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JOURNAL
OF THE
CEYLON BRANCH
OF THE
ROYAL ASIATIC SOCIETY,
1891.

VOLUME XII.
No. 42.



EDITED BY THE HONORARY SECRETARY.

The design of the Society is to institute and promote inquiries into the History, Religion, Literature, Arts, and Social Condition of the present and former Inhabitants of the Island, with its Geology, Mineralogy, its Climate and Meteorology, its Botany and Zoology.

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JOURNAL

OF

THE ROYAL ASIATIC SOCIETY,

CEYLON BRANCH.

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GENERAL MEETING.*

Colombo Museum, December 20, 1890.

Present :

His Excellency Sir ARTHUR E. HAVELOCK, K.C.M.G.,
Governor, in the Chair.

<p>Hon. M. C. Abdul Rahiman, M.L.C.</p> <p>Mr. T. Berwick, <i>Vice-President</i>.</p> <p>Mr. A. E. Brown.</p> <p>Mr. C. Drieberg, B.A., F.H.A.S.</p> <p>Mr. A. M. Ferguson, C.M.G.</p> <p>Mr. A. M. Ferguson, junior, M.R.A.S.</p> <p>Dr. S. Fernando, M.B.C.M.</p> <p>Mr. C. M. Fernando, B.A., LL.B.</p> <p>Dr. H. M. Fernando, B.SC.</p> <p>Mr. P. Freidenberg.</p> <p>Mr. W. T. Pearce.</p> <p>Mr. Edward F. Perera.</p>	<p>Dr. Lisboa Pinto, F.E.A., L.M.S.</p> <p>Tudor Rajapaksa, Mudaliyár.</p> <p>Hon. P. Rámanáthan, C.M.G., M.L.C.</p> <p>Mr. F. C. Roles, M.I.J.</p> <p>Mr. W. Arthur de Silva.</p> <p>Mr. H. van Cuylenberg, M.R.A.S.</p> <p>Dr. W. G. van Dort.</p> <p>Mr. G. Wall, F.L.S., F.R.A.S., <i>Vice-President</i>.</p> <p>Mr. D. M. de Z. Wickrema- singhe, M.L.A.U.K.</p>
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Mr. F. H. M. Corbet, M.R.A.S., Honorary Secretary.

* Though this Meeting was held in 1890, it has been decided to print its Proceedings in the Journal for 1891, so as to include the third and fourth Papers of the series on "A History of the Ancient Industries of Ceylon" in the same Number of the Journal.

Visitors:—Mesdames A. M. Ferguson, junior, W. T. Pearce, R. D. Ormsby, C. Driberg, A. E. Brown, P. D. Warren, and Miss Vincent; Messrs. R. D. Ormsby, P. D. Warren, Gerald Browne, P.S., T. A. Wylie, A. Warren, E. H. Joseph, C. E. H. Corea, C. Gray, L. van Dort, G. E. Prins, E. Corea, J. van Langenberg, Walter Pereira, Gerard A. Joseph, Dr. J. B. Spence, and several others.

1. The Minutes having been read and confirmed, the Honorary Secretary announced that at a recent Meeting of the Council the following gentlemen had been elected Members of the Society, viz. :—Messrs. Felix Reginald Dias, B.A., LL.B.; Francis Crosbie Roles, M.L.J.; Joseph Saunders Addenbrooke, A.R.I.B.A.; George Duppa Miller; Kasim. Lebbe Marikar Abdul Kerim, Mudaliyár of the Gate; William Abraham Ratnayaka; and Percy Edward Radley.

2. The Honorary Secretary stated that he had received a letter from the President of the Society, the Lord Bishop of Colombo, expressing his Lordship's regret at being unable to attend the Meeting.

3. The Chairman said that he had great pleasure in calling upon their venerable Vice-President to read the Paper which he had compiled for the Society; and in doing so His Excellency was sure that his expression of pleasure at seeing Mr. Wall once more among them in renewed health would be cordially endorsed by all present. With these words he would ask Mr. Wall to be so kind as to read the Paper he had prepared as the third of the series on—

A HISTORY OF THE ANCIENT INDUSTRIES OF CEYLON.

By GEORGE WALL, Esq., F.L.S., &c., *Vice-President*.

(*Third Paper.*)

IN the first place, I have to apologise for the long delay that has occurred in the reading of this Third Paper. On my own behalf I must plead that it has been unavoidable, as my time has been fully absorbed in the interval by a duty which was not contemplated when these Papers were commenced two years ago.

The First Paper, it may be remembered, treated of the general principles on which the creation and accumulation of wealth depend, and on the effects produced by the manner

of its disposal. Some special circumstances bearing upon these subjects, which are peculiar to this Island, were also specified for their influence on the industries of the people.

The way would then have been clear for the treatment of the ancient industries of the Island, the special subject of these Papers, but for a statement made by so high an authority as that of Sir J. Emerson Tennent that on the arrival of Wijayo, 543 B.C., when the authentic history of Ceylon commences, "agriculture was unknown here, and that grain, if grown at all, was not systematically cultivated." "The inhabitants," he says, "appear to have subsisted then, and for some centuries afterwards, on fruits, honey, and the products of the chase." If this were true, industry, in the common acceptation of the term, was still unknown.

It became necessary, therefore, to show that at the time of Wijayo's invasion the people of Ceylon had settled forms of government, courts, cities, a grammatical language, and other institutions, indicative of a certain measure of civilisation such as usually denotes the existence of a national industry.

The history, from which we derive all the information we possess, respecting the period in question, was written by priests, whose main object was to record the origin and progress of their religion in the Island. All else is recorded only to exhibit this central object of their graphic narrative, or to magnify the virtues and achievements of particular heroes. We search in vain, therefore, in its pages for any direct account of the industries or the condition of the people. Nevertheless, the events recorded, and the accessories of the picture the historians have drawn, afford material sufficient to establish, by logical inference, the facts stated in the Second Paper; and the history itself, according to Turnour, "is authenticated by the concurrence of every evidence which can contribute to verify the annals of any country."

Moreover, the argument in proof of the facts as described in my last Paper does not depend upon the verbal accuracy of the details of the history, nor is its force impaired by some obvious Orientalisms of the narrative, but rest upon undisputed facts. In short, if Wijayo really landed in Ceylon and obtained supreme rule over it, or a considerable part of it; if his ministers dispersed and established his dominion over several distant parts of the Island; if Panduwo, king of Madura, a few years later sent his daughter to renowned Sihala to be Wijayo's bride, accompanied by noble Páñđiyan ladies and an equipage befitting a royal personage; if, in fact, the whole history be not a myth, —the conclusions therefrom in the Second Paper are unquestionable, notwithstanding some possible numerical exaggerations and flights of Oriental fancy indulged in by the historians to embellish their work. The large number and advanced condition of the people stand attested by the *nature* of their institutions themselves, even more than by any details or colouring of their number and magnitude affected by the historians.

For the present purpose the period to which the argument relates is comprised within the first century and a half after Wijayo's rule. Whatever works of national importance were done during that period must have been effected by means of resources pre-existing, as that sovereign and his seven hundred followers could not have created new national resources. Their utmost efforts could only have been exerted to utilise the means they found ready to their hand, and to employ the people who were in occupation of the country.

It follows that any hypothesis which may be tested to account for the wealth of the Island, and the sources from which it was derived, must be consistent with the existence of the courts, institutions, language, and forms of government that have been proved to have existed then.

History and experience would point to agriculture as the most probable origin of national wealth, and would naturally be the first hypothesis to be subjected to the test of research;

but as Tennent has pronounced positively against that theory, it seems necessary to try other possibilities, and to consider whether, for example, the gems, pearls, and mineral resources of the Island would suffice to account for the state of the country and the conditions that have been proved to exist.

Referring to all that is known of tribes of people now living, without agriculture, on fruits, honey, and the products of the chase in Australia, California, Nevada, and the Cape, where mineral wealth once abounded and might have been collected on or near the surface, they all—Red Indians, Bushmen, and Hottentots alike—neglected the precious minerals and wandered in a perpetual state of warfare and intertribal strife for the possession of the hunting grounds that supplied the necessaries of life. The treasures they value are scalps and skulls, their dress skins, feathers, and war paint, and their dwellings are caves and wigwams bearing no resemblance to anything recorded of the people of Ceylon or their mode of life. In vain do we search for a parallel, or even for any approach, on the part of nomadic tribes who eschew agriculture to any such conditions as those postulated of the Yakkhos at the time when Wijayo, enamoured of the Yakkhini princess Kuvéni, made her his wife, listened to her treacherous counsel, and established his rule on the ruin of that of two sovereigns who had assembled their courtiers for the friendly purpose of celebrating a wedding festival in honour of the respective scions of their houses.

According to the principles specified in the first of these Papers, wealth can only be acquired by means of labour, for even the countries most richly endowed by nature yield up their stores of natural wealth only in response to toil. The gold fever in Australia has already been cited to show that gold, even when collected on or near the surface of the ground, gave but a moderate return, on an average, to those who crowded to the diggings. If, therefore, it were assumed that gems and precious metals had been as plentiful and as accessible in Ceylon as was gold in Australia, it could not have

enriched the people beyond the extent of the narrow margin of time and labour that could have been spared from the pursuit of the chase and the other precarious sources of food supply. Food, shelter, and some clothing must first have been provided before any labour could have been employed for other purposes. It is obvious, however, that a large population, such as must have been necessary to create the conditions prescribed, could not have been maintained by wild fruits and the products of the chase in any country even if their whole time were devoted to the pursuit. It follows, therefore, that if the people were engaged in mining, they must have derived their food from foreign sources, and the only available surplus would be that between the value of their minerals and that of their imported food. The necessary interchange of these commodities, moreover, implies the existence of regular commercial relations and a free intercourse with other countries, of which no evidence exists in history, and which could not have existed without its being betrayed in the course of the historic record. The possession of mineral wealth, in any such profusion as would have sufficed to produce the conditions which have to be accounted for, could necessarily have afforded a kind of booty that would have brought to the shores of Ceylon other invasions than those that history records. These all had for their object the possession of power, and occasionally, in times subsequent to that now in question, the plunder of the temples, on which precious treasures were lavished in token of the religious zeal of the monarchs who had so embellished them.

The only positive arguments against the existence of regular agriculture with which I have met are two: first, that Kuvéni entertained Wijayo and his retinue with rice from wrecked ships; and secondly, that amongst the splendid presents sent by Dhammāsoka to Dévanampiyatissa were one hundred and sixty loads of hill paddy—the other articles: a chowrie, diadem, sword of state, golden parasol, slippers a golden vase (anointing), sandalwood, a crore of cloths.

(asbestos), a right-hand chank of Ganges water, a royal virgin, golden vessels, and costly drugs, &c.

Regarding the condition of the country, as postulated, and the very considerable population necessary to the attainment and maintenance of such a condition, the idea that the country depended upon such a precarious and slender resource as that of casual wrecks appears to be scarcely worth arguing. At any rate, it is not an argument which could hold ground without some stronger evidence and support than that of a passing mention, under circumstances that lend it no collateral force beyond the brief statement itself.

The second argument is equally inconclusive. The idea of this comparatively paltry contribution to a country supposed to be dependent upon foreign supplies of rice, would seem, as an item in an otherwise sumptuous royal gift, as a very insulting suggestion. Moreover, the fact that the present was of paddy, and not of rice, indicates that it was intended for seed, especially as it is described as *hill paddy*—a special product which was probably unknown in Ceylon, or a particularly valuable variety such as it would become a king to send to a neighbouring monarch. Whatever may have been the object of this particular gift, it cannot be reasonably urged, as valid evidence, that the country depended for its food supply, or for rice in particular, upon foreign sources, or that it had no regular and systematic cultivation of grain. Even if collateral circumstances were not, as they assuredly are, quite inconsistent with the dependence of the people on foreign supplies of food, these two trivial incidents, casually mentioned in the historic narrative, would not be regarded as possessing any inherent force. Considering that they are not only quite unsupported, but are in themselves out of keeping with the tenour of the narrative, they may be dismissed.

Before concluding the argument for the incompatibility of Sir Emerson Tennent's theory, in any form, with the proved facts of the situation when Wijayo ruled the realm, it may be mentioned that the annual value of the gems

raised in Ceylon is estimated on his authority as not exceeding £10,000; and it is a suggestive fact that the province that is richest in this source of wealth is one of the poorest in the Island. Nor is this surprising when it is considered that the soil that yields these precious treasures gives as it were but one harvest, and that often at great cost, whereas the husbandman reaps one or more crops every year from the same field until its cumulative yield of grain infinitely outweighs in value the one precarious crop of gems that may or may not reward the gemmer's toil.

All that has been said of gems and precious metals as a source of wealth applies equally to pearls. These all, however valuable as adjuncts, fail to fulfil the conditions required of primary resources capable of superseding agriculture as the main spring of national wealth.

Having now shown that other resources, independently of systematic agriculture, could not have sufficed for the attainment or maintenance of the order of things that prevailed when Wijayo ruled in Ceylon, it remains to show that in that agency, which Tennent denied, the whole may be easily and naturally accounted for.

In the first of these Papers it was demonstrated that wealth is the surplus product of labour over and above what is necessary to provide for the labourers the necessaries of life, food, shelter, and raiment. The surplus, represented by the conditions proved in the Second Paper, must therefore have arisen after providing for the wants, not only of the labourers themselves, but also for those of a host of priests and monks and the retinue of the court, besides supplying all the numerous services requisite for the maintenance of a regal state.

The foregoing argument of the present Paper seems to leave no doubt that the ancient industry, by means of which the advanced condition of the Island had been attained, was agriculture, seeing that no alternative means is tenable. On the other hand, on this hypothesis all the results for which it is necessary to account flow naturally in obedience to laws

that are familiar in history, and have produced like results, wherever the cultivation of the soil has been pursued intelligently and under favourable natural conditions.

It may be suggested, at this stage of the argument, that Tennent's conclusion, which has had to be rejected, however reluctantly, may have been due to his regarding *Yakkhá* as a synonym for *Veddá*, whose mode of life he describes. This is manifestly a mistake, as has already been pointed out. However his conclusion may have originated, it is worthy of note that the glory of a subsequent period of the Sinhalese history is referred by him to the splendid system of agriculture which was then engaging the attention of the most renowned of their kings, and was giving rise to some of the grandest works of irrigation that have ever been accomplished by man. The task undertaken in this Paper is to show that those great achievements are but a higher development of the same industry which had, even in Wijayo's time, already made Sihala renowned, and caused it to be selected by Gautama Buddha as a specially suitable field for the introduction of his religion.

The food of the people, rich and poor alike, is continually specified in the history of the period in question, both in reference to the rations served out by the people and the State to the priests and monks, and also as the staple food of all classes, from the king on his throne to the labourer in the field. This article of food, rice, therefore was the particular product to which the agriculture of the period was devoted. This it was that yielded the revenues of the State and gave to the country the institutions and advanced condition that is reflected in the works of which some ruins yet remain to attest the truth of the historic record. Continually as the items of rice, rice cakes, rice broth, milk rice, recur, it is remarkable that no other grain is mentioned, nor other food, except butter, curds, sugar, and honey. Rice in a golden dish was served to the king, and the same viand, in a less sumptuous form, was also the food of the priests and the people.

A large population such as is essential to account for the conditions described was an insuperable difficulty, with the hypothesis of the wild mode of life ascribed to the people by Tennent, but is an essential factor of an agricultural system adequate to fulfil those conditions. Much of their efficiency as a wealth-creating people would necessarily depend upon their character and disposition, their industry and submission to authority.

Fortunately, the data afforded by the narrative of the historians leave no doubt on this important subject. That they were a peaceful people is indicated by the facility with which Wijayo established his rule over them. History gives special prominence to all warlike demonstrations such as occurred in later times, but records no opposition to Wijayo's assumption of power. His massacre of the assembled courtiers at the famous wedding festival is the only occasion on which he appears to have had recourse to arms, and that was no battle, but a surprise in which his victims fell without formal resistance.

The dispersion of his principal ministers into various distant parts of the country, where they established their courts and the supreme authority of their chief, is a conclusive proof of the pacific disposition of the people; for these officers would not have ventured to separate from Wijayo and each other if the inhabitants had not manifested a ready acquiescence in the new order of things. Such a dispersion of the small party would have been practicable only amongst a perfectly peaceful population.

Further evidence to the same effect is afforded by the passage through the country of the *cortège* that accompanied Panduwo's daughter and her retinue of noble ladies and their attendants, bearing valuable presents. Such a party, unaccompanied, as they appear to have been, by any armed force, would have afforded a rare opportunity for plunder to a wild, nomadic tribe pursuing the mode of life ascribed to them by Tennent. The fact, moreover, that Panduwo, who described Ceylon as renowned, ventured to despatch the

bridal party in the manner described, shows that he knew the inhabitants to be of a peaceful disposition.

In this connection it is worthy of note that Gautama Buddha, who had previously visited the Island, and must therefore have had some knowledge of the disposition of the Yakkhus, chose it as a specially favourable sphere for the reception and propagation of his religion. This choice affords indirect additional evidence that they were not wild, wandering tribes, but a settled people engaged in regular pursuits.

The foregoing considerations appear to establish the peaceful character of the people, and that, in turn, affords strong evidence that they must also have been industrious, for it is no new attribute of him who has always been the employer of the idle to find them mischievous occupation.

It is easy to imagine that such a people as we have been describing would thrive apace under the influence of a settled supreme government as compared with that of separate petty chiefs. It is not surprising, therefore, that under the mild and righteous rule established by Wijayo and his ministers, the country made rapid progress; that the national industry flourished; that the principal cities were endowed with civilised institutions; that public edifices rose in quick succession; and that material progress advanced in the manner the narrative implies.

The difficulty of identifying some of the localities where Wijayo's ministers settled leaves us in doubt as to the exact extent of country over which their more direct influence prevailed. There is no doubt, however, that the part most thickly peopled, and that over which they exercised the most direct influence, was the rich tract in the north and north-central portions of the Island. Elsewhere, though the new dynasty may have been formally acknowledged, it does not appear that effective rule over the whole Island was concentrated in one supreme head until a somewhat later date. Till then, therefore, the entire resources of the Island could not have been brought to bear

national works, nor could the new religion be formally inaugurated as that of the whole Island.

It follows that the national industry—the cultivation of rice—must have been pursued up to the time we are reviewing by comparatively primitive methods. The essential feature of the enterprise, even in its simplest form, was that of collecting-tanks, which were indispensable, especially in the places above specified, where the sparse rainfall required always to be husbanded with the greatest care for the use of the cultivators. These necessary works must have had small beginnings, such as each village could compass for itself, and have gradually assumed larger proportions, requiring the combined forces of several villages or of a district; they must also have been collateral in number and in the area over which they were spread with the growth of the cultivation itself, and with the increase of the population engaged in it. Each of these works, however simple, having to serve a number of people, the dependence of each community upon a common supply of the primary necessity of their living would be likely to beget an accommodating habit and a spirit of union amongst them. This circumstance may probably have fostered, if it did not actually engender, the pacific disposition that characterised the people, and was so essential to the success of their labours and the progress of the country.

Reading the pages of the national history of that period—the smooth progress of events; the ready acceptance of the new rule; the facility with which the Buddhist religion obtained the homage of the whole population;—all seem rather like a fiction than the history of a revolution, for such, in truth, the new regime really was. The only parallel within our knowledge is that of the Tartars in China, whose dynasty, though first established by force against a show of resistance, was quietly accepted by the Chinese people.

It will be observed that the political situation, as we have endeavoured to show it, though forming an incidental feature of the history, that is not even once specially mentioned, is

nevertheless of primary importance to our purpose, inasmuch as it enables the reader to perceive how the wealth of the country had been created, and to account for its rapid growth and development under the new conditions specified.

The introduction of the new religion, with its captivating ceremonial observances and festivities, and the progress it made, not only without opposition, but apparently also with even more than the characteristic acquiescence the people had shown in the new political order, afford conclusive proof of the settled nature and successful pursuit of the national industry. For it cannot be denied that the whole fabric, both religious and political, depended for its existence upon the success of the national enterprise that furnished the crowd of willing worshippers, the host of priests and monks, and the regal state that gave *eclat* to the new order.

Hence the encouragement of agriculture naturally became a primary object of the attention of the early monarchs of the new dynasty. Accordingly the priestly narrative mentions the construction of several tanks amongst the achievements of their heroes. These works were evidently made by the resources of the State, in token of the sympathy of the new rulers with the pursuits of the people, in which they naturally perceived lay the sources of their revenue and the interest of the country. They thus consolidated their power and enlarged their influence over the people by the encouragement of the national industry.

It may here be mentioned, that the manner in which the historians record these works plainly indicates that they were not new in character, not imported from abroad, but of a nature similar to those the people had constructed for themselves, and which were in universal use. It has already been shown that the nature of the national irrigation works must originally have been of the simplest character and construction, and that, at the period under review, they could not have been developed beyond the stage at which they were compassable by the efforts of the villagers individually, or by small combinations, seeing that as yet the

resources of the State could not have been concentrated upon such larger undertakings as those of a later date. That the first royal structures were of the same character as those previously in use, is shown by the terms in which they are recorded. The historians, in describing the achievements of their heroes, were profuse in their ascriptions of praise, and they enlarged in inflated terms on the grandeur of the works accomplished by the kings. They described, not without manifest exaggeration, the magnitude and splendour of the edifices erected and the deeds performed by the rulers. They would not therefore have passed over, with a bare mention, a fact so important as the construction of a tank, if it had been of a novel character, whether for the grandeur of its dimensions or the novelty of its construction. It may therefore be safely assumed that the tanks first mentioned in the history, as made by the early kings, differed in no respect, that was worthy of record, from those common throughout the country. The fact that in a single reign, and that not a long one, a dozen or more of these structures are recorded, proves plainly that they were of the simple type of those pre-existing ones by which the cultivation had always been carried on. Nevertheless, though the irrigation works were of that simple character, the extent to which the national industry had been carried, and the vast number of people who were engaged in it, are amply indicated by the state of the country, the thousands of priests and people that crowded the cities, the pleasure gardens, the royal retinues, and the public buildings that were supported by its means.

These exponents of the surplus wealth of the Island, after providing for the food and requirements of the labourers, show that the national industry to which they all owed their existence must have attained great development, and have embodied the labour of a vast number of people. Yet up to this time the whole system must have depended upon those simple works which the people carried out themselves, each village or small district by its own resources.

The gigantic works which began to appear shortly afterwards could not in fact have been constructed, except by means of the combined national resources wielded by monarchs whose rule was fully established over the entire Island. Nor indeed could works of the gigantic proportions of those whose ruins have excited the astonishment and admiration of all beholders, have been undertaken until means adequate to such vast undertakings had been accumulated. It follows that these great works were the offspring of those simple ones by which alone the means of constructing them could have been provided, and on which, even to this day, the practical working of the paddy lands in the drier provinces depends.

The undeniable fact that the wealth necessary to enable the kings of old to construct the first of such colossal works as those whose ruins have been lately partially restored must have been acquired by means of the smaller tanks, suggests an inquiry as to the need for the larger and more costly works; and this again leads to a consideration of the different nature and functions of the two classes of works—the former, collecting, storing, and husbanding the local rainfall; while the latter conveyed from afar the rainfall of the mountain regions. The necessity for the former is primary, and in every case indispensable, while the function of the latter is supplementary and secondary. By these the national industry was consolidated and relieved to a great extent from the uncertainty of local rainfall and effects of season.

It may be fairly assumed that the general character of the climate of those parts of the country where these great works were constructed is much the same now as it was in Wijayo's time, and that therefore particular parts would in certain seasons fall short of their accustomed rainfall. In that case the dense populations of those spots would suffer severely in proportion to the number of people that were dependent upon the normal supply of grain. Such deficiency of the usual harvests would tell heavily on the national granaries.

Hence the idea of supplementing the local supply of water, by draughts from the perennial streams from the interior, would naturally follow, and the accumulated wealth (whether of labour or its equivalent in value is immaterial) would be freely devoted to the Herculean task of bringing in supplementary supplies of water for the purpose of consolidating the national enterprise and *insuring* more regular harvests.

It will form the object of a future chapter to describe these great works and their functions more particularly than could be conveniently done in the present Paper. It may be mentioned, however, that the water which the greatest of these works could supply would not suffice for the cultivation of any such area of land as would justify their prodigious cost. This fact alone suggests that their functions were supplementary, and that they were not intended to supply a given area with its requisite quantity, but to supplement the deficiencies over a far larger area. The design of the greater number of them at least, so far as it has been yet discovered, seems to show that they were intended to supplement deficiencies of the supply of the primary working tanks that had long pre-existed, and had even, when unaided by their supplemental contributions, raised the country to a condition of wealth such as rendered the construction of these larger works possible, and supplied the means of executing them.

The Hon. P. RÁMANÁTHAN said that in the valuable Paper which Mr. Wall had read the state of agriculture in Ceylon at the time of Wijayo's landing had been ably considered upon what might be called inferential arguments based on the political situation of the country. Mr. Wall's conclusion was that in the sixth century before Christ agriculture was in a highly advanced condition. Sir J. Emerson Tennent thought differently, on the strength of explicit statements found recorded in the *Maháwansa*.

Neither Mr. Wall nor Tennent had referred to the *Rámáyana*, which described Ceylon as it was under the Rakshasa King Rávana, at a period long anterior to the landing of Wijayo. Like the Homeric poems, the *Rámáyana*

was supposed by some European scholars to contain nothing but romance and myth, but that opinion could no longer be maintained. The *Iliad* and the *Odyssey*, the *Rámáyana* and the *Maha Bhárata*, must be admitted to describe largely events which had actually occurred. Ráma, the hero of the *Rámáyana*, came to Lańká, which is Ceylon, in order to punish Rávana for the rape of Sita, and the description given of the Island in the *Rámáyana* proved the existence of a very advanced type of civilisation. Agriculture and commerce and various arts and sciences were in a highly flourishing condition. The question was how far anterior was Rávana's age to Wijayo's? The belief among Tamil and other Hindu scholars was that Ráma and Rávana lived several thousand years before Christ, but European *savants* placed their era in the thirteenth century before Christ.

Admitting this computation to be the more acceptable to the Members of the Society, there was a period of seven centuries between Rávana and Wijayo. It being recorded in the *Rámáyana* that the great army of Ráma had demolished almost every vestige of civilisation in the Island, we are bound to conclude that, though agriculture had been in a very flourishing condition under Rávana, yet Wijayo found the country in a truly primitive state, as recorded in the *Maháwansa*. There was no room for inferential argument when it was explicitly stated in that historical work that "Lańká was not habitable for men," and that the rice which the Yakkhini distributed among Wijayo's followers was rice which she had gathered "from the wrecked ship of mariners who had fallen a prey to her."

The Island was then in the possession of the Yakkos, not the ferocious yet luxurious Rákshasas whom Ráma destroyed. The Yakkos were a less turbulent and less advanced community, and did not deserve the name of men because they devoured men. If the country was as civilised as Mr. Wall contended, the question arose, why the Páńdiyan king, with all the paraphernalia of a complete civilisation, including large armies and ships of war, on the adjoining coast of India, within a few hours of sail, did not invade Ceylon? If he did not it must have been either because the Yakkos had the necessary appliances for resisting invasion, or were in the occupation of a country which then afforded no attractions to a conqueror by reason of its natural resources or the disposition of its inhabitants. The latter alternative is inadmissible, because the Yakkos were easily conquered by a handful of Wijayo's followers. It was quite worth while on the part of a lawless exile like Wijayo to establish himself in a *mlechcha* country as Ceylon then was, but the

Páñdiyan king thought it wise to refrain from wasting his energies on the redemption of a people who were given to black magic and cannibalism. His Tamil subjects could not possibly coalesce with such a community, even if he conquered them.

Under these circumstances Mr. Rámanáthan contended that the balance of evidence was with the *Maháwaṅsa* and Sir J. Emerson Tennent on the issue whether agriculture was pursued or not by the Yakkos at the time of Wijayo's landing in Ceylon. Wijayo might have received his supplies of rice from the traders of the Páñdiyan kingdom just as easily as he secured brides for himself and his courtiers from that king.

Mr. A. M. FERGUSON, C.M.G., pointed out that it was not merely Sir J. Emerson Tennent but the *Maháwaṅsa* which Mr. Wall impeached in disputing the inference to be drawn from the statement that Kuvéni was compelled to resort to rice from wrecked vessels wherewith to feed Wijayo and his followers. It seemed incredible, too, that if the aborigines were so numerous and so advanced as Mr. Wall contended, they should have been so easily conquered by a party of 700 invaders. As regarded the accounts given respecting wealth in precious stones and pearls, they all knew what Oriental exaggeration was in such matters.

His (Mr. Ferguson's) inclination was in favour of Sir J. Emerson Tennent's views, and those of the writers who believed that Dravidian influence could be traced in the irrigation works and other monuments of an ancient civilisation in Ceylon. It seemed probable that from the Páñdiyan kingdom, whence successive monarchs of Ceylon obtained their wives, they might also obtain the assistance of men skilled in hydraulic engineering. The one qualification of his belief in this theory was the high opinion entertained of the engineering and architectural skill of the Sinhalese by a gentleman of so much learning and ability as Mr. Henry Parker. On the other hand, Fergusson, the great writer on Indian Architecture, had pointed out that the design for the Brazen Palace at Anurádhapura, said to be of celestial origin—nine superimposed circular stories and all of similar size—was simply impossible. He (Mr. Ferguson) would be glad if any one of the Sinhalese gentlemen present would break a lance with him on the subject. It was certainly now the opinion of Oriental scholars that Dravidian civilisation had made great advances prior to the flow of the Áryan wave from Central Asia into Northern India. The Dravidians, it was now known, possessed what was supposed to be a peculiarly Áryan institution, the village community.

