in position. The works consist of a superstructure of concrete blocks, the heaviest weighing 33 tons, resting upon a foundation of rubble stone, the footings on the sea side being protected by bags of concrete.

The water-coloured sketch on the wall shows the harbour as it will be when fully completed. At present the works which have been carried out consist of the South or Main Breakwater, the wharf at the root of this breakwater, and the deepening of a considerable portion of the bed of the harbour under the shelter of the breakwater by means of dredging. The works still to be executed consist of the north arm, the construction of which is under consideration. The cost of the works already executed has been £705,000. Landing jetties extending from the face of the wharf are put forward for future execution, and will no doubt be ultimately carried out, as will also a graving dock.

The photograph shows the sea breaking over the work in the South-West Monsoon, the height of the crest of the breaking wave being 180 feet.

CLASS VI.

ART WORK.

SECTION I.

Jewellery, Gold and Silver Ware. [E, F, G, K, L.]

The exhibits under this section are both numerous and valuable, and in their variety include every kind of gold and silver work which exists among the Sinhalese, Tamil and Moorish races in Ceylon. The most markedly Sinhalese work of all is that from the goldsmith caste in the mountain country of which Kandy was the ancient capital, and which includes the district of Ratnapura and Kegalla, as well as the villages in the Kandy district proper. These goldsmiths are few in number, and are for the most part in good circumstances, having inherited endowments in fields and hill sides, bestowed as rewards upon their ancestors. They have not therefore any great inducement to work with regularity, and it is often hard to get orders executed at all. The Kandyan Art Association, however, an organisation lately started in Kandy with a view to stimulating the workmen to greater industry, and to bring their work more generally before the public, has procured some very good specimens of their art, notably the very finely executed silver salver shown in case K. In addition to this repoussé work, there is a collection (mainly in case G) of jewellery worn by Kandyan chiefs and the ladies of their families, nearly all the articles having been lent by the chiefs for exhibition.

Another very distinctive class of exhibits is that from the Northern Province, of which Jaffna is the chief town. This work is mainly gold filagree combined in a variety of ways with tortoise-shell, and frequently set with pearls. Good specimens of this work, which is as minute and highly finished as that of Malta, which it closely resembles, are placed in case G. In this case are included the varieties of jewels worn by the highest castes of Tamils in Jaffna, as well as by the poorer Tamils and the Moors throughout the Island.

The Sinhalese of the maritime districts have, owing to the long occupation of their country by the Portuguese, a race who mingled very freely with the people, adopted many of the customs of the Portuguese, notably in their dress and jewellery. A very marked

and interesting illustration of this is an exhibit shown in case K, of the bridal ornaments used by a well-to-do Sinhalese bride on her wedding day.

The jewellers of Colombo and Galle have contributed many valuable exhibits, more spirited and varied in their design than the Kandyan work, though as a rule not so minute and delicate in finish. The best specimen of their work is the silver box, in the upper part of case F, on which is carved the whole history of Wijayo, the conqueror of Ceylon, whose life is the earliest incident recorded in the ancient Páli chronicles of Ceylon.

Special acknowledgment is due to the public spirit of Mr. C. H de Soysa, who has lent many very valuable exhibits under this section, in addition to those under the head of Gems (Class I. Sections 3 and 4), and under the 9th section of this class.

It has been found impossible to group the exhibits of this section in any one portion of the Court, but cases E, F, G, and K contain all that is most important. The exhibits are, for the convenience of visitors, catalogued according to cases, the district from which the jewellery is received being noted in each case.

Contents of Case E.

1. GOVERNMENT OF CEYLON.—Silver Dagoba on Stand (Galle work), 50*l.*

2. J. M. P. PERIES, Mudaliyar.—Gilt Dagoba. (*Not for sale.*)

3. GOVERNMENT OF CEYLON.—Silver Dagoba (Ratnapura work), 50*l.*, containing an exact likeness of the Sacred Tooth in the Kandy Temple.

4. C. H. DE SOYSA, J.P.—Set of Gold Plate, chased and set with rubies, sapphires, and pearls, consisting of two plates, three glasses, and a knife, spoon, and fork. (*Not for sale.*)

5. KANDYAN ART ASSOCIATION.—Silver Chembu, or Water-pot, 35*l.* **6.** Silver Kendiya or Coffee-pot, 40*l.*

7. GOVERNMENT OF CEYLON.—Silver Bracelet, 2*l.* 10*s.*

8. KANDYAN ART ASSOCIATION.—Pair of Silver Bangles, 2*l.* 5*s.*

9. WATTEGAMA, R. M.—Oblong Silver Box (Kegalla Work). (*Not for sale.*)

10. TALANGAMA ARACHCHI.—Small oval Box. (*Not for sale.*)

11. C. H. DE SOYSA, J.P.—316 Ceylon Pearls, on three strings, valued at 1,500*l.* (*Not for sale.*)

12. GOVERNMENT OF CEYLON.—"Cobra" Paper Weight (Ratnapura work), 3*l.*

13. ASSISTANT GOVERNMENT AGENT of Kégalla.—Silver Châtelaine and Betel-bag. (*Not for sale.*)

14. GOVERNMENT OF CEYLON.—Silver cigar case (Ratnapura work), 5*l.* **15.** 3 Table Napkin-rings (Ratnapura work), 3*l.*

16. EKNELIGODA, R.M.—Silver Cigar Case. (*Not for sale.*)

17. C. H. DE SOYSA, J.P.—Gold Chain of Office, for rank of Mudaliyar. (*Not for sale.*)

18. A. N. BIRCH, C.M.G.—Silver Casket, duplicate of that containing the Sacred Tooth in Kandy. (*Not for sale.*)

19. KANDYAN ART ASSOCIATION.—Silver Casket (Kandyan work), 30*l.*

20. D. F. DE SILVA.—Moonstone Belt, mounted in silver, 30*l.*

21. WATTEGAMA, R.M. — Oblong Silver Box. (*Not for sale.*)

22. KANDYAN ART ASSOCIATION.—Silver Casket, similar to that containing the Sacred Tooth in Kandy, 40*l.*

23. ASSISTANT GOVERNMENT AGENT of Kégalla.—Small oval Box. (*Not for sale.*)

24. C. H. DE SOYSA, J.P.—Sword, Belt, and Medal of Office for rank of Mudaliyar, gold, very richly set with valuable precious stones, valued at 2,000*l.* (*Not for sale.*) The chain (No. 17) is part of this dress.

25. GOVERNMENT OF CEYLON.—Silver Tray (Ratnapura work), 20*l.*

26. ASSISTANT GOVERNMENT AGENT of Kegalla.—6 Table Napkin-rings (Kegalla work). (*Not for sale.*)

27. WATTEGAMA, R.M. — Silver Matchbox. (*Not for sale.*)

28. TAMBUGALA VIDANA.—Gold and Velvet Purse of a Kandyan Chief. (*Not for sale.*)

29. GOVERNMENT OF CEYLON.—Silver Casket (Ratnapura work), 30*l.*

30. DEDIGAMA ARACHCHI.—Silver Lime Box. (*Not for sale.*)

31. KANDYAN ART ASSOCIATION.—Curiously Shaped old Silver Kandyan Casket, 20*l.*

32. RATANGOLA VIDANA.—Small oval Silver Box. (*Not for sale.*)

33. KANDYAN ART ASSOCIATION.—Large oblong Silver Casket, 50*l.*

34. GOVERNMENT OF CEYLON. — Small Water-pot in Silver (Ratnapura work), 3*l.* **35.** Elaborately-chased Silver Box (Galle work), 50*l.* **36.** Buddhist Ola Book, in elaborately-chased silver covers (Galle work), 50*l.*

37. DEDIGAMA ARACHCHI.—Oval Box in Silver. (*Not for sale*).

38. A. C. GUNATILAKA, Mudaliyar.—Silver Lotus Flower. (*Not for sale.*)

39. GOVERNMENT OF CEYLON.—Silver Scent Sprinkler (from Jaffna). (*Not for sale.*) **40.** Silver Salt Cellar (Ratnapura work), 1*l.* 10*s.*

41. KOBBEKADUWA, R.M.—Small Silver Dagoba. (*Not for sale.*)

42. KANDYAN ART ASSOCIATION. — Large Silver Casket (Kandyan work), 40*l.*

43. GOVERNMENT OF CEYLON.—Silver Lime Box and Chain, 3*l.*

43a. RT. HON. SIR W. H. GREGORY, K.C.M.G.—Silver Scent Sprinkler, with curious old lion stem (from Jaffna). (*Not for sale.*)

Contents of Case F.

1. D. F. DE SILVA.—Ebony Writing Desk, mounted in silver, 45*l.*

2. RIGHT HON. SIR W. H. GREGORY, K.C.M.G.—Silver Casket on Ebony Stand. (*Not for sale.*)

3. D. F. DE SILVA.—Silver Carved Box; the carvings illustrate the history of Wijayo, the Indian Prince who conquered Ceylon, and from whom the Sinhalese trace their descent, 160*l.*

4. LOKU BANDA, R.M. of Harispattu.—Necklace of Gold and Rubies. (*Not for sale.*)

5. T. B. PANABOKKE, R.M. of Udapalata.—Tella, a Necklace worn by Kandyan Ladies. (*Not for sale.*)

6. T.B. GIRIHAGAMA.—Pavalanpota, or Coral and Gold Necklace. (*Not for sale.*)

7. T. B. RAMBUKWELLE, R.M. of Uda Dumbara.—Walalu, Coral and Gold Bracelets. (*Not for sale.*)

8. C. B. NUGAWELA, R.M. of Udunuwara.—Mále, chain worn by Kandyan ladies. (*Not for sale.*)

9. WIMALASURENDRA MUHANDIRAM.—Pair of Silver Lockets, 15*s.* the pair.

10. M. B. NUGAWELA, R.M. of Tumpane.—Kechchagama, armlet for the upper arm, worn by Kandyan ladies. (*Not for sale.*)

11. KUDA BANDA, President of Yatinuwara.—Padakkama, necklace and pendant worn by Kandyan ladies. (*Not for sale.*)

12. T. B. GIRIHAGAMA, R.M. of Uda Bulatgama.—Mále, gold bead necklace. (*Not for sale.*)

13. J. C. CASIE CHITTY.—Gold Knife and Sheath, set with Rubies (once the property of Molligodde Adigar). (*Not for sale.*)

14. RATWATTE, R.M. of Pata Dumbara.—Gold Knife and Sheath. (*Not for sale.*)

15. MISS EMERSON TENNENT.—Gold Knife and Sheath, mounted with uncut Rubies, 57*l.* 15*s.*

16. LOKU BANDA, R.M. of Harispattu.—Pair of Gold Bangles. (*Not for sale.*)

17. MISS EMERSON TENNENT.—Carved Silver Box, to hold prayer-book, 42*l.*

18. D. F. DE SILVA.—Ivory Box, mounted in gold, 70*l.*

19. KANDYAN ART ASSOCIATION.—Silver Heppuwa, a box to contain lime for betel chewing, 1*l.* 10*s.*

20. WIMALASURENDRA MUHANDIRAM.—Silver Card Case, 2*l.* 10*s.*

21. KANDYAN ART ASSOCIATION.—Silver Heppuwa, 1*l.* **22.** Ditto, 3*l.* 10*s.* **23.** Ditto, 4*l.*

24. D. F. DE SILVA.—Brooch; a beetle set in gold, 1*l.* 10*s.*

25. KANDYAN ART ASSOCIATION.—Silver Heppuwa, 3*l.* 15*s.*

26. P. B. ODRIS WEERARATNA, of Galle.—Silver Pilime, or image of Buddha, 3*l.*

27. KANDYAN ART ASSOCIATION.—Silver Salver, 4*l.* 10*s.*

28. D. S. DE SILVA, Ratnavibusani.—Betel Stand in silver, 2*l.* 5*s.*

29. KANDYAN ART ASSOCIATION.—Silver Salver, 4*l.* 10*s.* **30.** Silver Heppuwa, 12*s.*

31. J. M. P. PERIES, Mudaliyar.—Gilt Sedent Buddha. (*Not for sale.*)

32. KANDYAN ART ASSOCIATION.—Silver oval Heppuwa, 3*l.* 10*s.* **33.** Ditto, 1*l.* 10*s.* **34.** Ditto, 5*l.* **35.** Ditto, 4*l.*

36. W. A. DON POROLIS DE SILVA.—Silver Spittoon, 2*l.* 5*s.*

37. D. F. DE SILVA.—Moonstone Hairpin in gold setting, 1*l.* 15*s.* **38.** Moonstone Hairpin in silver setting, 1*l.* 5*s.* **39.** Moonstone Fan Brooch in gold setting, 3*l.* **40.** Moonstone Fan Brooch in gold setting (smaller), 2*l.* 10*s.*

41. M. B. NUGAWELA, R.M. of Tumpane.—Patiya, a Belt worn by Kandyan chiefs in full dress. (*Not for sale.*)

42. A. C. GUNATILAKA, Mudaliyar.—Sword and Belt of Office, belonging to rank of Mudaliyar. (*Not for sale.*)

43. J. HOLLOCOMBE, Esq.—Richly carved Kandyan Sword. silver inlaid with gold. (*Not for sale.*) **44.** Richly carved Kandyan Sword, inlaid and jewelled. (*Not for sale.*)

45. MISS EMERSON TENNENT.—Iron Style, inlaid with gold, in sheath of ivory and silver, 15*l.* 15*s.*

46. DON DANIEL NARAYANA.—Silver Style, 10*s.*

47. R. A. BOSANQUET, Esq. — Gold Bracelet (Ratnapura work). (*Not for sale.*)

48. MRS. A. N. BIRCH.—Gold Bracelet (Jaffna work). (*Not for sale.*) **49.** Gold Necklace (Jaffna work). (*Not for sale.*)

50. J. HOLLOCOMBE, Esq.—Richly carved Kandyan Sword, silver chased. (*Not for sale.*)

51. J. M. P. PERIES, Mudaliyar.—Crystal Figure of Buddha, seated under a silver Bo tree. (*Not for sale.*)

52. M. B. NUGAWELA, R.M. of Tumpane.—Pair of Gigiri Walalu, or musical anklets. (*Not for sale.*)

53. WIMALASURENDRA MUHANDIRAM. — Hawudiya, or Silver Waist Chain, 6*l.* 10*s.*

54. KANDYAN ART ASSOCIATION.—Silver Heppuwa, 4*l.* 10*s.* **55.** Ditto, 3*l.* 10*s.*

56. YATAWARA BANDA, R.M. of Pata Hewaheti.—Pair of Todu, ear ornaments. (*Not for sale.*)

57. S. RATWATTE, R.M. of Pata Dumbara.—Pair of Kuru, or Earrings. (*Not for sale.*)

58. KUDA BANDA, President of Yatinuwara.—Pámudu, toe rings worn by Kandyan ladies. (*Not for sale.*)

59. C. B. NUGAWELA, R.M. of Udunuwara.—Pullimal, Earrings worn by Kandyan ladies. (*Not for sale.*)

60. KANDYAN ART ASSOCIATION. — Silver Heppuwa, 4*l.* 10*s.* **61.** Ditto, 2*l.*

62. S. D. MAHAWALATENNE.—Silver Waist Chain. (*Not for sale.*)

63. E. R. GUNARATNA, Attapattu

Mudaliyar of Galle.—Silver Heppuwa. (*Not for sale.*) **64.** Ditto. (*Not for sale.*) **65.** Lime-holder and chain. (*Not for sale.*)

66. GOVERNMENT AGENT, Southern Province. — Coconut-tree in silver. (*Not for sale.*)

67. HON. SEC. Ceylon Court.—Silver Elephant Brooch. (*Not for sale.*)

Contents of Case G.