On the other hand, the fact that the names of the leading mountains and rivers in Ceylon were Sanskrit—except where the Tamils had permanently established their power—seemed to prove that the people whom Wijayo and his followers conquered were akin to the conquerors in blood and language; and, if so, it was surely a very curious phenomenon that such a race should be found in such a position a thousand miles away from their Aryan brethren in Northern India. They must not forget, however, that with all the value of the *Mahāvansa*, its early chapters were (as Bishop Copleston had pointed out, when he and Mr. Wall had previously discussed this question) largely mythical, and that the historic period did not commence for some centuries after the era of Wijayo. He (Mr. Ferguson) had been astonished at two things: Mr. Wall's mention of Gautama Buddha's visits to Ceylon, as if there was not full evidence that Gautama never was in the Island; and that Mr. Rāmanāthan should have based what he deemed the authentic history of Ceylon so far back as 1300 B.C., on the myths of the *Rāmāyana*, seeing it was certain that the Indian prince Rāma had never set foot in Ceylon. This he felt safe in asserting, although Mr. Rāmanāthan had Forbes on his side as well as such names of places in Ceylon as Sītāvaka.

Mr. C. E. H. COREA said that if Mr. Rāmanāthan looked closely into the matter he would find that the king of Pāṇḍiya referred to by him was not a Tamil king. The balance of evidence of which the honourable gentleman spoke pointed to the fact that the Pāṇḍiyan country at the time of Wijayo was an Aryan principality, governed by an Aryan dynasty. And further, there was every historical evidence to show that Madura itself, its capital, had been founded by an Aryan prince. If then the Pāṇḍiyan throne was occupied by an Aryan prince, it was but rational to conclude that he had Aryan subjects. And more especially as the *Mahāvansa* distinctly says that it was from the royal family and the nobility that Wijayo's colony was supplemented.

Nothing was clearer than that if South India had any claims to the credit of the civilisation of the Wijayan times, such claim belonged not to the Dravidian, but to the Aryans who had settled there, and who were of the same blood and family as Wijayo's followers.

Mr. Rāmanāthan wondered why the Pāṇḍiyan king did not invade Ceylon. Sufficient reason was to be found in the fact of the comity which existed between the Pāṇḍiyan kingdom and Wijayo's fatherland, and also the probable kinship of the two princes.

As regarded the engineering skill of the Sinhalese, which Mr. Ferguson challenged one of that people to defend, they

had admirable monuments of it in the shape of ruins and in the irrigation works spread all over the country. Though they had Mr. Ferguson's word for discrediting everything that the *Maháwaṅsa* records, and even if, as Mr. Ferguson seemed to think, the Brazen Palace of Anurádhapura was a myth of Oriental fancy, still they had other edifices, though in ruins indeed, so that they could not but be reconciled to the idea that these edifices had existed, as the *Maháwaṅsa* says they did, at the period to which Mr. Ferguson referred. These ruins of so many palaces were sufficient evidence in themselves that the Sinhalese at the time they were built excelled in engineering skill.

In conclusion, Mr. Corea said that it was his duty to thank Mr. Wall, inasmuch as he knew that he had undertaken the compilation of his Paper as an apology for a people who had not many friends, and who, the speaker could not help saying, had been much maligned. The Sinhalese owed Mr. Wall their best thanks and a deep debt of gratitude.

The Hon. Mr. RÁMANÁTHAN said that Mr. Ferguson had perpetrated a joke which had been misunderstood by Mr. Corea. It was not right that Members should be taken to espouse sides simply because they belonged to certain nationalities. For his own part, he forgot for the time that he was a Tamil, and had spoken as one who was dissecting evidence from a disinterested point of view. He was of opinion that the balance of evidence on the subject lay with Tennent.

Mr. WALL answered briefly. He said that the conviction which he had embodied in his Paper was forced upon him by the reading of numerous books, more particularly that of Sir J. Emerson Tennent, who he maintained was a very high authority, as he had the advantage of earlier writers. When he read the account in the *Maháwaṅsa* regarding the dispersion of the ministers who accompanied Wijayo and about their forming courts, the idea at once struck him that there must have been a great many people who had to be supported. The Hon. Mr. Rámanáthan endeavoured to explain, in answer to his query, that the means by which the people obtained rice was through its being imported from the neighbouring continent; but the hon. gentleman had forgotten the fact that imported rice had to be paid for, and that one did not get out of the difficulty that way, for the rice that the people consumed was equal to the purchasing of their rice. It seemed to him impossible that such a state of things as was reported to have transpired at the time of Wijayo's landing could have been brought about by any other means than by the customs of the country and of a very considerable population supported by a local industry.

The materials that Wijayo had to work upon resulted in certain works of which the ruins still remained to show that the account given of them was not an exaggerated account. It was inconceivable to him that they should spring up out of nothing, in view of the fact that the great buildings also bore dates upon them.

The Hon. Mr. RÁMANÁTHAN wished to know what Mr. Wall thought of the stone at Mihintalé, referred to by Turnour, dated 262 B.C., in which was recorded that the custom to be observed in regard to the work (speaking of an irrigation work) should be according to the customs of the Tamils, or words to that effect.

Mr. FERGUSON said that it would have an important bearing on the discussion if the date of the formation of the first great irrigation works could be ascertained.

Mr. WALL said that there were no large works existing during the period covered by his review, but it was subsequent to that period that the Tamils were in actual power. Elála might have been the author of that inscription.*

Mr. BERWICK said that the subject that had been discussed was a very interesting one to every one who studied the conditions and development of ancient industry, and particularly interesting to the people of this country. It seemed to him that Mr. Wall's views derived a considerable degree of probability from the fact that it was only such a comparatively short time ago as twenty-five centuries since Wijayo landed in Ceylon, and therefore it would seem *prima facie* extraordinary if none of the inhabitants had then the industrial civilisation required for agriculture. Twenty-five centuries must be considered a very short time back in the history of industries seeing the remote geological periods to which our scientists are now, with great plausibility and almost proof, carrying back art industries, let alone food industries and the very Aryan race itself. And it must be remembered that the people with whom Wijayo came in contact on landing here were probably not the aboriginal forest tribes, but people not only living close to the industrial civilisation of India, but themselves descended from Indian Dravidian settlers who, in all ages we have account of, have streamed over to Ceylon, as the *Rámáyana* illustrates.

A previous speaker expressed himself a good deal astonished at many things, but he (Mr. Berwick) confessed that he was astonished too, and indeed almost shocked at the gentleman's disbelief in, and attempt to sap our faith in,

* The inscription was wrongly assigned by Turnour (Ceylon Almanac, 1834) to "about the year of Buddha 805, A.D. 262," from a mistake regarding the identity of the King Sri Sanga Bo mentioned in the first line. The record belongs to Mahindu III. (997-1013 A.D.).—B., *Hon. Sec.*

the *Rámáyana*. It seemed to him impossible to travel from the north of India to the south without everywhere finding the invasion there spoken of confirmed by story and sculpture, and for his part he believed the epic of the *Rámáyana* to have as substantial a basis in history as the stories of ancient Egypt and ancient Greece.

He agreed with the Sinhalese gentleman who spoke so thoughtfully and intelligently in his correction of Mr. Rámanáthan. The Páñdiyan rulers always claimed to be of the Lunar, if not the Solar race, and therefore to be Aryan in origin.

But he was afraid he was wandering somewhat from the purpose for which he rose. Whatever differences of opinion might exist on the subjects discussed, there could be no difference of opinion as to their obligations to Mr. Wall for the Paper he had read, and he begged to move a cordial vote of thanks to that gentleman for the very interesting and valuable Paper he had given the Society.

Mr. C. M. FERNANDO said he had pleasure in seconding the motion. Mr. Wall's Paper had not only been carefully listened to, but had provoked considerable discussion, and whatever the opinions of those present might be in regard to the subject discussed by Mr. Wall, they, whether Europeans, Sinhalese, or Dravidians, were all thankful to him for his very interesting Paper.

HIS EXCELLENCY THE GOVERNOR, in congratulating Mr. Wall on the unanimous vote of thanks awarded to him for his Paper, said that he had derived much instruction from the amusing and interesting discussion carried on that night. His Excellency was of opinion that Mr. Wall terminated his Paper in a particularly judicious manner, in that he had left his audience at the threshold of a very interesting and important subject, the history of the great irrigation works, and they looked forward to his Fourth Paper, which he proposed to read to the Society, with the greatest interest and expectation. He was happy to think that it was not a part of his duty to decide the merits of the very interesting question about which there was such divergence of opinion, but he must repeat the fact that he was greatly interested in listening to Mr. Wall's able Paper.

Mr. PHILIP FREUDENBERG thanked His Excellency, in the name of the Society, for his presence, and said that, as the Society depended for its success upon the attitude assumed towards it by the ruler of the Colony, he hoped that His Excellency would continue to take an interest in it and would preside at future Meetings.

Mr. WALL seconded the compliment, and the proceedings terminated.

COUNCIL MEETING.

Colombo Library, May 13, 1891.

Present :

Mr. George Wall, F.L.S., F.R.A.S., Vice-President, in the Chair.

Mr. Henry Bois.

Mr. W. H. G. Duncan, Honorary Treasurer.

Mr. S. Green.

Hon. P. Rámanáthan, C.M.G.

Mr. W. P. Ranasinha.

Hon. A. de A. Seneviratna,

M.L.C.

Mr. F. H. M. Corbet, M.R.A.S., Honorary Secretary.

Business.

1. Read and confirmed Minutes of the Meetings of the Council held on August 5 and December 20, 1890.

2. The Honorary Secretary stated that the Members of the Council who had forfeited their seats under Rule XXX. by reason of least attendance were :—

Dr. H. Trimen,
 { Mr. A. M. Ferguson,
 } Mr. Henry Bois ;

and by reason of seniority—

Dr. J. L. Vanderstraaten,
 Mr. Philip Freidenberg.

He added that Dr. Vanderstraaten had, moreover, tendered his resignation as a Member of the Council. Messrs. Ferguson and Bois being bracketed together, it was resolved that the former should be deemed to have retired by reason of least attendance, and should be nominated for re-election for 1891. Resolved also that Dr. Trimen be nominated for re-election.

3. Moved by Mr. Wall, seconded by Mr. Rámanáthan, and carried, that the Lord Bishop of Colombo be nominated *President* for 1891.

4. Moved by Mr. Rámanáthan, seconded by Mr. Seneviratna, and carried, that Messrs. George Wall, F.L.S., F.R.A.S., and Thomas Berwick, be nominated *Vice-Presidents*.

5. Resolved to nominate the following *Council*:—Mr. H. Bois; Mr. H. H. Cameron; Colonel the Hon. F. C. H. Clarke, R.A., C.M.G.; Mr. A. M. Ferguson, C.M.G.; Mr. S. Green; Mr. J. P. Lewis, C.C.S.; the Hon. T. B. Panabokke, M.L.C.; the Hon. P. Rāmanāthan, C.M.G., M.L.C.; Mr. W. P. Ranasinha; Mr. E. S. W. Senāthi Raja, M.R.A.S., &c.; the Hon. A. de A. Seneviratna, M.L.C.; Dr. H. Trimen, M.B., F.L.S.

6. Moved by Mr. Rāmanāthan, seconded by Mr. Seneviratna, and carried, that Mr. W. H. G. Duncan be nominated *Honorary Treasurer*.

7. It being proposed that Messrs. H. C. P. Bell and F. H. M. Corbet be nominated *Honorary Secretaries*, the latter stated that he could not undertake the duties of Honorary Secretary in 1891, as he was about to leave Ceylon on a visit to Europe, and that he would not ask any one to act for him.

Resolved that Messrs. H. C. P. Bell, C.C.S., and J. P. Lewis, C.C.S., be nominated *Honorary Secretaries*, Mr. Lewis's seat as a Member of the Council not being filled up, pending the Meeting of the Council on May 14.

8. Considered applications received from the following candidates, and resolved that they be elected Ordinary Resident Members of the Society, viz. :—

Messrs. Jeronis William Charles de Soysa; Alfred Joseph Richard de Soysa; Charles Edgar Henry Corea; Walter Pereira, Advocate, Supreme Court; James Walter Seneviratna; Abraham Mendis Gunasekara, Mudaliyār; and Mr. Hugh Fraser.

9. Considered an application from the following candidate, and resolved that he be elected an Ordinary Non-Resident Member of the Society, viz. :—

Pandit Gopi Nath, of Lahore.

10. The Honorary Secretary submitted a Report dated February 19, 1891, which had been circulated, addressed to the Council by the Honorary Treasurer and Honorary Secretaries, embodying their views regarding the best means of expediting the publication of the Papers read before the Society.

CIRCULAR.

Colombo, February 24, 1891.

To the Council of the Asiatic Society of Ceylon and Ceylon
Branch of the Royal Asiatic Society.

I HAVE the honour to circulate a report by the Honorary Treasurer and Honorary Secretaries regarding the Journal and Proceedings.

F. H. M. CORBET,
Honorary Secretary.

Extract from the Minutes of a Meeting of the Council of the Asiatic Society of Ceylon and Ceylon Branch of the Royal Asiatic Society, held in the Fort Library on Tuesday, August 5, 1890, at 4.30 P.M.

8. Mr. Rámanáthan deprecated the delay which takes place in the publication of the Journals of the Society. The Honorary Secretary urged that Papers contributed to the Society should be printed before being read. After some discussion it was resolved that the Honorary Treasurer and Honorary Secretaries be requested to submit some proposal to the Council for expediting the printing of the Journal, accompanied by a memorandum of the cost.

True copy,

F. H. M. CORBET,
Honorary Secretary.

Colombo, February 19, 1891.

JOURNALS AND PROCEEDINGS.

Colombo, February 19, 1891.

GENTLEMEN,—In accordance with resolution VIII. passed at a Meeting held on Tuesday, August 5, 1890, empowering us to make some proposals for expediting the publication of Papers read before the Society, and to state the cost, we now tender a report embodying the conclusions we have come to.

2. Instead of the Journals and Proceedings (which have hitherto respectively contained Papers read and accounts of the Meetings) being published separately as hitherto, we would suggest that they be published together under the designation of the "Journal of the Ceylon Branch of the Royal Asiatic Society."

3. The Amalgamation of the Proceedings with the Journal offers the following advantages :—

- (a) Its appearance will be improved.
- (b) It will be more handy for readers.
- (c) It will entail less labour to edit.
- (d) It can be issued more expeditiously.

4. Persons interested in the subject dealt with in a Paper naturally prefer to peruse the report of the discussion on the Paper at the Meeting at which it was read in immediate connection with the Paper itself, instead of having to turn to separate Proceedings for the arguments, &c.

5. It detracts from the value of a Paper if criticisms made upon it by Members are not published with it. The Proceedings when inserted in their proper place in the Journal are more likely to be read than when published separately. At present they are of comparatively little use and are almost lost sight of.

6. It is proposed to follow the practice of many leading Societies, *i.e.*, to print Papers before they are formally read at General Meetings, and to circulate proofs amongst Members and others likely to interest themselves in the particular subjects dealt with. By this procedure, as soon as Papers have been read and finally revised by the writers, they can be printed off, together with a report of the Meetings at which they were read.

7. It has been found that once a Paper has been read, and the writer has received his meed of thanks, the subject loses its interest even for him. To this cause is probably attributable the delay on the part of some authors in returning proofs of Papers read by them, whereby the issue of the Journal has been greatly hindered.

8. The circulation of proofs of Papers before reading would not only enable those who propose to be present at the General Meetings to prepare themselves for such discussion as may arise, but it would afford outstation Members the opportunity of contributing notes and criticism of value.

9. Finally, it should be added that the Government Printer has expressed himself in favour of the above suggestions, and is of opinion that they need entail little or no extra expense.

We have, &c.,

W. H. G. DUNCAN,
Honorary Treasurer.

H. C. P. BELL,
F. H. M. CORBET,
Honorary Secretaries.

To the Council of the Asiatic Society of Ceylon and
Ceylon Branch of the Royal Asiatic Society.

On the motion of Mr. Seneviratna, seconded by Mr. Rámanáthan, and supported by Mr. Bois, it was resolved to adopt the report.

11. Laid on the table correspondence between the Society and the Government regarding the preservation of objects of Archæological interest.

ARCHÆOLOGY.

No. 109.

Royal Asiatic Society,
Colombo, August 20, 1890.

SIR,—I AM instructed by the Council of the Ceylon Branch of the Royal Asiatic Society to solicit the attention of the Government to the manner in which objects of Archæological interest are protected and conserved in India, and to respectfully suggest that the Government might with advantage adopt in Ceylon rules similar to those in force in the neighbouring continent.

2. A copy of a State Paper on the subject published by the Government of Madras, under number 373, and date the 27th day of April, 1889, is forwarded herewith for reference.

I am, &c.,

F. H. M. CORBET,
Honorary Secretary.

To the Hon. the Colonial Secretary.

ARCHÆOLOGY.

No. 130.

Anurádhapura, November 21, 1890.

SIR,—I HAVE the honour to annex for your information copies of letters Nos. 129 of 20th instant and 131 of this date, addressed by me to Government in connection with your letter to the Hon. the Colonial Secretary of the 20th August, regarding the better preservation of objects of Archæological interest.

I am, &c.,

To the Hon. Secretary, Ceylon Branch,
Royal Asiatic Society.

H. C. P. BELL,
Archæological Commissioner.

ARCHÆOLOGY.

No. 129.

Anurádhapura, November 20, 1890.

SIR,—I HAVE the honour to return the enclosed letter and G. O. (Madras) No. 373, 1889, Archæology, received with your letter of August 27, 1890, and to offer the following remarks thereon, for the consideration of Government :—

1. It is generally admitted by those interested in the question of the preservation of antiquities that more effective action than has been heretofore exercised should be taken to put a stop to the undue appropriation or misuse of ruins throughout the Island.

2. Some orders to this end were, it is believed, issued a few years ago, but it is doubtful whether they were given that publicity or enforced with the strictness essential to their efficacy.

3. In addition to those orders, the Legislative Enactment touching the question is Ordinance No. 17 of 1887. This Ordinance follows in some respects the Indian Act, No. VI. of 1878, but in others departs from it materially.

4. It is needless that I should enter into a close comparison of the Ceylon Ordinance with the Indian Act. I shall limit comment to one or two salient points wherein I venture to think the Ordinance No. 17 of 1887 requires amendment on the lines of the Indian Enactment.

5. Clause 1. This, the "Interpretation Clause," is not sufficiently comprehensive. It might be made to run: "For the purposes of this Ordinance Treasure Trove should mean money, coin, gold, silver, plate, bullion, precious stones, *antiquities, or anything of any value found hidden in the earth or in anything affixed thereto.*" This broader definition, as with Act VI. (India), Clause 3, would cover sculpture, remains of buildings, and other objects of antiquarian interest, as well as coins and articles of intrinsic value.

6. So long as Government continues to assert absolute property in all Treasure Trove, irrespective of its value, and to limit the finders' reward to half the value as a minimum, it would be a mere work of supererogation to recommend a more equitable treatment of the question. The more summary, if less liberal procedure, of our Ordinance relative to the obligation of finders and possessors, the magisterial inquiry, penalties, &c., meets all practical requirements.

7. On the other hand, if the Government is prepared to reconsider the terms under which treasure is claimed by the Crown, an approximation to the Indian policy is greatly to be desiderated in public interest.

8. The Hon. Mr. E. C. Bailey in his speeches on the Treasure Trove Bill (November 29, 1876 ; February 13, 1878) put the case very forcibly. There is perhaps little buried treasure in Ceylon, but other antiquities of historical or archæological value abound in many districts.

"There was much hidden treasure in India, and much was being perpetually brought to light in various parts of the country, and a very large portion of it was of importance as illustrating either the history, the social habits, religious beliefs, or the artistic skill of the races who inhabited the country in past times. It was therefore an object to prevent articles of this kind being lost or destroyed, and the provision the Bill proposed to make was, he believed, sufficiently liberal to secure to Government an opportunity of purchasing such articles as they might consider of real public interest. Special provisions had been largely introduced into legislation in Europe for this purpose, and had the effect of preserving for national use much valuable property and articles of great historical importance which would otherwise have been destroyed."

9. The outcome was the insertion of a provision in Clause 16 of Act 16 of 1878, giving "the Government a claim, on the payment of a specified percentage in excess of the intrinsic value, to the possession of such articles as it should consider worthy of preservation" on historic or artistic grounds, in the National Museum.

Such wise and openhanded inducement to finders to render a true account to Government Officers of all treasure (including antiquities) has worked well in India, and might equally well be tried in this Island. The just statement of the case by the Governor-General in Council cannot be gainsaid. "Due liberality" and "a proper consideration for the natural claims and expectations of the finders of treasure" must be exercised, and "the object in view will be defeated if those who may discover treasure are not induced by the prospect of a *sufficient* reward to make their discoveries known to the Officials of Government."

10. In this view, I submit that all that is required is a short amending Ordinance, varying the "Interpretation Clause" as above suggested, and modifying the terms of the 6th Clause by declaring the intention of Government to pay the *full value* of the *materials* of any treasure trove (as distinct from their adventitious value as objects of archæological interest) *plus one-fifth of such value*, whenever it is decided by Government to acquire such treasure, or any portion of it.*

11. As a further step towards making the policy of Government regarding the conservation of objects of archæological value more widely known, I would recommend that the Instructions I., II., III., (Appendix ii. to G. O. 373, page 4) should be printed, *mutatis mutandis*, and issued to all Heads of Departments, with directions to give them every publicity.†

12. Copies of the Treasure Trove Ordinance in the *vernacular* should be freely distributed among the headmen throughout the Island.

I am, &c.,

H. C. P. BELL,

The Hon. the Colonial Secretary.

Archæological Commissioner.

* An amended Ordinance (No. 3 of 1891) has since been passed on the lines suggested.—*Hon. Sec.*

† See annexed Government Circular No. 57, of June 26, 1891, drafted by Mr. Bell.—*Hon. Sec.*

ARCHÆOLOGY.

No. 131.

Anurádhapura, November 21, 1890.

SIR,—IN connection with my letter No. 129 of yesterday I have the honour to supply an omission.

It should have been added that some further protection than is given by the Ordinance No. 17 of 1887 is provided for in the Forest Ordinance (No. 10 of 1885) by "forest produce" being somehow stretched so as to cover ruins.

It may be as well not to expunge "ruins" from the Ordinance of 1885, having once found a place there, for their preservation is thus additionally safeguarded. But in any case the importance of extending the interpretation clause of Ordinance 17 of 1887, by inserting the words suggested by me, demands attention.

The Forest Ordinance does not touch the question of remuneration to finders of objects of archæological value.

I am, &c.,

H. C. P. BELL,
Archæological Commissioner.

The Hon. the Colonial Secretary.

GOVERNMENT CIRCULAR No. 57.

Colonial Secretary's Office,
Colombo, June 26, 1891.

SIR,—I AM directed to issue for your information and guidance the annexed instructions relative to the better preservation of objects of Archæological interest throughout the Island, and to impress upon you the desirability of taking prompt and effectual steps in accordance therewith for the due protection of ruins, &c., already known in your district, and of any that may be discovered hereafter.

I am, &c.,

E. NOEL WALKER,
Colonial Secretary.

Preservation of Antiquities.

1. ALL discoveries of Ruins and other objects of Archæological interest should be reported without delay to the Government Agent or Assistant Government Agent of the district within which the discovery is made. When such report is received, the Government Agent will issue orders for the proper preservation of objects discovered *in situ*, or for their removal to a local Museum (where such exists) or to some other suitable place.

2. As a general principle the Government is entirely opposed to the removal of any object still *in situ*. The great majority of Archæological discoveries consists of the remains of buildings, massive pillars, &c., which cannot be removed, and should for other reasons be preserved where they stand. On the other hand, isolated remains (capitals without their shafts, stray pillars, figures, inscribed slabs, &c., the original site of which is unknown, or such as are lying neglected about the country and liable to be mutilated by the people, may with propriety be removed, in order to save them from future injury, to some

Museum or other safe place of deposit, where they can be seen and studied by all who take an interest in the ancient art, religion, or language of the Island.

3. If the arrangements necessary for securing any object worthy of removal to a local Museum cannot be made without much difficulty or expense by local officers, a special report should be addressed to the Government.

4. Government Agents will furnish the Government with a descriptive catalogue of the contents of any local Museum within their Provinces, and will report all fresh antiquarian discoveries.

5. Government Agents are at liberty to arrange with the Committee of the Colombo Museum, either for the transfer to the Museum of any object the Committee may wish to acquire or for obtaining casts or other impressions of it. In dealing with such cases due weight should be attached to the desirability of completing any particular Archæological series of importance.

12. Read letter dated December 16, 1890, from the Archæological Commissioner, Mr. H. C. P. Bell, C.C.S., suggesting that the whole of the unexpended balance of the "Excavation Fund," or some portion of it, be voted for the prosecution of some further Archæological work at Anurádhapura of a permanent and generally interesting nature :—

ARCHÆOLOGY.

No. 148.

Anurádhapura, December 16, 1890.

SIR,—I HAVE the honour to address you regarding the unexpended balance of the "Excavation Fund" in the hands of the Honorary Treasurer of the Society.

I understand that this fund has remained untouched since the expenditure incurred by Mr. S. M. Burrows in excavating the East Chapel of the Mirisawētiya Dágaba, and that the balance amounts to nearly Rs. 650.

It may be assumed that the money has been allowed to lie dormant so long, owing to no desirable and legitimate use for it having been suggested to the Society.

In this view it has occurred to me to move the Council of the Society to vote the whole balance, or some portion of it, to the prosecution of some further Archæological work at Anurádhapura of a permanent and generally interesting nature.

For my part I shall be glad to be of any service to the Society in supervising the carrying out of such work whilst stationed at Anurádhapura, and to furnish the Society with a statement of results and expenditure.

Among many alternative undertakings, all attractive, I venture to propose three for the consideration of the Council. The Government Agent (Mr. R. W. Ievers), with whom I have already discussed the question, permits me to state that he coincides fully with the selection—

(i) The restoration of one of the two "Pavilions" near the Ruwanweli Dágoba (Lawton, vol. II., 171-72; Hogg. 32).

(ii) The restoration of some portion of the unique "Buddhist Railing" recently discovered by me near the Abhayágeri.

(iii) Further excavation at the Jétawanárâma, or some other of the principal yet less known ruins.

Should the Council feel disposed to vote the money for all, or any, of the above works, and to entrust me with the supervision, I shall be prepared to engage the necessary labour force and start operations from January 1, 1891.

I am, &c.,

Hon. Secretary, Ceylon Branch,
Royal Asiatic Society.

H. C. P. BELL,
Archæological Commissioner.

Resolved, that the whole balance be placed at the disposal of Mr. Bell to be devoted to the objects for which the money was originally subscribed.

13. Read a letter from K. Dharmmárâma Sthawira, Principal of the Widyalankâra College at Kelaniya, presenting a copy of his edition of the *Janikiharana* to the Society, and asking if the Society would distribute copies of the work in India and Europe.

Resolved, that whilst conveying the thanks of the Council to Dharmmárâma Sthawira for his donation, he be informed that the Council cannot undertake to distribute copies of his work.

14. At this stage of the proceedings Mr. Wall left the chair, which was taken by Mr. Bois.

15. The Honorary Secretary moved the question of the representation of the Society at the forthcoming Ninth Congress of Orientalists. There not being sufficient materials before the Meeting, no action could be taken in the matter, but Mr. Corbet was requested to make inquiries on the subject when in England, and to communicate to the Council any information he may obtain regarding the Congress.

16. The Honorary Secretary submitted his draft Report for 1890, stating that it had been hurriedly drawn up, and required careful revision. There not being time to consider the Report at the present Meeting, it was resolved, with the Honorary Secretary's consent, that Mr. Râmanâthan be requested to revise the draft on behalf of the Council.

17. Agreed, that the Council should meet again the following day in the Museum Library at 8.30 P.M.



COUNCIL MEETING.

Colombo Museum, May 14, 1891.

Present :

Mr. A. M. Ferguson, C.M.G., in the Chair.

Mr. W. H. G. Duncan, Honorary Treasurer.
Mr. S. Green.

Hon. P. Rámanáthan, M.L.C.
Mr. George Wall, F.L.S., &c.,
Vice-President.

Mr. F. H. M. Corbet, M.R.A.S., Honorary Secretary.

Business.

1. The Honorary Secretary stated that Mr. J. P. Lewis declined to undertake the duties of Honorary Secretary, to which post he had been nominated the day previous.

2. Resolved, to nominate Mr. E. S. W. Senáthí Raja, B.A., LL.B., &c., an *Honorary Secretary* of the Society in lieu of Mr. J. P. Lewis, C.C.S.

3. Moved by Mr. Rámanáthan, seconded by Mr. Duncan, and carried, that Mr. F. H. M. Corbet, M.R.A.S., be nominated a Member of the Council in the place of Mr. Senáthí Raja.

4. The Honorary Secretary explained the necessity for having a paid officer to assist the Honorary Secretary.

5. Mr. Wall arrived at this stage of the proceedings.

6. Resolved, that an Assistant Secretary and Librarian be appointed provisionally, and that Mr. Gerard A. Joseph be offered the appointment for six months at least,—the Society paying him an *honorarium* for his services.

The Meeting then broke up.

ANNUAL MEETING.

Colombo Museum, May 14, 1891.

Present :

George Wall, Esq., F.L.S., F.R.A.S., &c.,
Vice-President, in the Chair.

Hon. M. C. Abdul Rahiman, M.L.C.	Mr. C. E. Jayatilleke.
Mr. W. N. S. Asserappa.	Hon. P. Rámanáthan, C.M.G.
Mr. B. G. L. Bremner.	Mr. F. C. Roles.
Mr. W. H. G. Duncan.	Mr. E. S. W. Senáthi Rája,
Mr. W. Arthur de Silva.	B.A., L.L.B. (Cantab.), M.R.A.S.
H. M. Fernando, M.D., B.SC.	H. Sri Summangala, High Priest.
Mr. A. P. Green, F.E.S.	Subhuti Terunnanse.
Mr. Staniforth Green.	Mr. W. van Langenberg.
Dr. Lisboa Pinto, F.E.A., L.M.S. (Bombay), F.R.G.S. (Lisbon.)	Mr. N. D. M. de Z. Wickre- mesinghe, M.L.A.U.K.