CEYLON GOVERNMENT.'— 1. Gold Ornament of Jaffna work, worn by ladies with **Nos. 4, 5, 30, 31,** 31*l.* **2.** Gold Necklace, of Jaffna work, set with pearls and uncut gems, 12*l.* 10*s.* **3.** Gold Necklace, of Jaffna work, set with pearls and uncut gems. 12*l.* 10*s.* **4.** Portion of Ladies' Head Ornament, *vide* No. 1. **5.** Portion of Ladies' Head Ornament, *vide* No. 1. **6.** Gold Brooch, of Jaffna work, set with pearls, 8*l.* **7.** Butterfly Brooch in tortoiseshell and gold, set with precious stones, 5*l.* **8, 9.** Pair of Gold Bracelets of Jaffna work, 6*l.*

G. L. WILLIAMS, Esq. 10. Gold Thâli, or necklace (Moorish), 20*l.* **11.** Gold Thâli, or necklace (Moorish), 16*l.*

CEYLON GOVERNMENT (Jaffna work).—**12.** Elephant Hair Bracelet, 10*l.* **13.** Gold Swámy Bracelet, 13*l.* **14.** Gold Crescent Brooch set with pearls, 3*l.* **15.** Snake Bracelet of a rose pattern, in gold, 27*l.* 10*s.* **16.** Rose Brooch in gold set with a pearl, 9*l.* **17.** Rose Cross Brooch in gold set with pearls, 10*l.* **18.** Elephant Hair Ring, 17*s.* 6*d.*; Puzzle Ring, in gold, 1*l.* 10*s.* **19.** Snake Ring, 1*l.* 15*s.*; Ring composed of six gold elephants, 1*l.* **20.** Elephant Hair Necktie Ring, 2*l.* 2*s.* **21.** Ball Ring, 2*l.* **22.** Gold and Tortoiseshell Brooch set with pearls, 12*l.* **23.** Anchor Brooch in Gold set with a pearl, 7*l.* 10*s.*

O. L. M. MACAN MARIKAR.—24. Necklet set with pearls and catseyes, 5*l.*

CEYLON GOVERNMENT. — 25. Alligator Chain set with pearls and gems, 37*l.* 10*s.*

G. L. WILLIAMS, Esq.—26. Gold Bangle, 16*l.* **27.** Gold Bangle, 16*l.* **28.** Gold Bangle, 13*l.* **29.** Gold Bangle, 13*l.*

CEYLON GOVERNMENT (Jaffna work).—**30, 31.** Gold Hair Ornaments set with pearls (portions of a headdress which includes Nos **1, 4, 5.**), 10*l.* **32.** Rose Chain Necklace in gold, 20*l.* **33.** Gold Necklace set with pearls and uncut gems, 10*l.* 10*s.* **34.** Alligator Bracelet in tortoiseshell and gold, 16*l.* **35.** "Lion-faced" Bangle in gold, set with gems, 15*l.* **36.** Gold "puzzle" Ring, 1*l.* 10*s.* **37.** Gold Buckle Ring with pearls, 2*l.* 10*s.* **38.** Cross Brooch in tortoiseshell and gold, 3*l.* 10*s.* **39.** Cross Brooch in tortoiseshell and gold, 2*l.* 2*s.* **40.** Pair of Tortoiseshell and Gold Bangles, 4*l.* **41.** Gold Necklace, 16*l.* **42.** Pair of Gold and Pearl earrings, 2*l.* 10*s.* **43.** Tortoiseshell Star Brooch, 2*l.* **44.** Gold Star Brooch, 2*l.* 10*s.*

G. L. WILLIAMS, Esq. — 45. Gold Chain, as worn by Moorish ladies, 16*l.* 10*s.*

CEYLON GOVERNMENT (Jaffna work).—**46.** Latin Cross Brooch, gold set with pearls, 7*l.* **47.** Gold Necklace, 8*l.*

G. L. WILLIAMS, Esq.—48. Pair of Snake Bangles in silver, 1*l.*

G. DE CROOS.—49. Pair of Silver Anklets. (*Not for sale.*)

G. L. WILLIAMS, Esq.—50. Silver Hair Pins, 1*l.* **51, 52.** Two Silver Hair Pins, 1*l.* 10*s.* **53.** Silver Châtelaine, 5*l.*

G. DE CROOS.—54, 55. Silver Châtelaines, with bunches of charms. **56.** Pair of Silver Anklets. **57, 58.** Ditto. **59.** Pair of Silver Bracelets. (*Not for sale.*)

G. L. WILLIAMS, Esq.—60. Pair of Silver Anklets, 4*l.* **61.** Ditto, 6*l.* **62.** Ditto, 5*l.* **63.** Ditto, 3*l.* **64.** Silver Waist Chain, 1*l.*

C. H. DE SOYZA, Esq.—65. Collection of Sinhalese Ladies' Ornaments in emeralds and gold. **66.** Ditto in rubies. **67.** Ditto in diamonds and pearls. (*Not for sale.*)

MADUWANWALA BANDA.—68. Gold and Pearl Necklace. (*Not for sale.*)

C. H. DE SOYZA, Esq.—69, 70. Gold Bracelets set with topaz and pearls. (*Not for sale.*)

MADUWANWALA BANDA.—71. Kandyan chief's Ring, gold set with rubies, emeralds and diamonds. (*Not for sale.*)

G. DE CROOS.—72. Gold Chain, worn by Tamil ladies. (*Not for sale.*)

ELLAWALA, R.M.—73. Gold Brooch set with a large sapphire. (*Not for sale.*)

MADUWANWALA BANDA.—74. Gold Brooch set with a large sapphire and rubies. (*Not for sale.*)

Through ASSISTANT GOVERNMENT AGENT, Kegalla.—75. Châtelaine in gold filagree. **76.** Necklet and Pen-

dant set with rubies; pair of Ear-tips set with rubies. **77.** Pair of Fish Toe Rings, gold. **78.** Gold Necklace set with rubies. (*Not for sale.*)

G. DE CROOS.—**79.** Lady's Comb and Hair Ornaments (Tamil). **80.** Gold Chain, worn by Tamil ladies. (*Not for sale.*)

MADUWANWALA BANDA.—**81.** Gold Snake Chain. **82.** Gold Chunam (Lime) Box and Chain. (*Not for sale.*)

G. DE CROOS.—**83, 84.** Pair of Gold Bangles. **85.** Ditto. **86.** Gold Chain with ruby and pearl pendant. **87.** Six Gold Ear Ornaments, worn by Tamil ladies. (*Not for sale.*)

MADUWANWALA BANDA.—**88.** Gold Necklet. **89.** Gold Eardrops. (*Not for sale.*)

Through ASSISTANT GOVERNMENT AGENT, Kegalla.—**90.** Kandyan Chief's Ring. **91.** Pair of Gold Eardrops with pearls. **92.** Gold Bracelet set with rubies and pearls. (*Not for sale.*)

MADUWANWALA BANDA.—**93.** Gold and Ruby Eardrops. (*Not for sale.*)

Through ASSISTANT GOVERNMENT AGENT, Kegalla.—**94.** Pair of Ear Ornaments. (*Not for sale.*)

MADUWANWALA BANDA.—**95.** Large Ear Flowers in gold. **96.** Ditto, set with rubies and pearls. **97, 98.** Pair of large Gold Bangles. **99, 100.** Ditto. **101.** Gold and Coral Chain. **102.** Long Gold Chain set with rubies. **103.** Amulet set in gold. **104.** Gold and Coral Bead Necklace. **105.** Gold and Coral Necklace. (*Not for sale.*)

In case K.

KANDYAN ART ASSOCIATION.—Large Silver Salver, very delicate repoussé work executed by Kegalla workmen. 120*l.*

In case L.

C. S. RAIKES, Esq.—Large Silver Salver. (*Not for sale.*)

F. R. SAUNDERS, Esq.—Collection of Ratnapura silver work. (*Not for sale.*)

D. F. DE SILVA and ANDREW SILVA of Colombo.—Moonstone jewellery. (*These articles are for sale. For prices apply to the Gem Department.*)

SECTION 2.

Metal Ware other than Gold and Silver. [K.]

The brass ware made in Ceylon is of the simplest description. The only demand in the island is for utensils for domestic purposes, such as cooking and carrying water. That the brass-workers are capable, however, of beautiful work is shown by the very handsome spherical bowl supported on three cobras, numbered 74 on the catalogue. This was made by a Tamil brass-worker at Negombo, where the industry in brass-work is considerable. Tangalla, in the Southern Province, is also the centre of a considerable trade. The Kandyan Art Association has fostered the art among the Kandyans of working in copper and silver upon brass, and among the Association's exhibits are some beautiful samples of this combination.

Brass.

1. J. H. THWAITES, Esq.—Figure of Budda seated on folds of a Cobra, and shadowed by the Cobra's Hood. (*Not for sale.*)

2. KANDYAN ART ASSOCIATION.—Engraved Brass Chatty (water-pot), 1*l.* 10*s.* **3.** Ditto, 1*l.* 10*s.*

4. CEYLON GOVERNMENT.—Plain Brass Hanging Lamp, common bazaar ware, 7*s.* 6*d.* **5.** Ditto, 7*s.* 6*d.*

6. KANDYAN ART ASSOCIATION.—Engraved Brass Chatty (water-pot), 1*l.* **7.** Ditto, 1*l.*

8. CEYLON GOVERNMENT.—Small Brass Plate, common bazaar ware, 2*s.* **9.** Nambiliya, Brass Plate, furrowed on the inside, used for sifting rice from the husk, common bazaar ware, 5*s.*

10. KANDYAN ART ASSOCIATION.—Engraved Brass Chatty (water-pot), 1*l.* 10*s.* **11.** Ditto, 1*l.* 10*s.*

12. CEYLON GOVERNMENT.—Engraved Brass Chatty, Tangalla, 2*l.* 10*s.*

13. KANDYAN ART ASSOCIATION.—Engraved Brass Chatty, Tangalla, 1*l.* 10*s.* **14.** Ditto, 1*l.* 10*s.* **15.** Ditto, 1*l.* **16.** Ditto, 1*l.* **17.** Ditto, 1*l.* 10*s.*

18. CEYLON GOVERNMENT.—Engraved Brass Cup, common bazaar ware, 2*s.* **19.** Ditto, 2*s.* **20.** Plain Brass Plate, common bazaar ware, 2*s.*

21. KANDYAN ART ASSOCIATION.—Brass Areka Nut-Cutter, 5*s.*

22. CEYLON GOVERNMENT.—Plain Brass Plate, common bazaar ware, 2*s.* **23.** Ditto, 2*s.* **24.** Ditto, 3*s.* **25.** Ditto, 3*s.* **26.** Engraved Brass Basin, Tangalla, 7*s.* 6*d.* **27.** Plain Brass Oil Vessel, common bazaar ware, 7*s.* 6*d.* **28.** Brass Vase, imitation European, 1*l.* **29.** Modelled Brass Bottle, common bazaar ware, 5*s.* **30.** Plain Brass Water-Pot. 5*s.* **31.** Ditto, 7*s.* 6*d.* **32.** Modelled Brass Bottle, 6*s.*

33. KANDYAN ART ASSOCIATION.—Engraved Water-pot, 1*l.* 10*s.* **34.** Ditto, 1*l.* **35.** Ditto, 1*l.* **36.** Ditto, 1*l.* **37.** Ditto, 1*l.* 10*s.*

38. CEYLON GOVERNMENT.—Plain Brass Pot, used in cooking, common bazaar ware, 7*s.* 6*d.* **39.** Ditto, 7*s.* 6*d.*

40. KANDYAN ART ASSOCIATION.—Engraved Brass Water-pot, 1*l.* 10*s.* **41.** Ditto, 1*l.* 12*s.* 6*d.* **42.** Ditto, 1*l.*

43. CEYLON GOVERNMENT.—Plain Brass Ladle, common bazaar ware, 2*s.* **44.** Plain Brass Spittoon, 10*s.* **45.** Brass Hanging Lamp, 10*s.* **46.** Ditto, 10*s.*

47. CEYLON GOVERNMENT.—Plain Brass Water-pot, common bazaar ware, 2*s.* 6*d.* **48.** Brass Lamp, 15*s.* **49.** Ditto, 15*s.* **50.** Engraved Brass Waterpot, Tangalla, 1*l.*

51. KANDYAN ART ASSOCIATION.—Engraved figure of Buddha, 1*l.* 10*s.*

52. CEYLON GOVERNMENT.—Plain Brass Pan, used in cooking, common bazaar ware, 5*s.* **53.** Engraved Brass Water-pot, Tangalla, 15*s.* **54.** Plain Brass Plate, common bazaar ware, 2*s.*

55. KANDYAN ART ASSOCIATION.—Engraved Brass Water-pot, 1*l.* 15*s.* **56.** Ditto, 1*l.* 15*s.* **57.** Ditto, 1*l.* 10*s.*

58. CEYLON GOVERNMENT.—Modelled Brass Water-bottle, common village ware, 7*s.* 6*d.* **59.** Plain Brass Plate, 2*s.* **60.** Plain Hanging Brass Lamp. 5*s.* **61.** Plain Brass Bottle. 5*s.* **62.** Plain Brass Betel Stand. 5*s.* **63.** Plain Brass Water-pot, 10*s.* **64.** Plain Brass Plate, 3*s.* **65.** Engraved Brass Plate and Cover, 6*s.* **66.** Ditto, 5*s.* **67.** Plain Brass Pan and Cover, used in cooking, 6*s.* **68.** Plain Brass Basin, 3*s.* **69.** Plain Brass Spittoon, 6*s.* **70.** Ditto, 8*s.* **71.** Plain Brass Water-pot, 5*s.* **72.** Engraved Brass Water-pot, 1*l.*

73. KANDYAN ART ASSOCIATION.—Brass figure Buddha, 1*l.* 10*s.*

74. CEYLON GOVERNMENT.—Plain Brass Chatty, standing on 3 cobras (Negombo), 25*l.* **75.** Brass Lime Box for Betel Chewing, common bazaar ware, 2*s.* 6*d.* **76.** Brass Betel Pounder, 5*s.* **77.** Brass Betel Cutter, 5*s.*

78. KANDYAN ART ASSOCIATION.—Engraved Brass Buddha (seated), 10*s.*

79. CEYLON GOVERNMENT.—Plain Brass Basin, common bazaar ware, 3*s.* **80.** Plain Brass Dish, 3*s.* **81.** Ditto, 3*s.*

82. KANDYAN ART ASSOCIATION.—Engraved Brass Water-pot, 1*l.* 10*s.* **83.** Ditto, 1*l.* 10*s.*

84. CEYLON GOVERNMENT.—Plain Brass Ladle, common bazaar ware, 3*s.* **85.** Plain Brass Spoon, common bazaar ware, 1*s.* **86.** Betel Cutter, common bazaar ware, bell metal, 2*s.*

87. A. C. LAWRIE, Esq.—Figure of Buddha. (*Not for sale.*) **88.** Ditto. (*Not for sale.*)

Brass, Copper and *Silver.*

89. A. C. GUNATILAKA, Mudaliyar.—Box to contain Lime for Betel Chewing. (*Not for sale.*)

90. MADUWANWELA BANDA.—Box to contain Lime for Betel Chewing. (*Not for sale.*) **91.** Ditto. (*Not for sale.*)

92. KANDYAN ART ASSOCIATION.—Box to contain Lime for Betel Chewing. (*Not for sale.*) **93.** Chembu, or Water-pot, 3*l.* 10*s.* **94.** Ditto, 3*l.* 10*s.* **95.** Ditto, 3*l.* 10*s.* **96.** Ditto, 3*l.* 10*s.* **97.** Ditto, 3*l.* 10*s.* **98.** Ditto, 3*l.* 10*s.*

99. Sir J. R. LONGDEN, K.C.M.G.—Water-pot. (*Not for sale.*)

100. KANDYAN ART ASSOCIATION.—Water-pot, 3*l.* 10*s.* **101.** Ditto, 3*l.* 10*s.* **102.** Ditto, 3*l.* 10*s.* **103.** Ditto, 3*l.* 10*s.*

SECTION 3.

Carvings other than Metal Work. [J. and L.]

The exhibits under this section include three distinct varieties of carved work, all of which are characteristic of Sinhalese art.

(*a*). *Ivory* [J.].—The first of these is carving in ivory, and among the loan exhibits are some whose history gives them a peculiar interest, they having formed part of the loot from the king's palace in Kandy when that town was finally captured by the British. Of this ancient work Nos. 1, 2, and 3 are specially noteworthy. Another interesting exhibit is that of ivory scent-sprinklers; the art of making these is a secret confined to one family of ivory-workers in the Kegalla district of the Kandyan country. The bottles are formed out of one piece of ivory, hollowed out until the sides are exceedingly thin, and yield to pressure when squeezed. A more modern art is that which is illustrated by the Colombo and Galle workers in ivory. The craftsmen work usually in the ivory of the elephant's molar tooth, not in tusk ivory, the Ceylon elephant rarely having tusks. The best exhibit of this work is in Case F, No. 18. The manner in which the natives cut the sections of the molar tooth is shown in a drawing placed in front of the ivory exhibits in Case K, of which sketch the following is the description :—

The mode of operation is certainly very primitive, but most efficient, at the same time, for the purpose required. The instruments employed, as will be seen, are simple. There is first a long narrow plate of iron, A, shaped like a saw, 40 inches long, $2\frac{1}{2}$ broad, and $\frac{1}{20}$ inch thick, the two ends of which being fixed to wooden handles, it is drawn between two men upon the tooth, as in sawing. The edges of this instrument are round, and before use, one of the edges is indented here and there with a blunt knife, E. The instrument is placed on the convex side of the tooth, one-third of an inch below the enamel of the tooth, as shown in the section F. Garnet sand mixed with water is put along the cutting edge by a boy as the instrument is being drawn, until the section is completed. A wooden frame, B, is fixed to the ground for the purpose of keeping the tooth unmoved

while being sawn, as seen upon the board C, which is done by means of a long stick, D, extending from the top of the frame and pressing down upon the tooth, which is placed laterally. The board is 18 inches long and 7 broad, and tied to pegs with coir rope. The cut sections are polished by being rubbed upon a smooth granite stone with garnet sand and water. When cut and polished, the section shows beautifully the complex structure of the tooth—the cement, enamel, dentine, in their successive layers.

(*b*). *Carvings in Coconut Shell* [**L.**].—This delicate and beautiful work is produced by a few carvers on the coast from Colombo to Galle, mainly at Kalutara. The workers have many difficulties to contend with, as the coconut shell cannot be bent or altered in shape, and is at the same time hard to carve.

(*c*). *Carvings in Ebony and other Woods* [**J.** and **L.**].—The low country Sinhalese, especially of certain sea-board villages round Colombo and Galle, are excellent carpenters and cabinet-makers, and many of them are capable of turning out first-rate work. The exhibits in furniture, especially the calamander and ebony cabinets, are sufficient illustration of this; but as these are catalogued under a separate section (9), smaller articles only, not articles of furniture, are enumerated below. Of these special attention should be drawn to the elaborate work on No. 82 (placed on the top of Case C), which in design and finish is very typical of the Ceylon cabinet-maker's work.

A. Ivory Carving. [K.]

1. THE RT. HON. SIR W. H. GREGORY, K.C.M.G.—Carved Ivory Casket. (*Not for sale.*) This casket was taken at the capture of Kandy and was formerly the property of the Queens of Kandy.