Mr. F. H. M. Corbet, M.R.A.S., &c., Honorary Secretary.

Visitors : four ladies and six gentlemen.

Business.

1. The Honorary Secretary read the Minutes of the last General Meeting (December 20, 1890), which were confirmed, and announced that at a Meeting of the Council held on the previous day the following gentlemen were elected Members of the Society, viz. :—

Resident Members :—Messrs. J. W. C. de Soysa, A. J. R. de Soysa, C. E. H. Corea, Walter Pereira, J. W. Seneviratna, A. Mendis Gunesekara, Mudaliyár, and Hugh Fraser.

Non-Resident Member :—Pandit Gopi Nath of Lahore, India.

2. The Honorary Secretary read the Council's Annual Report on the progress of the Society's affairs during 1890.

ANNUAL REPORT FOR 1890.

THE Council have the honour to submit the following report on the progress of the Society's affairs during the year 1890 :—

Members.

The Society has received such considerable accessions to its ranks of late years that at the end of 1890 there were on the

roll :—7 Honorary Members, 14 Life Members, 215 Ordinary Resident Members, and 1 Ordinary Non-Resident Member. This makes a total of 237 Members, which is without precedent since the foundation of the Society in February, 1845.

The number of Life Members and Ordinary Members in 1880 was 72 ; in 1888 it had risen to 202 ; in 1889 the number was 211, and in 1890, 237. The Council reports with regret the death of the following Members :—

C. Chellapapillai, G. F. Jayasooriya, and the Hon. W. H. Ravenscroft, C.M.G.

Mr. Ravenscroft was elected a Member in 1879 and President in 1881. At the General Meeting held on July 19 it was resolved "to place on record the sense of regret of the Meeting at the loss the Society had lately sustained by the death of the Hon. W. H. Ravenscroft, C.M.G., ex-President, who had taken a deep interest in the Society."

The following Ordinary Members have resigned, viz., William Blair and C. Eardley Wilmot, C.C.S.

Twenty-four Ordinary Members have been elected, viz.:—A. E. Buultjens (B. A. Cantab.); W. A. de Silva ; Hilarion Marcus Fernando, M.D., B.SC. (London), Fellow of the University College, London ; Frank Hudson Modder ; Charles Edward Jayatilleke ; S. D. Maháwalatenne, Ratémahatmayá ; the Hon. M. C. Abdul Rahiman, M.L.C. ; Tudor D. N. Rajapakse, Mudaliyár ; J. V. G. A. Jayawardene ; Dullewe Loku Banda, Adigár of Támankaduwa ; William Chapman Dias Bandaranayake ; George Ronaleyn Campbell Gordon Cumming ; Don Solomon Dias Bandaranayake ; Peter Manuel Lisboa Pinto, F.E.A., L.M.S. Bombay, F.R.G.S. (Lisbon) ; E. S. W. Senáthi Raja, B.A., L.L.B. (Cantab.), M.R.A.S. ; M. Kaviráj Shymaldáss, M.R.A.S., &c., Member of the Historical and Archæological Committee of the Asiatic Society of Bengal, Member of the Royal Council of Meywar, Rajaputana [the Non-Resident Member elected in accordance with clause 45 of the Rules] ; Felix Reginald Dias, M.A., L.L.M. ; Francis Crosbie Roles, M.I.J. ; Joseph Saunders Addenbrooke, A.R.I.B.A. ; George Duppa Miller ; K. L. M. Abdul Kerim, Mudaliyár (Governor's Gate) ; William Abraham Ratnayeke ; Percy Edward Radley.

At the General Meeting in August the Hon. Sir Arthur Hamilton Gordon, G.C.M.G., was elected an Honorary Member in recognition of his distinguished services to the Society.

Exchange of Publications.

The exchanges of our publications for those of other Societies are now made on a more organised system. Numerous

and important additions have been obtained for the Library at a slight expense, and the Society is placed in correspondence with many scientific and learned institutions. The following is a list of the principal Societies now on our exchange list :—

Baltimore	...	Johns Hopkins University.
Batavia	...	Genootschap van Kunsten en Wetenschappen.
Bombay	...	Anthropological Society.
Do.	...	Branch of the Royal Asiatic Society.
Calcutta	...	Asiatic Society of Bengal.
Do.	...	Indian Museum.
California	...	Academy of Natural Sciences.
Davenport	...	do. do.
Hague	...	Bijdragen tot de Taal-Land en Volkenkunde van Nederlandsch-Indie.
Leipzig	...	Deutsche Morgenlandische Gessellschaft.
London	...	Royal Asiatic Society of Great Britain and Ireland.
Do.	...	Royal Colonial Institute.
Do.	...	Anthropological Institute of Great Britain and Ireland.
Do.	...	Geological Society.
Do.	...	India Office Library.
Madras	...	Literary Society.
Montreal	...	Geological and Natural History Survey of Canada.
Melbourne	...	Royal Society of Victoria.
Moscow	...	Société Imperiale des Naturalistes de Moscou.
New Haven	...	American Oriental Society.
New York	...	United States Geological Survey.
Paris	...	Musée Guimet.
Do.	...	Société Zoologique.
Pekin	...	Oriental Society.
Philadelphia	...	Academy of Natural Sciences.
Do.	...	Wagner Free Institute of Science.
Shanghai	...	China Branch of the Royal Asiatic Society.
Singapore	...	Straits Branch of the Royal Asiatic Society.
Sydney	...	Royal Society of New South Wales.
Trenton	...	Academy of Natural Sciences.
Tokyo	...	Asiatic Society of Japan.
Vienna	...	K. K. Naturhistorischen Hofmuseums.
Washington	...	Smithsonian Institution.
Do.	...	Bureau of Education.

General Meetings.

Five General Meetings were held this year.

At a Meeting held on May 23, Mr. H. C. P. Bell, C.C.S., Archæological Commissioner, Honorary Secretary, read extracts from his "*Report to Government, Historical and Antiquarian, on the Kégalla District,*" the first fruits of the newly inaugurated Archæological Survey of Ceylon.

On July 19 a translation by Mr. F. H. de Vos of the "*Report by Henricus van Bystervelt of his Embassy to the Court of Kandy, in 1671*" was read.

At the Meeting on August 30 a short Note by Mr. Frederick Lewis on "*The Nidification of the red-faced Mal-kohá*" was read. Mr. Frank H. Modder read an illustrated Paper on "*The Animal-shaped Rocks of Kurunégala: their history, legends, traditions, &c., with Notes on Temples standing thereon, or connected therewith.*"

On November 22 Mr. Donald W. Ferguson, M.R.A.S., read his Introduction to and a resumé of Lieut.-Col. St. George's translation of "*Juan Rodriguez de Saa y Merezes' Rebellion de Ceylan, y los progresos de su Conquista en el gobierno de Constantino de saa y Norona.*"

On December 20 Mr. George Wall, F.L.S., F.R.A.S., read his Third Paper on "*The Ancient Industries of Ceylon.*"

Ancient Literature.

It is to be regretted that but little progress has been made during the year under review in collecting old MSS. for the Government Oriental Library.

The Council went fully into the matter in their Report for 1889, and they trust that their recommendations will be carried out by the Government.

Mahāvansa.—The long-looked-for translation of this valuable work was published. The translation has been much appreciated by Oriental scholars and others interested in Sinhalese literature. The following from Trübner's Record regarding this important work will be read with interest:—

"In a remarkable letter which Sir W. H. Gregory, after quitting his post as Governor of Ceylon, addressed to the Earl of Carnarvon on August 1, 1877, concerning the literary and scientific work undertaken during the five years of his Government of that Colony, we find among the important recommendations made to his successor, Sir James Longden, the following:—'That the editing of the *Mahāvansa* may be thoroughly completed by the translation into English of all that has been left incomplete by Turnour. That the text of the first part be revised, the variants inserted, and a translation be made of it into

Sinhalese, to correspond with what has been done in the case of the second part. That the *Tiká*, or early Commentary, be revised and translated into Sinhalese and English.' The edition of the Páli text of the second part, together with a translation into Sinhalese by the High Priest Sumangala and the Pandit Batuwantudáwe, had then already appeared, and that of the first part was passing through the Government Press, while arrangements were in progress with the Mahá Mudaliyár L. de Zoysa for continuing the translation commenced by Turnour. Unfortunately, the Mahá Mudaliyár was for a long time unable to make any progress in the translation through failing health and loss of sight, and as he was anxious to complete his catalogue of MSS. in the Temple Libraries of Ceylon, the task of furnishing the translation of the second part of the Mahávaṅsa was entrusted to Mudaliyár L. C. Wijesingha, who has acquitted himself of it in a scholarly manner. L. de Zoysa, Mahá Mudaliyár, died in March, 1884. The length of time that has elapsed since is amply compensated for by the excellence of Mr. Wijesingha's work. What still remains to be done is a critical edition and English translation of the *Tiká*, and we trust the Ceylon Government will not lose sight of this important part of Sir W. H. Gregory's programme.

"The translator rightly follows the printed text, and gives his reasons whenever he deviates from it; see his note B on chapter XXXIX., and his notes on chapter LXVI., 150; chapter LXXVI., 30, 91, 171, 327; chapter LXXVII., 52. He also reproduces Turnour's translation, marking, however, in italics the faulty words and passages, for which he substitutes in foot-notes his own rendering. The changes he has thus proposed are obviously important and numerous, and he deserves our warm acknowledgments for the pains he has taken in this revision."

Several ancient works have been printed and published for the first time; amongst them are:—

Dakshina Vibhaṅga Sūtraya (Páli), edited by M. Nāṇissara Sāmi.

Sevulsandésa: Cock's Message (Sinhalese), probably 15th century, by J. Samaradiwákara.

Viṣuddhimārgaya (14th, 15th, and 16th Parts), (Páli, 5th century), of Buddhaghosa Thera, by M. Dharmaratna.

Saddharmālaṅkāraya, Part I. (Sinhalese), by M. Nāṇissara Unnāse.

Dhātuvaṅsaya (Sinhalese), by Kakusandhi Mahá Théro.

Abhidhamma Aṭṭhasālini Attayana (Páli), by K. Paññásékharā Sthavira.

Samanthakūta Warṇāna by W. Dhammánanda Théro and M. Nāṇissara Unnāse.

Mahábódhiwaṅsó (Páli), by Peḍinnuwe Sóbhita.

Moggallāyana Vyākaraṇa (Páli), by H. Déwamitta Théro.

Vnitta Málākhyāva (Sinhalese and Sanskrit), by Pandit Batuwantudáwe.

Nikāya Saṅgrahawa (Sinhalese), 14th century, edited by D. M. de Zilva Wickramasinghe.

Library.

The number of volumes, including separate parts of periodicals added to the Society's Library since the commencement of 1890, amounts up to date to 355. Many of these books have been presented to, and many others obtained in exchange by this Society. The names of the following donors amongst others may be mentioned, viz. :—

The Secretary of State for India.
 The Government of Ceylon.
 The Government of India.
 The Government of Madras.
 The Trustees of the Indian Museum.
 Director-Général de Statistique la Plata.
 The Asiatic Society of Bengal.
 The Hon. Sir Arthur H. Gordon.
 Messrs. A. M. and J. Ferguson, D. W. Ferguson,
 H. C. P. Bell, F. H. de Vos, A. O. Joseph, George
 Wall, and F. H. M. Corbet.

Books registered under Ordinance No. 1 of 1885, consisting of 100 English, 128 Sinhalese, 8 Páli, 1 Sanskrit, 5 English and Sinhalese, 6 Sanskrit and Sinhalese, 1 Sinhalese or Elu, 12 Tamil, 1 Portuguese, 4 Sinhalese and Páli, 2 Páli and Sinhalese, 1 Sinhalese and Sanskrit, and 1 Malay were printed in Ceylon.

A new catalogue of the Library is being compiled by the Librarian of the Society, Mr. de Zilva Wickramasinghe.

The last catalogue was issued in 1882, and since then a very large number of books have been added to the Library. The style of the catalogue has been approved by the Committee of the Colombo Museum, and is in accordance with the directions given in the standard works of Cutter, Wheatly, Perkins, &c., on cataloguing. It is proposed to enter the books (*a*) under names of authors, or if anonymous under the first word of the title not being an article, (*b*) under their specific titles, (*c*) under the subjects they treat of, with numerous cross references, (*d*) under the form of literature, as poetry, sermons, &c. All these entries will be arranged alphabetically, so that one may know what books the Library contains by a given author, on a given subject, and in a given kind of literature. The numbers of editions of books will also be given, in order to assist the Members in the choice of books.

Archæological Survey.

It is with feelings of satisfaction that the Council refer to the progress that has been made during the year in the systematic survey of the Archæological remains of the Island.

It is matter for sincere congratulation that this important work has been entrusted to so competent an officer as Mr. H. C. P. Bell, C.C.S., and that it is being carried on vigorously and with the care and attention it deserves.

Dutch Records.

The Council have learnt with satisfaction that the representations made on behalf of the Society to the Government on the subject of the Dutch Records have led to provision being made in the Supply Bill of 1891 for Rs. 200 for the preservation and translation of these records.

Journals.

The following Journals, ably edited by Mr. H. C. P. Bell, Honorary Secretary, were printed at the Government Printing Press and published in 1890 :—

Vol. II., No. 5, 1849-50, reprint.

Vol. X., Nos. 36 and 37, 1888.

Journal Vol. XI., No. 38, 1889, and the Proceedings for 1887-8 are going through the press.

Thanks.

The thanks of the Society are due to the Ceylon Government for allowing your publications to be printed at the Government Press, and to Mr. G. J. A. Skeen, the Government Printer, and his Assistants, for the care bestowed upon the work, and the admirable manner in which it has been done, as well as for their never-failing readiness to serve the Society.

Prospects for 1891.

The following Papers have been received :—

Translation of extracts relating to Ceylon from "*De Hervormde Kerk in Nederlandsch Oost-Indie onder de Oost-Indische Compagnie (1602-1795), door C. A. L. van Troostenburg de Bruyn.*" By F. H. de Vos, Esq.

"*Ribeiro's Account of the Siege of Colombo in 1655-56.*" Translated by Donald W. Ferguson, Esq.

Mr. Frank H. Modder, the author of the interesting Paper on "*The Animal-shaped Rocks of Kurunégala,*" is engaged in compiling for the Society "*A Gazetteer of the Seven Kóralés,*" dealing with the ancient and modern divisions of the district, and the villages therein situated; the rivers, oyas, and elas, and the mountains and hills lying

therein ; the architectural and archæological remains, rock temples, dagabas, statues, carving, inscriptions, tanks, mounds, jewellery, coins, pottery, and all other antiquities existing in the district ; the history of the villages, and the legends and traditions connected therewith ; the manners, customs, habits, and institutions of the people ; the commerce, manufacture, revenue, and population ; the castes and religions, the fauna and flora of the district ; and all other useful information tabulated for the purposes of easy reference and illustrated with maps.

The Council hope that the monographs now being prepared by the several Government Agents will materially further the objects which the Society desires to promote.

Finances.

The annexed statement of the receipts and expenditure of the Society for this year shows a credit balance of Rs. 306·41 brought forward from 1889, and an income of Rs. 2,843·75, making a total credit of Rs. 3,150·16, which is more than double that of the previous year. The expenditure incurred during the year was Rs. 2,347·62, leaving a balance of Rs. 802·54 carried forward to 1891 to the credit of the Society.

The amount expended on purchase of books was Rs. 909·32 and on printing Rs. 836·83, as against Rs. 177·26 and Rs. 237·83, respectively, in 1889.

The thanks of the Society are due to Mr. W. H. G. Duncan, Hon. Treasurer, for having brought the finances of the Society to so healthy a condition.

General Account for 1890.

<i>Dr.</i>		The Honorary Treasurer in account with the Royal Asiatic Society (Ceylon Branch).		<i>Cr.</i>	
1890.	Amount.	1890.	Amount.	Rs.	c.
To Balance brought forward in Bank of Madras	Rs. 306	By Purchase of books	Rs. 909	32	
" Members' Subscriptions	2,146	" Printing	836	83	
" Life Members' Subscriptions, 1890	123	" Charges Account	581	47	
" Government Grant	500	" Grant for Excavations at Vavuniya	20	0	
" Entrance Fees	73	" Balance at Bank	802	54	
Total	3,150	Total	3,150	16	

E. & O. E. W. H. G. DUNCAN,
Honorary Treasurer.

Colombo, December 31, 1890.

Note.—The balance of the Anurádhapura Excavation Fund in hand amounts to Rs. 642'21.

The CHAIRMAN remarked that the Annual Meeting ought to have taken place in January last, but circumstances which Mr. Corbet, the resident Honorary Secretary, could not overcome had prevented it being held then, and from one cause or another it had been delayed until the present time.

Though late, the Report which had been read referring to the year that was past would have interested them all very much. It at least showed that the Society had extended its operations abroad as well as locally. It showed that there was work going on notwithstanding that during the last few months there had been something like a little stagnation, and that work as recorded in the Report it must be admitted was good work. He had therefore to ask whether the Meeting would adopt the Report.

The Hon. P. RÁMANÁTHAN had much pleasure in moving the adoption of the Report. In doing so he could not help congratulating the Society upon the very successful results which it had achieved during the past year. He hoped that in future years the Society would be able to show as much good result as in the past.

Mr. BREMNER seconded, and on the motion being put to the Meeting the Report was unanimously adopted.

3. Dr. H. M. FERNANDO moved the election of the following Office-Bearers for the year :—

President.—The Right Rev. R. S. Copleston, D.D., Lord Bishop of Colombo.

Vice-Presidents.—Mr. George Wall, F.L.S., F.R.A.S., and Mr. Thomas Berwick.

Council.—Mr. Henry Bois ; Mr. H. H. Cameron, C.C.S. ; Colonel the Hon. F. C. H. Clarke, R.A., C.M.G. ; Mr. F. H. M. Corbet, M.R.A.S. ; Mr. A. M. Ferguson, C.M.G. ; Mr. Staniforth Green ; Mr. J. P. Lewis, C.C.S. ; the Hon. T. B. Panabokke ; the Hon. P. Rámanáthán, C.M.G., M.L.C. ; Mr. W. P. Ranasingha, Proctor, Supreme Court ; the Hon. A. de A. Seneviratna, M.L.C. ; Dr. Henry Trimen, M.B., F.R.S.

Honorary Treasurer.—Mr. W. H. G. Duncan.

Honorary Secretaries.—Mr. H. C. P. Bell, C.C.S., and Mr. E. S. W. Senáthi Raja, B.A., LL.B.

Mr. F. C. ROLES in seconding remarked that he thought the Members should know that the new Members of Council were Mr. Lewis and Mr. Corbet ; the latter's place as Honorary Secretary was taken by Mr. E. S. W. Senáthi Raja, B.A., LL.B., M.R.A.S. He must not forestall any possible vote of thanks that might be passed to Mr. Corbet, but he wished to express his pleasure that Mr. Senáthi Raja should have consented to occupy the position of joint Honorary Secretary.

The Office-Bearers were cordially elected.

4. The CHAIRMAN took the opportunity of returning the thanks of the Society to Mr. Corbet, who was now, for a time at least, resigning the Honorary Secretaryship, on the eve of his departure for England. His services had been appreciated by the Society thoroughly and deservedly. They should be very glad indeed to welcome him back after his sojourn at home, and he was sure all joined in hoping that he would have a pleasant and happy holiday.

5. Mr. CORBET read some extracts from a translation by Mr. Advocate F. H. de Vos of extracts relating to Ceylon from "*De Hervormde Kerk in Nederlandsch Oost-Indie onder de Oost-Indische Compagnie (1602-1795), door C. A. L. van Troostenburg de Bruyn.*"

Mr. Corbet explained that the book from which the extracts were taken was an account of the Reformed Church in the Netherlands East Indies. The extracts were very voluminous, and those read bristled with statistics regarding the number of Christians and churches in the Island during the seventeenth century and the beginning of the eighteenth. Mr. Corbet remarked that the extracts were so numerous that it would be impossible to go through them all on that occasion, and if it was the wish of the Meeting, the reading of the Paper could be concluded at another time.

The CHAIRMAN said that the sense of the Meeting might be taken as to whether the reading of the Paper should be continued or discontinued. The extracts were largely statistical and such as not to be very readily followed when being read, and it seemed to be simply a trial of their patience to continue the reading. When printed the Paper would be more readily understood and more acceptable than in its present form.

Mr. A. M. FERGUSON said they should however take care to acknowledge their indebtedness to Mr. de Vos for the great pains he had taken in translating a very important historical document, which would be exceedingly useful as throwing light on the history of our predecessors in Ceylon.

The Hon. P. RĀMANĀTHAN added that was precisely the view that struck him. He did not know exactly the purpose of the Paper, because on the card there were lots of Dutch words strung together, and he did not understand a word of Dutch. The conversions in those days seemed to have been enormously great, and his interest was raised in the Paper owing to the discovery of that fact, and of course he should read it carefully when he got it in print. They were not able to deal with the statistics and so on that it contained at present. He was sure they were executing the wish of the Meeting in acknowledging the services of Mr. de Vos in preparing so interesting a

Paper upon this subject. He should like to know who the author of the Paper was, when he flourished, and when he wrote it ?

Mr. CORBET replied that this was a modern book, but how it came to be written as though it had been written early in the century he did not know. It was published only five or six years ago. The author was Mr. C. A. L. van Troostenburg de Bruyn, but as Mr. de Vos had furnished no information regarding the writer, he did not know anything about him.

The CHAIRMAN said he should be sorry indeed if the suggestion he made should in any way reflect upon the merit he attached to the pains that had been taken and the value of the work done by Mr. de Vos. It appeared to him as a listener like themselves that the style of the Paper was not such as to command the entire interest of the Meeting while being read. It was for that reason only that he referred to their choice as to whether the reading of the Paper should be continued. He thought he understood the sense of the Meeting to be that the further reading of the Paper should be deferred. Mr. RÁMANÁTHAN had been good enough to refer to the remarkable number of conversions that took place in those ancient days, and he thought it had been generally spoken of amongst those who had written on the History of Ceylon and the progress of religion here that the action of the Government was calculated to cause people to embrace the religion of the ruling power perhaps with less regard to their consciences than would be considered at the present day.

The Hon. P. RÁMANÁTHAN suggested that it would be well if they postponed the discussion of the Paper till they had been favoured with printed copies, so that they might be able to compare what Tennent had said about Ceylon with the statements which this author made, and otherwise better prepared to discuss the Paper. He proposed that the reading of the Paper be deferred till it had been printed and copies put into the hands of Members who were desirous of raising a discussion upon it.

Mr. W. H. G. DUNCAN seconded, and this was unanimously agreed to.

6. The Venerable H. Sri SUMANGALA, High Priest of Adam's Peak, then addressed the Meeting in Sinhalese, Mr. Arthur de Silva acting as Interpreter. He said they had come to understand that Mr. Corbet who had been in charge of the Library was about to proceed home. They wished him a prosperous voyage and hoped he would return to the Island very soon. They felt very sorry for the time he was to be away from them. The Library in this place was of great value to the students of Ceylon, and they

knew well that Mr. Corbet took a great interest in giving that benefit to the young men. Even now a great many of the students have derived a good deal of benefit from the Library. Many Buddhist priests—there were about fifty—took advantage of the Library, and he had come to know that these priests found it very easy to make their references in this Library and also their studies. The chief libraries in Colombo were the Oriental Library and the Library at Maligákanda, which was greatly used by the students of the Pansala and a few others; the Museum Library was the public Library where most of the public students went. In conclusion, he hoped Mr. Corbet who had been working all this time in this Museum so well would return from his trip home, and would resume his work for the advantage of the public.

The CHAIRMAN wished the interpreter to mention to the High Priest that the sentiment to which he had given utterance had been already expressed with regard to the services of Mr. Corbet and the wishes of the Society for his early return.

7. The proceedings terminated with a vote of thanks to the Chairman, proposed by the Hon. Mr. Rámanáthan and seconded by Mr. A. M. Ferguson and Dr. Fernando, simultaneously.

COUNCIL MEETING.

Colombo Library, May 29, 1891.

Present :

The Lord Bishop of Colombo, President, in the Chair.

Mr. George Wall, F.L.S.,
F.R.A.S.

The Hon. A. de A. Seneviratna, M.L.C.

Mr. W. H. G. Duncan,
Honorary Treasurer.Mr. E. S. W. Senáthi Raja,
Honorary Secretary.

Mr. Gerard A. Joseph, Assistant Secretary.

Business.

1. There being no record in writing of the Proceedings of the last Council Meeting it was brought to the recollection of this Council that on that occasion (May 14) it was agreed (1) to recommend to the General Meeting of the Society the appointment of officers, including that of Mr. Senáthi Raja as Honorary Secretary, and (2) on the authority of the Council under rule xx., to offer Mr. Gerard A. Joseph the appointment of Assistant Secretary, for a period of six months at least, the Society paying him an *honorarium* for his services.

Resolved,—(2) That the Honorary Secretary be authorised to extract the account of the Annual Meeting of the Society from the *Ceylon Independent* of May 16, and insert it in the Minute Book of the Society as a record of the Proceedings, subject to the usual confirmation.

Resolved,—(3) On the motion of Mr. Duncan, seconded by the Hon. A. de A. Seneviratna, that a General Meeting of the Society be held on June 9, 1891.

Resolved,—(4) That Mr. Wall be requested to read his Fourth Paper on "*The Ancient Industries of Ceylon*," and that it is not deemed necessary in the present case that the Paper should be first submitted to the Council for consideration and approval.

Resolved,—(5) That in view of the Hon. P. Rámanáthan's proposal at the General Meeting, Mr. de Vos's Paper (a part of which was read at that Meeting) be published as soon as possible.

Resolved,—(6) That the Secretary be authorised to incur for the present such expense as is necessary for conveying letters, &c., and getting other work of a similar nature done for the Society.

Resolved,—(7) That the following gentlemen be elected Members of the Society, viz. :—Messrs. J. B. M. Ridout, A. D. Renganáthan, T. Sannogam, and James Morell Chitty, Advocate, Supreme Court.

GENERAL MEETING.

Colombo Museum, June 9, 1891.

Present :

The Lord Bishop of Colombo, President, in the Chair.

Mr. Henry Bois.

Mr. Stanley Bois.

The Rev. W. Charlesworth.

Mr. M. Cochran, M.A., F.C.S.

Mr. W. H. G. Duncan.

Miss Frédox.

Mr. C. E. Jayatilaka.

Mr. F. C. Roles.

Mr. A. T. Shamsuddin.

Mr. George Wall, F.L.S.,

F.R.A.S., Vice-President.

Mr. E. S. W. Senáthi Raja, M.R.A.S., &c., Honorary Secretary.

Mr. Gerard A. Joseph, Assistant Secretary.

Visitors : five ladies and six gentlemen.

Business.

1. The Minutes of the last General Meeting (May 14, 1891) were read and confirmed.

2. The accessions to the Society's Library since the last Meeting were laid on the table.

3. The Honorary Secretary announced that Messrs. J. B. M. Ridout, District Surveyor; A. D. Renganáthan, District Engineer; Tambayah Sammogam; and James Morrel Chitty, Advocate of the Supreme Court, had been elected Resident Members of the Society at the last Meeting of the Council.

4. Mr. George Wall, F.L.S., F.R.A.S., Vice-President, read his Paper on—

A HISTORY OF THE ANCIENT INDUSTRIES OF CEYLON.

By GEORGE WALL, Esq., F.L.S., &c., *Vice-President.**(Fourth Paper.)*

IN the discussion of the previous Paper it was stated by two of the speakers that the inferences therein were at variance with explicit statements of the *Maháwansa*. Reference was made, however, to only two discrepancies, both of which had been fully met in previous lectures. One is the inference that the rice with which Kuvéni regaled Wijayo's party was procured from wrecked ships. It has already been

shown that it would be absurd and contrary to rules of inference to regard such a solitary fact, even if it were an undoubted fact, as proof that there was no locally-grown rice. At best, it is but a flimsy scrap of evidence, which is opposed to the tenour of the whole history. This argument will however be reverted to in the sequel.

The other supposed discrepancy specified is that the Island is said to have been "uninhabitable by men," and that Kuvéni, who entertained Wijayo's party, was herself a Yakini. The answer already given to this argument is that the behaviour of Kuvéni; the counsel she gave her guest; the luxurious bed and other surroundings described in the narrative; her entertaining the party with rice and victuals; her becoming Wijayo's wife and bearing him children, all prove that she was a woman of like passions with women in general; and every incident of the history from the landing to the dispersion and settlement of Wijayo and his ministers equally prove that the people were ordinary men. If they were sometimes called devils, so also are we all by our Chinese neighbours. Snake worshippers of Assam are called Nágas. Other points raised during the discussion of the previous Paper were foreign to its purpose. They referred either to times anterior to the period under review and beyond the records of reliable history, or to matters outside of the scope of the present inquiry. It must be clearly understood that these Papers do not pretend to prove *who* the people were that Wijayo found in occupation,—whence they came,—or what race they belonged to. They are concerned with the condition of the people,—what they did,—and what were their means of doing it. Therefore, to follow further the points raised at the previous discussion would be to lose sight of the industries of the people and to pursue other topics, interesting in themselves, but foreign to the inquiry in hand.

It may be remarked incidentally, however, in regard to the allusion made by a speaker to what Panduwo might have been expected to do in regard to Ceylon, that the conjecture was inconsistent with the fact that that monarch, only a very

few years after Wijayo's accession, sent his own daughter and the daughters of several of his nobles to "renowned Sihala," the former as bride to the new king, and the latter to be married to his ministers; a proceeding which proved that he at least, the closest neighbour, did not believe the Island to be peopled by savage demons or cannibals. He may be presumed to have known the real state of affairs of that period even better than the critic who speculated twenty-five centuries later on his probable line of conduct.

The authority on which all the inferences in these Papers rest is that of the *Mahāwaṅsa*, and it is important to show that such is the fact, but in no case is a conclusion drawn from a single casual circumstance, nor is such evidence admitted here unless supported by collateral evidence, and consistent with the general tenour of the history. To generalise on unimportant single facts is neither logical nor just.

This inquiry is the first attempt to solve the problem of the origin and growth of the wealth necessarily implied in the existence of the courts, institutions, and conditions described or incidentally mentioned in the historic narrative, and it would not have been undertaken but for the strong testimony borne by the translator, Mr. Turnour, to the authenticity of the *Mahāwaṅsa*. The works and proceedings attributed to the kings of the Wijayan dynasty during the brief period of their rule, and the skill and resources their works imply, would have been impossible to any but a settled and partly civilised people, and are wholly incompatible with the conditions of a people who had no regular agriculture and lived on fruit, honey, and the produce of the chase, not only when Wijayo landed, but "for several centuries afterwards."

Considering the novelty of the present inquiry, and that the inferences in the preceding Papers are opposed to those of the high authority above quoted, it seems desirable, before proceeding further, to confirm and establish the groundwork on which all the subsequent chapters must depend.

With this view, further evidence will be adduced to confirm the conclusions of previous chapters to the effect that the

chief industry and main source of national wealth at the time of Wijayo's landing and for "several centuries afterwards" was agriculture, and that it was directed almost entirely to the cultivation of the staple food of the people. What that food was will form the first subject of inquiry. An enumeration of all the passages that have reference to food in the *Mahāvamsa* will leave no room for doubt on that subject. They are as follows :—

The first mention of food is that of the repast given by Kuweni, the princess, to Wijayo and his party, which consisted of "rice and a vast variety of other articles."

The next allusion to food is in regard to a visit of the young Prince Paṇḍukābhaya to Girikaṇḍasīva, uncle of a rich Brahman, who, at a cost of 100,000 pieces of money, had raised an army of 1,200 warriors to support the young prince's claim to the succession. The words of the narrative are the following :—

"At that time Prince (Girikaṇḍasīva) was superintending the reaping of a harvest of 100 karisa of land : his daughter, named Pāli, was a lovely princess. She, radiant in beauty, attended by a great retinue, and reclining in a palanquin, was on her way taking a prepared repast for her father and the reapers. * * * The princess, descending from her palanquin, * * presented the Prince (Paṇḍukābhaya) with *rice* in a golden dish."

This, be it observed, occurred in the reign of Wijayo's immediate successor.

In the next reign but one, that of Dévánampiya Tissa, 307 B.C., in an interchange of precious gifts, Dhammāsoka sent 160 loads of "hill paddy" from India to his friend in Ceylon, accompanied by a diadem, a sword of state, a golden vase, and a royal virgin, among other articles of great value. The apparent incongruity of hill paddy in such company is explained by the circumstance that it is said to have been brought from some mysterious country by parrots. At page 16 of the *Mahāvamsa* it is described as "royal food."

The same monarch (Dévánampiya Tissa) "making offerings to the théras," himself served them with "rice broth, cakes, and dressed rice."

Having placed his chariot at their disposal and "spread sumptuous carpets" for these théras, and "bowed to them with profound reverence" (p. 53), the repast he himself served must have been of the best and choicest, and it consisted entirely of "*rice*." 307-267 B.C.

Referring to the same period, "the keeper of the royal garden produced to the king a superb full ripe mango of superlative excellence in colour, fragrance, and flavour. The king presented this delicious fruit to the théra and "had a splendid carpet spread out" for him, as it was necessary according to the rules of his order that he should be seated while eating.

In order that no mention of food may be omitted here two very trivial incidents must be stated, one of an old woman who put out "*paddy* to dry" (p. 82), the other, of a certain royal lady for whom Duṭṭha Gámani procured honeycomb to satisfy her earnest longing (p. 86). 161-137 B.C.

The King (Duṭṭha Gámani) having realised certain desires, is said to have "exceedingly rejoiced, presenting the priesthood with *rice* dressed in milk."

On the occasion of the weaning ceremony of the two princes "this affectionate parent again bestowed the alms of *milk-rice* on 500 priests. The monarch, assisted by the queen, having collected into a golden dish a little from each of the priests' dishes, he put a handful thereof in the mouth of each, and said: 'My children, if ye ever become subverters of the true faith may this food never be digested.'"

Ten years later the king "having entertained the priesthood as before," administered an oath to the young princes, never to make war with the Dámilas, whereupon Tissa flung the portion from him. Gámani also spurned away his handful of "*rice*" (p. 87). The offering to the priests was therefore also of "*rice*" as on the weaning ceremony.

In the narrative of Duṭṭha Gámani's early career (161-137 B.C., p. 94) it is related that the king said to his minister

Tissa, "we are famished"; whereupon the minister presented to the monarch some "dressed *rice* placed in a golden dish."

On another occasion "the pious monarch, having offered them (the priests) seats, presented them with *rice* broth and other refreshments."

Tissa, the young prince on whose account the foregoing presentation of rice was made, was sent back home by the king "to superintend the agricultural works in progress there. He similarly employed himself also, calling out the people by beat of drums."

On commencing the great work of the Brazen Palace this munificent Rája (Dutṭha Gámani) "deposited at each of the four gates eight lacs to remunerate the workmen, also a thousand suits of clothing, as well as vessels filled with sugar, buffalo butter, palm sugar, and honey," and he paid "the workmen with *money*" (p. 104).

A merchant is described as giving the priest four dishes of "the juice of *jakfruit*" (p. 107).

On the celebration of the festival (of the building of a *thúpa*) "the king caused to be collected there *honey*, clarified *butter*, *sugar*, and other requisites" (p. 109).

In his dying moments, King Dutṭha Gámani (137 B.C.), contemplating and recounting his charities and meritorious deeds, is represented as saying (p. 125): "I have bestowed at forty-four places *rice* prepared with sugar and honey; and at the same number of places rice prepared with butter; at the same number of places confectionery dressed in clarified butter; at the same number of places ordinary *rice* constantly * * * I have caused to be provided for each priest endowed with the gift of preaching, clarified butter, sugar, and honey, a 'náli' of each; I have provided a handful of liquorice, and also two cloths for each * * * The chief théra, Máliyadéva, one of the five priests who had accepted the *kangu* mess, dividing the same among five hundred of the fraternity, himself partook of it."

A foot-note to the new edition (p. 125) explains that *kangu* is a sort of millet.

The passages above quoted comprise every mention of food that occurs in the *Maháwansa*, from the time of Wijayo's landing, 543 B.C., to the death of Duṭṭha Gámani, 137 B.C., a space of 376 (or more probably 316) years, with the exception of an incidental mention by Paṇḍukábhaya, when a boy, to the son of a herdsman, when sending him on an errand, that he would get "roasted meat" there. This was the flesh of a "wild quadruped" the herdsman had killed, probably some kind of game, and has little, if any, bearing on the question of national diet.

The most striking feature of these quotations is the remarkable simplicity and uniformity of the fare, notwithstanding that the occasions to which reference is made are nearly all such as were sure to bring forth the best that even kings could command for the entertainment of their most distinguished guests. In every case, except the last of all, *rice* constituted the substantial basis of the diet of prince and people, rich and poor, whether served on a golden dish or eaten off a plantain leaf. Then, as now, people, high and low, would probably speak of their meals as eating their *rice*.

In view of this remarkable simplicity of the fare, even on State occasions, during three to four centuries after the entertainment given to Wijayo by Kuweni, the question arises as to how this lady came to possess the "vast variety of other articles" of food with which she regaled her guests. Referring then to the precise terms in which that feast is described it becomes more than doubtful whether the *rice*, which in this, as in every subsequent feast mentioned in the *Maháwansa*, formed the main item, was included among the spoil from wrecked ships? It seems from the account, as given in these words: "She distributed *rice*—and a vast variety of other articles procured from wrecked ships:" that these "other articles" unspecified, and not the *rice*, were what had been so obtained. On this assumption the difference between Kuweni's repast and all others mentioned in the narrative is simply and naturally accounted for. There is certainly no such vast variety of viand in any other of the entertainments

specified by the same author in the same work. At best, the inference drawn from that solitary fact that there was no rice locally grown is lame and impotent, but when the fact itself is shown to be uncertain, as well as inconsistent with the rest of the history, it becomes still weaker and more worthless. Regarded as an item of the narrative consistent with all the rest, the rice given by Kuweni, the only item specified, should be considered as the rice given on all those subsequent occasions was, namely, as the national food of the period. After twenty-five centuries that have elapsed since the date of Kuweni's feast rice is still the food of the country. It has been proved to have been such less than a century afterwards. Is it then at all probable that a people, so little prone to change as are all Orientals, should have completely changed their national diet just at that period when authentic history began its record? Is it not much more likely that before, as well as after Wijayo's landing, rice was the staple food, and that Kuweni followed the custom of her country in giving the guests rice along with other things procured from wrecked ships?

The evidence of the *Maháwaṅsa*, as given in the passages above quoted, affords a satisfactory answer as to what was the national food of the country during the period they cover, but neither their evidence nor the tenour of that work gives support to the theory that the people of that period lived on fruit, honey, and the products of the chase.

A student who should commence the perusal of the *Maháwaṅsa*, under the impression of its being the history of a people subsisting by the chase, would feel some surprise to meet, on the very threshold, with a princess of the country engaged in spinning, and surrounded by such luxuries as the lovely gems and ornaments she wore, the curtained bed she possessed, and the other accessories of the introductory scene. Her familiarity with the affairs of neighbouring courts, the wedding festival she described as about to unite two princely families, and, above all, the court dresses and other circumstances of that ceremonial, would increase his

astonishment. In all this pageant he would miss the skin garments, the feathers and paint, the scalps, skulls, and trophies that form the familiar accompaniments on such occasions, of which he had read on accounts of nomade tribes and “devourers of men.”

Proceeding a little further, to read of the dispersion of Wijayo’s ministers, to establish his authority, and to found courts and governments all over the country, the student would probably pause to consider how such a dispersion of such men, for such purposes, would have fared among Hottentots, Red Indians, or Bushmen, the present representatives of the mode of life ascribed by Tennent to the people of Ceylon during the first few centuries of the *Maháwaṅsa* history!

The testimony of the *Maháwaṅsa* as to the character of the people and their mode of life, is not less explicit than the evidence it affords of the staple food of the Island. The brief space of time required for the establishing of courts and governments in various parts of the country for the consolidation of Wijayo’s rule by his ministers, the embassy to the powerful monarch Paṇḍuwo, the nearest neighbour, only a few years after the landing, for a wife,—that monarch’s magnificent response in sending his own daughter, accompanied by numerous noble ladies and a splendid dowry,—and, in short, all the events and circumstances of the narrative combine to prove that the country was inhabited by a settled population, engaged in industries widely different from any pursued by wandering tribes living by the chase. Proofs do not depend upon isolated passages, but abound and constitute the whole tenour of the narrative. The evidence of cities, with cemeteries, royal gardens, palaces, and tanks is even less convincing than such events as Citta’s bribing the herdsman’s wife with 1,000 pieces of money to conceal and keep her babe; the story of the two native princes who sat in State with Paṇḍuwasa, Wijayo’s immediate successor, on thrones of equal dignity; the love scene between young Paṇḍukábhaya and the princess on

her way to her father with *rice* for him and his reapers ; her descent from her palanquin to offer rice on a golden dish ; the rich Brahman's espousal of the young prince's cause, and his raising and equipping an armed force of 1,200 warriors at a cost of 100,000 pieces ; these and other episodes that fall naturally into the current of the narrative are more eloquent than any formal statements, and they indicate a mode of life and a character of the people, utterly foreign to those of savage hunters and devourers of men. The transformation of cannibal tribes from their characteristic habits, within a century, would be impossible, and is inconceivable ; and still more, that they should have arrived at the stage of civilisation which is indicated in the foregoing circumstances, including the use of money and other marks of advanced social conditions.

The inevitable inference, derivable from the history of the first four centuries as recorded in the *Maháwansa* as regards the people, their habits, institutions, and mode of life, is that they were a settled and civilised population.

The hypothesis to which the events recorded in the *Maháwansa* led in the last Paper, namely, that agriculture was the main industry, and therefore the chief source of wealth, is confirmed by the fact that a supply of rice adequate to the feeding of so large a population as is implied in the numerous settlements formed by Wijayo's ministers, and by the works that were accomplished during the first century, could not have been procured from abroad, except by payment, commerce, or barter, of which no evidence exists. Nor could rice have been so procured except by means of indigenous wealth far exceeding what would have been required for its local production. As there is no evidence of any such source of superabundant wealth, the conclusion that the supply was locally grown seems to be as certain as that rice was the staple food. Moreover, this is borne out by the whole history, and accounts naturally and consistently for the wealth required for the works that were done, the institutions established, and the social conditions implied.

All that now remains, in order to complete the object of this Paper, is to adduce from the history such evidence as it affords in confirmation of the hypothesis that agriculture was systematically pursued during the period immediately after Wijayo's landing, and that it was directed mainly, almost exclusively, to the cultivation of rice and the products of the dairy.

If it be satisfactorily demonstrated that such were the pursuits of the people immediately after Wijayo's landing, it must be held to have been so also before that event, for there is not the least evidence of Wijayo's having wrought any change, other than to consolidate the government of the country. He had not the means of doing more. Whatever was done by him and his immediate successors must have been done by the people and the agencies he found to his hand.

The estimation in which agriculture was held, so early as the time of Wijayo's immediate successor, is shown in the scene wherein Girikandasiva, the Governor of a Province, figures with his reapers, gathering the harvest of his domain, and receives, at the hand of his daughter, his repast of rice.

All the circumstances of that pastoral scene show that agriculture was an honourable pursuit, and carried on upon an extensive scale by prince and people. Seeing that the narrative is no formal statement introduced to prove a case, but is purely incidental, and merely marks an interesting event of the vicissitudinous life of the young prince, its value as evidence of the industry of the period is inestimable. It forms no part of the history proper, but is a simple setting in which an important event of history is framed.

Similar evidence, introduced into the historic narrative in like incidental manner in a subsequent chapter, is equally significant and conclusive. In the narrative of the conflict and reconciliation of the two brothers, Gámani and Tissa, the former is represented as sending his offending brother home, after having pardoned him, to superintend certain

agricultural works that were in progress there. The narrative goes on to state that Gámani himself pursued the same occupation on his family estate, and that he called out his workmen by beat of drum. Agriculture is thus represented, by these and other concurrent evidences, as a national and royal pursuit, carried on throughout the 367 years under review, systematically and by roll-call.

We must not omit to recount the narrative of the old woman who was putting out her paddy to dry in the sun. If it stood alone, or were cited to prove that rice was the national fare, it would be a mean and paltry scrap of evidence on which to found a great generalisation; but occurring as it does, incidentally, to illustrate the paternal care a certain monarch exercised over the poorest of his people; and agreeing as it does with the whole tenour of the history and the habit of the people, it is well worthy of mention in this connection.

The mention, in a very early part of the history, of herdsmen, also in an incidental manner in the story of Paṇḍukábhaya's babyhood, and the part which milk and butter play in the scenes above described, are significant indications of the habits and occupations of the people, and of the prominent position of agriculture as a national pursuit.

According to the *Maháwaṅsa*, horticulture, a form of luxury and evidence of refinement, received great attention, even during the earlier part of the four centuries under review. Flowers and fruits, the produce of royal gardens, are mentioned as forming so conspicuous and important a part of religious ceremonials, and on other festive occasions, that they must have been cultivated, not only in the royal public grounds, but also much more extensively. Indeed, luxury is represented as prevailing in almost every form in which it has been indulged by man in his most highly civilised condition, such, for example, as court retinues, pageantry, and pastimes, costly decorations, personal ornaments of gems and precious metals, works of art, and

such dainties as the cook and the confectioner could prepare from such simple materials as they could command for the refined taste of regal and priestly palates.

In a work written as the *Mahāvansa* was, at least as regards the period under review, by priests, for the purpose of recording the introduction and progress of the Buddhist religion in the Island, evidence respecting the industries of the people is sparse, generally indirect, and mostly incidental, but it is not the less reliable on that account. On the contrary, in its record of the events connected with Buddhism the history is characterised by manifest exaggeration of an Oriental type, whereas its references to other matters are apparently free from that fault, in which indeed the writer had little, if any, temptation to indulge. Several of the tanks that are mentioned exist to this day, and bear out fully the allusions and descriptions in the text. The ruins of several *dágabas* also witness to the accuracy of the record. Hence the signs and indications of great wealth, skill, and resource are indisputable, and the means by which that wealth was acquired are to be inferred with certainty from such passages and events as have just been quoted, and they might be multiplied indefinitely. The pursuit of agriculture by princes and people, though not once stated directly, is plainly implied in many passages besides those above quoted. For instance, when *Dévánampiya Tissa* marked the boundaries of the ground that was to be consecrated he did it with a golden plough, and he is represented as himself holding the plough shaft.

Similarly, the simple statement that the *rice boiler* of *Duṭṭha Gámani's* gilt palace had a golden ladle is an unmistakable indication that rice was the food of the prince and peasant, as is elsewhere abundantly shown. The passage in which that trivial but significant fact occurs is worth quoting at length, as follows:—

“The king caused it (the gilt palace) to be provided suitably with couches and chairs of great value, and in like manner with carpets of woollen fabric, even the ladle of the

rice boiler was of gold." Supposing the throne of ivory and the festoons of pearls were Oriental exaggerations, there is the undoubted ring of simple truth in the mention of the *rice boiler*.

Such being the facts of the history recorded in the *Maháwansa*, and such the tenour of the story of the first four centuries, what becomes of the dictum that at the time of Wijayo's landing and for several centuries afterwards there was no regular agriculture, and that the people subsisted on fruits, honey, and the products of the chase?

Mr. SENÁTHI RÁJA having expressed regret that being away from Colombo had prevented him hearing some of the previous Papers of the series of the "History of the Ancient Industries of Ceylon" contributed by Mr. Wall, said that he had found the Paper read that night extremely interesting, especially from an antiquarian point of view. He thought it had been shown from the materials found in the *Maháwansa* that agriculture was in an advanced state in Ceylon at the time of Wijayo's landing. Any one who studied the historic incidents recorded could hardly doubt that fact. They read of tanks and of princes being employed in agriculture, and perhaps the Island was divided into several provinces, as England was in the time of the Hephtharchy. There was mention also of such towns as Laúká-pura and Siriwardhanapura. Besides these deductions there was external evidence that there was agriculture at the time of Wijayo's arrival. He believed it was now admitted by most Orientalists that the Phœnicians had commercial relationships with Southern India at very early times, as early as perhaps the time of King Solomon, and Ceylon being so near Southern India it was highly improbable that agriculture should be unknown. Possibly the question might arise as to who the inhabitants were. They were in all probability Nágas and Yakkos, and the coasts were inhabited perhaps by Dravidian people; and they read of a Brahman village shortly after Wijayo's arrival. It was therefore highly probable that agriculture was in a very advanced condition in Ceylon at that period.

The CHAIRMAN (the Lord Bishop of Colombo) said he might be allowed to offer some criticism of the Paper. And there was one criticism which he had ventured to make before, on hearing one of the previous Papers of this valuable series, and which he would repeat briefly in order to add something to it.

He ventured to think that the point which Mr. Wall had established—and which he had undoubtedly proved—would be further strengthened if he relied less exclusively upon the language of the *Mahāvansa*. He was not one of those who thought that that history was altogether unauthentic: yet he could not but perceive the events chronicled, concerning the period under review, by the historical writer were not written by him until 950 years after. Nor were they aware of earlier documents from which the alleged events could have been obtained. Therefore, what was known as an historical setting was absent. Besides such passages as that Wijayo was said to be the son of a lion, there were many statements which they must doubt. It was natural to conclude that the writer could only clothe his record of circumstances in accordance with the conditions of life within the knowledge of the historian. Recently a different spirit had arisen, but the author of the *Mahāvansa* could not be expected to have done more than infer the surroundings of the ancient events he was recording from the circumstances of his own day. It was quite impossible for him many centuries later to describe accurately the order of things 500 years B.C.

To strengthen the argument as opposed to Sir Emerson Tennent's statement, which seemed no longer tenable, he (the Chairman) would look a little outside and see the condition of the neighbouring countries. The Buddhist books of the *Pitaka* bore good testimony to the state of the country to which they referred, and by 250 A.D. these made it clear what was the condition of Ceylon, and also who were the people who had authority in the Island. There was little room for doubt, owing to these sources of information, that in the earliest part of the third century B.C. rice was the principal product.

Another form of evidence was, he thought, the existence of Buddhism in Ceylon. That religion, if he might say so, was an agricultural religion. It was clearly impossible that it could be the religion of those who lived by hunting. He remembered on one occasion when he was at a resthouse on the borders of Bintenna, he was engaged in conversation with an intelligent native and was referring to the people living on the other side of the river, when his companion replied that those poor people could not be Buddhists—they could not grow paddy, but had to live by the chase. Buddhism always favoured, and was productive of an agricultural condition of society.

His Lordship, reverting to the earlier portions of the *Mahāvansa*, spoke of the similarity therein of the descriptions of sculptures and various scenes depicted with those referring to Northern India in the *Pitakas*.

Mr. WALL, in briefly replying to the remarks made by his Lordship, said he did not think the value of the evidence he had adduced had been impaired, and was glad to find that the Chairman considered that he had succeeded in substantiating his point.

With regard to the fact that the *Maháwaṅsa*, or the earlier part of it, including the period of Wijayo's landing, must be taken with the accompanying fact that it was not written until some 800 or 900 years after, this was the case with many histories, and it must be borne in mind that the events were not written from memory, but from documents in existence, some of which they had amongst them now in the *tíkás* or commentaries. There were the original inscriptions of the buildings and tanks at that time also ; this must not be lost sight of, for the ruins of many of these still existed. The strong confirmation which Mr. Turnour had given of the authenticity of the *Maháwaṅsa* was in the following expression of that eminent translator's opinion : "that the accuracy of the work was established by every evidence which could contribute to verify the annals of any country."

There was one argument which he had not included in his Paper, as the first mention of it at a date somewhat subsequent to the period he had dealt with on the present occasion. It was that all the endowments and gifts to temples, viháras, and religious and secular institutions generally were made in rice lands, and the villages appertaining thereto, this cultivation apparently forming the sole permanent and constant source of income.

Mr. HENRY BOIS proposed a cordial vote of thanks to Mr. Wall—which he was sure would be carried with acclamation for his very interesting Paper.

The motion was unanimously agreed to, and the proceedings terminated.

GENERAL MEETING.

September 30, 1891.

Present :

The Lord Bishop of Colombo, President, in the Chair.

Mr. A. M. Ferguson, C.M.G.	|	Mr. F. C. Roles.
Mr. D. W. Ferguson, M.R.A.S.	|	Mr. W. N. S. Asserappa.
Mr. E. S. W. Senáthi Raja, M.R.A.S., &c., Honorary Secretary.		
Mr. Gerard A. Joseph, Assistant Secretary.		

Visitors : one lady and thirteen gentlemen.

Business.

1. Read and confirmed Minutes of the General Meeting held on June 9, 1891.

2. The Honorary Secretary laid on the table a large number of new books received. He stated that, besides several books purchased and others received in the shape of donations from the Secretary of State in Council for India and from the Ceylon Government, many new exchanges had been made, the most notable among which were a complete set of publications of the Royal Society of New South Wales (fifteen volumes); a complete set, numbering about thirty volumes, from Les Memoires de la Societe Zoologique de France; Smithsonian Reports of the U. S. Government, and the publications of the Geological Survey.

3. The Assistant Secretary read a Paper by Mr. Frederick Lewis on—

NOTES ON EGGS AND NESTS OF *BRACHYPTERNUS CEYLONUS* AND *TOCKUS GINGALENSIS*.

By F. LEWIS, Esq.

IN his magnificent work, "The Birds of Ceylon," Major Legge says on the subject of the nesting of the red woodpecker (vol. I., p. 204): "In the south of Ceylon the red woodpecker breeds from February until June, and not unfrequently nests in the trunk of a dead cocoanut tree, cutting a round entrance and excavating the decaying part of the tree for some distance below it. I have never been able to procure the eggs, although the bird is so common."

During April this year, while engaged in inspecting forest lots in the village of Mádampe, in the Atakalan Kóralé of the

Province of Sabaragamuwa, I had the good fortune to be able to watch the nesting of a pair of these woodpeckers. The nest was situated in the trunk of a dead *del* tree, at a height of about 20 ft. from the ground. The opening into the nest faced about south, and entered the stem to a depth of $4\frac{1}{2}$ in., when its course was directed at right angles downwards to about 20 in. below the level of the entrance. The hole made was nearly circular throughout its entire distance, widening slightly as it became deeper. The bottom of the nest upon which the eggs were placed was covered with wood chips, evidently part of the *débris* formed in excavating the passage and hollowing out wood for the nest.

The eggs were four in number, of a pure white colour, and measured as follows: 1·08 in. by ·76 in. to 1·10 in. by ·77 in., and in shape are very nearly elliptical.

Both birds were constantly in charge, so to speak, of the nest, but upon my taking the eggs they appeared to abandon the spot altogether, for though I often visited the tree afterwards I saw neither one or other of these woodpeckers in the neighbourhood.

I was also fortunate enough to get this year the egg of the Ceylon hornbill, the nest having been found by Mr. G. W. Jenkins of "Carney" estate, in Gilimalé, from whom I obtained the following interesting particulars:—The nest was found on March 10 in an *alubo* tree, placed about 30 ft. from the ground. The female, which Mr. Jenkins also sent me with the egg, was "mudded" into the nest, the aperture having been reduced from $8\frac{1}{2}$ in. to 3 in. in diameter, or a thickness of $2\frac{3}{4}$ in. averagely. The nest inside the tree measured 18 in. by 12 in., lined over the bottom with small sticks and twigs. The eggs were two in number, but being in an advanced stage towards hatching, one was unfortunately broken in cleaning. The other measures 1·80 in. by 1·30 in., making a fairly broad oval in shape. In colour the egg is pale white, free of any gloss, and chalky in texture, almost rough to the touch over the "broad" end. The shell is thick, and of a darker colour inside than out.

The female, who was imprisoned over her eggs, did not appear to be in a particularly emaciated condition, having been probably fed by her mate during the period of incubation. It may be worthy of note, however, to remark that the entire plumage of the bird appeared to be thicker and softer than when the bird is not breeding. This may be due to the enforced repose of the bird, or possibly a development at this particular stage of the creature's existence that is necessary for the preservation of the offspring.

I believe it is generally considered that the Ceylon hornbill is strictly frugivorous in its feeding, but I may here record that in dissecting an adult bird I found the bones, head, and bill of a sun-bird (*Cinnyris Zeylonicus*), besides the wing-cases of some beetles that were too crushed to be distinguishable.

I have not been able to gather any information from natives relative to the nesting habits of *Tockus Gingalensis* beyond the very vague statement that they build in holes in trees.

Mr. AMYRALD HALY (Director, Colombo Museum), after directing attention to the collection of specimens at the end of the room, which had been lettered and labelled for the occasion, proceeded to read his Paper on—

A NEW METHOD OF PRESERVING AND MOUNTING ZOOLOGICAL SPECIMENS.

THIS Paper ought, perhaps, to be confined to reading a simple recipe, which would only occupy your attention a minute or two; but in these days, in which the development of everything is so carefully studied from fans and lawn tennis bats to the nebulae, I have thought that perhaps a short history of how the results exhibited in this room tonight have been arrived at might not be entirely devoid of interest, although of an excessively technical character. The plot of my story may be summed up in carbolic acid—carbolic acid as a failure and carbolic acid as a success.

On taking charge of the Museum in 1875, I had not the slightest doubt about the success of carbolic acid, and expected at once to be able to have a good show, easily and inexpensively prepared, of all our reptiles and fish. My collection of English fish in London had been kept in a covered zinc pail in a solution of 1 in 400, and although the fish of northern seas have, as a rule, so little colour that I had not gained much knowledge on that point, there was no doubt about the preservation of the animals themselves. I was very soon undeceived. A few experiments on the common fish and lizards of the Cinnamon Gardens showed that solutions of carbolic acid in water do not act in Colombo as preservatives at all, whatever the strength employed. Such an experience ought to have warned me not to cry before I was out of the wood; but in 1878 I reported a great success to Government by first employing alcohol for a short time, and then removing the specimens to a solution of carbolic acid and nitrate of potassium.

I may as well mention at this point that any form of the substances known commonly as salts, whether as poisonous, as corrosive sublimate, or as harmless as alum, are all alike destructive in this climate to any specimens prepared by them. One of the most extraordinary instances of this was in a very fine skate most beautifully mounted for the Museum by the American taxidermist, Mr. Hornaday.

The skin had been brought in brine from Jaffna, and soon after it was exhibited the fish began to give trouble. It was carbolicised, it was varnished, it was dried in the sun, it was painted; but it slowly dissolved before our eyes, exactly as the Cheshire cat did before Alice's, till nothing was left but its grin, represented by the curious dental plates on my office table; but even these broke up at last. I need scarcely say that whenever I saw any solutions described as being used by other naturalists, I tried them also; they were all alike—absolute and complete failures. The only approach to success was made by first preparing the specimens by arsenic paste.

and then mounting in kerosine oil. This was, as we shall presently see, what is called burning, in the game of hide and seek. A row of fish prepared in this way was exhibited, and preserved their form and colours beautifully for about six months, until one morning I found them nearly all broken up, and nothing left but a precipitate of muscle and bone at the bottom of the bottles. I came unwillingly to the conclusion that there was no means known, or likely to be discovered, that would preserve animals with a natural look about them, and that I should have to content myself with ordinary museum spirit specimens. There was one branch of the animal kingdom, however, I had always been very anxious to make a good show of, and that was spiders. I naturally looked to microscopical preparations to solve that question, and amongst them tried an old and long abandoned one : gum and glycerine. This had been given up because of the great difficulties experienced with the air bubbles which formed so abundantly in it ; but that did not matter to me. There was something about this mixture that strongly attracted my attention. Its action was unlike anything I had seen before, and I tried our beautiful little gold and red spotted fish in it, so abundant in the Colombo lake, and which are always my first test for the colour-keeping properties of any preservative. I found these little fish become semi-transparent and as hard as glass, and that their colours seemed as though burnt in.