2. CAPTAIN M. W. SKINNER.—Carved Ivory Fan Handle of the King of Kandy. **3.** Carved Ivory Scent Bottle. (*Not for sale*). Taken at the capture of Kandy.

4. ASSISTANT GOVERNMENT AGENT, Kegalla.—Carved Ivory Fan Handle. **5.** Ditto. (*Not for sale*).

6. J. M. P. PERIES, Mudaliyar.—Carved Ivory Plaque. **7.** Ditto. (*Not for sale.*)

8. A. C. LAWRIE, Esq.—Carved Ivory Plaque. (*Not for sale.*)

9. B. GOMEZ.—Very Old Carved Ivory Figure of a Kandyan Chief. (*Not for sale.*)

10. A. C. LAWRIE, Esq.—Carved Ivory Scent Bottle. (*Not for sale.*)

11. SIR C. P. LAYARD, K.C.M.G.—Carved Ivory Scent Bottle. **12.** Ditto. (*Not for sale.*)

13. ASSISTANT GOVERNMENT AGENT, Kegalla.—Carved Ivory Scent Bottle. (*Not for sale.*)

14. EKNELIGODA DISAW.—Ivory Tom Tom (drum). **15.** Ditto. **16.** Carved Ivory Fan Handle. (*Not for sale.*)

17. ASSISTANT GOVERNMENT AGENT, Kegalla.—Carved Ivory Fan Handle. **18.** Ditto. **19.** Coconut Flower. **20.** Carved Ivory Box. (*Not for sale.*)

21. D. C. DE SILVA.—Pair of Elephants on stands, 3*l*. **22.** Ditto, 2*l*.

23. CAPT. M. H. SKINNER, R.E.—Pair Large Ivory Elephants on Stands. (*Not for sale.*)

24. D. C. DE SILVA.—Pair Large Ivory Elephants (without stands), 12*l.*

25. D. D. DE SILVA.—Ivory Book Box, silver mounted, 10*l.*

26. D. C. DE SILVA.—Upper Tooth of a Grown Elephant, 1*l.* 8*s.* **27.** Upper Tooth of a Grown Elephant cut in sections, 14*s.*

28. GOVERNMENT AGENT, Galle.—Knife and Style in Ivory Handle, 5*s.*

29. D. C. DE SILVA.—Ivory Knife Handles (12), 12*s.*

30. A. JAYAWARDANA, Mudaliyar—Small Ivory Dagoba, 10*s.* **31.** Ivory Needle Holder, 10*s.*

32. D. F. DE SILVA.—Ivory Casket bound in silver, 10*l.*

33. RATNAVIBUSANA VIDHANA.—Areka Nut Pounder, in ivory and silver, 4*l.*

34. CAPT. M. W. SKINNER, R.E.—Part of an Ivory Fan. (*Not for sale.*)

35. D. C. DE SILVA.—Box of Tooth Ivory. **36.** Box of Tooth Ivory, Broken, 1*l.* 4*s.*

37. A. C. GUNATILAKA, Mudaliyar.—Back Scratcher. (*Not for sale.*)

38. J. M. P. PERIES, Mudaliyar.—Carved Ivory Figure of Buddha. (*Not for sale.*)

39. A. JAYAWARDANA, Mudaliyar.—Ivory Wafer Box, 7*s.* 6*d.*

40. D. C. DE SILVA.—Lower Tooth of Grown Elephant, 4*s.* **41.** Lower Tooth of Young Elephant, 5*s.* **42.** Sections of an Elephant's Jaw (6), 12*s.*

43. C. H. DE SOYZA, Esq.—Cocoanut Flower. (*Not for sale.*)

43a. RIGHT HON. SIR W. H. GREGORY, K.C.M.G.—Carved Ivory Plaque. (*Not for sale.*) 43b. Ditto.

43c. A. C. LAWRIE, Esq.—Ditto. (*Not for sale.*)

[18. Case F.] D. F. DE SILVA.—Ivory box mounted in gold, 70*l.*

B. Coconut Shell. [L.]

44. ASSISTANT GOVERNMENT AGENT, Kegalla.—Carved Coconut Shell on painted stand. **45.** Carved Coconut Shell on stand, figures of animals in relief. (*Not for sale.*)

46. MISS EMERSON TENNENT.—Carved Coconut Shell, silver mounted, with silver Buddha on top, 63*l.*

47. A. C. LAWRIE, Esq.—Carved Coconut Shell with handle. (*Not for sale.*)

48. MISS EMERSON TENNENT.—Carved Coconut Shell of peculiar shape. (*Not for sale.*)

49. SINHO NAIDE.—Carved Coconut Shell, 1*l.*

50. A. C. LAWRIE, Esq.—Carved Coconut Shell. (*Not for sale.*)

51. SINHO NAIDE.—Carved Coconut Shell, 3*l.*

52. CAPTAIN BAYLEY.—Double Coconut Shell, carved in Ceylon. (*Not for sale.*)

53. SINHO NAIDE.—Bottle, of Carved Coconut Shell, 14*s.* **54.** Toast Rack, 10*s.* **55.** Milk Jug, 10*s.* **56.** Cup and Saucer, 10*s.* **57.** Teapot, 14*s.* **58.** Salt Cellar, 6*s.* **59.** Sugar Basin, 6*s.* **60.** Butter Dish, 6*s.* **61.** Wine Glass, 6*s.* **62.** Tumbler, 8*s.* **63.** Egg Cup, 6*s.* **64.** Cruet Stand, 1*l.* 5*s.* Making a breakfast set for one person.

65. SINHO NAIDE.—Carved Coconut Shell on stand, 3*l.*

66. A. J. FERNANDO.—Carved Coconut Shell on stand, 3*l.*

67. CHARLES DE SOYZA.—Carved Coconut Shell on stand. (*Not for sale.*)

68. ASSISTANT GOVERNMENT AGENT, Kegalla.—Carved Coconut Shell on painted stand. (*Not for sale.*)

69. A. C. LAWRIE, Esq.—Carved Coconut Shell on stand. (*Not for sale.*)

70. A. J. FERNANDO.—Lotus Plant made out of coconut shells, 3*l.*

71. A. C. LAWRIE, Esq.—Carved Coconut Shell and stand. (*Not for sale.*)

C. Ebony and other Woods. [J. H. I. & C.]

72. MISS SKINNER.—Pair of small Ebony Elephants. (*Not for sale.*)

73. D. C. DE SILVA.—Pair of large Ebony Elephants with Mahouts 12 inches high, 10*l.*

74. F. R. SAUNDERS, Esq.—Tamarind Tortoise, 2*l.* **75.** Ebony Tortoise, 2*l.*

76. W. H. RAVENSCROFT, Esq.—Pair of very large Ebony Elephants. (*Not for sale.*)

77. D. C. DE SILVA.—Pair of large Ebony Elephants with Mahouts 10 inches high, 9*l.*

78. C. P. DE SOYZA, Esq.—Ebony Coconut Palm, 10*l.* **79.** Ebony Kitul (or Jaggery) Palm, 20*l.*

80. D. REID, Esq.—Ebony Elephant with Howdah and Mahout. (*Not for sale.*)

81. M. H. KURE.—Ebony carved Pine-apple Plant, 5*l.*

82. DON POLOLIS.—Ebony Carved Frame, 25*l.*

83. GOVERNMENT AGENT of Southern Province.—Carved Box, 15*l.*

SECTION 4.

Tortoise Shell. [C. and L.]

This industry is a very important one among the tradesmen of Colombo and Galle: the shell of the turtle (*Chelonia virgata*) is imported chiefly from the Straits and the Maldive Islands, and is manufactured into a variety of useful and ornamental articles mainly in the villages round Galle. The principal dealers in tortoise shell exhibit an excellent and extensive collection of their work. The yellow variety of tortoise shell is obtained from the claws of the animal, the material being fused together, and is very highly prized among the comb-wearing Sinhalese, who pay a high price for the best qualities of combs.

MISS EMERSON TENNENT.—Box with gold mountings. (*Not for sale.*)

MISS SKINNER.—Round Box mounted in silver. (*Not for sale.*)

G. M. FOWLER, Esq., C.C.S.—Box formed of a whole tortoise shell. (*Not for sale.*)

ARNOLD DIAS.—Box formed of a whole tortoise shell, 8*l.*

ANDREW SILVA.—Box formed of a whole tortoise shell, 6*l.*

GOVERNMENT AGENT, Southern Province.—Box mounted in silver, 20*l.*

D. D. DE SILVA.—Gold Mounted Box, 30*l.*

D. F. DE SILVA.—Exhibits in "claw" (yellow) tortoise shell (such as paper cutters, combs, gold mounted bracelets), 15*l.*

ANDREW SILVA.—Exhibits in tortoise shell worked into a variety of designs, 39 pieces, 216*l.* 4*s.*

DON ADRIAN WIJEYANARÁYANA.—Exhibits in tortoise shell worked into a variety of designs, 55 pieces, 202*l.* 19*s.* 7*d.*

P. L. ALLIS HAMY.—Exhibits in tortoise shell worked into a variety of designs, 30 pieces, 77*l.* 10*s.*

[N.B.—Detailed lists of the articles shown by the last four exhibitors, with prices, are in the hands of Mr. Hayward, the officer in charge of the Gem Department, who is authorised to book orders, receive money, and issue receipts.]

SECTION 5.

Porcupine Quill Work—from Galle. [L.]

D. F. DE SILVA.—Writing Desk, 3*l.* Pair of Book Cases, 1*l.* Basket, 10*s.* Ditto, 10*s.* Ditto, 15*s.* Small Work Box, 15*s.* Cigar Box, 2*s.* Glove Box, 8*s.* Inlaid Box, 15*s.*

MISS SKINNER.—Glove Box. Inlaid Bookstand. (*Not for sale.*)

SECTION 6.

Lace, &c. [D.]

The lace industry in Ceylon dates back to the Portuguese, who introduced the art among the Sinhalese converts in the neighbourhood of Galle and Colombo. There is no great originality in the Ceylon work, the patterns being mostly borrowed from Maltese and Irish laces; the work, however, although unfortunately usually done in poor material, is cheap and durable, and sometimes is exceptionally good, both in design and workmanship. The principal seats of the industry are near Galle, at Cotta near Colombo and at Negombo.

MISS E. A. FERGUSON.—Exhibits in Galle and Cotta Lace and Darned Net, total value 36*l.*

E. P. DINES HAMY.—Galle Lace, total value 20*l.*

U. L. JUAN DE SILVA.—Galle Lace, 60*l.*

GOVERNMENT OF CEYLON.—Cotta Lace, total value, 5*l.* Coloured Lace from Negombo.

CHURCH MISSION SCHOOL, Buona Vista.—Antimacassar.

MISS FERGUSON. — Embroidered Screen (from Nature), 20*l.*

MRS. J. FERGUSON.—Embroidered Coconut Flowers (from Nature).

[For particulars of the above, application should be made to Mr. Hayward, in charge of the Gem Collection.]

SECTION 7.

Lacquer Work.

The art of lacquering is carried on in the interior of Ceylon to a limited extent, and has remained stereotyped for many generations. The brilliantly-coloured laquered spear shafts and sticks from Kandy, mostly contributed through the agencies of the Kandyan Art Association, have been utilised in decorating the walls of the Court. Similar lacquer work is exhibited in the Maldives collection [M], and is described under Section 6 of Class VIII.

At Tangalla, in the Southern Province, lacquer work is employed mainly for toys or articles of furniture; the gaudy colouring of these exhibits from Tangalla is noticeable in rear of case J.

GOVERNMENT OF CEYLON, Kandy District.—Lacquer Sticks, Spear shafts, &c. **Tangalla District.**—Tables, Chairs, Toys. Price 4*l.*

A. JAYAWARDANA, Mudaliyar.—(Painted woodware). A standing Buddha in attitude of benediction, 2*l.* 10*s.* A sedent Buddha, 2*l.* 10*s.* A recumbent Buddha, 2*l.* 10*s.*

SECTION 8.

Pottery. [J.]

Two classes of Pottery are met with in Ceylon. The common village Pottery used by the natives is made in the maritime Provinces, especially in the neighbourhood of Colombo (Kaduwella and Hanwella), and Matara (Dondra Head). This pottery is extremely porous, and has the advantage of thoroughly cooling its contents. It is rarely much ornamented.

The other class is the Painted Pottery of Kandy which is made for ornament only. The clay is of a special kind found in a few places, and is very carefully baked. The pattern is carefully drawn in pencil. The paints used are of the commonest native sorts purchased in the bazaar. They are mixed with "kepitiya" resin (from the shrub *Croton luciferum*), and laid on with primitive brushes made of the awns of a common wayside grass (*Aristida adscensionis*). Two or three layers of paint are used in the best specimens, and the whole is varnished with the milky juice from the Jack fruit. The art is a modern development of the old tile-painting and temple decoration.

A.—Kandyan Painted Ware.

THE KANDYAN ART ASSOCIATION.

1. Painted Chatty (water-pot and cover), 6*s.* **2.** Painted Chatty, 3*s.* 6*d.* **3.** Painted Chatty and Cover, 6*s.* **4.** Painted Chatty, 4*s.* **5.** Ditto, 4*s.* **6.** Ditto, 2*s.* **7.** Painted Chatty and Cover, 6*s.* 6*d.* **8.** Painted Chatty, 5*s.* **9.** Painted Chatty and Cover, 4*s* 6*d.* **10.** Painted Chatty, 5*s.* 6*d.* **11.** Ditto, 2*s.* **12.** Painted Lamp, 7*s.* 6*d.* **13.** Painted Gurulote, or Goglet, 7*s.* **14.** Painted Chatty and Cover, 4*s.* 6*d.* **15.** Painted Gurulote, or Goglet, 3*s.* **16.** Painted Chatty, 3*s.* 6*d.* **17.** Painted Plaque, Sinhalese lion with elephant head, 6*s.* **18.** Painted Plaque, figure of a king, 3*s.* **19.** Painted Gurulote, or Goglet, 2*s.* 6*d.* **20.** Ditto, 4*s.* **21.** Ditto, 36*s.* 6*d.* **22.** Painted Chatty, 7*s.* 6*d.* **23.** Ditto, 2*s.* 6*d.* (*Broken.*) **24.** Painted Chatty and Cover, 5*s.* **25.** Ditto, 3*s.* **26.** Ditto, 6*s.* **27.** Ditto, 5*s.* **28.** Ditto, 5*s.* **29.** Ditto, 5*s.* **30.** Ditto, 7*s.* 6*d.* **31.** Painted Chatty and over, 5*s.* **32.** Ditto, 4*s.* **33.** Ditto, 10*s.* **34.** Ditto, 5*s.* 6*d.* **35.** Painted Lamp, 4*s.* **36.** Painted Chatty and Cover, 7*s.* 6*d.* **37.** Painted Plate, 4*s.* **38.** Painted Chatty, 4*s.* **39.** Ditto, 5*s.* **40.** Painted Chatty and Cover, 4*s.* **41.** Ditto, 6*s.* 6*d.* **42.** Ditto, 7*s.* 6*d.* **43.** Painted Chatty, 4*s.* **44.** Gurulote, or water-bottle, 2*s.* **45.** Painted Plaque, 3 Tom-tom beaters, 6*s.* **46.** Painted Plaque, 2 devil-dancers, 6*s.* **47.** Painted Plaque, 2*s.* (*Broken.*) **48.** Painted Plate with Handles, 7*s.* **49.** Painted Chatty, with Handles, 4*s.* **50.** Ditto, 2*s.* 6*d.* (*Broken.*) **51.** Painted Chatty with Cover, 7*s.* **52.** Painted Round Plaque (with Hansa), 5*s.* **53.** Painted Chatty and Cover, 7*s.* **54.** Ditto, 5*s.* **55.** Painted Kottale, or drinking vessel, 2*s.* 6*d.* **56.** Painted Plaque, Sacred Hansa, 7*s.* **57.** Painted Plaque, Sacred Lion, 4*s.*

58. Plaque, Sacred Lion, 7*s.* **59.** Ditto, 7*s.* **60.** Ditto, 7*s.* **61.** Ditto, 7*s.* **62.** Ditto, 7*s.* **63.** Ditto, 7*s.* **64.** Ditto, 7*s.* **65.** Ditto, 7*s.* **66.** Painted Plaque, 7*s.* **67.** Painted Plaque, 7 dancing-girls in shape of a horse, 8*s.* **68.** Painted Plaque. 6*s.* **69.** Ditto, 7*s.* **70.** Ditto, 4*s.* (*Sold.*) **71.** Ditto, 7*s.* **72.** Ditto, 7*s.* **73.** Painted Plaque, 4 dancing-girls in form of shrine of Budda, 7*s.*

Nos. 58 to **73** illustrate a Perahera or Buddhist procession in Kandy.

74. Painted Plaque, 6*s.* **75.** Ditto, 5*s.*

76. Painted Gurulote, or water bottle, 6*s*. **77.** Painted Roof Ornament, 10*s*. **78.** Painted Round Plaque, 5*s*. **79.** Painted Plaque, 5*s*. **80.** Plaque showing Dewale Perahera, 10*s*. **81.** Plaque showing Kandy Perahera, 7*s*. **82.** Painted Gurulote, or water bottle, 5*s*. **83.** Painted Jar, with top, 10*s*. **84.** Round Painted Plaque, 5*s*. **85.** Painted Jar, with top, 7*s*. **86.** Painted Betel Jar, 7*s*. **87.** Painted Roof Ornament, 1*l*. **88.** Ditto, 1*l*. **89.** Chatty Ornament, 4*s*. **90.** Ditto, 4*s*. **91.** Painted Plaque, representing a Perahera, 7*s*. **92.** Ditto, 7*s*. **93.** Ditto, 7*s*. **94.** Ditto, 7*s*. **95.** Ditto, 4*s*. **96.** Ditto, 7*s*. **97.** Ditto, 7*s*. **98.** Ditto, 7*s*. **99.** Ditto, 8*s*. **100.** Ditto, 8*s*. **101.** Ditto, 6*s*.

MRS. A. N. BIRCH.

102. Painted Plaque, representing a Perahera. **103.** Ditto. **103a.** Ditto. (*Not for sale.*)

RIGHT HON. SIR W. H. GREGORY, K.C.M.G.

129. Large Chatty. **130.** Ditto (slightly broken.) **131.** Chatty and Cover. **132.** Small Chatty. **133.** Gurulote and Top. **134.** Vase. **135.** Ditto. **136.** Ditto. (*Not for sale.*)

Pottery from the district of Kurunegala, lent by **S. JAYATILAKA, Mudaliyar**, and exhibited by the **RIGHT HON. SIR W. H. GREGORY, K.C.M.G.**

137. Plate. **138.** Ditto. **139.** Ditto. **140.** Ditto. **141.** Ditto. **142.** Ditto. **143.** Small Plate. (*Not for sale.*)

B.—Village Pottery.

CEYLON GOVERNMENT.

104. Gurulote, water-bottle and stand, 2*s*. **105.** Kalagediya, chatty, or water-pot. 1*s*. **106.** Betel jar, 2*s*. **107.** Kalagediya, chatty, or water-pot, 1*s*. **108.** Cup and saucer, 1*s*. **109.** Kalagediya, or toy-chatty, 1*s*. **110.** Gurulote, toy water-bottle, 1*s*. **111.** Basin, 1*s*. **112.** Plate, 1*s*. **113.** Cup and Saucer, 1*s*. **114.** Gurulote, water-bottle and stand, 2*s*. **115.** Kalagediya, chatty, or water-pot, 1*s*. **116.** Gurulote, water-bottle, 1*s*. 6*d*. **117.** Kalagediya, chatty or water-pot, 1*s*. **118.** Money-box, 1*s*. **119.** Bulat-heppenda, or betel stand, with imitation betel leaf, areca nut, and nut cutter, 3*s*. **120.** Gurulote water-bottle and stand, 2*s*. **121.** Kalagediya, chatty or water-pot, 1*s*. **122.** Chatty, for baking, 2*s*. **123.** Ditto, 1*s*. **124.** Ditto, 1*s*., **125.** Toy Chatty, or water-pot (children's toy), 1*s*. **126.** Ditto, 1*s*. **127.** Toy Gurulote, or water-bottle, ditto, 1*s*. **128.** Old ornamented Chatty. (*Not for sale.*)

SECTION 9.

Furniture. [H,I.]

The exhibits under this section, arranged for the most part in two groups, deserve special attention, both as specimens of the magnificent cabinet woods grown in Ceylon, and as proofs of the ability of the Sinhalese as carvers and cabinet makers. (*See* Class IV. Section 9.)

The Ceylon Court is mainly indebted to the public spirit of Mr. C. H. de Soyza for the adequate representation of Ceylon cabinet work, the most beautiful and highly finished of the cabinets having been lent by him.

C. H. DE SOYZA, Esq., J.P.—(1) A very elaborately-carved Cabinet in Calamander wood. (2) A Cabinet in Calamander wood. (3) Ditto. (4) Flower Stand in Calamander wood. (5) Two Stands for tusks, carved in Calamander wood. (6) Case for an ivory coconut flower in Calamander wood. (7) Casket (containing a water sapphire) in Calamander wood. (8) Small Cabinet, with drawers, in Kadumberiya wood. (9) Round Table made of Tamarind wood. (10) Two Sofas and six Chairs in Tamarind wood. (11)

Fern Stand for tusks, carved in Tamarind wood. (12) Minutely-carved Cabinet and Table in ebony. (13) Ten Chairs of various Dutch and Indian designs, carved in ebony. (14) Six Stands for tusks, carved in ebony.

(15) **S. R. FONSEKA, Esq.**—Antique high-backed Chair, carved in ebony.

(16) **S. MORAES, Esq.**—Solid high-backed Sofa, carved in ebony.

(17) **CHARLES DE SILVA, Mudaliyar.** Cabinet in Calamander wood, 80*l.*

(18) **W. H. RAVENSCROFT, Esq.**—Small Cabinet in Calamander wood.

(19) **F. R. SAUNDERS, Esq.**—Round Table made of ebony and inlaid Ceylon woods. (20) Carved Flower Stand in ebony.

(21) **A. C. LAWRIE, Esq.**—Long Chair carved in ebony.

(22) **H. L. DANIEL.**—Oval Table Tops, inlaid with various Ceylon cabinet woods.

(23) **J. M. P. PERIES, Mudaliyar.**—Footstool made from the root of a jungle tree.

(24) **SIR C. P. LAYARD, K.C.M.G.**—Small Satin wood Table.

SECTION 10.

Arms. [E, F, K, and Walls.]

There is very little variety about the weapons of the Sinhalese. The maritime districts, having been for a long time under the domination of European Governments, have ceased to possess destructive weapons, while among the Kandyans there is much uniformity in the form and pattern of swords, daggers and spear heads, none of which are of any great antiquity. Besides these weapons, the Kandyans in their continuous collisions with the conquerors of the low-country used guns and cannons ; the latter captured in their campaigns against the Portuguese and the Dutch, and the former made by their own smiths, who are acknowledged by the Dutch to have been adepts at the art of gun-making.

The Kandyan swords and knives, of which there are many exceedingly good exhibits, are noticeable for the elaborate chasing on hilt and sheath. Several of the exhibits are of historic interest. The gold knife shown by Mr. Casie Chitty was the property of Molligodde Adigar, the representative of the most powerful family among the Kandyans at the time of the final collision with the English at the beginning of this century. One of the swords exhibited by Mr. Hollocombe was last used in action at the massacre of the English detachment betrayed by Major Davey at Lewala (the Ferry of Blood) in 1803, the only serious reverse suffered by the English at the hands of the Kandyans.

In Case E.

C. H. DE SOYZA, J.P.—Sword and Belt of office for rank of Mudaliyar, gold, very richly set with precious stones.

In Case F.

J. C. CASIE CHITTY.—Gold Knife and Sheath, set with rubies, formerly the property of Molligodde Adigar.

MISS EMERSON TENNENT.—Gold Knife and Sheath, mounted with uncut rubies, 57*l.* 15*s.*

RATWATTE, R.M. of Pata Dumbara.—Gold Knife and Sheath.

J. HOLLOCOMBE, Esq. — Richly carved Kandyan Sword, silver inlaid with gold. Richly carved Kandyan Sword, inlaid and jewelled. Richly carved Kandyan Sword, silver chased.

A. C. GUNATILAKA, Mudaliyar.—Sword and Belt of office belonging to rank of Mudaliyar.

In Case K.

A. C. LAWRIE, Esq.—Collection of Kandyan Swords and Knives.

ASSISTANT GOVERNMENT AGENT, Kegalla District.—Collection of Kandyan Swords and Knives.

The RIGHT HON. SIR W. H. GREGORY, K.C.M.G.—Three Kandyan Swords with silver chased hilts and scabbards.

E. R. GUNARATNA, Attepattu Mudaliyar.—Two silver chased Swords and Scabbards.

A. JAYAWARDANA, Mudaliyar.—Silver Sword of Office. Sword with Elk horn handle.

S. D. MAHAWALATENNE.—Silver mounted Scimitar.

C. M. LUSHINGTON, Esq., C.C.S.—Ancient Kandyan Sword.

WIMALASURENDRA MUHANDIRAM.—Silver Kandyan Sword.

THE ASSISTANT GOVERNMENT AGENT, Ratnapura.—Two Kandyan Swords with silver chased hilt and scabbard, and one Kandyan Knife.

H. L. DASSENAIKE, Attepattu Mudaliyar of Colombo.—Two Kandyan Knives.

MISS EMERSON TENNENT.—Silver mounted Dagger with silver sheath, 47*l.* 5*s.* Silver mounted Dagger without sheath, 42*l.* Silver and gilt Dagger with silver chased sheath, 36*l.* 15*s.* Ditto (smaller), 31*l.* 10*s.* Kandyan Sword with tortoise-shell hilt and scabbard, 5*l.* 5*s.* Ditto, 5*l.* 5*s.* Ditto (smaller), 3*l.* 3*s.*

ANDRIS HAMY, Headman of the Smiths at Matara.—Engraved Knife with silver mounted handle. (*For sale.*)

KANDYAN ART ASSOCIATION.—Two Spear Heads in brass, copper, and silver. (*For sale.*)

GOVERNMENT OF CEYLON, Kegalla District.—Cap Gun made in four korles. Two Flint Guns. **Kurunegala District.**—Cap Gun made in seven korles.

CLASS VII.

FINE ARTS AND EDUCATION.

SECTION I.

Paintings, Drawings, Prints.

This heading includes such very diverse material as the Kandyan paintings with which the walls are decorated, an Oriental art which stands out unique in modern India, a large series of paintings of the country, including studies of the people, and the monumental remains of the ancient capital, as well as views of the vegetation, and the mountain views for which Ceylon is famous. There are besides careful botanical studies from the Peradeniya gardens, and some old pictures of Ceylon at the earlier parts of the century.

The Kandyan paintings form a frieze round the Court at a height of some fifteen feet from the ground, and attract attention from their bold colouring and fantastic drawing. These pictures, as is the custom with the Kandyan artists, are painted in a series to illustrate a story from beginning to end: the subject on the right hand side as the Court is entered from the porch is a Buddhist procession, or Perahera, such as is held in the full moon of August with great pomp and circumstance in Kandy. On the left is portrayed the history of the Gantama Buddha in a former life, in which the Buddha was born as a virtuous prince, who by dint of his forcible exposition of the divine doctrine (hence the title of the story the Devidamma Játaka) converted a demon into a devout and respectable deity. This tale has a special interest as showing the manner in which the local superstitions of the people have been incorporated into the Buddhist story, and as accounting for the parallel worship of local tutelary deities by the side of the philosophical Buddhism. Further along the same side of the wall and along the western end is painted the Vessantara Játaka, the story of the last of the five hundred and fifty lives of the Buddha before he was born in the life in which he finally attained Buddhahood.

Miss Gordon Cumming's pictures, a selection from many made during her travels in the island, speak for themselves. The views are those most characteristic of Ceylon as it now is in its various parts and climates.

The botanical drawings exhibited near the planting cases are executed by W. de Alwis, draughtsman to the Royal Botanic Gardens, Peradeniya, one of a family noted for their artistic skill, who have produced as their joint labour an extensive series of beautiful and accurate botanical drawings of the Ceylon flora, one of the chief treasures of the gardens.

GOVERNMENT OF CEYLON.—Three series of Kandyan Picture Stories.

W. DE ALWIS.—Coloured drawings of the principal estate products of Ceylon: Tea, coffee, Liberian coffee, cacao, cardamoms, cloves, and nutmegs.

Sir C. P. LAYARD, K.C.M.G.—A painting of the flower of the coconut palm; and a series of eleven coloured drawings of Old Ceylon.

MISS NORTH.—Four pictures of Kandy and Colombo.

MISS C. F. GORDON CUMMING.—55 paintings of Ceylon, as described below.

1. The Gal-Vihare, or Rock Temple, at POLONARUA. Within the temple is a rock-cut figure of Buddha, height 4 feet 7 on a pedestal 3 feet in height. At the entrance to the temple there is an inscription on the rock 13 feet 6 by 9 feet 9, with fifty-one lines of writing. The size of the great rock-hewn image of Buddha is as follows:—The sitting figure is 15 feet high above the pedestal, which is 5 feet deep by 18 in width. The erect figure is 23 feet high. The recumbent

image (showing Buddha having attained the state of Nirvana) is 46 feet long.

2. TRINCOMALEE.—The Sami Rock, at the furthest point of the headland on which stands Fort Frederick. Here, every Monday and Friday at sunset, a considerable congregation assemble for the worship of "Eiswara," the Great Spirit. This is the aboriginal worship of the Isle, and is not sanctioned by either Buddhist or Tamil priests, though all the people are nominal followers of one or other of these two imported religions. These adherents to the primitive faith bring offerings of cocoa-palm blossoms, bananas, and leaves of the betel pepper which they cast into the sea, while the priest of Eiswara recites a litany. Chatties full of milk and of water are also offered, and are poured out on the rock as a libation. Sacred fire is kindled and incense burnt. The priest raises fire and incense heavenward, while all the worshippers raise their arms towards heaven. Then the priest carries round the ashes, and marks each worshipper on the forehead. It is a most impressive scene, with the wonderful lights and colours of the sunset flooding the sea, and gradually giving place to the starlight.

3. The morning after the fire, showing where a tract of felled forest had just been burnt preparatory to coffee-planting. This valley lies in the district of Madulsima, looking over the Park country, towards the sea-coast at Batticaloa.

4. Our House-Boat moored for the night on the Luna Oya, a lovely river fringed with beautiful tropical vegetation, the haunt of large monkeys (the wanderoo), and of many parrots and other beautiful birds.

5. The Church at Newera-Elia. A Sinhalese funeral. A fine old Kina tree. Foreground of *Rhododendron*, *Datura* (trumpet blossom) and Agave.

6. A Stormy Sunset seen from Mutwal, a suburb of Colombo. Foreground of cocoa-palms and screw pines (*Pandanus*).

7. Allegalla Peak.

8. A Rocky Coffee-Field on Allegalla Peak. To the left is a Papawa with fruit (*Carica papaya*).

9. Drinking Troughs for Elephants Anuradhapura. The smaller trough is hollowed from one stone 16 feet long, 3 feet 7 wide. The larger trough, which is made of three stones, measures 62 feet 9 in length by 4 feet 4 in width.

Screen I.

10. A Group of Tamil Coolies beneath a Jak-fruit tree (*Artocarpus integrifolia*). To the right is a fine Kitul Palm (from which jaggary sugar is made). Also a young Areca palm.

11. Sunset on the Lake of Colombo. Water-lilies in blossom. Tall reeds and screw-pine.

12. Looking down on the Railway from Colombo to Kandy, and across a wide expanse of plain, forest and paddy-fields, with innumerable wooded hills. In the foreground on the left is a clump of bamboo. Further lie the houses of some Tamil Coolies, surrounded by tall cotton trees (*Eriodendron orientale*). The red plant in the foreground is the crimson Dracæna.

13. Kandy, looking towards Peradeniya. Above the island is seen the Railway Station. To the right, across the lake, is a Buddhist Monastery. In the foreground is the English Cemetery. Above it is the Military Hospital.

14. Pedro-talla-galla, from the garden at Delta, in Pusilawa.

15. The Peacock Hill from Pusilawa. The crimson tree is the Iron wood (*Mesua ferrea*) in its spring foliage. As the season advances it becomes brownish and then green. To the left is a coffee bush white with blossom. On the road are Tamil Coolies carrying water-jars; also yellow-robed Buddhist priests, with a leaf of the Talipot palm as a sunshade.

16. The Mouth of the Nilwala Ganga at Matura. Sunset.

17. Two Double Canoes, lying off the Custom House and Dutch fort at Kalpitya. The construction of these boats is peculiar. A platform is supported on two canoes, placed some distance apart; the whole is covered by an arched roof of bamboo and matting. With the great brown sail, and brown figures in turbans or wide straw hats, these boats are most picturesque.

18. Study of Coconut Palms in all stages, from infancy to maturity. Also tall banana leaves. Beyond the lake (Colombo) are seen trees of scarlet flamboyant.

19. The Delada Maligawa, or Temple of the Tooth, at Kandy. It is in a strongly guarded inner chamber of this temple that the precious tooth is stored.

20. The Lily Shore near Trincomalee. A grove of Palmyra palms (*Borassus flabelliformis*), laden with clusters of beautiful glossy round nuts of richest brown colour. The shore is clothed with tall white lilies, streaked with delicate pink, and pale lilac ipomeas with luxuriant foliage creep over the white sand to the water's edge, affording shelter to thousands of tiny crabs.

21. An Outrigger Canoe, balanced by a palm-tree log floating alongside, and attached to it by bamboos. The whole is sewed with cocoa fibre, no nails being used in the construction of these boats.

22. Adam's Peak, as seen at sunrise in December, from the roof of the Welikade Jail, Colombo. Flooded rice fields.

23. From the Rambodda Pass, looking

back to the Pusilawa Valley. To the left lies the Peacock Hill. In the centre rises Allegalla Peak. The foreground shows a coffee field, the shrubs being clipped to the size of an average gooseberry bush.

24. View from Wackwalla, near Point de Galle. In the foreground is a Traveller's tree (*Ravenala madagascariensis*).

25. The Plains of Newera-Elia, which is the official hill-station. In the centre is seen the Governor's cottage. In the distance lies Hakgala, at whose base are the Government Botanical Gardens for plants requiring a cooler climate than Peradeniya. By damming the stream, a lake has now been formed in this valley.

26. The Jetawanarama and the Kiri Vihara at Polanarua. In the temple stands a gigantic ruined image of Buddha, once gilded, but now revealing all the brick-work. Beautifully sculptured figures, and tall monolithic pillars.

27. Flamboyant, or Flame of the Forest. (*Poinciana regia*, native of Madagascar.) This gorgeous tree is literally covered with handsome scarlet and gold flowers.