My health having broken down I was obliged to leave for England for a year ; but I left behind me two rows of fish prepared in this way, one mounted in kerosine the other in glycerine, with strict orders that they should not be touched till my return. I found twelve months afterwards that the row in kerosine had broken up ; but those in glycerine were as perfect as the day I left. Specimen **A** is one of them, mounted in October, 1884. It is exactly the same as on the day it was put up. The first trouble was the enormous expense of the process. However, I overcame this to a certain extent by filling up the bottles with lead vessels painted white. You will see that all the fish bottles are

furnished with a lead or tin vessel. This saved glycerine; but it was the gum that was so costly, on account of the troubles in the Soudan. To economise as much as possible, the fish were first dehydrated in spirit, so that the gum and glycerine could be used over and over again. **B** is another specimen of a very beautifully coloured wrasse. The spots ought to be emerald green and the bands on the head violet. I have no doubt they would be, but I see by the label that it was not placed at once in pure glycerine, but seems to have been experimented with, how I do not recollect. I suppose, seeing the colour fading, it was changed to pure glycerine, but too late to save the more delicate tints. **C** is a star fish prepared by the same process some years ago. But here the usefulness of this process ends. Only very scaly fish, such as sea perches and wrasses, and a few echinoderms, can be prepared in this way. Ordinary fish, snakes, and frogs are withered up by it out of all recognition, and rendered as hard as iron. Was there any possibility of rendering the specific gravity of the gum and glycerine less? This was a question to which I devoted myself for a long time. No additions of watery solutions of any substances were of avail. At last I found that by gently mixing with weak spirit, briskly stirring all the time, that the gum, at first precipitated in flocculent masses, was re-dissolved, and that in that way solutions of almost any specific gravity could be obtained. **D** is an extremely rare frog, presented by Mr. Green, prepared and mounted in 1887 in gum and glycerine reduced by spirit to the same specific gravity as milk. But it is only very small specimens that can be mounted in this way, the medium being too opaque for any larger bottles, nor is it a good mounting medium even for them. The specimen exhibited is in a very soft state. I could not allow it to be handled, and hence it is useless for scientific examination. The delicate violet tint of the large blotches on the back, is, however, well preserved. If we attempt to mount specimens preserved in this way in pure glycerine, they are shrivelled up quite or almost as badly as if preserved with

the full strength of the gum and glycerine mixture. Many attempts were made to reduce the specific gravity of the glycerine. It may be asked, Why not have tried spirit? The answer is that some of my very first experiments in this Colony were with mixtures of glycerine and spirit. They are most powerful preservatives, and have the inestimable advantage in this hot climate of not evaporating, or at least not perceptibly; but they are absolutely destructive to all colour, bleaching the specimens with great rapidity. If watery solutions of salts or acids are used to reduce the specific gravity, a grand crop of fungus springs up at once. The only successful chemical was chloral, but it was soon found that light colours faded in watery solutions almost as soon as in alcoholic preparations. **E** is an example of a chloralised glycerine solution of about the specific gravity of milk, three years old; but it is expensive, and has no particular advantage except that it does not evaporate. My next experiments were solutions of gelatine in spirit. This is a very good preservative, but it does not keep bright colours. There is, perhaps, nothing better for frogs, all the delicate folds and glandular lines so important in identifying the species of this very difficult class of animals being preserved as in life. The mixture is made by soaking a packet of Nelson's gelatine in a pint of cold water for ten or twenty minutes, which is sufficient in this climate. Dissolving it by a gentle heat, it is then carefully stirred up with sufficient cold-proof spirit; the mixture should measure about 40 degrees below proof. **F** is a specimen of a young example of a very rare species of frog prepared in this medium, and mounted in chloralised glycerine. **G** is another example of a moderately sized frog, mounted in weak spirit, which is a better mounting medium. We have now two processes—one a splendid colour preserver of very limited use, the other an excellent preservative for very delicate objects, but not a preserver of any bright colour, although for dark tints it does very well. I now come to a very difficult subject: What is the action of the gum and

glycerine? I have long thought, and even reported in one of my Administration Reports, that the gum was the colour preserver, and that the glycerine acted first by dehydrating the animal and then by excluding air and water. I was led to this conclusion by the fact that the addition of water destroyed the colours, as I imagined, by again extracting the gum from the tissues. But I am now convinced this is not the case: the action of the gum is to harden the tissues against the softening influence of the glycerine; the real colour preserver is the glycerine, and it preserves because it excludes air and water.

Amongst some fish presented a great many years ago by Mr. H. C. P. Bell, C.C.S., was a specimen of a red sea perch (specimen **H**) in arrack, which had a bit of its bright red colour left where it was tightly pressed against the glass. This specimen had always had a great fascination for me, as it is a species in which the colour fades in a few hours. The idea of finding some process by which animals would be shut up in some kind of solid led me to try hardened Canada balsam. **J** is a Telyphonus, mounted in a solid glass made by evaporating Canada balsam to dryness and then re-melting it, and pouring it over the animal. The heat, however, is too great to make it an available process, and the exhibited specimens are the only successes I ever obtained. It was prepared in 1883. Now the fact is the glycerine, by excluding air and water, does act as a solid glass, and the only influence at work to bleach the specimen is light, which, curious to say, as the exhibited specimens show, does not seem to have much effect. **A** has been exposed to the full influence of a tropical light ever since 1884. Reflecting on this action it occurred to me, if the exclusion of air and moisture is the great ideal to aim at, could not some substance of a lighter specific gravity than glycerine be found? Why not some kind of oil? and of course in Ceylon cocoanut oil first suggested itself. But cocoanut oil, far from being likely to be a preservative, would require preserving itself. How was this to be done? Would

carbolic acid mix with it? I found on experimenting that, carbolic acid mixed with it in all proportions. There was of course, no idea of using this as a preservative, the specimens must be first prepared. Very fluid arsenic paste was used for silvery fish with some success, and reduced gum and glycerine and gelatine—of which **K** is an example—was also tried; but from the very first it proved a very refractory mounting medium. It was very difficult to get a sufficiently white oil to begin with, and when I did, it always had a strong tendency to discolour. Time has proved that I need not have troubled myself: it cannot be used as a mounting medium. Mixtures of carbolic acid and glycerine, or cocoanut oil, attain a deep colour in time, irrespective of any animal matter in them. **L** shows the action in the case of glycerine; **M** in the case of oil. You will see in this latter case that the toad is in splendid preservation, and the fluid bright and clear, but the colour is very objectionable. Whole cases filled with bottles of this tint would be very ugly, although, if the animals and their colour were well preserved, they might perhaps be more instructive than ordinary specimens. There was, however, another difficulty: a very fine cobra, well hardened in spirit after some months, broke down from no apparent cause. It was also found impossible to get a common bloodsucker mounted in this medium. Neither gum and glycerine nor strong spirit, nor arsenic paste, nor anything else would keep them. In fact, the medium appeared either not to be safe or not universally applicable. In order to study it and learn what its action really was, I preserved a bloodsucker in it direct, without previous preparation of any kind, and found that I had a preservative of form as good as any known, and of colour as good as gum and glycerine itself. In this case the carbolic acid is either the dehydrator or, perhaps, combines with the tissues and preserves them, whilst the oil acts as the atmospheric excluder; and now you will see why difficult subjects such as cobras and bloodsuckers, previously prepared, broke down. The tissues had absorbed from the alcohol or arsenic

paste, or reduced gum and glycerine, a large proportion of water, in addition to that naturally contained in them, and consequently more than the carbolic acid could extract or combine with, the result being that they had an atmosphere, so to speak, of their own, which finally led to their more or less speedy decay. Here is then a splendid medium for the zoologist, especially in a hot climate. He is furnished with a powerful and easily used preservative both for form and colour which does not evaporate. N, the leg of a fly laid on a glass slide in a drop of oil, and just simply covered by an ordinary microscopic glass cover, has remained in the same state for eighteen months. I need not say what a boon this will be to the microscopist, who, whilst wishing to study some subject, does not wish to mount his specimens permanently. But with all these advantages it is of little use for public exhibition, and I need scarcely say this was a great disappointment to me.

The spider question solved my difficulties (at least, I hope so) once more. I noticed how exceedingly hard some spiders had become in the oil, when it occurred to me that specimens that had become so firm would resist the dehydrating action of glycerine; and that if spiders would, anything would. The experiment was at once tried—the large rat snake, seven feet long, some frogs, and the fish, coloured and uncoloured, will show you with what success.

The oil is also an admirable preservative for large fish skins that can be mounted afterwards. They require no varnishing, and retain much of their lustre, and a large sea perch is exhibited prepared in this way. I have now merely to read the recipe. Add carbolic acid to cocoanut oil till the oil marks 10 to 20 degrees below proof on an hydrometer. The more acid the more powerful the dehydrating effect, and judgment must be used. In this climate it is best, although not absolutely necessary, to remove the entrails. Place the specimen, carefully wrapped in rag, in plenty of this preparation. If wanted to mount for show, drain off the superfluous oil and mount in glycerine.

Mr. A. M. FERGUSON said he felt he was speaking for all present when he said they had listened with extreme interest to Mr. Haly's Paper. They had received a more vivid idea than they had had before of the vapour bath in which they lived. They had illustrations of the effect of the atmosphere by the backs of their books coming off, and the vegetable growth on their boots and shoes. The result of Mr. Haly's great research which he had just given to them would be very valuable to others in preparing and preserving specimens.

It had struck him, while the Paper was being read, and they were being told about the keeping qualities of birds and butterflies and moths, and other things, that a former Paper by Mr. Haly, though read to them a long time ago, had never been published. It was one that dealt with the snakes of Ceylon* in a very exhaustive way, and was numerously illustrated. He should like to ask what had become of it, as it was a work of great interest and value. He had been reading recently in an article about British Guiana of the process of growth of the rattle-plates as formed in the rattle-snake; and this also made him feel that Mr. Haly's Paper would be of great use and should be published. Meanwhile they felt very much indebted to him for the Paper they had heard read that night.

Mr. HALY, in answer to Mr. Ferguson, said that after the previous Paper referred to had been read and had been sent to the Government Printer, it was found that he had not the type necessary to represent some of the signs. These were not algebraical, but such as b^1 , b^2 . Since that time the Government Printer had sent to England and procured the type required.

The delay, however, had been useful, because a work had since been published by Dr. Boulenger of the British Museum on the fauna of India, in which much of the nomenclature and naming of the head-sheaths of the snakes had been changed. He would now, therefore, be able to revise his Paper, and bring it up to the most modern conclusions in the matter, which would render it of more value. He was at the present time engaged in doing this; and the Paper, he believed, would be ready for the Printer in two or three weeks.

5. Mr. D. W. FERGUSON read the following translation prepared by him of—

* Essay on the Construction of Zoological Tables, with a Tabular Diagnosis of the Snakes of Ceylon.

RIBEIRO'S ACCOUNT OF THE SIEGE
OF COLOMBO IN 1655-56.

INTRODUCTION.

OF the siege of Colombo by the Dutch in 1655-56 we have no less than four independent accounts by eye-witnesses, most of whom took an active part in the stirring events on one side or the other. Of these, two are written from the Dutch point of view, and two from that of the Portuguese. Of the former, that by Baldæus—who, as one of the chaplains to the Dutch forces, had exceptional means of gaining reliable information—is the fuller; and it is also the longest of all the four. This is contained in chapters XXIV.-XXXVIII. of his work on Ceylon, published at Amsterdam in Dutch and German in 1672, an English translation of which appeared in vol. III. of Churchill's Collection of Voyages and Travels (London, 1704). The second account is by Saar, a Nuremberger, who served in the Dutch army, and is contained in chapters XII. and XIII. of his *Ost-Indianische Fünfzehnjährige Kriegs-Dienst*, published at Nuremberg in 1662. The portions of this work relating to Ceylon were translated for this Society by Mr. Ph. Freudenberg, and the account of the siege of Colombo was read at a General Meeting of the Society held on January 29, 1885. Mr. Freudenberg's translation has not yet been published in the Society's Journal.* Of the Portuguese narratives of the siege, the first is also contained in Baldæus's work. It is given at the end of the Dutch edition; the author explaining that after his book had been printed off this account was placed in his hands by Matheus van den Broek, who had formerly been a Member of the Council of the Indies, and was at that time Governor of the Dutch East India Company. Recognising the value of the narrative, Baldæus had it translated into

* The delay is due to various causes. The translation will appear in the Journal for 1890, now in the press.—*Hon. Sec.*

Dutch, as he says, "word for word." In the German edition of Baldæus this narrative is inserted after chapter XXXIX., and in the English translation (which was made from the German version) the same order is followed. This account, which is, perhaps, the most graphic of all the four, was, as stated at the end, compiled from the official diary and from other reliable written and verbal sources for presentation to the King of Portugal. Baldæus has added to the value and interest of the narrative by inserting a plan of Colombo showing the positions occupied by the besieging force. The fourth account of the siege of Colombo is by Captain João Ribeiro, and is contained in chapters XXIII.-XXV. of Book II. of his *Fatalidade Historica da Ilha de Ceilão*. This interesting narration has never been translated, for the version by Le Grand, which Lee translated into English, is simply a travesty of Ribeiro's account. As I have shown in my Paper on Ribeiro and Le Grand, printed in this Society's Journal (No. 36, vol. X., 1888), the copyist from whose manuscript Le Grand translated compressed the three chapters into one, and thereby made utter nonsense of a large part of the narrative.* I have therefore translated Ribeiro's account of the siege and the subsequent rendition of Colombo by the Portuguese, as given in the printed edition of 1836, published by the Lisbon Academia Real das Sciencias. The style is not polished; but then it must be remembered that the writer was a soldier, who, as he reminds the king in his dedicatory epistle, was more accustomed to the sword than to the pen. I have therefore made the translation as literal as possible. In order that the condition of Colombo at the time of its siege may be better understood, I here translate Ribeiro's description of the city, as given in chapter XII. of Book I. of his work:—

"Columbo, from being a small stockade (*tranqueira*) formed of wood, came to be a fine city, fortified with twelve

* This can be seen by omitting the portions of the following translation which are enclosed within thick brackets, and reading what remains as a connected narrative.

bastions : hexagonal, in the old style, certainly, and with little internal space, but placed where it was convenient. The walls were of simple mud (*taipa*), this being sufficient against the natives, with a moat and a ditch on one side and the other, which ended in a lake that on the landward side encircled a third of the city. There were two hundred and thirty-seven pieces of artillery mounted, of three kinds, from ten to thirty-eight* pounds. It was situated on a bay capable of containing many small vessels, and was exposed to the north. The circumvallation occupied one thousand three hundred paces. On the point of the Reef, which is on the south, was erected a large breastwork† (*couraça*) with the heaviest artillery, called Santa Cruz. This commanded and defended the whole bay ; thence the city runs open towards the south, this part being called Galvoça, which, on account of the reef, has no need of a wall ; at the end of this, on the sea-side, is a bastion, and at its root commences the ditch, which extends with a modern wall and another bastion, which are called those of Mapané,‡ where is a gate with a drawbridge, and this same ditch runs along, and the wall, until it ends in the lake, terminating in the bastion of S. Gregorio. From the sea to this point was the best fortification that the city had, and not inferior to that of the said lake, which encircled it for a distance of four hundred paces. The latter has a circumference of more than two leagues, and breeds a great quantity of crocodiles. At a hundred paces beyond the bastion referred to is another, besides a large house and powder-mill, and by means of the water extending from the

* Le Grand has "thirty-six."

† Le Grand has "une espece d'Eperon," which Lee translates "a small battery." This *couraça* was built by Constantino de Sá in 1625.

‡ In Le Grand's plan of Colombo this name is wrongly given as "Mapassa." As to the meaning of Mapané Mr. L. C. Wijesinha writes to me :—"I think there is no mistake that the first syllable *Ma* is an abbreviation of *maha* ; *pane*, I presume, means *pitiya*, a plain ; so that the name is significant, meaning the *great plain*. I believe the terminations *pitiya*, *âne*, *mâne*, *pane*, in the names of villages, are synonyms, and mean an avenue, plain, &c. I was not aware that the Galle Face was called *Mapane*. I believe it is now called, or used to be called, *Polatupittaniya*."

said lake every day two *quintals* were manufactured.* Thence runs a brook, which traverses the city in the midst, with two bridges for its traffic; thus the wall runs down skirting the lake, until it ends at the bastion of S. Hieronimo, where it terminates, in the middle of this portion being the bastion of Madre de Deos.† Beyond is the gate, which is called *da Rainha* [the Queen's], and the bastion of S. Sebastião, at the root of which commences the ditch, which extends along the foot of the bastion of Santo Estevão, and ends at the gate and bastion of S. João,‡ with another drawbridge, which is where the city ends to the north, and from it a strong stockade of sharp stakes along the shore to the sea. From here the bay runs to where stands a handsome breast-work (*couraça*) in front of the College of the Company [of Jesuits]. Further on the bastion of the custom-house; thus the wall runs along until it ends with the Santa Cruz breast-work§ (*couraça*). The portion of the city which is divided from the part on the south by the brook that comes from the powder-mill is the strongest thereof, by reason of a hill that is in the midst,|| where stood the convent of St. Augustine, in the garden of which we had a large vaulted house built, in which were stored one hundred and twenty large jars of powder, in which it kept wonderfully, without need of renewal. We had two other houses besides, not of so great a size, but also vaulted: one in the house of St. Francis, the other in that of the Capuchins, likewise filled with jars of powder. There were in this city nine hundred families of noble citizens, and more than one thousand five hundred

* This powder-mill was erected by Constantino de Sá in 1625. The Dutch continued the manufacture of gunpowder, but worked the mill by wind. Saar in his narrative relates how he and a number of other Dutch prisoners were forced by the Portuguese to work in this mill.

† This would seem to mean that the bastion of Madre de Deos was on the lake-wall; but as a fact this bastion was on the eastern wall, between the bastions of S. Hieronimo and S. Sebastião. Le Grand puts the bastion of S. Hieronimo after Madre de Deos, the *Porta da Rainha*, and S. Sebastião.

‡ Lee turns these into the gate and bastion of St. Thomas.

§ Le Grand translates *couraça* by "esplanade."

|| Le Grand renders this: "and this place is not the least strong of the southern part of the town," which entirely reverses Ribeiro's statement.

various officials and merchants, all within the walls; two parishes, that of the Mother Church and that of St. Lawrence; five convents of monks, that of St. Francis,* St. Dominick, St. Augustine, the Capuchins, and the College of the Fathers of the Company, with classes in Latin and philosophy; the house of the Santa Misericordia, a royal hospital; and outside the walls seven parishes. All the inhabitants were enrolled in companies, the Portuguese in some and the natives in others; all took their turns as guards at the bastions and posts with their arms, with which they were expert, and well ammunitioned. When a company of Portuguese went on guard, if there were eighty or ninety men, they made it two hundred, all armed, because the servants and followers on these occasions accompanied their masters and lords."

Saar gives the following description of Colombo at the time of the siege:—

"The city is prettily situated on a plain, and is quite open on the sea side. Large ships cannot enter the harbour, and must remain lying half a league therefrom. On its right side it is provided with a large water-fort† called *S. Croix*, on which, when we come before it, were sixteen metal cannon, which could command the sea and the harbour. On the shore on the right hand,‡ before one came into the city, was the gate called the Elephant, over against which stood the *Vice Roy's* residence. Along the shore there it was enclosed by a low wall, where was also a small bastion by name *S. Vincenz*, not far from which was a small water-port, and near it the bastion *Allegresse*. Further along, on the shore, stood the bastion of *S. Joan*, built high with stones, and the last bastion on the harbour, which it could half flanker and half also the land, near which also a large gateway led into

* Le Grand says "of the Cordeliers."

† In the original *Wasserpasz*; in Dutch *Waterpas*. (See Daalmans' description of Colombo in C. B. R. A. S. Journal, No. 35, vol. X., 1887, p. 163.)

‡ Saar is describing the city as viewed from the harbour, and he makes the circuit from right to left; Ribeiro takes the opposite direction.

the city. On the land side, again, was erected a large bastion entitled *S. Stephan*, on which likewise stood sixteen metal cannon. After this a small bastion called *S. Sebastian*, near which again a large gate, the King's gate,* led into the city, and not far therefrom was another bastion named *Madre Des*, or the Mother of God, on all of which bastions, round about the city, were bells, with which when anything happened it was speedily made known in all parts. From the bastion of *Madre Des* there was a large brook near the house *Hieronymus*, where also a battery was thrown up, and two cannon mounted thereon loaded with grape, together with a small bastion called *Capoccin*, from the Capuchin monastery situated near it. Further on stood the powder-house, and near it the great bastion of *Hieronymus*, and again a large gateway by name *Mapan*, arched above, which also had its cannon on it; lastly, the bastion *S. Augustin*, also so called from the Augustine monastery adjoining it. Where the ditch has an end was a stone breastwork, by name *S. Jago*, about an eighty-foot long, extending as far as a rock, on which, as at *Punte de Galle*, one can fly a flag. Outside the city were the monasteries; first, that called *Acqua di Lupo*†; second, the monastery of *S. Sebastian*, near it a small chapel; thirdly, at a mile's distance therefrom, the monastery of *Misericordia*."

If these descriptions are compared with each other, and with the plans of Colombo given by Baldæus and Le Grand, and the more elaborate one in Barretto de Ressende's *Libro do Estado da India Oriental*, 1646 (Sloane MS. No. 197 in the British Museum), a number of discrepancies will be observed, which, with our present knowledge, it is impossible to reconcile in every case. For instance, if we tabulate the

* This should be "the Queen's Gate," the Portuguese name being *Porta da Rainha*. By a most incomprehensible blunder Baldæus in his own narrative, and in his translation of the Portuguese diary, makes it "the gate of *Rajaha*."

† This represents the Portuguese *Agoa do Lobo* ("the wolf's pond"), which the Dutch adopted and adapted as *Wolvendaal* ("the wolves' dale"). The natives still call the Wolvendal church *Adilippu* or *Adirippu Palliya* (or *kovil*).

names of the twelve bastions as given by Ribeiro, Saar, and the Portuguese narrative in Baldæus, we arrive at the following result :—

<i>Ribeiro.</i>	<i>Saar.</i>	<i>Baldæus.</i>
Sta. Cruz	... S. Croix	... Holy Cross
Galvoça	... [Breastwork of S. Jago]	Galvoça
Mapané	... S. Augustin	... S. Augustijn
S. Gregorio	... Great bastion of Hieronymus	— ^o
[Unnamed]	... Capoccin	... [? Conceipçaon]
S. Hieronimo	... Battery near House of Hieronymus	... S. Hieronymus
Madre de Deos	... Madre Des	... Madre de Deos
S. Sebastião	... S. Sebastian	... S. Sebastiaan
S. Estevão	... S. Stephan	... — ^o
S. João	... S. Joan	... S. Jan
Couraça in front of... Jesuits' College	Allegresse	... Couraça of S. Francisco Xavier
Customhouse bastion...	S. Vincenz	... — ^o

In comparison with the writers of the other three accounts of the siege of Colombo, Ribeiro laboured under the serious disadvantage of not committing his narrative to paper until nineteen years after the events recorded had taken place. Hence it cannot be wondered at that his account is not so detailed as those of Baldæus and the anonymous Portuguese writer. His narrative, however, is of great value and interest, several facts being recorded therein which are not found in the other descriptions.

From the four narratives above mentioned, a detailed account of the siege of Colombo in 1655-56 might be compiled. An essay in this direction was made some years ago by Mr. Alfred Clark of the Forest Department, and was published as a supplement to the *Ceylon Observer* of April 28, 1884; but unfortunately Mr. Clark had to depend for his information chiefly on Le Grand's caricature of Ribeiro and the faulty English translation of Baldæus: hence this

^o The other three bastions mentioned are S. Anthonio, S. Jacob, and Laurens; but I cannot locate these. Baldæus also speaks of the bastions of Clergos and S. Philippo, near that of S. Sebastian.

generally excellent summary is marred by a number of errors in names of places, &c. For any future attempt of this kind I hope that the following translation will be found of service.

In the two chapters preceding those which I have translated, Ribeiro records the arrival at Galle in September, 1655, of General Hulft's fleet; the siege of the fort at Kalutara and its capitulation on October 14; the disastrous defeat of the Portuguese under Gaspar* Figueira on the seashore at Moratuwa three days later; the retreat of the survivors to Colombo; and the advance of the victorious Hollanders on the doomed city.*

CHAPTER XXIII.†

Of the Siege which the Hollanders laid to the City of Colombo, and an Assault which they made on it.

That day‡ the enemy encamped in N. Senhora da Vida,¹ § a post which lay at little more than a cannon shot from the city. The Captain-General on the following day, the 18th, formed into companies those who had escaped from the battle; and seeing that the bastion of S. João was the one in closest proximity to the enemy, and the space therein very limited, [owing to its being old-fashioned, and octagonal, and that it was not capable of resisting the batteries,] ² he ordered it to be overlaid with earth and fascines on the outer part, ³ and in order that the enemy might not hinder this work, they having a garrison ⁴ in the houses that stood in S. Thomé [⁵ where they had made a commencement at once, to this end he ordered a captain, who was stationed at the same bastion, being in command of five companies, to garrison it, and the gate of the city and the casemate. These occupied the seashore which lay between the enemy

* For a translation of chapter XXVI., describing the siege and capitulation of Mannár and Jaffna in 1658, see *Ceylon Literary Register*, vol. V., p. 202.

† This and the two following chapters form chapter XXI. in Le Grand's translation, with the heading "Siege of Colombo."

‡ October 17, 1655.

§ The small figures refer to "Notes" at page 104 *et seq.*

and the fortress, where the soldiers made pits in the sand, and from these kept up such volleys, that not only were the enemy unable to prevent their overlaying the bastion, but they harassed them in the battery,] in which relief work they were engaged for five days, in which time it was overlaid, [as was intended. Daylight of the 26th saw the battery finished, and in it five demi-cannon and a 38-pounder, with which they battered us the whole of that day, whereby we suffered some loss in that same bastion, more from the ruins of the parapets, which were of unhewn stone, than from the balls of the enemy. And in order as speedily as possible to return their battering, we formed a platform on that part of the seashore at the foot of the bastion of S. João, a very convenient position, in which we placed two demi-cannon and also a 38-pounder, with which we knocked down the houses that were close to their battery, where they had their quarters, and obliged them to protect themselves with an entrenchment. The firing from one and the other side continued for some days, on one of which both the 38-pounders were fired at the same time, and the balls struck each other midway: that of the enemy turned its course backwards, and entered the mouth of its own cannon, and knocked it to pieces. At the beginning of November they had made good progress with the approach, an affair of thirty paces, where they set up another battery with six 24-pounders and two "borers," ⁶ and with both they continued to batter away vigorously until the 12th. Their General Giraldo Holfot, seeing that with such slow progress he would not for a long time attain to the end of his hopes, determined that on the next day an assault should be made on the city, and disposed his forces in the following manner. ⁷

He ordered that two strong ships ⁸ should be got ready, provided with good infantry, and that these at the time that the assault was being made on land should enter the bay, and should set to work to batter the *Couraça* of Santa Cruz, and that in the thick of the conflict they should, by means of their boats, seize that position, which was very convenient

for them, and as it was situated overlooking the sea on a reef, appeared to them to be without a garrison. He also caused to be placed on the lake inside a number of small boats, ⁹ with which he had come provided for this purpose. That night ¹⁰ he gave orders for a thousand foot soldiers to cross the bridge which spans an arm of the same lake, which forms the entrance to the road that leads to the Porta da Rainha; and he placed two thousand near his batteries, in order that a thousand of them might go along the seashore and get across the stockade, of whom fifty were to go to the casemate gate of S. João and platform; the other fifty to go to a *couraça* ¹¹ on the seashore, in front of the College of the Company; and the other thousand to attack the bastion of S. João and the stretch of wall which runs thence to that of S. Estevão. These men were not got ready so secretly that it was not notorious to the whole city that they intended to make an assault, from the positions in which we discovered these bodies of men ranged in the morning, and thus we had the opportunity of preparing to receive them.]