28. Adam's Peak from Maskeliya. Height 7,352 feet above the sea.

29. Sunrise seen from the summit of Adam's Peak, showing the strange triangular shadow which at sunrise and sunset is thrown upon the clouds, extending to the horizon. As the sun sets, the shadow of course gradually lengthens. At sunrise, on the contrary, as the sun rises above the eastern horizon, the shadow which seems to touch the west gradually falls shorter, darker, and narrower. It finally disappears about three hours after sunrise. On the morning on which this sketch was taken its edge was prismatic, like a triangular rainbow.

30. The Summit of Allegalla Peak, on which there is a flat rock with an indentation (partly artificial) resembling a gigantic foot-print, which of course is ascribed to Buddha, but is little reverenced, the true foot-print which attracts all pilgrims being on the summit of Adam's Peak.

31. General View of Kandy, looking towards the Matale Hills. On the further side of the great artificial tank lie the Palace of the old Kings of Kandy, the Buddhist Sacred Library, the Temple of Buddha's Tooth, the English Church, Government House, &c.

32. "The Wata-Dáge," or "Round Treasure House," at Polonarua, looking to the Sat-Mal-Prasadé, or seven storied building, near which is seen the Galpota, or Stone Book. Near the further steps lies a flat stone with circular indentations, as if a stone ball had formerly lain thereon, to be turned sunwise by pilgrims. Buddhist priests, shaven and yellow robed, are visiting the ruined shrines, while troops of monkeys disport themselves in the boughs of the great banyan tree which has overgrown the wall; butterflies flutter among the broken images.

33. Buddha's Tooth. The most sacred relic of Buddhism, the object of devout worship to many millions, and the prize which has led to various bloody wars. This precious relic is generally kept in a bell-shaped relic-shrine of gold encrusted with gems, which is locked within eight similar golden shrines; one within the other, each of which for greater security is locked with three separate keys. The artist was only able to obtain this sketch by passing and repassing in the stream of adoring pilgrims, with sketch-book carefully concealed.

Screen II.

34. Looking down on the Valley of the Mahaveli Ganga towards Allegalla Peak, which rises from a sea of mist. To the right lie the bridge of satinwood, and the Botanical Gardens at Peradeniya. In the foreground on the left is a coffee estate, and a Talipot palm in blossom. On the right lie terraced rice fields.

35. Two clumps of Bamboo on the Mahaveli Ganga.

36. Our temporary huts on the Embankment of Topawewa, the great tank at Polanarua. Troops of monkeys came and pulled the thatch off my hut!

37. The Plains of Newera-Ellia on a grey misty day.

38. On the Lake, Colombo looking to the Railway Station. Studies of Coconut and Kitool palm. In the foreground are some young plants of Screw-pine (*Pandanus odoratissimus*), so called on account of the spiral form in which the long prickly leaves encircle the stem.

38a. The Mahaveli Ganga, seen from the Satinwood Bridge.

39. A Shady Pool in the Weddemully Jungle.

40. Blossom and Spathe of the Coco-Palm, resembling great ears of wheat, studded with ivory balls. The brown fibre in the background is the natural wrapping of the tree.
[This picture stands apart, above the grains.]

Screen III.

41. The Lower Flight of "The Thousand Steps" (it is said that there are really 1,800 steps) leading up to the great relic-shrines at Mahintale, near Anuradhapura. Yellow-robed Buddhist priests and pilgrims are seen ascending to the Dagobas.

42. The Ruanwali Dagoba, Anuradhapura, begun by King Datugemunu, 160 B.C., height 150 feet, solid brickwork. The terrace on which the Dagoba stands was formerly surrounded by a wall representing a row of elephants, seven feet high, built of brickwork,

and coated with chunam, *i.e.* cream coloured shell lime, which forms a surface as smooth as satin. In the distance is seen the Abhaya-giriya Dagoba, built by King Walagam Bahu, 100 B.C. Its present height is 236 feet. To the left is the Assistant Agent's house.

43. Ambustele Maha Seya Dagoba at Mehintale. It contains the ashes of Mahindo, a Buddhist missionary of note B.C. 300, who here appeared to King Dewanpiya in the form of an elk. It was built of brick, covered with cream-coloured chunam, and is surrounded by fifty-two slender pillars in two rows. Most of these have lost their sculptured capitals. All around are temple-trees loaded with fragrant white blossom. On the hill-top, at the summit of the 1,800 steps (see no. 41) stands the Etwihara Dagoba, a solid mass of brickwork nearly 100 feet high, built by King Bhatya Tissa in the year 1 A.D. to enshrine a single hair from Buddha's forehead. Far below lie outstretched the level plains.

44. Blossom of the Frangipani, here called Temple flower (*Plumeria*). It grows on a tree which is generally planted near Buddhist temples, and the worshippers bring offerings of the fragrant blossoms to heap on the altars.

45. The Naga Pokuna, or Snake Pool, at Mahintale. The five-headed cobra is sculptured on the rock, as if rising from the water. It measures six feet across the hood.

46. The Sami Rock, Trincomalee. Sacred to Eiswara, the Great Spirit.

47. The Jetawanarama Dagoba, at Anuradhapura. A gigantic Buddhist relic tomb, built by King Mahasen in the third century, A.D. It is a mass of solid brickwork, 396 feet in diameter, 246 feet in height.

48. The Lankarama Dagoba, Anuradhapura. Built about A.D. 1200 by King Prakrama Bahu I. Its height is 37 feet, the whole being a mass of solid brickwork. It is surrounded by three rows of pillars varying in height from 12 feet 6 inches to 16 feet 8 inches. The tall palm is a palmyra; the sketch shows pilgrims going to worship the relic.

49. Small rock temple at Mehintale, overgrown by banyan trees

50. The Ruins of the celebrated Brazen Palace at Anuradhapura, built B.C. 200. The ruins consist of 1,600 monolithic pillars, measuring 12 feet above ground. They are placed in lines of forty each way, and cover a space of 231 feet square. In the foreground a band of pilgrims are encamped, their tents are formed of the huge leaves of the taliput palm, of which each pilgrim carries one. These are propped up with sticks and form an effectual shelter. In the centre of the camp is deposited a small ark containing a golden lotus blossom, which the pilgrims purpose offering at one of the Buddhist shrines. The ark is "borne on staves" during the march. In the foreground are shown three stone bulls, measuring respectively 3 feet 6, 2 feet 9, and 1 foot 7. The Sinhalese women turn them round sunwise for luck, when they are especially anxious to increase their family!

51. The Thuparama Dagoba, Anuradhapura. Built by King Tissa about B.C. 300, to receive the right collar bone of Buddha. It is surrounded by 128 columns, the 52 nearest to the Dagoba being 20 feet high. To the left lies the Dalada Maligawa, where the Sacred Tooth rested on its arrival from India A.D. 400.

52. Ruins on the Embankment of the Great Tank at Polonarua, supposed to have been the Palace of Prakrama Bahu, whose statue is at the other end of the embankment. The Stone Lion with curly mane and twisted tail and claws, is supposed to have supported his throne. It is 7 feet long by 6 feet 6 in height, and is now in the Colombo Museum. The date ascribed to this palace and to most of the ruins at Polonarua is A.D. 1153; but King Sri Sanga Bo II. built a palace here A.D. 642.

53. A Newly Felled Forest, preparatory to coffee planting. The trees having been felled at the commencement of the dry season were left lying till very dry; then, when the wind blew in a favourable direction, the whole was fired.

54. The original Bo Tree (*Ficus religiosa*). The wizened stump inside the railing on the raised platform is the oldest tree in the world with an authentic history, being positively a survival of the very tree grown from a slip which two thousand years ago was brought here from the Indian tree beneath which Buddha sat in contemplation. The two large trees on the platform are its oldest descendants, and are likewise so sacred that the yellow-robed priests spread white cloths of honour to catch the leaves as they fall; these are eagerly bought by pilgrims. Other venerable Bo trees of younger generations grow all around; also palmyra and coco palms. Beneath the trees are various stone images of Buddhist saints, and sculptures of five-headed snakes.

55. Study of a Banyan tree at Negombo (*Ficus bengalensis*)

GOVERNMENT OF CEYLON.—Large picture of Kandy in the Colonial Hall on the right-hand side on entering by the principal entrance in Exhibition Road. This beautiful picture was executed for the Ceylon Government by Miss G. Prideaux-Brune from photographs. The picture includes a distant view of the Temple of the Sacred Tooth as seen from the opposite side of the Kandy Lake, with the mountain ranges of Matale and Hunasgiriya in the background.

SECTION 2.

Photographs of Scenery, &c.

A fine series of photographs is exhibited by Messrs. Skeen, of Colombo, among which those taken at the ruined city of Anuradhapura are of especial interest. The ancient Buddhist shrines (Dagobas) there were built at the following dates: the Jetawanarama, A.D. 302; the Abayagiri, B.C. 89; the Ruanwella, B.C. 161–137; the Miriswetiya, B.C. 158; and the Thuparama, B.C. 307. The Abayagiri Dagoba is said to have been originally 180 cubits (405 feet) in height, i.e., about 50 feet higher than St. Paul's Cathedral. The Jetawanarama is still 209 feet high, and the cubic contents of its solid brick dome and stone platform exceed 20 million cubic feet. The various views in the hill-country and coast districts are detailed below.

The photographs of Sinhalese villagers and of Veddas were taken by Mr. C. W. Rosset, who also shows with his Maldive Collections other photographs of the inhabitants of those islands (see Class VIII., Section 6).

MESSRS. W. L. H. SKEEN & CO., Colombo.

One Frame, containing the following antiquities:—

1. The Lankarama Dagoba, Anuradhapura.
2. A Portion of the Elephant Wall around the Ruanwella Dagoba, Anuradhapura.
3. The Kuttam Pokuna, or Twin Bathing Ponds, Anuradhapura.
4. Ruins near the Ruanwelle Dagoba, Anuradhapura.
5. The Thuparama Dagoba, Anuradhapura.
6. The Ruanwella Dagoba, Anuradhapura.
7. Platform of ditto, Anuradhapura.
8. The Isurumuniya Temple, Anuradhapura.
9. Ruins near the Ruanwelle, Anuradhapura.
10. Portion of the platform of the Ruanwelle, Anuradhapura.
11. The Jetawanarama Dagoba, Anuradhapura.
12. Sculptured Moonstone, Anuradhapura.
13. Steps and Moonstone of one of the Halls, Anuradhapura.
14. The Ruanwella Dagoba, Anuradhapura.
15. Figure of Buddha, 40 feet high, North-West Province.
16. The Rock Temple at Dambool.
17. Janitor-stone, entrance to the Sacred Bó tree, Anuradhapura.
18. Carved stones at the Abhayagiri, Dagoba.

One frame containing the following:—

19. Gampaha Estate, Udapusiláwa.
20. Nuwara Eliya Lake.
21. Paddy-fields from the Railway Incline.
22. Kandy Lake.
23. Colombo Harbour.
24. Nuwara Eliya.
25. Indiarubber trees, Peradeniya Botanic Gardens.
26. Nuwara Eliya Lake.
27. Tree Ferns, Hakgala Botanic Gardens.

One frame containing the following:—

28. Kandy Lake.
29. Devon Estate, Dimbula.
30. Kandy Lake; Palmetto Palm.
31. Kandy, from Arthur's Seat.
32. Nuwara Eliya.
33. Kandy, from Lady Horton's Walk.
34. Cabbage Palms, Kandy Lake.
35. Adam's Peak.
36. African Palms, Kandy Lake.

Enlarged Photographs, 24×18, in frames 34½×28½.

1. Adam's Peak.
2. Nuwara Eliya.
3. Colombo Harbour.
4. Tea Estate, Strathellie.
5. Ruins, Anuradhapura.
6. Kandy.
7. A Ceylon Tusker Elephant.
8. Elephant Kraal.
9. Sensation Rock, Railway Incline.
10. Meangalla Rock, Railway Incline.
11. Devon Falls, Dimbula.
12. Rambodde Waterfalls.
13. Rambodde Overhanging Rock.
14. Statue of Buddha, 40 feet high, N.W Province.
15. Goomera Rock Knuckles.
16. Talipot Palm in flower.

Additional Photographs on Screen, without Numbers.

Travellers' Palm.
Road Scene, Mutwal Colombo.
Overhanging Rock, Rambodde.
Road Scene, Polgahawella.
Sinhalese Boutique.
Road Scene, Colombo.
Interior, Temple of Dambulla (3 views).
Bear Rock, Railway Incline.
Colombo Lake.
Kandy Lake,
Kandy, from Arthur's Seat.
River Scene, Rambodde.
Chatham Street, Colombo.
Rambodde Falls.
Condegalle Rock, Rambodde.
Talipot Palm in flower.
Sensation Rock, Railway Incline.
Jungle near the Moon Plains, N. Eliya.
Portswood (View at), N. Eliya.
Devon Falls, Dimbula.
Rangbodde Falls.
Goomera Rock, Knuckles.
Wavendon Falls, Rambodde.
A Sinhalese Mudaliyar.
A Moor trader.
Buddhist Priest.
Sinhalese Fishermen and Outrigger Canoes.
Sinhalese Appuhamy.
Sinhalese Women.
Kandian Headmen.
The Buddhist Temple at Kandy.
The Hindoo Temple, Colombo.
Liberian Coffee, Flower and fruit, natural size.
A Jak Tree.
Coconut, flower, fruit, and leaf.

GOVERNMENT OF CEYLON.—

(*a.*) Vedda Photographs.

Three Veddas dancing, Bintenne (411).
Vedda Hut, Batticaloa (413).
Three Veddas shooting arrows, Bintenne (414).
Vedda family, Bintenne (428).
Vedda group, Bintenne (437).

(*b.*) Other Sinhalese Photographs.

Bintenne Ratemahatmaya, Kandyan Headman of the Vedda district (419).
Bintenne Korala, Kandy an Under-Headman of the Vedda district (405).
Four Rodiya girls, Badulla. (The Rodiya caste is the lowest or out-caste among the Kandyans).
A group of Rodiya women and children pursuing domestic occupations (429).
A group of two Rodiya girls—half length (439).
Two Sinhalese Tom-tom beaters (438).
Three views of the Ruins of Yapahu, an ancient residence of the Sinhalese monarchs (420, 421, 435).

SECTION 3.

Maps. [On Walls.]

GOVERNMENT OF CEYLON.—Five maps prepared in the office of the Surveyor-General showing (1). Population and Religions, 6′ 8″×8′ 9″. (2). Rainfall, 6′ 8″ × 8′ 9″. (3). Planting districts, 7′ 0′ × 6′ 10″. (4). Map of a portion of the mountain region of the interior, 5′ 1″ × 5′ 4″. (5). Plan of the Colombo Harbour and the new Breakwater, 10′ 3″ × 5′ 1″. (6). Plans and elevations of the higher portion of Adam's Peak, with the buildings on the summit, and a full-sized drawing of the foot print.

WIMALASURENDRA MUHANDIRAM.—Sinhalese maps of Ceylon, Europe, and Asia, as prepared by the Department of Public Instruction, for the use of Vernacular Schools.

GABRIEL PERERA.—Etched map of Ceylon showing population, &c., with etchings of the common birds beasts and insects; exhibited by the draughtsman, a pupil of the S. Benedict's Institute, Colombo, under the direction of the Christian Brothers.

SIR J. COODE, K.C.M.G. A map of the original projection of the Colombo Breakwater, together with a photograph and painting, lent to illustrate the model of a working section of the Breakwater at Colombo, of which very successful structure Sir J. Coode was the designer. (See p. 93.)

SECTION 4.

Books. [K, E.]

It is a matter for regret that the publications issued under the direction of the Department for Public Instruction, for the use of the English, Anglo-Vernacular and Vernacular Government schools, have not been exhibited. The printed publications are limited to a collection of the books printed by Messrs. A. M. and J. Ferguson, of the "Ceylon Observer," of the publications of the Ceylon Branch of the Royal Asiatic Society, and of a set of medical works in Tamil by the late Dr. T. F. Green, of the American Ceylon Mission.

The native books, or olas, however, are of the highest interest. The collection of Buddhist books includes a carefully series of the most valued books of the Tripitaka, and Commentaries with the Scholiasts on the latter: and even for those who are not interested in the Buddhist scriptures, or the Páli, in which they are written, there is considerable interest in the nature and binding of the books. These are composed of portions of the leaves of talipot palm, or palmyrah palm dried and cut into shape. The writing is effected with an iron style, and the leaf washed over with an equivalent for ink, which, when the rest of the leaf is cleaned, remains in the letters made by the style. The whole of the leaves are then pierced and strung together and bound with a board at either end. This board is often elaborately worked in the precious metals or jewelled.

Besides the Buddhist ola books, there is a collection of fifty similar olas in Tamil from the Jaffna district. Of these the first four teach the religious belief of the Hindus of India and North Ceylon, in reference to religious duties and the transmigration of souls, and are of great authority, being read in the temples regularly. The fifth work, "Kantappuranam," is composed of more than ten thousand stanzas, and is read yearly in most of the Saivite temples to an audience who must fast from the first to the last day of reading. The sixth ola describes the Hindu system of the world. The next five olas are topographical and descriptive; the twelfth contains an account of a great disputation carried on between a Saivite devotee and a Buddhist scholar, who is represented as having been worsted in the encounter. The following to the nineteenth ola are chiefly poems in honour of the deities of particular temples, and the twentieth

contains the Ramayana, which tells of the war waged by Rama and Rawana, King of Lanka (Ceylon). This ola contains thirteen thousand stanzas, and in it may be found a glowing account of the island of Lanka. The remaining olas are of a very diverse nature, some being classical, some poetical, whilst others treat of the arts and sciences in almost every branch of human knowledge as known to the Tamils.