It chanced that at 8 in the morning of the 13th ¹² of November, 1655, the tide afforded them the opportunity of passing the stockade by the seashore. From one battery they gave a signal with three shots, and all at once they swarmed out all in order and very quietly, affording us the chance before they arrived of giving them two volleys. ¹³ [The ships had already set sail with a fresh breeze, making short tacks; and as soon as they saw the signal they turned their prows to the bay. One of them entered it, and cast anchor alongside of the *Couraça* of Santa Cruz; the other remained outside at a good distance in order to escape the danger. Each of the squadrons reached the position that had been assigned to it, and the only ones who did not succeed were the thousand who were coming to the bastion of S. João and the wall, as they came upon the ditch; however, having divided, the one part went to the bastion of S. Estevão, and the others going by the seashore lent a hand to the five hundred who had reached the platform and casemate which

extended along the portion of the wall that ran as far as the *couraçá*. ¹⁴ They all set up the ladders and ascended them with great determination, in order to see if they could make themselves masters of any of those positions, throwing numbers of grenades; but everywhere they were beaten back by us, both sides fighting doggedly; and those whom we hurled from the ladders renewed the ascent with greater fury, not being frightened at the large number who fell dead by reason of the traverses and musketry; nor did the thousand who had gone to the Porta da Rainha and bastion of S. Sebastião work less hard. ¹⁵ The Captain-Major Gaspar Figueira was assisting in the defence of the Porta de S. João, and the casemate, where, in the midst of the conflict, he was informed that the enemy had entered the *couraçá* of the seashore, and in order to cope with that danger he ordered a captain, in whom he had confidence, to go to its assistance. This he proceeded to do; and thinking that the soldiers would follow him, at the entrance he found only one who followed him, and that place deserted by the inhabitants who had been garrisoning it. The two attacked those of the enemy who had already entered, and made them, against their wills, jump back on to the seashore, opposing the rest who were entering; and the enemy, imagining that those who had come were more in number, threw in numbers of grenades, which set fire to the pots of gunpowder with which all the bastions were provided in large quantity, so that the captain did not escape being burnt. At this conflagration there hastened thither several soldiers and inhabitants of those who had deserted that post, whom the shame of seeing that two alone had driven the enemy out caused to return to the defence. At the same time a report got about that the enemy had entered into the city. This put everyone in great trepidation; no one, however, left his post, as all were busy in defending it.] Antonio de Mello de Castro had under his charge a hundred soldiers, and was with them in the middle of the fortress, ¹⁶ in order to hasten whithersoever necessity should require him. As soon as they told him

where the enemy was, in a very short time he was at that part [followed also by several inhabitants and a company of Topazes, and he came upon a squadron of three hundred who did not know whither they were to march, and only a monk¹⁷ was opposing them.] They were at once surrounded by our men, and [of the three hundred, sixty-two were spared ;] the rest were put to the sword.¹⁸ [These three hundred had entered by means of a low wall which enclosed the city near the lake, a quarter which neither had nor required a garrison, and they reached it in the boats which they had brought for that purpose.¹⁹ At all the posts they were beaten back by our men with great valour ; and the enemy, seeing the large number of men that they had lost, and at all points strong resistance, began to retire at midday, leaving the foot of the walls and the bastions covered with corpses. The ship²⁰ that had entered the bay set to work to batter the *couraça* of Santa Cruz, and was in a short time sent to the bottom by the latter, and several who had not lost their lives therein, thinking that they would escape in the pinnace ; it was however sunk by a ball ; and of all who were therein only the captain and two others were able to escape by swimming ; the others came on shore. These were of service to us, as we got from them thirty-eight pieces of artillery, which were of use to us at several posts, and three casks of Canary wine, some barrels of meat, and a quantity of rigging of which we availed ourselves in the form of match-cord, so that our posts might have fire at all times.]

The enemy lost in this assault more than two thousand²¹ of the best men that they had, and if our soldiers had not been newcomers [to the Island and consequently little versed in such occasions], not a Hollander would have been able to retire. [When in the midst of the combat a married woman heard that the *couraça* was entered by the enemy, such was her anguish that it forced her to seize a halberd, and resolutely she went to that post, and remained there as long as the enemy did not retire ; and without doubt if they

had got in she would have acted the part of a well-trained soldier. She was married to an honoured citizen, by name Manoel de Sousa Bigodes, whom the gout rendered almost helpless.

We ordered the dead to be buried, and as there was a large number, pits were dug outside the wall, which held many wherever they were found, that they might not cause us any contagion. The enemy, after having retired, remained several days without making any movements, so that it seemed to us that they meant to retire; and there is no doubt that if we had not had to give them battle, in which we lost so many and such good men, and if we had had these wherewith to sally forth against them, not one would have escaped being put to the sword; but we were so few that we had not the garrison for the posts, and on this occasion we had ninety ²² killed and wounded. After ten days had passed in silence they re-commenced with the batteries and advanced with the approaches, where they set to work to form other new ones, there being six, all at the bastion of S. João, and some of them along the ditch, in which by night they placed a gallery, with the intention of mining the bastion by means of it; and though the darkness was certainly very great, they did not escape being observed, and incontinently some of our men leapt into the ditch and killed eighteen who were engaged in this work, and destroyed the gallery. In the morning we took care to make a dike in the same ditch, in which we placed a piece of six pounds to oppose any engine which the enemy might seek to place therein; and seeing that we had prevented what they had designed, they commenced advancing an approach towards the front of that same ditch, without our being able to hinder their carrying on this work by many and frequent assaults, which we made on them, even setting fire to them; and in order to prevent our doing this, and to defend those who were at work, they made three fortlets in that part; but withal we were in nowise neglectful, and resisted them in every way that was possible to us, on

account of the danger that threatened us.] In this struggle we lost many soldiers of great worth ; and although we used all the energy, and [even more, that] our limited forces permitted us, we could not prevent their continuing the approach ; [and on bringing it as far as the place where we destroyed their gallery, they threw such a quantity of earth into the ditch that they soon filled it up, having done which they broke down its wall, and began to mine below the earth, and made things so impossible for us that neither from the dike nor from the bastion of S. Estevão could we harm them.

Thirty paces in front of the Porta da Rainha they set up a battery of eight demi-cannon, with which in seven days they levelled the stretch of wall which ran therefrom to the bastion of S. Sebastião, and made such a clean sweep of the whole, that not a sign of a ruin remained, as all was built of *taipa*, like the rest which protected the city ; for which cause everyone set to work to cover over the piece that ran from the bastion of S. João to that of S. Estevão with earth and palm-trees, a not unnecessary precaution, as that was where the enemy was making the most vigorous attacks ; but in order not to leave the city defenceless at that part, we make a stockade of pointed wood, with ribands nailed at two places, and it was so well finished off, and so strong, that a wall was unnecessary, and the flanks which joined the gate and the foot of the bastion were guarded by four pedereros. The enemy had determined to make an assault at this point ; however, the soldiers who frequently deserted from us dissuaded them from this intent.]

The whole time that this siege lasted they threw into the city a large quantity of bombs, [of an immense size, and in the house into which any fell the least that it did was to carry away the upper part, and leave it open, only the walls remaining ; the uneasiness and horror that they caused being more than the deaths that resulted from them. There was another kind of bomb that they manufactured. These were much smaller, but covered with plenty of tow and inflam-

mable ingredients, and made in such a manner that in the lower part in the midst of the tow they carried from twenty to twenty-five barrels, like those of pistols, loaded to the muzzle with two balls; and putting these bombs into the mortars, they fired with such accuracy that on reaching the height of a fathom or a fathom and a half above us, those barrels went off on all sides, these same barrels doing as much harm as the balls, and finally the bomb exploded. With this device they killed several of our men. What did us most harm, and only the devil himself could have brought to light such an invention, was, that in place of bombs they filled the mortars with sharp-cornered flints, and large stones, and in the same manner and with the same elevation that they gave to the bombs they fired them, generally at night,] and with this [infernal]²³ device they killed a large number of our men, [who, as they did not carry muskets, not a person was safe, nor left his post, but each one simply took pains to commend himself to God, expecting sorrow as his lot; for with one mortar alone they killed seventeen of us at the bastion of S. Estevão. Following their example we brought out from a magazine in which it lay the mortar that D. Filippe Mascarenhas had ordered to be cast, and had taken to Negombo, with which we threw the coconuts into that fort,²⁴ and even though it was small, we did not fail with stones to cause them considerable loss of men, who were helping in the fortlets and batteries, not giving them an hour of rest the whole night; and they were in a continual state of uneasiness.] Out of the Island we could not venture, nor enter any boat, without being captured, [as the eighteen ships were anchored, and extended across the mouth of the bay; and when it was night, the pinnaces came and anchored nearer to the land, and in this form the smacks were arranged, which were followed by the launches which were already close to the shore; a half-moon being formed by the whole, and on the outside went the sloops well armed, forming a patrol, and at daybreak] all proceeded to cast anchor alongside the ships.²⁵

CHAPTER XXIV.

Which continues the same subject of the siege.

As we could not prevent the enemy's continuing to mine beneath that rubbish which they had thrown into the ditch, that they might thereby mine the bastion of S. João, which was already so scarped that not half of its interior space remained, by reason of the many breaches which we had made in it to form parapets, and to repair those that the continuous firing of the batteries had ruined, for which reason we made with all haste at the foot of the same bastion a countermine, and through it we met : ²⁶ [this work was of no little use for our defence on account of the impediment and hindrance that we caused to that at which they continued so industriously, depriving them of the hopes which they formed.] At the breach we fought with them obstinately during an afternoon ; and as the passage that they had made through the earth was two fathoms in width, many hastened to the defence, of whom a large number were killed, [and as the breach which we had made was very small and dark, they could not do us harm. The only arms that could be used in this place were blunderbusses and pistols ; and when it was night there was a cessation of the fray on one side and the other, and the enemy covered themselves with certain boards, which they had got in the forests, in which they had made loopholes. Our men with all haste dug a pit in the space between us and the enemy, in which we buried a large case of powder of the length of six spans, leaving a span and a half of the fuze connected with the vent above ground ; and it was a miracle, the firing into that place being for a long time so continuous, that a spark did not blow it up. Having done this, we enlarged the breach to such an extent as could contain a man when standing from the breast to the shoulders ; and in order to have persons specially set apart for guarding it, the Captain-General ordered some *reformado* captains who had given good satisfaction to be called, to whom he said : that as that post was the one where there was most risk, it was not proper that they should trust in

any person whatsoever, but only in their own selves ; and therefore he asked them to take upon themselves the defence thereof, on account of its great importance to the service of His Majesty, who would remunerate them for it with great rewards ; and that only by such means would all be free from uneasiness, having such honoured gentlemen as defenders ; because the most that that trouble and siege could last was a month, since in the following one (March), when the monsoon had set in, help would reach us.

Of those whom he chose for this occupation, eight accepted with great zeal and willingness. To each two it fell to take two watches in that post, one by day and the other by night, because there was only room for two persons to be there, and these separate. In the inner part of the interior space, and at the mouth of the countermine, was made a doorway, which scarcely allowed one man to pass ; and when the two who were going to act as sentinels came to it, before entering they disarmed themselves of all their arms, because if they took them they would only serve as an embarrassment to them, and so each one took nothing but a blunderbuss ; and when they entered the doorway they locked it with a key, and reported themselves to the captain commanding the bastion ; the two walked that distance under the earth to a place where there was scarcely room for the body, and in such dense darkness that all reckoning was lost. When they had reached this on the left hand there was a cave, formed by the ruins of the bastion, whither one of the two ascended to the height of two spans, and placed himself under some planks which happened to be there, and which must have been used when the bastion was overlaid. In this post that sentinel remained, whilst the other proceeded further forward, a distance of two fathoms, which was where we had an encounter with the enemy, who protected themselves with the boards, there being between this sentinel and them only seven spans of earth, where was buried the case of powder. The enemy placed in that guard-post twenty-five carbineers, who usually played pranks with this sentinel ;

for of the one who remained in the first post they had no knowledge ; some of them indecent, and others more sensible, according to the humours that moved them ; oftentimes they threw fruit, tobacco, and after similar things ; however, generally there was one with the muzzle of his carbine placed in one of the loopholes that were in the boards, and being careless of our sentinels, several were killed, serving as a warning to those more cautious, so that they might be aware that as soon as they approached the dark opening they would certainly be promptly fired upon. In this place, where this sentinel was, there was only room for a man to stand sideways, and with his right eye he had to watch the loopholes of the planks. His other companion, who remained at the first post, acted the sentinel lying face downwards on the ground, not being able to do otherwise, and kept a lookout between those boards, this place being above the enemy. The orders that they had were, that if the enemy advanced by that way on the bastion, they were to discharge their blunderbusses upon them in such a manner that the fire would strike the touch-hole of the case of powder. This post was so dreadful and dangerous, that even those of greater courage did not fail to be dismayed, and the stoutest heart also became fearful ; not only on account of the great danger, but also from seeing themselves cooped in ; and most of the nights they were not relieved, an intolerable task. Wherefore some of these captains of whom there was a good opinion, through not being able to endure it abandoned that post and deserted from it to the enemy ; by which it became so dangerous, that the one did not trust the other, through fear of being killed by their companions or betrayed to the enemy ; for he who was in the first post could easily manage this ; and for these reasons not only did that first zeal of those who were chosen for this occupation become extinguished, but it lasted only until the fifth nomination, and of all only three endured this terrible and insupportable task to the end, which exceeded three months. One of them, Manoel de Sousa, a native of Villa Viçosa, who, being small

of stature, was called *o Sousinha*; another was Francisco Pereira, a native of the Island of Terceira; and the third a captain born in this city.]

As the enemy were at the foot of the bastion, it was very easy for them to take it; and in case they should succeed in doing this, we made close to them in the inside a counter-bastion of earth and wood to oppose them therewith, and we placed therein two cannon of six pounds each. ²⁷ [We lacked match-cord everywhere; wherefore the soldiers tore up their shirts, and those who had none looked for rags of white cloths, with which they remedied this deficiency;] and as the enemy did not make approaches on the Mapane side, nor had guards posted, because the ground was stony, and the bastion, wall, and ditch all in the modern style, one morning two hundred of us sallied forth, taking the slaves of the inhabitants and a great many hatchets, and we hastened to the wood of N. Senhora dos Milagres, which was half a league distant from the city. There we cut down as many trees of the bark of which rope is made as all of us could carry, and without hindrance we returned; and the enemy, becoming aware that we had made this sortie, made a strong entrenchment, and placed therein sufficient garrison to prevent our making another similar one. ²⁸

CHAPTER XXV.

In which the same subject is continued.

IN order to relate minutely all that happened during this terrible siege, large volumes would be necessary, and I therefore only relate briefly some more noteworthy events, and which time has not blotted out of my memory, as is the case with all things in this world. ²⁹ [Not a little to be wondered at is that which presents itself to us, and this can but serve as a reminder to us to consider the great misery of our frailty, a true mirror of what we are in this life.] On the day on which we fought that battle with the Hollanders on the seashore of Maroto, [which was on October 17, as I have shown, and on the following, the 18th (to this great

heed should be given by the captains who govern fortified places, principally those beyond the seas, in order that another such event may not happen to them in similar cases) :] the Captain-General heedlessly and without consideration allowed during those two days as many people of the country who dwelt in the seven parishes to enter into the city as there were in the suburbs ; all were useless and of no service. We did not realise this great and culpable carelessness until the beginning of March, when food became scarce, there having been until then more than enough, and it was sold publicly at a rather higher price ³⁰ than usual, but one that was not exorbitant ; and as it failed suddenly we endeavoured to find a remedy, by driving out of the city at night a large number of those people, [of both sexes] ³¹ and all ages, on four occasions, from fifteen hundred to two thousand, in order that they might go to the country in the interior ; and as the enemy had guards everywhere, they soon made them turn round and go back towards the city, without allowing any of those miserable creatures to allay the great pangs of hunger which they were suffering, simply in order that we might make an end of consuming [what little there might be], ³² and when they reached the gates of the city we would not allow them in ; and those unhappy ones, seeing that in neither one direction nor the other was there shelter, as the only refuge began to throw themselves into the moats, where, without their continuous cries and groans availing them anything, they all perished. [Of all these people there was left, when we surrendered, nothing but the bones near the lake ; the most horrible sight that could be seen in the world ; nearly all being Christians, brought up amongst us, and living under our protection.

With famine there also came upon the city a terrible pestilence, not only on the poor, but it also had no respect for the rich and noble : through it some became swollen like those with dropsy, others without pain or illness fell dead. From the 15th of March, 1656, when this disease commenced, until the 20th of April, when the dead were

buried, there were counted twenty-two thousand and thirty persons; and it is not to be wondered at, for there were households that numbered sixty, and those that were small had twelve or fifteen. Thenceforward whoever buried the dead died: and such was the horror and misery, that all wished themselves buried; for few as were the soldiers left there was not enough to satisfy their hunger. Many people went about the streets begging for the love of God that someone would give them a little hot water; for they knew well that with nothing else could they get relief. On account of these insupportable miseries, a hundred and twenty soldiers deserted from us to the enemy, among them some who guarded posts. These gave them true information of the strait in which we were; and as what they heard appeared to them impossible, they gave it no credit, and also because it was the statement of men who wished to justify their bad behaviour: and in truth there was much more that they might have told. God permitted by his just judgments that, while it rains in the Island two or three times a day, it being very near the equinoctial, the whole time that the siege lasted it did not rain, and caused such heat that even with shoes on it was impossible to go along the streets, which were covered with corpses swarming with noxious flies, which caused a horrible stench. Dogs were slaughtered publicly, and he who managed to get a pound thought it great luck. The elephants that died were eaten even to their skins; and in order to get a chance of this, some were killed secretly; and of fifteen that there were, which were used by us, only Ortelá escaped on account of the affection that all had for him: ³³ in the same manner also not an unclean animal escaped which was not eaten. In the case of several honoured Portuguese families the whole of the members were found dead in their own houses.]

A woman, a native of the country, [whose husband the enemy had killed,] finding herself constrained by the need from which all were suffering, and having a little one at the breast, her own child, whom she was nourishing, her milk

failed her; and it appearing to her that without doubt it would die, this wretched creature, entertaining these thoughts, desired to make use of it for her sustenance. Putting this into execution, she cut its throat, and having cut it open for the purpose of disembowelling it, there came a neighbour into her house, who happened to be wanting a light, and wondering at what she saw asked her what she was doing with her child; [and as the robber, who is generally found with the stolen article in his hand, gives no other excuse than that of necessity, so did] this poor woman, [and] confessed unreservedly: the neighbour horrified ran out of the house, and made the matter public, of which word was soon brought to the Captain-General, who with all brevity ordered an adjutant to seize her, and to take her to the bastion of Mapane, where he was to have her tied to the mouth of a gun. [This event became known throughout all the city, and the punishment which she had been ordered to undergo,] upon which several kind-hearted monks came, and by reasoning persuaded the Captain-General to remit the punishment, saying that that woman could suffer none greater than that of being obliged by hunger to kill her own son, the greatest misery of this life, [and one so repugnant to nature itself; whereupon he hushed up the matter, in order not to set a bad example in such a time of distress: several similar cases, when that became known, followed in that distress; however, I relate only that which I know for certain.

The enemy continued incessantly with their batteries, bombarding the bastion of S. João alone with six, as I have said, some of them of eight demi-cannon, and at the Porta da Rainha they had the one with which they had razed the portion of the wall which has been referred to. At this place, on the 4th of May, they had completed another of six, and that night they were to place artillery in it, in order therewith to raze the bastion of S. Sebastião, which being limited and much ruined they could do without much trouble. In the city and siege there happened to be a monk

of the Company of Jesus, ³⁴ a man who was indefatigable and of notable courage ; seeing that if the enemy attacked us with this battery in a few days the city would be open, and they would without much trouble make themselves masters thereof ; because already at this time there remained very few defenders : he asked some of those who he thought would accompany him in any enterprise, as he had done in others, to come with him ; and without revealing what he intended, he obtained a promise from thirteen ³⁵ that they would assemble at the hours of midday, and having obtained leave, which he himself asked of the Captain-General, he sallied forth in command of these few, and without being perceived gained an entrance to the battery, where the sword-blows gave the alarm, so that some were able to save their lives, and in the space of an hour he destroyed the battery, which was constructed of palm-trees and fascines, and having set fire to the whole, was able to retire with those who followed him without any harm, leaving the enemy astonished and confounded ; and there is no doubt, that if it had been three hundred who were with him, the courage of our monk would have left not a Hollander alive.

On Sunday, the 7th of May, at eight ³⁶ o'clock in the morning, only the captain of the garrison, a sentinel, and a gunner ³⁷ being in the bastion of S. João, the enemy rushed up on to it, which was not difficult for them, it being so ruined by the batteries, and scarped, that they could do it easier than they could have done with a hill, and having killed the three, without opposition became masters thereof : immediately the alarm was beaten, and all hastened to their posts, those that there were having been hearing mass, and some thirty coming up met the enemy descending the street, where they were set upon by our men with such doggedness that they were evidently determined to sell their lives dearly, and such a hard fight was it, that seventy-six of the enemy were killed, among them three captains, and the rest retreated to the bastion, leaving five banners, without being bold enough to descend any further down the street. As the enemy had

captured that place, the small garrison that we had at the other posts was collected, and altogether we numbered one hundred and fifty, and in a body we advanced three times that day to dislodge them from the bastion with a large quantity of pots and goglets of powder, some of us occupying the counter-bastion which we had made of wood, and with the two cannon; and we threw among them many pots and goglets of powder, without any of them setting fire, and at last one set fire and did them great damage; for when that powder came amongst them without their being forewarned, they were set on fire in such a manner that we saw hats and pieces of banners flying burning through the air. Towards the evening, the enemy, not being able any longer to bear the many shots and the large quantity of fire, by which they had lost the greater part of the men whom they had in their force, left the interior space of the bastion, and set themselves to defend it from without, the same parapets serving them; which, as it was so scarped, they were well able to do. With the large quantity of powder that we used to make up for want of men, it could not but happen that someone was set on fire, which caused a great conflagration, several persons of note amongst us being killed, and the fire attacked the wood of the counter-bastion, which having the rubbish as a foundation, the cannon came tumbling to the ground. We lost on that day more than eighty soldiers and captains, in which all displayed great valour and zeal in defending the place: nor was that small which was displayed by the Captain-Major Antonio de Mello de Castro, Gaspar Figueira de Cerpe, Diogo de Sousa de Castro, Ruy Lopes Coutinho, D. Diogo de Vasconcellos, and other gentlemen and captains, who with valour lost their lives in this siege: and to name them and recount in detail the great amount that each one performed is not possible for me; nor less deserving was] Father Damião Vieira, a monk of the Company of Jesus, for he worked [during the whole siege] more like a careful and watchful captain than might have been expected from a monk by profession, for there was not an assault in

which he was not the first, and of many he was the author, all with good success, it being he who led the attack [by the three hundred who gained an entrance by the lake in the first assault,] and he who destroyed the battery ³³ [at the Porta da Rainha : with confidence I say that the company may be proud of such a soldier, and the soldiers of such a captain. By 9 o'clock at night we no longer had sufficient troops to drive them back, and if they had returned to attack us in the street without doubt they would with little trouble have killed the few that remained.

That night they brought a large quantity of fascines and earth, with which they formed breastworks before the city, and by morning they already had their artillery in position, which being seen by us, a council was called in order to determine thereat what was to be done in the state and circumstances in which we found ourselves : at this there were some votes, that the few women and children that there were should betake themselves into a church, and that fire should be put to it, and in like manner to the whole city, and that the few who remained should die sword in hand in the midst of the enemy, in order that there should be no trace left of the people of that city, and that they should not be able to boast as conquerors. The Superiors of the Religious Bodies took part in that assembly, and put a stop to such a proposition, saying that it would be a heathenish and entirely barbarous act, condemned by divine and human laws ; that we had to reconcile ourselves to what God disposed, without seeking to oppose his divine decrees ; that supposing His Majesty had strongly recommended the defence of that Island, he would have to call his Ministers to account for not having during all that time sent any succour. On these arguments, and with some tears, all agreed, that seeing that we had no other remedy, a parley should be held with the enemy, and that we should send and treat for honourable terms : on the 9th of the same month this was carried out, and until commissaries were appointed we continued fighting. They permitted that all the men of war should

leave the place with their arms, matches burning, banners unfurled, drums beating, and should march with four pieces of artillery to Nossa Senhora da Vida, the General's quarters, where they were to pile their arms; and that the captains should not be deprived of their ordinary arms, and that then they with all the infantry should enter in in our place from that position; and that the men of war should let their clothes remain in the houses of the inhabitants, in order that each one might take his own, when they should embark; that the two Generals with their movables and servants should place them in whatever place they wished, and they granted the same to all the inhabitants and their families, and that for the space of a year they might freely sell all the movables that they could not or did not wish to take away, and they granted to all at this time passage in their ships: to the monks consequently, and that they might take all the articles of divine worship; they requested however of all that no one should publicly carry away jewels, gold, or silver, or similar things, in order to avoid rash acts on the part of their soldiers. All the above was agreed to with Adriano Uvandremed,³⁹ the General who succeeded Giraldo Holfot, who was killed in the siege by a carbine shot.]

CHAPTER XXVI.

How the city of Columbo was entered, and the men of war were sent to Negapatão.

On the 12th⁴⁰ of May, 1656, at three o'clock in the afternoon, we left that city; seventy-three⁴¹ men of war, very thin, and these were all that remained there, among them being several maimed, without arms and legs; and all looked like corpses. We marched in single file through a crowd of natives, who came from one side and another to look at us, and as these were almost all from Candia, [our enemies] they showed in their faces the feeling [that possessed them] at seeing us in that condition.⁴² We left the four pieces behind at the gate of the city, as we had no one⁴³ to bring them, and having arrived at N. Senhora da Vida⁴⁴ [the

quarters of their General,] we piled all our arms [in the guard-house,] [the chief officers and captains retaining their swords,] which having been done we went up to the house where we found the General and the major, ⁴⁵ who received us with undisguised joy, ⁴⁶ [and drinking a toast to us they desired to take their leave, saying that we might remain at ease,] and that before it got later they wished to go and receive the infantry and the Generals; we answered them, that their honours might go and receive the Generals, but that all the men of war were present. At this reply they changed colour, the great joy with which they had received us giving way to evident chagrin, and after speaking to one another in their own tongue for a while, they said to us: "It appeared to us that Your Honours were the superior officers"; and so it was of necessity, for on our having an officer of any post killed, his place was at once filled up, so that of the seventy-three there were as many officers as soldiers. ⁴⁷ [As soon as they had gone towards the city there came a captain, who politely asked us to follow him, and took us nearer to the fortress, putting us into some good houses, which had the convenience of a walled garden, and at the gate he placed as guard a band of soldiers, who served us right willingly, bringing us what we had need of: here we passed two days, at the end of which came their Camp-Master-General, offering us many apologies that his duties had not permitted him to be able sooner to look after our comfort, and that he was sure we must have fared badly through want of necessaries. He took us by that road towards the city very slowly, conversing, and saying what an account we should have to give to God for allowing so many men to perish, in order to maintain what we were not able to; that he had gone over the posts that we had defended, and that it was not possible that they could be garrisoned by less than twelve hundred soldiers; that he had read of many sieges that had taken place in the world; but that none could compare with that, since others had lasted a longer time, but not with the miseries and other incidents of this:

and that all those who had deserted to them had told them what were the sufferings inside the city, and they did not believe them, as it all appeared to them impossible. He took us inside their works to show us the fortlets and batteries, and during the conversation we had the opportunity of asking him the quantity of balls and powder that they had used: of balls, he said, the number was not known, for beside a large quantity coming to them on three occasions, they had made use of ours; and of powder he mentioned such a quantity that we were astounded; I do not state it, as I do not trust my memory: that there were engaged in that siege, including reliefs, eight thousand three hundred and fifty men, all from Europe, and of these there remained one thousand two hundred who carried arms, and seven hundred wounded and burnt; that all the rest were dead. With this he brought us into the city, lodging us in the Church of the College of the Company, and in taking leave he said to us that we could bring our clothes there, and each one transact whatever business he had, because three days from then we were to embark.

At the door of that Church he ordered a company to be placed on guard, in order that not a soldier of us should receive injury, and any time that we wished to go out to transact any business we did so without hindrance: only at night they would not allow it, lest any accident should happen to us: and on the Camp-Master-General's coming across some soldiers who were trying to enter the house of a rich citizen, he cut one to pieces with his sword, and two were hanged; and because of this he appointed four watches, with very strict orders that no injury was to be done to a single person of our people. Three days after that he ordered us to embark, putting us on two ships with some citizens and poor widows, but he would not allow us to embark boxes or trunks, in order not to overload them; wherefore each one packed his clothes in bags and sheets. In this manner we embarked, and in a few days arrived at Negapatão, where they freely gave liberty to all those who

had been prisoners at Galle, and had been divided between the ships. Towards the Generals and all the citizens they fulfilled the terms of capitulation scrupulously, showing great courtesy to all.

When we surrendered there was not a piece of bronze artillery left that had not some damage, on account of their all being either without trunnions, or with the muzzle-ring gone, or cracked, and the touch-holes were wide enough to contain an arm, and many of the iron ones broken, and only some, and the pedereros that were at the flanks, had not suffered this damage; for though in many parts of the city there were no batteries, those that were in these posts were moved about, and thus not one that was in a fit state had any rest. We used in this siege three thousand seven hundred and twenty-nine quintals of powder; when we surrendered we had twenty-four and two arrobas.]

The King of Candia, as soon as they besieged us, came down thither, bringing forty thousand men of war and service, with whom he assisted them; and when he saw that the city had capitulated, he sent some of his men into it with great promises, in order that they might come over to him. ⁴⁸ [Most of the sons of the soil and some Portuguese with their families did so, and in their company several of the clergy, and to all these, and to those whom he held prisoners in Candia, he distributed towns in the territories of this Crown, so that all might live with liberty, in our religion, without forcing anyone to adopt any other rite. ⁴⁹ He was very urgent with the Hollanders, that they should deliver up to him Gaspar Figueira de Cerpe, and he promised for him a large amount of money: to which end they held a council, at which they resolved not to deliver him up to him, and sent a reply to the King, that they could not do it, as it was forbidden to them by law; because, beside that we had surrendered under terms of capitulation, it was a great crime and abomination to deliver up a Christian man to one who was not: and in truth they punish severely the crime of exchanging cattle; ⁵⁰ the fact being that they did not do it

expressly on this account, inasmuch as they understood that he wanted him for his captain, and therefore they at once arranged for him to embark, and during the days that he remained they placed a body of soldiers in guard over him, not allowing him to leave the house, bragging to him of the favour of not delivering him up. The King had sent to make offers to this same Figueira; but he did not care to give heed to his many promises, although he knew well that he wanted him more to take command of his army than to do him harm for the victories that he had won over him; and he was mourning over the last one up to the time when we surrendered.]

On the 19th of the same month the King broke peace with them and fought a battle with them in the great stockade, in which he was the victor, and he would no longer grant the terms of peace which they solicited, because with this war he remained absolute ruler of the whole of Ceilão, and the Hollanders retained possession of only the forts [and some towns which were near the seashore;] which derive nothing from the interior country: and should the King have to come to an agreement with them, of necessity he would have to give up to them all the lands that belonged and still do to the Crown of Portugal: in such manner that in order that the King may remain ruler of Ceilão, he has to carry on war with the Hollanders, and there remains to them more of loss than of gain. The advantage that they have is that the little cinnamon that is produced by the Island is at their disposal, and they can ship it, because the King does not trouble about it. ⁵¹

NOTES.