Another use of the Talipot leaf is shown in an exhibit by Dr. W. C. Ondaatje which merits the attention of gardeners. (Case J.) Slips of this leaf can be used as labels, and withstand equally sun and rain, will last for years, and are exceedingly cheap.

MESSRS. A. M. and J. FERGUSON, 'Ceylon Observer Press,' Colombo.—Principal publications of recent years, including the 'Ceylon Handbook and Directory for 1885-6,' 'Ceylon Civil Service Manual,' 1883, 'Ceylon in 1884,' by J. Ferguson, bound copies of the volumes of the 'Tropical Agriculturist' issued to date, 'Buried Cities of Ceylon,' by S. M. Burrows, M.A., C.C.S.

CEYLON BRANCH OF THE ROYAL ASIATIC SOCIETY.—Publications of this society from 1838 to 1885.

DIRECTOR OF THE ROYAL BOTANIC GARDENS, Peradeniya.—'Garden Reports, 1880-1885,' 'Hand-Guide to the Gardens,' 1885.

AMERICAN CEYLON MISSION.—Works on Medicine, in Tamil, of the late Dr. S. F. Green, Medical Missionary in the above Mission, Jaffna. Six volumes, being translations or adaptations from standard English works.

In Case K.

W. SUBHUTI TERUNNÁNSE, of Waskaduwa Vihara.—A collection of old books containing the leading Buddhist scriptures. In plain covers, twelve books out of the Khuddaka Nikáya, 6*l.* In painted covers, two vols., Visuddhamagga Sanne, 10*l.* Ditto, Sutta Nipáta Atthakatthá, 4*l.* Ditto, Páli Muttaka Vinaya Vinichchaya Sangaha Tiká, 4*l.* In plain cover, written in Burmese characters, 1. Kankhá vitárani Porána Tiká; 2. Ditto Abhinava Tiká; 3. Khuddha Sikkhá Porána Tiká, 6*l.*

H. SUMANGALA TERUNNÁNSE, High Priest of Adam's Peak and Principal of the Viddhodaya Pali College in Colombo.—In ivory covers, The Sutta Nipáta. In painted covers with gilt edges, written in Burmese characters, Sammoha Vinodani Vibhanga Atthakatthá. (*Not for sale.*)

J. M. P. PERIES, Mudaliyar.—In silver covers richly chased and gilt, Maijhima Nikáya, (*Not for sale.*)

C. M. LUSHINGTON, Esq., C.C.S.—In plain cover, Brachmajála Sástra. (*Not for sale.*)

Sir C. P. LAYARD, K.C.M.G.—Old book in gilt cover with writing style. Ditto in red and yellow cover with style. Ditto. Ditto in plain wood cover (brown). (*Not for sale.*)

GOVERNMENT OF CEYLON.—(North-West Province). Specimen of old blank book. (*Not for sale.*) (Southern Province). Ditto with elaborately chased silver covers, 30*l.*

C. W. KATHIRAVALUPILLAI, P.M. of Kayto.—Fifty Hindu Ola Books written in Tamil.

In Case E.

Mr. RATNAYAKE.—Specimen of old book in plain cover.

Section 5.

Stamps. [Wall behind J.]

This exhibit comprises a fairly representative collection of the revenue, judicial, telegraph and postal stamps of the Colony from the earliest of those issued when the local currency was of the denomination of pounds, shillings, and pence, and revenue returns were rendered in the same. The earlier stamps were not perforated and had no water-mark; then perforation was adopted but still without the watermark, a star alone being shown in the impress. Then a crown and the letters "C. C." were introduced in the body of the paper, while the colours were varied from yellow to green and indigo blue. On the introduction of a rupee currency in January 1872, new stamps were issued, with the previous watermark of a crown and C. C., but the colours were changed to brown for the 3 cent postage stamps, gray for those of 4 cents, whilst the higher denominations were of a brick colour. The following list gives the denomination and colour of postage stamps which in 1885 were surcharged or printed with the new rate of postage levied from 1st January of that year on inland letters of 5 cents instead of 4:—

8 cents	Orange.	48 cents	Rose.
16 ,,	Mauve.	24 ,,	Green.
4 ,,	Rose.	36 ,,	Blue.
64 ,,	Brick.	24 ,,	Brown.
96 ,,	Stone.	24 ,,	Green.
32 ,,	Slate.		

Revenue stamps are of denominations extending from one cent to a thousand rupees; telegraph stamps from twelve cents to fifty rupees; postage stamps from two to thirty cents; foreign bill of exchange stamps from five cents to three rupees; and for warehousing warrants from five to fifty cents each. There is no doubt that the system of adhesive stamps is more convenient than that of impressed stamps, at the same time it has the drawback of affording opportunities for the fraudulent removal of used stamps from documents for use a second time, and it may be that eventually the safer system adopted in British India of employing only impressed stamps will be introduced into Ceylon. The collection is lent by Mr. C. M. Lushington of the Ceylon Civil Service.

CLASS VIII.

ETHNOLOGY.

SECTION I.

Buddhist Articles.

THE Sinhalese are by religion Buddhist, Buddhism having been the national religion, except on the sea-board, for two thousand years. It is, with Burmah and Siam, one of the few countries in which the Southern Buddhism has held its own against Hinduism, and in no country has the religion been maintained with so much purity and learning as by the leading exponents of Buddhism in Ceylon. This collection, though necessarily in a small compass, is, thanks to the co-operation of Sumangala Terunnánse, the High Priest of Adam's Peak, and the equally learned and well-known priest, Subhúti Terunnánse, of Waskaduwa, sufficient to illustrate much that is most interesting in the Buddhist faith. There is a valuable and varied collection of Buddhist scriptures in Páli in the rich and varied bindings, and beautifully written. There is a lay figure of a Buddhist priest, an admirable likeness, showing the clothing of the "mendicant" who has devoted his life to the attainment of virtue and the following of the "five precepts of Buddha." The mendicant is wearing his robes and carrying his bowl, as is the custom of the "poor persons" of Ceylon. The rules of the order whose vows he has taken when he was "robed" enjoin upon him that he should trust to the charity of good people for his daily bread, which is to be placed in the bowl he is allowed to carry, nor is he even to solicit alms, but mutely to allow his lay co-religionists to attain merit by giving him food. His worldly possessions consist of his robes, which are yellow, the beggar's colour in the East, and to render them of absolutely no value, they should first be torn to fragments and then resewn. He has, besides, a fan to cover his eyes, so that he should not see a distance of a fathom on the ground in front of him, his beggar's bowl, and a piece of muslin to strain the water which he drinks, lest perchance he should destroy even insect life in satisfying his thirst.

The Buddha himself is represented in a number of images which have been kindly lent; they depict him in the usual conventional attitude, standing in exhortation, sitting in meditation, or in the attitude in which he attained Buddhahood under the Bô tree, or recumbent in the beatific state of Nirwána. The high priest has lent an alms bowl and a betel bag, the gifts of the King of Cambodia to this learned scholar, who is principal of the Widhodaya Páli College in Colombo, and several beautiful fans are among the exhibits.

The gilt bow and arrows shown in case K deserve special notice, as they have a curious interest. They are *facsimiles* of a gold bow and three arrows treasured up at the Mahá Sáman Dewále at Ratnapura. Their origin is obscure, but this legend ascribes them to Ráma, who vowed them to the Dewále after he had slain with them Râwana the King of Lanka, who had carried of Queen Sita, the wife of Ráma and the Helen of Indian fable.

A special explanation should be given of the dágobas, of which the gilt representation in the central path near the porch is one of the most striking of the exhibits in the Ceylon Court. This form of monument has been adopted by Buddhism for two thousand years, the best known of the more ancient edifices being the Bharbut Stúpa in India, and the Ruanweli dágoba at Anurádhapura, the best preserved of the many wonderful old monuments of the Sinhalese glories of the past. These buildings are not temples in any way; they are shrines in which relics are deposited, the solid dome-like structure erected over the sacred relic stands on a square base, which is often sculptured, and at the four sides are the "chapels," as they have somewhat erroneously been described. Of the exhibits of dágobas, the largest (that near the porch) is a gilt dagoba from the ancient temple of Lankatilaka, near Kandy, and is shown by the Governor of Ceylon. Of the others the silver dágoba from Ratnapura contains an exact copy of the sacred tooth of Buddha, enshrined at the Daladá Máligáwa, in Kandy, the object of world-wide veneration among devout Buddhists.

[A1] **GOVERNMENT OF CEYLON.**—Figure of a Buddhist Mendicant Monk in his robes and with his begging bowl—taken from life.

[J] **A. JAYAWARDANA, Mudaliyar.**—Three painted Images of the Buddha in the attitudes of exhortation (standing), contemplation (sitting), and nirvána (recumbent).

[K] **J. H. THWAITES, Esq.**—Large Brass Figure of Buddha, sitting on a lotus leaf and overshadowed by a cobra hood.

[K] **A. C. LAWRIE, Esq.**—Brass Sedent Buddha.

[K] **R. MACBRIDE, Esq.** — Brass Standing Buddha.

[K] **J. M. P. PERIES, Mudaliyar.**—Metallic Sedent Buddha with a back. [F] Gilt Buddha on a marble stand, sitting under a silver bó tree. [F] Ivory Standing Buddha [F] Crystal Buddha Sedent.

H.E. THE GOVERNOR OF CEYLON.—Gilt Dágoba (large) from the Lankatilaka Temple.

[E] **J. M. P. PERIES, Mudaliyar.**—Gilt Dágoba, jewelled, from Kelani Temple.

[E] **GOVERNMENT OF CEYLON.** (Galle Work) Silver Dágoba. (Ratnapura) Silver Dágoba containing a model of the Sacred Tooth. (*For sale.*)

[K] **J. M. P. PERIES, Mudaliyar.**—Large Copper Bowl from the Kelani Temple, used as a receptacle for offerings of food for the priests.

[K] **H. SUMANGALA TERUNNANSE, High Priest of Adam's Peak,**—Buddhist Priest's Alms Bowl and Betel Bag, presented by the King of Cambodia. Priest's Fan with ivory handle, of beautiful workmanship.

[K] **MADUWANWALA BANDA.**—Priest's Fan with ivory handle, of beautiful workmanship.

[K] **KANDYAN ART ASSOCIATION.**—Priest's Fan with ivory handle, of beautiful workmanship. (*For sale.*)

[Walls] **J. M. P. PERIES, Mudaliyar.**—Four Sesaths, Buddhist Bannerets used in processions.

[The collection of Buddhist Books or Olas is described under Class VII., Section 4 (Books). The books are arranged in the corner part of Case K].

SECTION 2.

Vedda Articles. [L.]

The country inhabited by the Veddas lies along the base of the lofty range of hills skirting the Badulla district. It is probable that they are the descendants of the early inhabitants of Ceylon found by Wijayo, when he landed with his numerous followers on the north-east coast of the island, unacquainted with agriculture save in its rudest forms. Refusing to hold intercourse with the invaders, or acknowledge the supremacy of the Indian dynasty of sovereigns, they retired sullenly to the arid jungles of the north, where none cared to follow them. There, amidst the ungenial surroundings of a savage life, ill-fed and badly-housed, these hunters of the forests have undergone no change save that of degeneration from climatic and other causes. With regard to the name of "Vedda," it corresponds so closely with that of the Indian "Wedurs," or hunters, that there can be little doubt of its common origin. A few of these people have been induced to undertake the cultivation of land, and dwell in huts prepared for them (Village Veddas); but as a rule they continue to make hollow trees and rocks their places of abode, feeding on the sun-dried flesh of the deer. Their numbers are now much reduced, and in not a few cases degraded low caste Sinhalese villagers have been taken for them by travellers, a mistake which has caused some confusion.

The bows and arrows from the Bintenne plains of the low country

situated on the north-east of the lofty mountain zone are those used by the wild Veddas of the forests. They, however, show but indifferent skill in the exercise of their wood-craft, and when called upon to bring down an animal in its flight, or a bird on the wing, but rarely succeed. Their usual method of securing game with the bow is to lie in ambush until the object in view is sufficiently near to make its capture an easy matter.

GOVERNMENT OF CEYLON.—Skulls of Vedda man and woman from Tamankadua District. Imperfect Vedda skull from the Eastern Province.

ÆLIAN A. KING, Esq., C.C.S., Badulla. 1. Skull of Vedda (Kágaraya). 2. Two bows, three arrows, and one hatchet used by Veddas. The bow strings are made of the bark of the Kiri-Nuga (Banyan tree). 3. Vedda waist string made of fibre. 4. Ear ornaments used by Vedda women, made from elephant's tusks by the Veddas themselves, and string of glass beads. 5. Vedda cooking utensil. 6. Seed of gigantic creeper, Puswel (*Entada scandens*), for holding cotton, and steel and flints used by Veddas. 7. Crystals (feldspar) from the powder of which sharpening stones are made by the Kandyans. 8. Specimen of powder of same. 9. Specimen of the gum of the Keppetiya (*Croton lacciferum*), which after being melted is mixed with the above to form grind-stones. 10. Small example of grind-stone so made.

(*For Photographs of Veddas, see under Class VII., Section* 2.)

SECTION 3.

Models of Natives—Native Dresses.

The ethnological models exhibited are not very numerous. Of the life-size models there are, besides the Buddhist mendicant mentioned above, good figures of a Kandyan Chief or Ratamahatmeya, in his full official dress, and of a low-country Mudaliyar wearing his sword and other insignia of his rank. The former costume is handsome, but very grotesque in character; the latter shows very evidently the influence of long European rule in modifying the native dress. The ordinary costume of respectable low-country Sinhalese is seen in the dress of the native attendants in the Tea-house; the comboy, or petticoat (the Malayan sarong) and belt is universal, and with the semi-circular comb of tortoiseshell on the top of the head (the hair being worn long and twisted up into a chignon) gives a somewhat effeminate character to the appearance. The smaller models are enumerated below.

GOVERNMENT OF CEYLON, Western Province.—Life-sized figure showing the dress of a Kandyan chief (the figure is modelled from the Diwa Nilame, the chief headsman among the Kandyans).—Life-sized figure of a low country Mudaliyar (this figure is modelled from Mr. D. C. H. Dias Bandaranayaka, J.P., and Mudaliyar of the Governor's Gate. This gentleman is the first among the low-country Sinhalese, and his family have been stalwart supporters of the British rule. His grandfather by his defence of the fort of

Hanwella repelled unaided a Kandyan invading force which had already captured several English posts and threatened Colombo).–Life-sized figure of a Buddhist priest (modelled from Migettu Watta Unnánse, a well-known priest in Colombo).—A series of small-sized models in plaster showing the principal dresses and races of Colombo: Sinhalese headsman, village girl, a pingo carrier, and a tom-tom beater, a Colombo chetty and a coast chetty, an Arab or Affghan, a Parsee, a Malay, a Moorman and a Tamil horsekeeper, and a Sinhalese man driving a trotting bull in a light cart.—A series of figures of painted wood, showing the principal Sinhalese costumes both Kandyan and low country.

SECTION 4.

Masks. [On the walls.]

The collection of grotesque masks of all sizes and forms represent those usually worn by men known as "Devil Dancers" on the occasion of the Perahera festival, when they form a portion of the motley procession which once a year proceeds from the Dalada Maligawa, or temple of the relic, through the principal streets of Kandy during the night of full moon in August. This procession of wild dancers on such an occasion is a proof of how intimately the public observances of the two religions, Buddhism and Hindooism, became blended under the rule of the sovereigns of Malabar descent. It must be noted, however, that no Buddhist priest ever takes part in this procession, which is not regarded by them as orthodox, though they will lend a relic to be carried in the procession. The Devil Dancers are believed by the common people to be able to cure serious sickness by their dances, which are often continued throughout the night in the sick chamber, not unfrequently resulting in the death of the patient. Other masks are those worn in the native "Comedies" performed in the villages. The masks are made in the neighbourhood of Bentota on the south-western coast, of plaster moulded. The hideous patterns are doubtless very ancient, and are always strictly reproduced.

GOVERNMENT OF CEYLON.—A series of 38 Comedy Masks. A further series of Masks worn by Devil-dancers. Both from the Western Province.

[The whole of these exhibits are hung on the walls of the Court].

SECTION 5.

Musical Instruments. [Walls behind B.]

The musical instruments exhibited comprise nearly all which constitute a Sinhalese band. They are the tom-tom, kettledrum, tambourine, and the ivory flute, or rather horn. The tom-tom, of which there is a great variety in form and size, is made with a wooden rim, over which is stretched a goat or sheep skin, well prepared for the purpose. This simple instrument is played by beating upon it with the fingers, and struck in the centre or round the edge according to requirement; when one of the larger of these is played upon by a number of women and children seated round it, the sounds emitted are by no means unpleasant, especially when heard at a short distance. As a rule, the volume of sound is of far more importance in Sinhalese music than melody, and one has but to stand near a Buddhist temple on a great festival day within sound of the shrieking pipe, the resonant drum and the sounding tambourine, to become thoroughly alive to the fact. It is evident from a reference to old Sinhalese chronicles and ancient paintings and sculptures that the musical instruments in use at the present time are in every respect similar to those employed a thousand years ago. The chronicles of Ceylon mention how, in the early date B.C. 300, the army of King Dutuagaimunu marched to the music of sixty-four kinds of drums, which made a sound like that of thunder; the echoes of these many drums were supplemented by shrieking blasts from huge chank shells. It does not appear, however, that in those early days there were any flutes or other wind instruments, though the use of a harp is mentioned in one passage referring to the period B.C. 161.

GOVERNMENT OF CEYLON.—Large Rabana or Tambourine from Western Province. Four Tom-toms from Southern Province.