¹ Le Grand has altered this to "*nuestra Señora d'ajuda*," thus substituting Spanish for Portuguese, and turning "Our Lady of Life" into "Our Lady of Help"!

² Le Grand has simply "& qu'il n'étoit point terrassé," which Lee translates "and that it was not sloped off from behind," which is scarcely correct. The MS. used by Le Grand omits the words in brackets.

³ Lee, misled by Le Grand, makes Ribeiro state that the fascines and earth were used for sloping off the bastion behind!

⁴ Le Grand's MS. has "estar alojado" (being lodged) instead of "ter guarniço."

⁵ The thick brackets here, as in other places, mark omissions in Le Grand's MS.

⁶ In the original "*furadores*."

⁷ Compare the details given in Baldæus.

⁸ They were the yachts "*Maaght van Enkhuyzen*" and "*Workum*."

⁹ Chinese sampans, according to Baldæus.

¹⁰ Rather the night of the 11th. See note ¹².

¹¹ Baldæus makes the Portuguese narrator whose diary he translated speak of "the Acouras," and the English translator has "the gate of Acouras."

¹² This should be the 12th, according to both accounts in Baldæus. In Saar the date is given as "2,"—a printer's error, doubtless.

¹³ Le Grand being puzzled how to connect this sentence with what preceded it in his MS., not being aware that the copyist had omitted a long passage, translates it as follows:—"& as the sea had retired very far, they [the Hollanders!] *had made a stockade, on which they had planted a battery of three pieces of cannon*: & it was from this battery that they gave the signal of attack." This is ingenious, but of course utterly incorrect.

¹⁴ This body of besiegers was led by Major van der Laan.

¹⁵ These troops were led by General Hulft in person, and he had to retire, being wounded in the thigh.

¹⁶ Or "market-place," *praça* having various meanings. Le Grand translates it "place d'armes," which Lee renders "esplanade."

¹⁷ This was Father Damião Vieira. See Baldæus.

¹⁸ Following his defective MS., Le Grand connects this sentence with the one that follows the portion enclosed in brackets, and translates thus:—"... so that having heard the disturbance that was taking place on that side [Lee adds 'towards St. Thomas!'], he ran thither, and having cut off the enemy who had advanced too far, he killed more than three thousand of them; and if our soldiers had been more used to warfare, not a Hollander would have escaped"!

¹⁹ Saar was one of those who took part in this unsuccessful attack, and was severely wounded. (See his account.)

²⁰ This was the "Maaght van Enkhuyzen."

²¹ The Portuguese narrator in Baldæus says that the Dutch loss was computed at 1,000; but the Dutch themselves made the number much less. Le Grand's MS. has "trez mil" instead of "dous mil."

²² The Portuguese narrator in Baldæus says that not more than thirty Portuguese were killed.

²³ The copyist of Le Grand's MS. was obliged to omit this word, having left out Ribeiro's description of the "infernal device."

²⁴ This is recounted by Ribeiro in chapter XV. of Book II.

²⁵ On account of the omission in his MS., Le Grand renders this sentence as follows:—"finally, they blockaded the port so well, that we could no longer have any communication by sea, & they captured all the boats that we tried to send out, or that sought to enter, & obliged them to lie alongside their ships."

²⁶ Le Grand renders this sentence:—"As we could not prevent the enemy from advancing their trenches, & as they had already established themselves at the foot of the bastion of St. John, we made several embrasures in this bastion." The reason why he does not mention the countermine is, that his MS. reads "*cortina*" instead of "*contramina*," thereby making nonsense.

²⁷ In consequence of the lengthy omission in his MS., Le Grand connects this sentence with the one which commences the chapter, omitting some intervening fragments which the copyist had spared.

²⁸ Le Grand renders this sentence as follows:—"The enemy were also near another bastion, which was on the Mapané side, but as this part was fortified in the modern style, they did not attempt to attack us in that direction, and therefore there were few men there: we perceived this, and made a sortie which succeeded so well that we opened up a road for ourselves to go to a forest which was quite near, & where we cut wood which we needed. We had taken with us all the slaves that were in the City, & who were of great service to us on this occasion. We re-entered the City with less trouble than we had had in going out, because the enemy, who had known nothing of our design, did not believe that we would return; but afterwards they made lines of countervallation round this fort, & placed sufficient men there to guard them." It will be seen that, in consequence of the copyist of his manuscript having omitted the first portion of the sentence, Le Grand makes Ribeiro say that the expedition was made to obtain wood (Lee makes it *fire-wood*) instead of *match-cord*. This sortie seems to be the one referred to as follows by Baldæus (English translation):—"The 12 Decemb. 200 Negroes being seen to sally out of the Gate of *Mapane*, keeping along the Seashore, three Companies were ordered to attack them; but they no sooner espied our People advancing towards them, than they retreated in haste to the City. However, three of them deserted to us, and

gave an account that the reason of their coming out was only to cut and fetch some Faggot-Wood for the repairing of the Bastions of *S. John*, *S. Stephen*, and *S. Philip*; and that they had made betwixt the two former a retrenchment, in case they should be forced to quit the Bastions." Here, it will be noticed, the statement is made that the wood was required for repairing the bastions. Doubtless this was the case, the bark being utilised for matchcord.

²⁹ Le Grand has transposed this opening sentence to the latter part of the chapter, joining it on to the reference to Father Damião Vieira. (See note 38.)

³⁰ Le Grand's copyist has altered "*preço*" to "*tempo*," making nonsense.

³¹ A characteristic omission of the Le Grand copyist.

³² This is an example of the apparently objectless omissions which occur all through the Le Grand manuscript.

³³ In Book I., chapter XVII., Ribeiro says :—"Seeing that we are speaking of these animals [elephants], it is not right that we should pass them over in silence: at least we should say something, and because [many]^o have written of them. We shall do so only of one which we had in our possession with sons and grandsons: this was the handsomest animal that can be imagined, and was used by us only in any urgent need, because there were others that performed the ordinary service, and we made use of him solely for hunting the wild ones of the forest: this one was called Ortelá, which also endured the famous siege of Columbo, carrying palm trees by night and day for us during the seven months that it lasted, to repair the ruins caused by the continuous firing of the batteries; and of fifteen that we had, he alone was not eaten, the others being eaten. The King of Candia sent to take it from the Hollanders who had it at Betal, and if they had asked of him great sums for it he would have given them all in order to have such a possession, which brought His Majesty every year more than fifty thousand† patacas; and as some will hold this statement to be fabulous, before going further it will be right to explain in what manner." He then proceeds to describe the manner of capturing elephants, in which Ortelá took a leading part.

³⁴ Father Damião Vieira.

³⁵ The Portuguese narrative in Baldæus gives the names of nine.

³⁶ The Portuguese narrative in Baldæus says "about six."

³⁷ According to Baldæus's translation of the Portuguese account, they were "the Captain *Don Diego de Vasconcelhos*, with two School-Children, *Don Constantino de Meneses* and *Diego Jaques*, both less than fourteen years old."

* Le Grand's MS. has "m^{os}." (for *multos*); the printed edition has no governing word.

† By an error Lee has "15,000 crowns."

³⁸ Le Grand had to make the best sense he could out of the fragments of this sentence left by his copyist, which he did by adding to them the opening sentence of the chapter as follows :—"I should never have done, if I tried to recount all the details of this siege, the principal circumstances of which have already escaped my memory ; *but I hope that the Father Damien Vieira Jesuit, who performed in this siege every duty of a Soldier & a Captain, & who distinguished himself more than anyone, will be able to give us a relation so much the more exact, as there was not an action of importance in which he was not found among the first.*" The hope expressed here is fathered on Ribeiro by the worthy Abbé, who, as he tells us in his preface, found Father Damiao's journals among the documents lent him by the Count d'Ericeyra.

³⁹ Adriaan van der Meyden.

⁴⁰ Le Grand alters this to the 10th.

⁴¹ Le Grand alters this to sixty-three. Baldæus says "14 Companies and 36 Captains," while the Portuguese narrative in Baldæus says "90 soldiers and 100 armed inhabitants, including officers."

⁴² In consequence of Le Grand's copyist having omitted the words "our enemies," the Abbé makes Ribeiro say that the natives "seemed to have some regret at seeing us leave," which is the very opposite of Ribeiro's statement.

⁴³ Le Grand alters this to "neither oxen, nor mules, nor horses."

⁴⁴ Le Grand has "la chapelle de nôtre Dame de la vie," which Lee ends "the chapel of Nuestra Senora della Vida" !

⁴⁵ General van der Meyden and Major van der Laan.

⁴⁶ Lee translates Le Grand's "avec grandes demonstrations dejoye" as "very kindly," which alters the sense entirely.

⁴⁷ Le Grand abbreviates this sentence as follows :—"He changed colour on hearing this reply, & engaged for some time in conversation with the Officers who were near him."

⁴⁸ Le Grand renders this incorrectly as follows :—"The King of Candy was present at this siege with forty thousand men. He asserted that the Hollanders were bound to hand this fortress over to him, & he even sent persons to sign the Capitulation in his name, but he could obtain nothing." Le Grand joins this sentence to the concluding portion of the chapter, his MS. having a long omission.

⁴⁹ In the last chapter of his book Ribeiro states that at Ruwanwella, which the King of Kandy granted to them for that purpose, there were settled not less than seven hundred Portuguese with their families ; and that in all the villages where they settled they had their priests to carry on their religious rites.

⁵⁰ In original *passar gados*. *Gados* strictly means cattle or sheep, but is here used figuratively.

⁵¹ Le Grand connects this concluding portion with the first sentence of the preceding paragraph (see note 48), and translates it as follows :—" & on the 19th he fought a battle which he gained &

would no longer listen to any word of a treaty, inasmuch as being able, with all the men that he had, to hold the field, he obliged the Hollanders to remain shut up in their fortresses, & on the other hand if he had entered into a treaty with them, he would have been forced to give up to them the territories that we possessed in that country; so that on both sides they found themselves engaged in a continual warfare, & at much expense, the Hollanders being able to gather only a little Cinnamon that grows around their fortresses, to which the King does not have access so easily."

The CHAIRMAN said they were very grateful to Mr. Ferguson for the care with which he had prepared his very interesting translation. It was a very graphic description of a very terrible siege, and while they were living in such peace and quietness now it was awful to think of the horrors which had been enacted in and around Colombo—horrors to find a parallel for which they must go back to the siege of Jerusalem. Mr. Ferguson had not read some portions of his Paper, but when the whole was printed the Members would be able to see what useful historical information it contained. It would be a very valuable addition to the foundation of a complete history of the period.

6. At the Chairman's suggestion the reading of Mr. J. P. Lewis's Paper on "*Buddhist Ruins near Vavuniya*" was postponed, time not permitting of its being read at this Meeting.

7. A vote of thanks to His Lordship the Bishop for presiding was moved by Mr. ROLES, seconded by Mr. A. M. FERGUSON, and agreed to unanimously.

HIS LORDSHIP in responding said that it was the intention of a gentleman present to propose a vote of thanks to Mr. Ferguson for his Paper, but as that vote of thanks had been overlooked, whilst a vote had been passed to the chair, he must ask the Meeting to take it that a vote of thanks had been recorded to Mr. Ferguson for his Paper.

8. HIS LORDSHIP also stated that it had been the intention of the Secretary to make special mention of a *Sinhalese Grammar* by Abraham Mendis Gunasekara, Mudaliyár, received by the Society and laid on the table. The Grammar had been just completed and issued from the press. Apart from the real value of the book itself, it did great credit to the Ceylon Government Press that such a work should have been turned out in so neat and artistic a style.

The Meeting then terminated.

COUNCIL MEETING.

Colombo Library, November 12, 1891.

Present :

The Lord Bishop of Colombo, President, in the Chair.

Mr. Henry Bois.

Mr. W. H. G. Duncan (Hon.
Treasurer).

Mr. W. P. Ranasinha.

Hon. A. de A. Seneviratna,
M.L.C.

Dr. H. Trimmen, M.B., F.L.S.

Mr. G. Wall, F.L.S., F.R.A.S.,
Vice-President.

Mr. E. S. W. Senáthi Rája, Honorary Secretary.

Mr. Gerard A. Joseph, Assistant Secretary.

Business.

1. Read and confirmed Minutes of Meetings of the Council held on May 13, 14, and 29, 1891.

2. Resolved,—That the following candidates for admission as Resident Members be elected, viz.:—Messrs. John Peter Samarasekara, G. Grenier, Thomas Cook, E. A. Muttucomaru, W. H. Dias, A. Visuvalingam, James Lemphers, and Advocate Nagapper.

3. Laid on the table a letter from the Honorary Secretaries of the Ninth International Congress of Orientalists to be held in London in 1892, requesting the Society to officially nominate a delegate or delegates to attend that Congress.

Resolved,—That the further consideration of this question be postponed.

4. Laid on the table letter No. 113, of September 3, 1891, from the Archæological Commissioner, annexing copy of a circular drafted by him* and lately issued by the Government relative to the better preservation of objects of archæological interest.

5. Read a letter to the Council dated June 16, 1891, from the Royal University Library of Upsala, calling for an exchange of publications.

Resolved,—That the offer be accepted.

* See page 29.

6. Laid on the table a Paper on "*A Contribution to Sinhalese Plant Lore*," by Mr. W. Arthur de Silva.

Resolved,—That the Paper be referred to Dr. Trimen for his opinion.

7. Laid on the table correspondence, and submitted a draft letter for the approval of the Council, relating to the privileges of franking which had been recently withdrawn from the Society by Government.

Resolved,—That the matter be allowed to drop.

8. Resolved,—That a General Meeting of the Society be held on the 10th proximo.

GENERAL MEETING.

Colombo Museum, December 10, 1891.

Present :

His Excellency Sir ARTHUR E. HAVELOCK, K.C.M.G.,
Governor, Patron, in the Chair.

Mr. J. H. Barber, M.R.A.S.	Mr. F. Lewis.
Mr. C. Drieberg, B.A., F.H.A.S.	Dr. H. Trimen, M.B., F.R.S.
Mr. W. Arthur de Silva.	

Mr. E. S. W. Senáthi Rája, M.R.A.S., &c., Honorary Secretary.
Mr. Gerard A. Joseph, Assistant Secretary.

Visitors : Messrs. Gerald Browne, W. Nock, P. S. Rodrigo,
P. P. Goonewardene, A. M. Perera, and several others.

Business.

1. Read and confirmed Minutes of Meeting held on September 30, 1891.

2. The Honorary Secretary announced the election of the following as Resident Members, viz. :—Messrs. J. P. P. Samarasekara, Assistant Inspector of Schools; G. Grenier, Deputy Registrar, Supreme Court; Proctors Thos. Cook, Jas. Lemphers, E. A. Muttucomaru, W. H. Dias, and A. Visuvanigam; and Mr. Advocate Nagapper.

3. The accessions to the Society's Library since the last Meeting were laid on the table. The Honorary Secretary stated that the books received were valuable ones. Some were obtained by purchase, others by exchange and presentation. Amongst those received special mention was made of the publications of the Geological Survey of the United States Government, and the publications issued by the Asiatic Society of Bengal, "The Bibliotheca Indica."

4. Mr. GERARD A. JOSEPH then, on being called upon by His Excellency, read a Paper entitled—

BUDDHIST RUINS NEAR VAVUṆIYA.

By J. P. LEWIS, Esq., C.C.S.

THERE are the ruins of an ancient Buddhist monastery or some establishment of the kind in the jungle near the spill of the Madukanda tank. Madukanda, or Mandukoḍḍai, as the Tamils call it, is a Sinhalese village about three miles south-east of Vavuniya, off the Horawapotána and Trincomalee road. The following description of the ruins is based on the Raṭémahatmayá's official report dated October 16, 1890.

An embankment of considerable size encloses a square of about 200 yards' length of sides. The inner slope of the embankment is faced with rough slabs of stone. The square is divided into two by a cross embankment, part of which is not now discernible.

In the western half is another square enclosure with the remains of a wall of brick and rough stone. Close up to the western wall of this smaller enclosure there appears to have been a pond, the bed of which is now filled with broken bricks and other *débris*. On the other side of the pond are to be seen the remains of what was probably at one time the Viháragé, all that is left of it now being a single upright pillar with a carved top, and another broken one just opposite it, with five or six others lying near by. Many broken bricks and fragments of stonework lie scattered about the place.

If the other half of the large square was originally a *vila* (tank) for growing lotuses in, it does not appear how, with an embankment on all four sides, it could have obtained a

constant supply of water. But, on the other hand, it is provided with a sluice or culvert just in the centre of the eastern embankment. This sluice is constructed of rough slabs of stone, which form the sides and covering of two parallel channels, each a few feet in width and one or two deep. Besides this sluice there are no signs of there having been any other channel through the embankment. It may have served merely as an outlet for rain water collecting within the enclosure.

If this half of the enclosure was not a tank, it may have been the part allotted to the priests' residence or *aráma*, the western half being that set apart for religious purposes only. This may account for the fact that there is more *débris* of masonry in the western half than in the other.

The eastern half is covered with thick jungle, but there do not appear to be any ruins of buildings in it. On clearing away the jungle in the western half, and excavating the neighbourhood of the pillars already described, a good many fragments of tiles and earthen pots were discovered, and among them, completely buried, what appears to be a sort of earthenware oven, divided into two compartments, was found. The greater portion of it was intact, one end only having been found broken. The face is ornamented with a pattern of lines.

I annex a sketch of it.* It has since been removed to the Colombo Museum.

The back wall of one compartment is broken and detached. The length of the front, which projects an inch or two beyond the side wall at each end, is 16 in., the height 6 in., and the depth of the chambers about 6 in.

I think the site of these ruins was once surveyed. If so, a correct plan might perhaps be obtained from the Surveyor-General's Office.

5. Mr. W. ARTHUR DE SILVA then read his Paper on—

* Not printed.

A CONTRIBUTION TO SINGHALESE PLANT LORE.

IN dealing with the subject of Sinhalese Plant Lore, I shall attempt in this Paper to collect together some of the stories and traditions current in different parts of the Island among the Sinhalese relating to the members of the vegetable kingdom.

I.—THE PRINCIPLES OF THE SINGHALESE NAMING OF PLANTS.

The Sinhalese names which are applied to different species of the vegetable kingdom are connected more or less with certain ideas which are prevalent about the individual species. Their origin, habit, locality, nature, description, form, and properties are one and all more or less expressed in these names, as will be seen in the sequel.

Origin.

Certain terminations or prefixes in the names of plants point out to a great extent their origin, whether they are indigenous or recent introductions. For example, we have the prefixes, *raṭa*, "foreign," and *mé-raṭa*, "country," before the names of a large number of plants: as *Raṭa-del* (*Artocarpus incisa*), *Mé-raṭa-del* (*A. nobilis*).

Instead of *mé-raṭa* the term *gam* is also frequently used: as *Gam-del*.

But when either the term *raṭa* or *mé-raṭa* is used to denote a species when it is exotic or otherwise, the converse prefix in the opposite plant is optionally omitted: as *Raṭa-lunu* (Bombay onion), *Allium cepa* and *Lunu* (onion), *Allium*, *Miris* (chillies), and *Mé-raṭa-miris* (pepper). Again, the term *mé-raṭa* or *gam* does not usually occur when there is no exotic species in existence which is similar in character to a native one: as *Kaluwara* (ebony), *Diospyros ebenum*; *Daṇ*, *Eugenia jambolana*. In like manner the prefix *raṭa* is rarely used when there is no indigenous species resembling the one intro-

duced : as *Té* (tea), *Camellia thea* ; *Kokoa* (cacao), *Theobroma cacao*. Comparatively a small number of species of plants appear under the last two categories, as so many have at one time or other been imported to the Island from various foreign lands, and the nature of the imaginative power is such that similarities are easily struck out between any one plant and another, and a plant introduced is almost always associated with its counterpart in the Island. As an example, if we take the common native plants, say, the food products, it is no easy task to find plants without their *raṭa* associate : as *Wí* (paddy), *Oryza sativa* ; *Kos* (jak), *Artocarpus integrifolia* ; *Pol* (cocoanut), *Cocos nucifera* ; *Batala* (sweet potato), *Batatas edulis* ; *Mé* (bean), *Phaseolus vulgaris*. All have their *raṭa* counterparts.

Habit.

A certain class of terminations employed in the naming of plants divide them into three great divisions according to their habits,—*gas*, “trees,” *wel*, “creepers,” and *palá*, “herbs,” respectively. Examples of this class are numerous, but I may mention here *Kos-gaha* (jak tree), *Mé-wela* (bean creeper), *Tampalá* (*Amarantus*).

In the *palá* class the term is frequently omitted : as *Aswenna* (*Alysicarpus monilifers*). But, on the other hand, when a plant is a tree or a creeper, the terms *gaha* and *wela* are seldom or never omitted.

As most of the common herbs of Ceylon are edible in one form or other, the term *palá* has come to be used as a general term.

Sometimes plants possessing more or less similar forms are found as trees and creepers, when the terms *gas* and *wel* always serve to distinguish them : as *Gas-keppetṭiyá* (*Croton lacciferum*), *Wel-keppetṭiyá* (*C. aromaticum*) ; *Gas-ruk-attana* (*Alstonia scholaris*), *Wel-ruk-attana* (*Allamanda cathartica*), &c.

Situation.

The site of growth is also expressed by various prefixes attached to the names. Thus, we have plants beginning their

names with *goḍa*, “land,” *diya*, “water,” *múdu*, “sea coast”: as *Goḍa-para* (*Dillenia retusa*), *Diya-habarala* (*Monochoria hastafolia*), *Múdu-kaduru* (*Ochrosia borbonica*).

The term *goḍa* is only used when there is another species resembling it growing in moist situations or on the sea coast. But the terms *diya* and *múdu* are more widely used, as comparatively few species belong to the two last classes.

Description.

We come now to the class of prefixes and suffixes in names which more or less serve to denote some physical description or other that aids in the identification of a particular plant. The words may either denote the form of the plant or any particular position of it or its organs, or other characteristic marks.

Among those of the first-stated variety—the terms which denote the form of plants—we have *hín*, “small,” and *maha*, “great”: as *Hín-bówiṭiya* (*Osbeckia octandra*), *Maha-bówiṭiya* (*Melastoma malabathricum*).

The terms *hín* and *maha* are used in the naming of such plants which are generally of the same genus, bearing almost the same characteristics, with the only difference of having the different organs smaller in size to those of the other species. In almost all instances, when we meet with either a *hín* or a *maha* plant we are certain to have its opposite, as these two terms are very seldom used when their opposites are not found.

Next we come to that class of terms which describe a plant by any unusual colour exhibited by it or any of its organs. We have such terms as *ela* or *sudu*, “white,” *ratu*, “red,” *nil*, “blue,” *kaha*, “yellow,” and *ranwan*, “gold-coloured,” &c.

Among *ela* or *sudu* plants we have *Ela-wé-wēl* (*Calamus Roxburghii*), with a light-coloured stem; *Ela-nitul* (*Plumbago zeylanica*), with white flowers; *Ela-baṭu* (*Solanum Xanthocarpum*), with light-coloured fruits; and *Sudu-tampalá* (*Amarantus gangitecus*), possessing light-coloured leaves.

In the *ratu* (red) class we have *Rat-kihiri* (*Acacia catechu*), with red-coloured wood ; *Rat-mal* (*Ixora coccinea*), with red flowers.

Such examples as *Nil-katarodu* (*Clitoria ternatea*), with blue flowers ; *Kaha-petan* (*Bauhinia tomentosa*), with yellow flowers ; and *Ranwan-kikirindi* (*Wadelia calundulacea*), with gold-coloured flower heads, represent other varieties of colours.

The class of plants which Botanists describe as *Diœcious*, as they bear the staminate and pistillate, or pollen-bearing and fruit-forming flowers, on different plants, are distinguished by two simple terms, which occur along with their names, viz., *mal*, "flower," *gedi*, "fruit."

These two prefixes not only show that the species belong to the Diœcious class, but they point out definitely which are staminate or pollen-bearing, and which are pistillate or fruit-forming, *mal* and *gedi* standing for them respectively : as *Mal-tumba* and *Gedi-tumba* (*Momordica dioœcea*).

Next we pass to the consideration of plants which have such prefixes as *potu*, *kiri*, *kaṭu*, *dāra*, *dat*—"scaly," "milky," "thorny," "angular," and "dentate," respectively. These terms describe the appearance of plants formed by different modifications, and the names make it a very easy matter to distinguish them. Thus we have *Potu-palā* (*Ipomœa uniflora*), *Kiri-walla* (*Holarrhena mitis*), *Kaṭu-kurundu* (*Scolopia crenata*), *Dāra-weṭakolu* (*Luffa acutangula*), *Dat-keṭiya* (*Ophiorrhiza mungos*).

We have also such names as *Nidi-kumba* (*Mimosa pudica*), *Chanchala* (*Desmodium gyrans*), *Agamula-ṇeti-wela* (*Cassytha*), which denote some special characters of the plants.

The term *nidi*, "sleepy," is applicable to *Mimosa*, as the leaves contract, or apparently go to sleep, at sunset or on the slightest touch.

The name *Chanchala*, "moving," has a very significant meaning, and this plant, which is known as "the Telegraph Plant," is characteristic for the motion of some of its leaves, which always keep turning round at a very slow rate. The

next name, *Agamula-ñeti-wēla*, used for *Cassytha*, at once marks its character, the Sinhalese word literally meaning “creeper without end or roots”; so it is with the *Cassytha*,—it is a parasitic creeper devoid of leaves and made of thin thread-like stems. The plant, though portions are found on the ground, has no roots, so to speak, but obtains its food from its host, the cinnamon, through the suckers which it sends out. In the above-quoted instances the names disclose to the student almost the whole history of these particular plants.

Properties.

We have terms in the names which denote certain properties possessed by different plants, either showing their economic value or their characteristic taste, &c. Among the former we have the terms *tel*, “oily,” and *paṭṭa*, “fibrous”: as *Tel-keḱuna* (*Aleurites moluccana*), the seeds of which produce a large quantity of oil, and *Paṭṭa-beli* (*Paritium tilliaceum*), a common hedge plant which produces a very fine fibre.

In the other class, which distinguishes certain plants, we have *titta*, *peṇi*, *lunu*, *kahaṭa*—“bitter,” “sweet,” “salt,” “astringent,” respectively: *Titta-kinḱa* (*Tinospora crispa*), *Peṇi-waraká* (sweet jak), *Lunu-midella* (*Melia dubia*), *Kahaṭa-gaha* (*Careya arborea*).

Before concluding the consideration of the names of plants I will mention another class which have terms prefixed to them, such as *yak*, *nayi*, *et*, *úru*, &c.—“devil,” “serpent,” “elephant,” “pig,” respectively. These terms are prefixed to the names to represent certain ideas about them. For instance, it is well known that the devil is something evil, a serpent is venomous, a pig is ugly-looking, and an elephant is huge in size. So, when any of these occur along with the names of plants an idea is at once formed of certain characters possessed by them. Thus, *Yak náran* (*Atalantia zeylanica*), *Nayimiris* (*Capsicum fastigiatum*), *Et-demata* (*Gmelina arborea*), *Úrugenda* (*Portulaca tuberosa*).

II.—THE SACRED AND MYTHOLOGICAL TREES.

The Sinhalese hold the *Bó* tree (*Ficus religiosa*) in the highest veneration, and respect it as a remembrance of certain acts in the life of the illustrious founder of their national religion. Hence, wherever the tree is found great care is bestowed on it, and its vicinity is always kept clean. The great *Bó* tree at Anurádhapura, believed to be a scion of the tree at Buddhagaya, is, according to the *Máhawansa*, 2,000 years old, having been introduced into Ceylon in the reign of Devanampiyatissa.

There are certain other trees, a list of which I append hereto, which are considered to be sacred, inasmuch as they provided the first resting-place where so many Buddhas obtained their wisdom :—

<i>Names of Buddhas.</i>	...	<i>Trees.</i>
1 Dípankara	...	Bú-nuga (<i>Ficus mysorensis</i> , Heyne)
2 Kondañña	...	Sála Kalyana
3 Maṅgala	}	...
4 Sumana		
5 Révata		
6 Sobita		
7 Anómadassi	...	Kumbuk (<i>Terminalia tomentosa</i>)
8 Paduma	}	...
9 Nárada		
10 Padumuttara	...	Sarala
11 Sumádha	...	Bakmi (<i>Sarcocephalus cordatus</i> , Miq.)
12 Sujáta	...	Bamboo (<i>Bambusa</i>)
13 Piyadassi	...	Puwangu (<i>Myristica Horsfieldii</i>)
14 Attadassi	...	Sapu (<i>Michelia champaca</i>)
15 Dammádasi	...	Ratkarandu
16 Siddhattha	...	Kinihirya (<i>Cochlospermum, gossypium,</i> D.C.)
17 Tissa	...	Piyagasa
18 Phussa	...	Nelli (<i>Terminalia emblica</i>)
19 Vipassi	...	Palol (<i>Stereospermum suaveolens</i>)
20 Sikhi	...	Ētamba (<i>Magnifera indica</i>)
21 Vessabhu	...	Sal (<i>Shorea robusta</i>)
22 Kakusanda	...	Sirisa
23 Kónágam	...	Dimbul (<i>Ficus glomerata</i>)
24 Kassapa	...	Nuga (<i>Ficus altissima</i> , Bl.)
25 Gautama	...	Ēsaṭu Bó (<i>Ficus religiosa</i>)

Most of the trees which grow to large dimensions, such as the *Erabadu* (*Erythrina indica*), *Diwul* (*Feronia elephantum*), &c., are believed by some to be the abodes of certain Dévatávó and Yakkhu, both good and evil spirits. Villagers often light lamps and burn fragrant substances under these trees to invoke the aid of the supernatural beings who are supposed to inhabit them.

There is a belief that certain plants exist in the abodes of the gods. Among these are mentioned the *Parasatu* and the *Kusa*.