M. TOCKE Esq. Eleven Tom-toms.

THE MUDLIAR OF HAPITIGAM KORLE.—Tom-tom.

THE MUDLIAR OF HEWAGAM KORLE.—Two Tom-toms.

EKNELIGODA, R.M.—Two Tom-toms and two Horns.

SECTION 6.

Articles from the Maldive Islands. [K.]

The larger collection of Maldive articles exhibited is the property of Mr. C. W. Rosset, and was formed by him at the end of 1885, during a visit of some duration in the islands.

A smaller series is exhibited by His Highness Ibrahim Didi, Vizier to the Sultan of the Maldives.

The following account of the Maldive Islands has been communicated by Mr. C. W. Rosset:

The Maldive Islands are situated in the Indian Ocean, south-west of the Indian Peninsula, from which the nearest cluster (Ihavandiffulu Atol) is about 350 miles distant, while the central one (Malé Atol) lies about 400 miles from the nearest point of Ceylon.

These islands are a dependency of the Government of Ceylon, which does not, however, interfere in any way with the internal administration; in fact, the political relations of the two are confined to a yearly embassy from the Maldive Sultan to the Government of Ceylon, the reception of which in Colombo is a very ceremonious function, the Ambassador presenting the Sultan's letter and presents to the Governor, who makes presents in return. Almost the only other occasion on which official communications pass between the two Governments is in the case of a shipwreck on the islands, when the Sultan advises the Governor of the mishap, and his Excellency replies by thanking him for his kindness and humanity to the shipwrecked crew.

Although the Maldives have been more or less subject to the various Governments which have succeeded one another in Ceylon during the last two or three hundred years, comparatively little is as yet known about the inhabitants. The most complete work yet published on the subject is the Report, compiled in 1883 by H. C. P. Bell, Esq., of the Ceylon Civil Service, which treats at some length of the past history and present resources of the group.

The Maldive Islands are of coral growth, and evidently belong to the same chain of submarine mountains on which the polypi have built up the Laccadives. The islands are grouped together in clusters called Atols, of which there are twenty, named (in order from

north to south) Ihavandiffulu, Tiladummati, Makunudu (Malcolm), Miladummdulu, North Malosmadulu, Fadiffolu, South Malosmadulu, Goidu (Horsburgh), North Malé, Rasdu (Ross), South Malé, Ari, Fulidu, North Nilandu, Mulaku, South Nilandu, Kolumadulu, Haddummati, Huvadu (Suvadiva), and Addu. The Atol is formed of a number of islands of different sizes, joined by reefs, which enclosed a lagoon of sea-water; many of the islands are themselves merely a ring of coral rock enclosing a smaller lagoon. There are generally openings in different parts of the barrier-reef, which are in many cases wide and deep enough to allow large ships to enter. The surface of the islands is covered sand mixed with decayed vegetable matter to a depth of three or four feet, under which is soft rock. The islands are covered with a thick jungle, above which tower the coconut trees; the vegetation is very luxuriant, but does not apparently differ from that found in Southern India and Ceylon. There are no streams on any of the islands; on most of them fresh water can be obtained from wells; but the quality differs very considerably, on some Atols it is very good, while on others it is so bad as to be dangerous.

The climate of the Maldives is similar to that of Ceylon as regards temperature; the heat is never very oppressive, the thermometer ranges from 80° to 90° in the day, and is generally at about 80° at night. There is always a pleasant sea breeze, which modifies the sun's heat very much. But there is one source of disease which renders many of the islands uninhabitable during half the year; many of the lagoons being entirely landlocked, the confined sea-water becomes stale and emits the most offensive odours during the dry season, that is when the north-east monsoon is blowing. During this period (from December to May) it is quite impossible to remain to leeward of such lagoons. During the prevalence of the south-west monsoon matters are better, as the sea breaks over the barrier-reef and partially renews the confined water. This fetid sea-water, the bad drinking-water obtained on many islands, and the carelessness of the inhabitants as regards their manner of living, are the principal causes of the large amount of sickness prevalent on the Maldives; the principal diseases are dysentery and fever. The mortality among children is much greater than with us; it is said that only about twenty per cent. attain five years, though this is probably an exaggeration.

The Maldivians are a quiet, hospitable people, though inclined to be suspicious and reserved with foreigners until they have become well acquainted with them; once their confidence is gained, however,

they are extremely hospitable. They are generally intelligent-looking, and have a much more pleasant expression than the inhabitants of many other Eastern countries: frank, open faces, without a trace of sullenness. They have a decidedly Arabian caste of countenance, and are generally of a dark-brown complexion, though many in Malé are much fairer.

The dress of the men is very simple, consisting generally of a pair of cotton drawers and a waistcloth; some wear besides a white shirt. They generally wear a coloured handkerchief round the head but the turban is not worn. The priests and high-castes generally wear a long sort of dressing-gown, reaching nearly to the ankles. The women's dress is much more elaborate and becoming; the waist-cloth is of a dark brown colour with a border of black and white stripes, over which is worn a loose-fitting coloured silk shirt edged at the neck with gold or silver embroidery; round the head they twist a silk handkerchief matching the shirt in colour.

Their food consists for the most part of rice, fish, and coconut the meals are eaten after the manner of Orientals, in silence, the women waiting first upon the men, and afterwards taking their own meal separately.

The chief employments of the Maldivians are fishing, collecting cowries and tortoiseshell, gathering coconuts, cloth- and mat-weaving, turning, and twisting coconut fibre into coir-yarn.

The trade of the Maldives all passes through Male, whither the inhabitants of the other islands all bring their produce, which they exchange for rice and other necessaries. The exports consist of coconuts, coir-yarn, dried and salted fish, and tortoiseshell; the imports are mostly articles of food.

H. H. IBRAHIM DIDI, Vizier to the Sultan of the Maldives.—Products and manufactures of the Maldive Islands, including a fine collection of the peculiar mats made by the people, bags of cowries which form the local currency, salt fish, the curing of which forms a principal industry of the islands, &c., &c.

GOVERNMENT OF CEYLON.—**1.** Mat, finest quality. **2.** Mat, second quality. **3.** Mat, third quality. **4.** Mat, fourth quality. From Suvativa Atol. These mats (*M. tudu kuna*) are made only in Suvadiva Atol from a rush or sedge (*M. hau*) which grows best there. Nothing produced elsewhere can approach the delicacy of pattern and the tasteful combination of the three colours used (black, pale brown, and white), which specialities have gained a great reputation for these mats. The finest come from Gaddu Island, the ordinary kind from Havara-Tinadu, and the small ones from Gemana-Furhi.

5. Pair of Knitting-Needles. **6.** Two Cotton Reels. From Malusmatulu Atol.

7. Box for holding betel (for children). From Tuladu Atol.

8. Wooden Rings for ornamenting the ropes of swings.

9. Two Earthenware Plates, round. **10.** One Large Earthenware Plate, round. **11.** Ditto. **12.** Ditto. **13.** Ditto. **14.** One Medium-sized Earthenware Plate, round.

15. Ditto. **16.** Ditto. **17.** Ditto. **18.** Ditto. Made out of a mixture of emery and powdered sandstone prepared with wax. They are specially used in preparing medicines, and common throughout the Maldive Group.

19. Grindstone. **20.** Ditto. Made throughout the Maldive Group of a mixture of sandstone and wax. The stone is placed in a frame.

21. Fifteen small Coconuts, used as playthings throughout the Maldive Group.

22. Exceptionally large Coconut, used throughout the Maldive Group as an ornament for the houses.

23. Young Coconut, prepared for offering to a visitor.

24. Shells used as playthings by children.

25. Axe-head. **26.** Handle for above. From Malusmatulu Atol.

27. Betel-box.

28. Ditto.

29. Chessman, old.

30. Ditto.

31. Scraped Coconut kernel, for making milk.

32. Cover for cooking-pot.

33. "Nine Stone," game complete.

34. Cover for cooking-pot.

35. Basket-work Cover for food-dish.

36. Wooden Plate for rice.

37. Rice-cleaner.

38. Floor Carpet.

39. Ditto.

40. Woman's Under Cloth, first quality. **41.** Ditto. **42.** Woman's Under Cloth, second quality. **43.** Ditto. **44.** Woman's Under Cloth, third quality. **45.** Ditto. **46.** Ditto. **47.** Child's Under Cloth, third quality. **48.** Woman's Under Cloth, third quality. From Edajuri Island.

49. Child's Sleeping-Mat.

50. Rice Pounder.

51. Carved Wooden Cover for above.

52. Wooden Dish to fit into a stand.

53. Large Medicine Spoon, cut from a shell.

54. Small Medicine Spoon, cut from a shell.

55. Shell from which Nos. 53 and 54 are cut.

56. Unfinished Knife Blade.

57. Ditto.

58. Ditto.

59. Finished Knife Blade.

60. Large Wooden Stand for holding No. 51.

61. Wooden Betel-box.

62. Wooden Box for holding glass bottles.

63. Flagstaff Cap.

64. Finely-carved Wooden Darning-needle.

65. Child's Toy, only for use by high caste children.

66. Finely-carved Woolen Rolling-pin, used by high caste only.

67. Rattle attached to either end of a dancer's staff.

68. Maldive Woman's Shirt, middle caste.

69. Man's Hat, used by all castes.

70. Woman's Hat, used by all castes.

71. A kind of tip-cat used by middle castes throughout the group.

72. Large Fish-Knife of the best make, copied from an European model.

73. White Sea Plant, from Male Atol.

74. A kind of tip-cat used by low castes.

75. Black Sea Plant, from Tilladumati Atol.

76. Three Silver Bangles, from Nilandu Atol. **77.** Six Brass Bangles, from Nilandu Atol. Six are worn on each arm; high caste women wear gold, middle caste silver, and low caste brass.

78. Model of a fishing-net. From Tilladumati Atol.

79. Reel of Gold Wire. **80.** Reel of Silver Wire. **81.** Ten yards of Gold Thread. **82.** Ten yards of Silver Thread. Brought from India and used in embroidering cloth, &c.

83. Child's Spinning-top.

84. Native Sweetmeat, prepared for high castes from Coconut.

85. Child's Spinning-top.

86. Medicine Spoon, carved out of a shell.

87. Colouring matter used by women after bathing for painting the eyes.

88. Pomade for the hair.

89. Sweet-smelling Ointment, used by women for anointing the body after bathing.

90. Wooden Knife, used for turning pastry.

91. Large Plate, used for preparing Medicine.

92. Wooden Box for holding preserves, high caste.

93. Sweet-smelling Ointment, used by women for anointing the body after bathing.

94. Man's Hat, made by the women.

95. Wooden Cover for rice dish.

96. Touchwood sticks, for procuring fire by friction.

97. Cooking Spoon for rice, made from a coconut.

98. Fishing-line, fine quality.

99. Rice-Sifter, made out of coconut leaves.

100. Model of Boat used by high castes.

101. "Nine Stone" game.

102. Part of Silver Waist Chain worn by middle caste children. High caste wear the same in gold. Low caste wear the same in brass.

103. Fishing-line, ordinary kind.

104. Model of Boat used by high castes.

105. Finely-carved Jeweller's Hammer.

106. Child's Wooden Knife, gilt.

107. Maldive Knife.

108. Boatman's Cap.

109. Plane made in the Maldives.

110. Nargil Pipe stopper, first quality.

111. Boatman's Cap.

112. Knife for extracting the kernel from the coconut.

113. Maldive Knife.
114. Gimlet.
115. Boatman's Cap.
116. Nargil (pipe-stopper), second quality.
117. Sultan's Flag. All Maldive sailing-boats must have the Sultan's star on the sail.
118. Sea Plant.
119. Pipe-bowl.
120. Boatman's Cap.
121. Four Embroidery Needles.
122. Two Spools.
123. Large Wooden Covered Dish for carrying hot food to high caste people when they are away from home.
124. Nargil Pipe-stopper.
125. Boatman's Cap.
126. Two Embroidery Needles.
127. Kite.
128. Round Wooden Box and Cover, with lock and key.
129. Wooden Betel-box.
130. Boatman's Cap.
131. Pipe-bowl, first quality, brought from the Malabar coast.
132. Stem for above; brought from India.
133. Stopper for the water-bottle used with above pipe, and the only part made in the Maldives.
134. Fishing-seine.
135. Sheet of Tortoiseshell.
136. Wooden stand to hold the ball used by women in embroidering.
137. Pipe-bowl, second quality, brought from the Malabar coast.
138. Stem for above, brought from India.
139. Stopper for the water-bottle used with above, made in the Maldives.
140. Sheet of Tortoiseshell.
141. Best quality of Coir Yarn.
142. Apparatus used by the natives in climbing coconut trees.
143. Scales made out of coconut shells, after an European model, with weights.
144. Rake, used on roads.
145. Child's Spinning-top, used by children from ten to sixteen years old.
146. Cotton Reel.
147. Medicine Spoon.
148. Pipe-bowl, third quality, brought from the Malabar coast.
149. Stem for above, brought from India.
150. Stopper for the water-bottle used with the above pipe, made in the Maldives.
151. Cotton Reel.
152. Sheet of Tortoiseshell.
153. Second quality Coir Yarn.
154. Spoon made from a coconut shell.
155. Scales made from coconut shells after European models, with weights.
156. Cotton Reel.
157. Child's Toy.
158. Medicine Spoon.
159. Part of a Silver Chain, made by Maldive jeweller, and worn round the waist.
160. Maldive Shoes, made of wood, for men and women.
161. Pot of Fish Extract. For the preparation of this Extract a large iron pot is filled with fresh and sea water in equal proportions, into which about six or eight large fish are put, and the whole is then boiled down to about one-third the original bulk. The pot is again filled up with water, and the same number of fish being added the boiling process it repeated. After say three repetitions the residue is strained and left to cool, when a kind of jolly is formed, which is packed in jars and put aside for use. It is most generally used as food on sailing vessels trading to Ceylon and India, and is also eaten when the result of a fishery is poor.
162. Pot of Jaggery.
163. Child's Rattle.
164. Scent Bottle in embroidered case, to hang on the waistband; made in the Island.
165. Piece of Cloth embroidered in gold; specimen of the finest work made in the Islands.
166. Sheet of Tortoiseshell.
167. Spoon made from a coconut.
168. Touchwood for procuring fire by friction.
169. Ball used by women in embroidering, to go with No. 136.
170. Sign put up before a house where a person is lying ill (*M. wachuda*); a statement of the person's illness is written on the cloth, together with a prayer to the devil (who is supposed to be the cause of illness and deaths) to effect a cure.
171. Third quality of Coir Yarn.
172. Sheet of Tortoiseshell.
173. Scales made from coconut shells after European model, with weights.
174. Stick used for catching insects.
175. Box of "Birdlime," used with above.
176. Scent Bottle in embroidered case, to hang on the waistband, worn by high-caste women.
177. Spoon made from a coconut shell.
178. Wooden Maldive Shoes for children.
179. Kite.
180. Cover for food-dishes.
181. Paper imitation rose made by a Maldive boy.
182. Finely-worked Maldive Knife, mother-of-pearl and black coral handle (*M. Fiyohi*). These knives may be considered almost unique for the excellence of the carving and inlaying work, as also for their great handiness and portability. They are now, however, very scarce, as the Maldivians have taken to copying modern models in many of their manufactures, and it was in fact with the greatest difficulty that this specimen was procured.
183. Common kind of Maldive Knife.
184. Betel-box.

185. Scales made from coconut shells after European model, with weights.

186. Spoons made from coconut.

187. Bag of Cowrie Shells. (*M. Boli.*) Cowrie shells served the purpose of money for many centuries, and are in fact still used for local dealings. The extension of the foreign trade, however, has caused Cowries to be superseded by a more portable metal currency.

The value of Cowries has fluctuated very considerably, and ranged from 400,000 to 1,200,000 to a *dinâr* of gold. One hundred of these shells is called *syâh*, seven hundred *fâl*, twelve thousand *cotta*, one hundred thousand *bostoû*.

These Shells are found in myriads at the Maldives. Twice a month, at neap tides, men and women wade into the sea and gather them from under the rocks to which they attach themselves; one person sometimes gathering as many as twelve thousand in a day. They are then buried until all signs of putrefaction have disappeared, when they are generally packed for market as here shown.

These triangular coconut leaf bags are called *pottas*, and generally weigh about 25 lbs. each.

188. Cover for Food Dishes.

189. Fish-hook. The mode of fishing with these hooks adopted by the Maldivians is entirely different from that in use in Europe. No bait is put upon the hook, which is trailed astern of the fishing-boat at the end of a short line. When the large fish are seen, small fishes (a large number of which are carried in the wells of the boats) are thrown out, and the large fish in their eager pursuit swallow the white hooks, and are thus easily caught. The peculiar construction of the hook makes it easy to remove when the fish has been hauled on board. The number of fish thus taken is very great.

190. Medicine Plate.

191. Touchwood for procuring fire by friction.

192. Tortoiseshell Comb.

193. Fish-hook.

194. Spoon made from coconut shell.

195. *Kotta* of Cowrie Shells.

196. Maldive Mat of fine make.

197. Scales made of coconut shells from a European model, with weights.

198. Mat from Suwativa Atol (*M. Tudukuna*).

199. Fishing line.

200. Spoon made from coconut.

201. Model of a kind of Cotton Reeler.

202. Mat from Suwativa Atol.

203. Scales made of coconut shells from European model, with weights.

204. (*Machuda*) Sign placed before a house containing a sick person, the same as No. 170.

205. Rings for ornamenting swing-ropes.

206. Specimen of the best kind of Boatman's Cap.

207. Yellow and black coloured Cloth.

208. Red and black coloured Cloth.

209. Brown and green coloured Cloth

210. Violet and green coloured Cloth. These cloths are mostly manufactured in Edafuhri Island (Malosmadula Atol), and are chiefly remarkable on account of the great excellence of the dyes employed.

The price is much higher than that of the cloth imported from India, but the industry is very flourishing notwithstanding, as every one is expected to wear native-made cloth on public occasions.

211–215. Articles made by boys eight and sixteen years old.

216. Spoon made from a coconut shell, with wooden handle.

217. Knife made in the Maldives.

218. Finely-carved Baker's Knife, for turning cakes.

219. Mat from Suwativa Atol.

220. Fine old Maldive Knife, whale-tooth handle, inlaid with silver. Old; no work of this kind is now produced in the islands.

221. (*Huni*) Betel-box.

222. (*Kairu*) Bitter stuff (kind of Aloe) which is mixed with betel.

223. (*Hua*) Areca nut or betel.

224. (*Danuirgula welli*) Sand used for cleaning the teeth.

225. (*Lahi*) Coconut wood measure for rice and salt.

226. (*Fuawali*) Areca nut Cutter.

227. (*Gadumas*) First quality of Dried Fish.

228. (*Botuma*) Second quality of Dried Fish.

229. (*Hanituma*) Third quality of Dried Fish.

230. (*Matuma*) Fourth quality of Dried Fish

231. (*Guti*) Measure for Rice.

232. (*Eggalé*) A Weight.

233. (*Deggah*) A Weight.

234. (*Tuigah*) A Weight.

235. Two pieces of a Red Kite.

236. Piece of a Blue Kite. These kites may only be flown by permission of the Sultan from December to March.

237. Mat from Suwativa Atol.

238. (*Diahigafu*) Water-chatty for boatman.

239. (*Hanu*) Grindstone.

240. (*Battafolli*) Rice-cleaner

241. (*Gunninaga Fullefy*) Kind of dust-pan made of coconut leaves.

242. (*Manditandigandu*) Painted Tip-cat.

243. (*Wappa*) Instrument for cleaning wells.

244. (*Lambu*) Apparatus used by the natives in climbing trees.

245. (*Gondifo*) Touchwood, for obtaining fire by friction.

246. (*Dumfai*) Tobacco.

247. Mat from Suwativa Atol.

248. (*Ronadanidi*) Stick used for catching insects.

249. (*Gunninaga Fullefy*) Pair of Coconut Leaf Dust-pan.

250. (*Fangandu*) Plaited Coconut Leaf for covering roof.

251. Bundle of the different woods used in building.

252. (*Dumburidandi*) First quality building wood.

253. (*Manavalli*) Two Brass Sandal-pegs.

254. (*Kada Bali*) Silk Reel.

255. (*Gunninaga Fullefy*) Pair of Coconut leaf Dust-pan.

256. (*Magudandi*) Second quality of building wood.

257. (*Kada Foli*) Reel of Silk.

258. (*Dallo*) Wooden Box, made in the Maldives.

259. Jeweller's Tools, specially used for making No. 159.

260. Mat from Suwativa Atol.

261. (*Vimbudu Ronu*) First quality cordage, used in building.

262. (*Bulli*) Large Fish Hook.

263. (*Naabolli Sammussa*) Small Zinc Medicine Spoon, belongs to No. 258.

264. Small Jeweller's Pliers. **265.** Medium-sized Jeweller's Pliers. **266.** Large-sized Jeweller's Pliers. (*Handass.*)

267. (*Fir*) Wooden Cover for rice dish.

268. (*Dalú, Gorhi Barhi*) Designs cut out from a Coconut Shell.

269. (*Theoudulli*) Sieve, finely carved.

270. (*Durra*) Handle of Instrument of Punishment, a sheet of leather studded with nails is fixed into this, with which from 20 to 100 blows are inflicted. The only instrument of corporal punishment on the Maldives is the *durra*, consisting of an oval shaped piece of stiff leather studded with nails and fitted to the handle here shown. With this 20 to 100 blows are inflicted according to the gravity of crime. The crimes for which corporal punishment are inflicted are theft, adultery and murder; in the latter two cases banishment to a distant (and often uninhabited) island is added. Mutilation and death are never inflicted now.

271. (*Firohi*) Cotton-reel, used by high castes.

272. (*Liaharri, Torufá, Karahi*) Model of a Lathe. The Maldivians are very clever in turning.

273. (*Bollu Fehlia*) Head Covering for the Sultan's musicians.

274. (*Dawadu Dallu*) Stand for Ink-bottle.

275. (*Rabadi*) Bottle for holding sweetmeats, made out of two coconuts.

276. (*Maliafahi*) Wooden Box.

277. (*Dunkalie*) Linen drier.

278. (*Bombiodi*) Coconut Wood Boat.

279. Mat from Suwativa Atol.

280. (*Malorhi*) Coconut Leaf Basket for holding the sweepings of the houses.

281. Finely-worked Mat.

282. (*Dehefai*) Wooden Rice Stirrer.

283. (*Folie Dandigandu*) Wooden Knife for turning cakes.

284. (*Otimati Katahi*) Wooden Dish for Rice.

285. Mat from Suwativa.

286. (*Uikorrhe Savaka*) Cotton Spindle.

287. Mat from Suwativa Atol.

288. (*Rallia Gehi Maliafai* (Large Wooden Box for carrying food.

289. (*Kehala Maliafai*) Large Wooden Box.

290. (*Mushi*) Jeweller's Hammer.

291. (*Fieroshi*) Reel for kite string.

292. (*Gondi*) Stool for low-castes.

293. (*Rahbati*) Coconut Bottle for holding coconut sweetmeat.

294. (*Gondifo*) Touchwood for obtaining fire by friction.

295. (*Firohi*) Handle for No. 293.

296. (*Kallulia Gehi Maliafai*) Wooden Dish.

297. (*Follidendiganna*) Wooden Knife.

298. (*Hetdurru*) Kite String.

299. (*Mollofehdi*) First quality stuff for under clothes.

300. Ordinary quality Mat.

301. (*Kurendi*) Wooden Box with Cover for holding a glass dish.

302. (*Fiehgandu Guda*) Pipe-cleaner, brought from India.

303. (*Silimbu*) Pipe-bowl; the tobacco is put into the bowl first, then the plug, and above all the fire.

304. (*Lohfordi*) Plug for Pipe No. 276.

305. Good quality small Mat.

306. (*Dumbofai*) Tobacco.

307. (*Endu*) Model of Bed, as used by high castes.

308. (*Gottodie*) Mattress for No. 307.

309. (*Bittdorhi Kanneo*) Silk Pillow for back for No. 307.

310. (*Bolia Kanneo*) Silk Pillow for right side for No. 307.

311. (*Fahlia Kanneo*) Silk Pillow for left side for No. 307. All classes in the Maldives sleep on beds made in this fashion, which are swung to the rafters of the houses. High-caste beds have silk cushions over which is spread a mat similar to No. 1 or 2 of this collection, and the bed is hung by finely worked brass rods or chains, which are also sometimes further ornamented with silk cords and tassles. Middle castes' beds have cloth cushions covered by a mat similar to the No. 3 of this collection, and are suspended by iron chains or rods. Low castes' simply have straw covered by a mat similar to No. 4 of this collection on their beds, which are hung on coir ropes.

When a person is seriously ill, the bed is

unhung, the legs are fixed, and it then rests on the ground.

The Maldive bed is the most important article of furniture in the houses, in fact it is almost the only one, and much pains are taken to make it as ornamental as possible.

312. Mat from Suwativa Atol.

313. (*Medufehdi*) Second quality of Cotton Stuff for under clothes.

314. Ordinary quality of Mat.

315. (*Edelli*) Mallet (belonging with Nos. 293 and 316) with which the cut pieces of sweetmeat are beaten flat.

316. (*Kammfatti*) Coconut-wood Knife for cutting sweetmeat.

317. Ordinary quality Mat.

318. (*Fuma*) Tortoiseshell Comb.

319. Tombstone for men. The size shows the caste; high caste have large, low castes small.

320. (*Bodu Lari*) Maldive Copper Coin. These coins are still struck at the Malé Mint; on one side is impressed the name of the reigning Sultan, on the other his title and the Mahomedan date.

The metal of which they are composed contains generally 83·54 per cent. copper, 2·61 per cent. tin, 13·78 per cent. zinc, and 0·07 per cent. iron; but it sometimes varies, the proportion of copper being occasionally as high as 95 to 97 per cent.

They are nominally worth about 25 to the rupee, but owing to scarcity they are generally only exchangeable at 20 to the rupee.

321. Finely-worked Mat.

322. "Sausage," coconut sweetmeat, wrapped in coconut leaves and cloth.

323. (*Kalulla*) Black Colour for painting woodwork.

324. Spoon made from coconut shell.

325. (*Batpenups Somsa*) Medicine Spoon.

326. Mat from Suwativa Atol.

327. (*Gunninaga Fullefy*) Pair of Coconut-leaf Shovels for carrying sweet things.

328. (*Huadibondi*) Coconut Sweetmeat Sausage.

329. (*Kudalari*) Maldive Copper Money. Equals one quarter of a *bodu-lari*, No. 320.

330. (*Unduli*) Coconut-shell Spoon.

331. (*Raila*) Brown Colour for painting woodwork

332. Good quality small Mat.

333. (*Lionumas*) Pot of Salt Fish.

334. (*Bindulla*) Yellow Colour for painting woodwork.

335. Coconut Scraper.

336. (*Huadibondi*) Coconut Sweetmeat Sausage.

337. (*Liaharri*) Model of Turning-Lathe.

338. Unfinished piece of turned wood, shown with No. 337.

339. (*Unduli*) Spoon made from coconut shell.

340. (*Feihilla*) Green Colour for painting woodwork.

341. (*Gondigandu*) Rounded piece of Wood, used for polishing the colours on articles turned at the lathe.

342. (*Kearri*). **343.** (*Liakearri*). **344.** (*Tundukearri*). Models of Lathe Tools.

345. Woman's Tombstone. The size shows the caste. High castes have large, and low caste small stones.

346. Ordinary quality Mat.

347. Finely worked Mat.

348. Model of Rahbatie, or coconut sweetmeat-bottle, made by a young boy.

349. Fine quality small Mat.

350. (*Handas*) Jeweller's Pliers.

351. (*Liakearri*) Large size Lathe Tools.

352. (*Fatdurba*) Gold Chain, worn by women round the neck, and supporting various gold coins.

353. (*Gammfordamuti*) Finely worked Gold Earrings, with precious stones (high caste women). Twelve are worn in each ear.

354. Pair of Gold Earrings, for middle and low castes. One, two, or more are worn in each ear.

355. Mat from Suwativa Atol.

356. (*Larin*) Silver Money, called fish-hook money. These were in use in the sixteenth and seventeenth centuries, being at that time the only Maldivian coin. They were struck in Male. Their value was about 12,000 cowries (*kotta*). For the purpose of making small payments the *lárin* was usually cut; but this method had its disadvantages as a loss of one-twelfth was thereby incurred. These coins are now extremely rare.

357. Paper Lantern for Sultan and high castes.

358. Fine quality small Mat.

359. (*Addana*) Shield used by the Sultan's dancers and fencers, to protect themselves from the blows of their companions.

360. (*Raila*) Red Colour for painting turned woodwork.

361. (*Batpenposomsa*) Medicine Spoon.

362. Small Silver Maldive Coin.

363. (*Katturu*) Jeweller's Shears.

364. (*Tundukearri*) Large-sized Lathe-Tool.

365. Large Silver Maldive Coin.

366. (*Derrafehdi*) Third quality Cotton Stuff for under clothes.

367. Mat from Suwativa.

368. Pot of Sweetmeat made by high castes.

369. (*Beru*) Large Tom-tom, can only be beaten with the Sultan's permission, or in the case of fire breaking out.

370. Maldive Mat.

371. (*Libar*) Silken Shirt for Sultan's Women, embroidered by the sister of the Prime Minister.

372. Telephone made in the Maldives on

the Model of the Tong telephones sold in England; called by the natives Telegraph.

373. Maldive Mat.

374. (*Emwarki*) Small Net-work Baskets for catching up the little fishes carried in the wells of the fishing boats, and throwing them into the sea. (See under No. 189.)

375. Silk Shirt for high caste women, embroidered by the sister of the Prime Minister.

376. Maldive Mat.

377. Silk Shirt for middle caste women.

378. Silk Shirt for low caste women, these were embroidered by the sister of the Prime Minister.

Maldive Photographs.

H.H. Ibrahim Didi, Vizier to the Sultan (383).

Abdulla Didi, step-brother to the Vizier (384).

Totu Siddi Lebbe, a Muhammadan priest, and his son (379).

Manifullu Fatima Kilegefaau, Male (380).

Group of girls embroidering and smoking (418).

High caste boy (415)

Two young high caste boys (409).

Low caste boy (410).

Turner working at his lathe (404).

The Sultan's band (385).

Audience Chamber, Sultan's Palace (386).

Game of Todu, two groups (381, 382).

Game of Malikutarra, two groups (388, 389).

House in Male (401).

Grave of a high caste man (403).

Cemetery for the high caste people (400).

Cemetery for low caste people (402).

Minikoy Lighthouse, Laccadive Islands (417).

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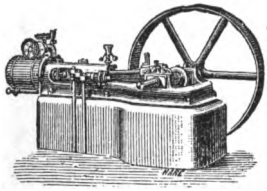

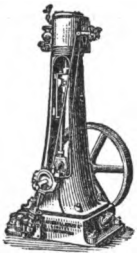

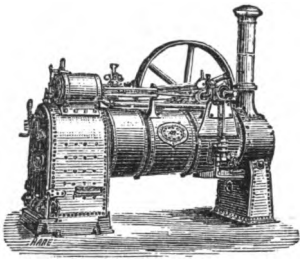

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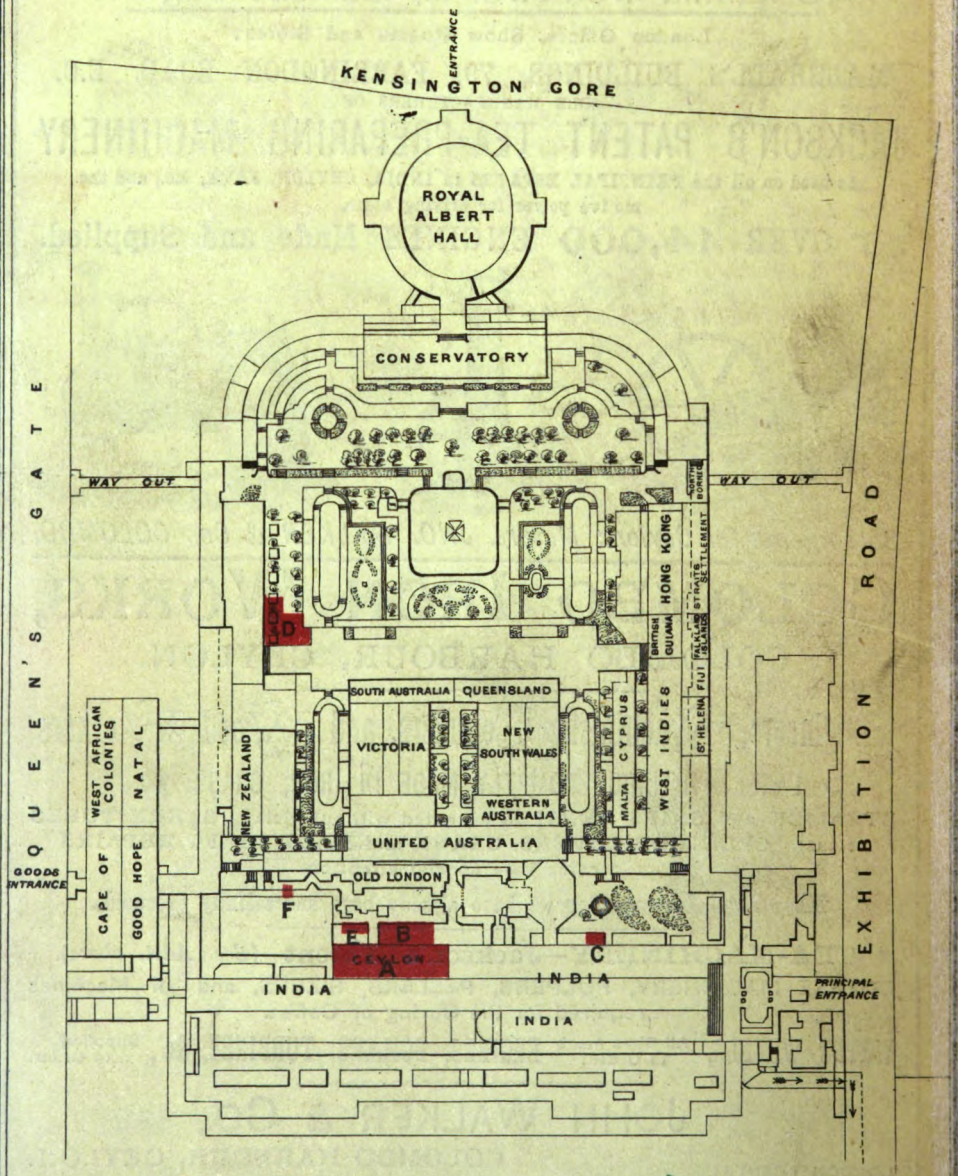

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C. *Ceylon Tea & Coffee House, Lower Gardens.*
D. *Ceylon Tea House, Upper Gardens.*
E. *Carriage Shed.*
F. *Office (12 Old London Street.)*