The *Parasatu* is said to be a heavenly tree which produces most beautiful and sweet-scented flowers, and many a story is related of the *Dévas* offering or presenting the flowers from this tree as a mark of respect. We read in the *Kusa Játaka* (a Buddhist birth story) that among the presents received by the Queen *Silavati* from *Śakra Déva* was the "sweetly-blossomed flower from the tree that grows in heaven."

The other heavenly plant, the *Kusa* grass, is held in great veneration, and the belief is that the grass is found both here and in the heavens. It is mentioned that Gautama Buddha was presented with *Kusa* grass by a Brahmin, which he spread under the *Bó* tree to serve as a seat. *Kusa* grass is also one of the presents which Queen *Silavati* brought from heaven along with the *Parasatu* flowers.

Mythological Trees.

Coming to the mythological trees, some of those commonly spoken of are the *Kapruka*, *Kalu-nika*, *Visa-kumbha*, and *Damba*.

Now the *Kapruka* is a tree which is supposed to come into existence once in a *kalpa*, or millenium, during a happy period of the world's existence.

This tree is said to produce any and everything which one may desire to possess, be it the most valuable jewels or the

most precious stones, the rarest metal, the costliest silk or cotton fabric, or the choicest food. All these are obtained by a wish on the part of any individual. The Singhalese poets have in all times compared the generous man to the *Kapruka*, and *vice versá*. We read in Sri Rahula's *Kávya-sékhara* :—

රුසිරුගුණ සී	කා
සුරතුරු දිනු ද	කා
වලසින් විනී	කා
ලොවට කුමණක් සදිසි මා	කා

Ru siru guṇa sítá
Sura tura dinú deṭá
Vilasin vinítá
Lovāṭa kulūnen sadisi mātá.

That is—“In personal charms (she) was as Princess Sitá (the Queen of Rámá); her hands excelling (in generosity) even the wishing-tree (*Kapruka*), her deportment exemplary, and in her charity she was verily a mother to the world.”

Then there is the *Kalu-nika*. The Singhalese *Nika* is the *Vitex*, a medicinal plant common in the Island; but no one pretends to have seen *Kalu-nika* (or the black *Vitex*), though the superstitious have a firm belief that it does exist in certain jungles. It is reported not to be found in all jungles, but only in such places as are noted or connected with the doing of some heroic deed.

The plant when met with and accidentally partaken of by an old man, is said to at once restore him to health and youth, his gray hairs disappear, and the youthful vigour of mind and body return to him; while the ugliest man or woman who partakes of this wonderful plant is said to be transformed into a most beautiful and perfect creature. This belief does not exist only among the Singhalese people, but also among the Indians and the Chinese. It is perhaps fortunate that we do not come across this plant at the present day, for who knows what comedies of errors it would produce. It is natural for both men and women to desire to acquire or regain youth and beauty. The plant

would be freely partaken of, and we should constantly be put to great difficulty to find out elderly relatives or acquaintances.

But there is also another belief that portions of this plant can be secured by any industrious man who will follow certain prescribed directions. If any one wishes to obtain a twig of this "tree of life" he will be able to get it through the intervention of a certain bird. There is a bird known in Ceylon as the *Eṭi-kukulá* (*Centropus chlororhyncus*), and this bird is said to build its nest on the sides of mountains, where it lays its eggs. After finding such a nest, the person who desires to obtain the *Kalu-nika* should watch it till the eggs are hatched and the young birds come out. Before these quit the nest, wire made of an alloy of five metals should be used to fasten the young *Eṭi-kukulu* to the branch on which the nest is made. Neither the little birds nor the old ones are able to break this magic metal string, unless they bring to the place a piece or pieces of the *Kalu-nika* plant. They know to a certainty where it can be procured. In order to unloose the metal wire they bring twigs of the plant to the nest, when the metal strings give way and the young ones are enabled to fly off. Thus a patient man will be able to find to a certainty twigs of *Kalu-nika* in the nest. But the birds make it a difficult task for one to distinguish the real plant, for they also bring to their nests twigs similar to those of the *Kalu-nika* from other species of plants. If the whole nest and the pieces of sticks in it be taken and thrown into a stream piece by piece, and the person who does so wishes it, the *Kalu-nika* twigs will float against the current,—so it is said; and by this process any person can procure the *Kalu-nika*, which bestows youth, beauty, and long life.

Then we come to another imaginary jungle tree called the *Visa-kumbha*, or the plant which is an antidote for all poisons, the mere act of touching it being sufficient not only to cure one of the effects of a poisonous bite or sting,

but to make him altogether poison-proof. Some believe that this plant is a large tree, others a herb, and others a creeper. But no one actually knows what it is, until he accidentally comes across it. A man possessing the secret of this plant is said never to divulge it, as the knowledge is a source of much profit to him, qualifying him to successfully treat any one suffering from snake-bite. When a man is bitten by a snake, and, as is often the case, is none the worse for it, it is believed that by some chance or other he must have at least trod on the root of the wonderful poison-curing tree. It is also believed that the mongoose (*Herpestes mungo*), which is a great enemy of the cobra, which he attacks with apparent fearlessness, possesses the secret of the knowledge of this plant, and hence does not feel the effect of the poison. The mongoose is supposed to bite the *Visa-kumbha* before and after it attacks a snake. But here also the animal would appear to be very jealous of his knowledge, as he does not allow man to know his secret, for he not only bites the particular tree, but nibbles at all kinds of trees which he comes across, so as to puzzle any individual who may think of following him and discovering the secret.

We have likewise an evil-producing tree, which is also dwelt on in folk lore. This is known as the *Damba* tree. *Damba* is called *jambu* in Sinhalese, but the particular *Damba* is quite different from any of the species which are known as *Damba* (*Eugenia*); for the former is commonly believed to be a milky plant. It is said that this tree is always inhabited by a host of evil spirits, who, the instant a man approaches, unless he possesses an effective talisman, kill him on the spot. This may be compared with the fabulous *Upas* tree, which was supposed to kill all mortals who approached it.

There are many stories in which it is set forth that kings and queens, when they wish to be rid of any person or pay off a grudge, order their victim to procure something from a *Damba* tree; and unless a talisman is possessed by the unwary

person he always falls a victim. In almost all these tales the intended victim has escaped miraculously by means of some talisman which a knowing royal lover had put him in possession of, and the intentions of the wickedly-disposed persons have been frustrated.

III.—LEGENDS OF THE ORIGIN OF A FEW VALUABLE FOOD PRODUCTS, AND OF THEIR NAMES.

There are many stories which account for the origin of certain trees whose products are widely used; thus, we have stories regarding the origin of rice, the cocoanut, and the sweet potato.

To start with I will take paddy, or the rice-producing plant, since rice is the principal food of the natives of this Island. The story relates how in the beginning of this *kalpa* the earth was inhabited by two beings who descended to our sphere from the *Brahma-lōka*, and how they and their children had at first no difficulty in obtaining their food, as the soil itself was rich and fruitful, and they ate of it gladly and thankfully. But as time went on those qualities which made the soil bear palatable food ceased to exist, and a growth, an edible fungus, sprung up, that these early inhabitants were put to the trouble of collecting as their food; hence, it is said, the necessity for work arose, for the reason that wickedness began to appear among the members of this first earthly family, who had originally nothing but good in their hearts. And as the world grew older its inhabitants grew more wicked, and in proportion the greater was the difficulty in obtaining food. For the first growth, which had merely to be collected and eaten, gave place to another,—a species of plant bearing naked grain, in other words, rice, which the people were put to the additional trouble of collecting and cooking before it was fit for eating.

Later on, as the inhabitants grew more numerous and more wicked, "rice" developed a covering or husk and evolved itself into paddy, thereby causing man greater trouble in

having to separate the grain from the husk. But this was not the last of the troubles to the future agriculturist, for now the paddy plant ceased to grow perennially with no help or attention on the part of man, and then came the necessity for the preparation of fields and the sowing of the grain in order to obtain the crop.

This is the story of the paddy plant, which, as such, has a charming simplicity about it. But on looking closer we find a moral significance in it, inasmuch as it attempts to show how labour, trouble, and care were the outcome of evil, and how they increased in proportion as the human race grew in wickedness. Again, there is as it were a scientific glimmer about the account, for it is evidently intended to indicate, after a crude fashion, that law of agriculture according to which deterioration must eventually result when no attention is given to the soil, so that those qualities may be preserved upon which certain desirable effects depend.

The Origin of the Coconut Tree.

The story runs, that at one time there lived in a kingdom of the East a mighty king, resplendent with glory and surrounded by a large retinue of ministers, among whom were several wise men—both physicians and astrologers. These latter, by observing the stars and the courses of heavenly bodies, professed to predict events and fix on “lucky” days and hours, and made reports of the results of their observations to the king. The astrologers royal, though well remunerated, were in no little dread of His Majesty, who, if ever their predictions proved incorrect, immediately condemned them to be beheaded.

One day a learned astrologer of the Berawáya (tom-tom beater) caste, noted for his erudition, discovered, after careful observation and calculation, that a certain day was exceedingly “lucky” for planting trees—in fact he went so far as to declare that anything, no matter what, planted at a certain hour on that day would be sure to grow into a tree, which would be a great boon to humanity. The king having been

informed of this, though much gratified, was yet not altogether pleased with the bold assurance of the man, and thinking to puzzle him, inquired whether the astrologer's head, if laid on a stone, would there develop roots and grow into a tree. The answer was in the affirmative; and to the great astonishment of the astrologer the king forthwith ordered the experiment to be carried out. The severed head was accordingly laid upon the stone, and after a time, lo! the noble cocoanut palm—the tree of a thousand uses—sprang up. And to this day it is supposed the resemblance of the cocoanut to the head of the astrologer is preserved, for, taking the husked nut as representing the head, the fibre represents the hair, with the top-knot (*kondé*), while the eyes and mouth are also supposed to be represented by the three depressions.

There are different accounts of the origin of this palm: the Cochin people have one account and the South Sea Islanders another.

The Origin of the Sweet Potato (Sin., Batala).

The story regarding the origin of this plant starts with a widow and two daughters who lived together in comfortable circumstances till the marriage of the two latter, one to a man of wealth the other to a husband of moderate means. Bad times coming upon the widow, she paid a visit to her rich daughter, hoping to get help from her, but though she arrived faint and hungry, the ungrateful child offered her no refreshment; and even when a request for food was made the answer was that there was nothing in the house to eat. At first the old woman was inclined to pity her daughter, who, she thought, must have become poor like herself; but soon she became suspicious of her child's ingratitude, and when the latter left the house for a while she looked about and discovered that a pot full of rice had been hidden away. Full of sorrow at the thought of her daughter's ingratitude she wept bitterly, with the result that some of her tears fell

into the pot of rice. Then she left and sought her other child, who received her with all hospitality. The ungrateful daughter was pleased on her return to find her mother gone, and proceeded to partake of her meal alone, when to her astonishment she found the rice reeking with blood. Such was the punishment for her want of filial affection. But the strange sequel is the important part of this account, for when the bloody meal was thrown away an unknown plant sprung up from the place whereon it fell, which in course of time developed a tuber, to which was given the name *Batala*, derived from *bata*, "rice," and *lé*, "blood"—an unpleasant-enough etymology for so estimable a food.

The Origin of the Names of some Plants.

Among a great number of crude stories current as to the origin of the names of certain plants I will here give those connected with the names of two well-known native products, jak and coffee, and that of a medicinal orchid, *Nagá-mēru-alé*, "the yam that killed the younger sister" (*Habenaria macrostachya*).

The Jak Tree (Herali-gaha).—Like most economic plants, the jak tree was originally found growing wild, and its value as a food was known to none. It was in fact considered to be a poisonous growth till the god *Sakra* made its value known by a strange method. The divine benefactor is related to have descended to earth, having assumed the form of an old man, and, carrying a large-sized jak, to have presented himself before a village housewife, entreating her to boil for him the fruit he carried. With some persuasion the woman was induced to do the service asked for. After delivering his burden the old man went away on some pretended business, giving the woman strict injunctions not to taste of the fruit. The strange plan of the god succeeded well, for, with the proverbial curiosity of woman, the housewife, like her mother Eve, was most inquisitive to know what the fruit tasted like, for the aroma of the boiling jak

rather pleased her. Having cautiously tasted a portion of a seed, she was quite fascinated by its agreeable flavour, and eventually partook of the greater portion of the boiled fruit before the old man arrived. The transformed god on his return seeing what had occurred, accused the woman, calling her *Hera-liya*, "thief woman," and disappeared. Since that time the jak has been known by the name of *Hera-liya*, while the fruit has become a favourite food with the people of Ceylon.

Coffee.—The coffee berry, as it originally grew in its wild state, was looked upon as a poisonous fruit. It is related that a certain woman, after having quarrelled with her husband, made up her mind, in a fit of anger, to put an end to her miserable existence by taking some poison in his absence. Making her way into the neighbouring jungle she found a tree laden with red berries, and gathering some of the fruit peeled off the outer husk and attempted to eat the seeds; but these were so unpalatable that she decided on roasting them first. The roasted berries, however, proved more bitter and distasteful than the raw beans, and being unable to swallow them, she conceived the idea of reducing them to a powder, and, after mixing this with water, drinking it down. By a strange chance there happened to a pot of hot water near at hand, and this water she poured over the coffee powder, drank off the infusion, and prepared herself for death. To her astonishment, however, the enraged wife found that the coffee, so far from acting as a poison, seemed to enervate her, and at the same time to calm her rage, till she felt ashamed of her cowardly attempt to take her life. On the return of her husband she went to him in contrition and confessed all, and he, after mildly rebuking her for her weakness, decided to try the infusion of the berry himself, which having done he pronounced it excellent. Henceforward coffee became a favourite beverage, and the berry was called *Kópe*, "anger," since it was the anger of the woman that was the means of discovering its virtues.

Nagá-mēru-alé ("the yam that killed the younger sister"), *Habenaria macrostachya*.—Various stories are current as to the origin of the name of this plant: one is the following. It happened that a Vēddá and a younger sister on their way to another part of the country had to pass through a forest. The Vēddá, who was armed with bow and arrow, and his sister, tired after a long day's walk, sat down to rest, and the former laid aside his bow and stuck the arrow in the ground. The sister, asking her brother for a little lime to chew her betel with, the Vēddá gave her the lime on the point of the arrow. Scarcely had she chewed the betel when to his amazement and horror she approached him with amorous gestures. Deciding that death alone could remove the disgrace of her conduct, he drew his bow and shot her. Subsequently the unhappy Vēddá found the cause of this strange behaviour was owing to the arrow having been tainted with the juice of a yam which it had pierced when stuck in the ground.

This yam has since been known as the *Nagá-mēru-alé*, "the yam that killed the sister."

Two versions of the story are given by Mr. Nevill in the "Taprobanian," vol. II., p. 3.

Plants in Folk Lore Tales.

There are several folk lore tales current among the Sinhalese, in which trees are mentioned as having played an important part. I will here relate one.

There lived in a certain village a gamarála and his wife. They had a child named Kirihami. The gamarála was a well-to-do man, possessing fields and gardens, which he regularly cultivated and filled his aṭu with their produce, so that the family were in comfortable circumstances. It happened that the gamarála's wife once got ill, and the husband and his daughter were put to no little anxiety owing to her illness, as she grew worse and worse daily. The woman loved her daughter very much, and she thought, if she were

to die, her daughter would suffer a good deal, for she knew well that the *gamarála*, being a comparatively young man, and possessing extensive fields, would take unto himself a second wife after her death, and she had a presentiment that the step-mother would not treat her daughter well. The woman got worse and worse and was dying, but her thoughts were centred on her beloved daughter. Before breathing her last, with a great effort she told her daughter she would get on by pleasing any step-mother she might get, and that she (the mother) would be transformed into a white tortoise and inhabit a pond in the vicinity, and requested her daughter to think of her whenever she was in distress.

The woman died, and, as she had rightly guessed, the *gamarála* very soon married a second wife. This woman proved herself to be very kind to the step-daughter, but all this kindness disappeared when she got a daughter of her own. Henceforth Kirihami led a miserable life; she was made to do all manner of irksome work, and was vexed in many ways. Remembering her dying mother's injunctions, she repaired to the tank, where the white tortoise saw her every day, bathed her, dressed her, and gave her choice food. The wicked step-mother was soon told of all this by her own daughter, and determined to put an end to the tortoise. With this idea she pretended ill-health, and when the *gamarála* questioned her what remedy would cure her, she informed him that she would become perfectly well if she could have the flesh of a white tortoise. So the white tortoise was caught and brought home, put in a boiling pot of water, and Kirihami had to cook it for her step-mother. The tortoise, who loudly lamented not its own death, but the fact of having to leave Kirihami behind, instructed the daughter, before dying, to preserve a piece of bone and throw it in a certain place, when it would spring up into a mango tree, which would supply her with fruits and anything she was in need of. The girl did as she was told, and the tree sprang up in due course of time. Whenever she went near the tree the boughs, laden with sweet fruits, bent down, so

that she was able to pluck and eat as many as she wished ; but when the daughter of the other woman approached the tree the mangoes became very sour and infested with grubs. This also came to the ears of the wicked step-mother, who, determining to get rid of the tree, pretended ill-health, and entreated her husband to get her the stem of that very mango tree for firewood, when she would get better. This the man proceeded to do, but before it was cut down the transformed mother, with her wonted kindness, instructed Kirihami to possess herself of a small twig, which she said would act as a talisman, and give her whatever she wished for. So the wicked woman's malicious designs against her step-daughter were frustrated, for Kirihami left home and procured for herself all sorts of jewellery and riches, and eventually became the queen of a mighty prince.

IV.—SUPERSTITIONS CONNECTED WITH PLANTS.

Repeating the Names of Plants.

There are certain plants which bear fruits which have sometimes a bitter taste and on other occasions are quite pleasant to eat. Among these we have the *Dummélla* (*Trichosanthes cucumerina*) and *Kekiri* (*Zehenaria umbellata*). The popular belief is that the bitterness is felt if the name is pronounced before eating them. So people take special care not to pronounce the names of these plants until they have partaken of the fruit.

The same belief exists in regard to certain acrid plants, such as *Habarala* (*Alocasia macrorhiza*). There are several species of *Alocasia* the yams of which are used as food. When cooked and eaten they generally produce a rasping sensation on the palate, owing to the presence of certain acrid properties. Some varieties are more acrid than others, but cultivation improves them a good deal, making them valuable food products. It is believed that the *Alocasia* yam, though it be from one of the worst varieties, will not give the rasping sensation if its name is not pronounced by the eater or any one in the eater's hearing. As soon as the name is uttered the sensation comes on.

Superstitions connected with Forests.

In different parts of the Island, where there are unexplored jungles, there is a common belief in the existence of what I may call a "god's orchard." The god is said to be *Saman*, and "*Saman Deviyannagé Uyana*" is said to exist in the heart of the jungles where no man is able to penetrate. These gardens are said to be replete with all varieties of delicious fruit, which hang on the trees in abundance. It is also said that if a person loses his way in the jungle and wanders about, he generally comes across the orchard, where he can eat any quantity of the fruits, but is not able to take away anything from it; for if he happens to take any fruit with him he will not be able to find his way out of the garden until he throws it away.

Effects of certain Plants on Animals.

We have the *Burulla* (*Leea staphlya*), which is supposed to be a very noxious plant for cattle of all sorts. No cattle-keeper will ever, even in the greatest emergency, use a *Burulla* stick for driving his animals. It is also believed that when an animal is hit with one of these sticks it sickens.

The *Burulla* plant is considered to be the devil's plant, and in devil ceremonies its leaves are used for decorating the bodies of the dancers.

The *Kuppaméniya* (*Aclypha Indica*), another plant, acts like a charm on cats. These animals, when brought in contact with one of the plants, get as it were mesmerised, and will not move away for a long time. The popular belief is that the plant is a special medicine for the animal, and hence it loves it so much that it does not wish to leave it.

Plants in Devil Ceremonies.

Plants and flowers are commonly used in devil ceremonies, and flowers of different hues are used in offerings to different devils according to certain prescribed rules. White and fragrant flowers, such as *Jasmine* and *Idda* (*Wrightia zeylanica*), are used for such evil spirits as are supposed to be comparatively mild in their dispositions. Red flowers

always indicate devils who are noted for their evil dispositions, and the commonest flower thus used is the *Rat-mal* (*Ixora coccinea*). In these ceremonies young cocoanut leaves and plantain stalks are commonly taken, and sticks from bitter (*Aurantius*) plants are used as the magic wands, commonly known as the arrows, or the *i-gas*. Limes are cut after various charms to cure diseases and to drive away evil spirits, and these fruits are sometimes burnt, after they are cut, in a fire made of five kinds of bitter woods.

Again, we meet with different kinds of creepers and leaves used in these ceremonies. There are said to be one hundred and eight varieties. The leaves of the mango tree are used to drive away evil spirits. Betel, rice, and flowers are also used as offerings to the devils. Trees which grow to a large size, as *Erythrina*, *Bó*, *Nuga*, &c., are considered to be the abodes of a certain class of spirits.

Various Phenomena in Trees, &c.

The flowering of a *Tala* tree (*Corypha umbraculifera*) is considered to bring misfortune to the village in which it occurs, and any unusual appearances in trees are considered also to bring on evil results. To avoid danger on the occurrence of such phenomena the devil-priests perform a ceremony known as *gará-yakuma*.

Again, when certain epidemics prevail in villages, *pol-gehuma* (cocoanut-fighting) is resorted to. In this ceremony the people in the village divide themselves into two parties, and assemble at a certain spot, taking with them a number of nuts, and each party in turn hits the cocoanut which the other side throws, till all the nuts of one party are broken. The other thus wins, and the people parade the village in procession chanting certain verses and invoking the aid of deities to prevent any catastrophe occurring.

Even in the planting of trees there are various superstitious beliefs. First, it is understood that plants which are expected to bear fruit should be put in the ground in the forenoon, and those which produce yams in the afternoon.

It is also commonly believed that those who plant arecanuts will be subjected to nervousness or shivering fits.

As regards the plucking of fruits, the Sinhalese have a popular belief that the plucking of dates is a cruel act, because by that means the birds are deprived of a favourite food, while those who pluck do not gain much profit.

When chewing betel people generally break off the ends, the pointed apex and the piece of petiole at the base. It is supposed that the petiole is to some extent poisonous, as the betel is said to have been originally brought from the Nága world, and that when a *nága* (cobra) was bringing it hither it held the stalk in its mouth; while the apex is thrown away because it is considered to be below one's dignity to chew it.

The hair-like lichens which are met with on the stems of jungle trees are called "Devil's-hair," and it is said that devils, when they walk about with their legions in these unfrequented jungles, leave them there.

The *Diya-talaya* (*Maxixia tetrandra*) tree is considered to be a plant which grows in places where there is water below and the name itself signifies a water-vessel. In boring wells the tree is taken as a sign of success. The same properties are ascribed to the *Kumbuk* (*Terminalia tomentosa*) tree.

Snakes are said to love sweet-scented trees and flowers. The sandalwood tree is popularly associated with snakes, which are said to encircle its stem; and the screwpine flower is also said to harbour them.

The *Tóra* (*Cassia tora*), wherever found growing, is considered to be a sign of the fertility of the land, while a village where this plant is not found is popularly held in contempt. Children when touched by the nettle (*Girardrini apalmata*) usually resort to a *Tóra* plant and rub its leaves on the part of the body touched, repeating "*Tóra kola vise neta kahambilyáye vise eta*," "*Tóra* leaves are the stingless: *kahambilyá* leaves (nettles) sting."

Another form of superstition is the *kema*, when the applier of a medicine, which consists generally of the part of a plant, keeps perfectly silent all the time till he finishes his treatment. This sort of treatment is known as a *kema*.

In connection with devil ceremonies, the water which is used for charming purposes is prepared by mixing some fresh turmeric, *Curcuma longa*, and is known as *kahadiyara* (turmeric water). The threads which are charmed are also likewise coloured with a piece of turmeric.

In slicing arecanuts for chewing purposes the first slice, which is that which contains the scar, is called the "widow's slice" (*kanavendum petta*). There is an idea among some people that a woman chewing it constantly will become a widow very soon.

The paddy cultivators have a belief that there is a certain devil known as *Kohomba Yaka* ("margosa devil"), who removes the rice from the threshing-floor, and hence the ceremonies connected with it.

When epidemics prevail, and especially contagious diseases, the barks of some trees are tied on the fingers or the hands of persons as a protection from the disease. The bark of the *Bó* (*Ficus religiosa*) and *Bómbu* (*Symplocos spicata*) are thus used to prevent the contagion of sore eyes, and some people have a firm belief in their efficacy.

There is another belief which is prevalent, that certain trees when growing opposite a house bring good fortune while others bring misfortune.

Among the fortunate trees the following are included:—

- Ná (*Mesua ferrea*).
- Palu (*Mimusops hexandra*).
- Múnamal (*Mimusops Elengi*).
- Sapu (*Michelia Champaca*).
- Pomegranate (*Punica Granatum*).
- Margosa (*Melia Azedarach*).
- Arecanut (*Areca Catechu*).
- Cocoanut (*Cocos nucifera*).
- Palmyrah (*Borassus flabelliformis*).
- Jak (*Artocarpus integrifolia*).
- Shoeflower (*Hibiscus Rosa-sinensis*).
- Idda (*Wrightia zeylanica*).
- Nutmeg (*Myristica*).
- Mídi (*Vitis vinifera*).

The following list includes some of the plants which, when grown near a house, bring misfortune to the occupants :—

- Imbul (*Eriodendron anfractuosum*).
- Ruk (*Myristica Horsfieldia*).
- Amba (*Mangifera indica*).
- Beli (*Egle Marmelos*).
- Ehēla (*Cassia fistula*).
- Siyambalā (*Tamarindus indica*).
- Buruta (*Chloroxylon Swietenia*).
- Rat-kihiri (*Acacia catechu*).
- Ēttēriya (*Murraya exotica*).
- Pēnēla (*Sapindus emarginatus*).

Among the Sinhalese astrologers each *nekata* (lucky moment) is associated with a particular tree. There are twenty-seven of these *nekats*.

A firm belief exists that certain signs which a person meets when starting on a journey portend good or evil. Among the products of the vegetable kingdom which are said to be lucky signs some are noted in the following verse, which I quote from the *Selalihini Sandēsa* of Srī Rāhula :—

කල මුදු සුවද පිරිකුඹු මිසුරු අමගෙ	සි
සුල ගෙල කුසුම ලිය පියගෙපල රණ්කෙ	සි
සල සුදු සෙමර සේසත් ගිජිදකොදවැ	සි
බල සුබනිමිති පෙරමග නැකනටත් වැ	සි

Nala mudu suwanda pirikumbu miyuru ambagedi
 Pulahela kusuma liyapiyatepala rankedi
 Sala sudu semara sēsāt gijindu nodawēdi
 Bala suba nimiti peramaga nekataṭat wēdi.

Look at thine outsets for auspicious signs
 E'en better than the *nekata*, white fans,
 Waving umbrellas white, king elephants,
 White flowers in fullest bloom, and sweet-voiced maids,
 Gold pitchers, gentle breezes perfumed,
 Overflowing jars, peacocks, and *mango* fruits.—*Macready*.

Some plants or parts of plants are said to act as talismans, preserving the possessors from the attacks of different

animals; for instance, the possession of a piece of the root of the *Nāga-darana* (*Martynia diandra*) is said to protect a man from snake bite, and that of a fern growing in the Vanni is said to be similarly used as a protection from bears.

V.—PLANTS IN POETRY.

The Sinhalese poets appear to be especially fond of drawing their descriptions from the vegetable world. Perhaps this is in a great measure due to the large number of species of trees found in the Island. They have drawn upon the members of the vegetable world, not only in making their comparisons, but in describing the virtues and personal charms of men and women. I quote instances of this practice from a few standard Sinhalese poems.

The world is compared to a tree and a town to its flowers in the following verse from the *Śeḷalihini Sandēsa* of Sri Rāhula of Toṭagamuwa :—

ප වි රද කද කාලෝ මුල් දිගතුබ	ර
ලෙචි තුරු සුසාද සස මිණිමුතු මල්පක	ර
ස වි සිරි පිරි සුරසුර වන් කාලණිපු	ර
දෙ වි මෙහසුන් විභිසක සුරිදුට පව	ර

Pav rada kanda nāló mul digatu bara
 Lev turu susēdu yasa miṇi mutu mal patara
 Sav siri piri sura purawan Kēḷaṇi pura
 Dev mehesun Vibisana surinduṭa pawara.

Give this message to the exalted god Vibhishana at Kēḷaniya-pura, which is filled with all prosperity like unto the city of Dévas, and in which are the full-blown flowers of renown freely hanging on the tree of the world that has for its root the Nāgalóka, for its stem the Mahameru, and for its branches the points of the compass.

In the same book the poet sings of the sky and the sun :—

වදිමි න් සවස කල කාසිරෙණ දිගතුච	ල
සොබමන් සුතිල් මිණිතිල් නුබතුරු විපු	ල
පකස න් අවරහිර කැවිසෙන් වැටෙනක	ල
විලිකු න් සුරන් පල වැනි චේ රිවිමඩ	ල

Wadi min'savasa nala ḥesireṇa digatuwala
 Sobaman sunil mini nil nubaturu vipula
 Patasan awaragiraṇeṭṭiyen weṭenakala
 Wilikun surat pala weṇi wé rivimaḍala.

Then, like a ripe red fruit, the sun appears
Near to its goal, while falling from its stem
Awaragiri in the huge heaven tree,
Beautiful sapphire blue, where evening airs
Wander among its eight outspreading boughs.—*Macready.*

The colour of the robes of Buddhist Bhikkhus is described
by Alagiyawanna in the *Kusa Játaka* :—

රුදුකෙත් ලාර	ස
බදුච්ඡදකුසුමිපට ලෙ	ස
දෙපට අදකය කො	ස
වඩා කෙමඩුඵ වසා නිසිලෙ	ස
Rendú net lá rasa	
Bañduwadakusum pañalesa	
Depata añdanaya tosa	
Waḍá temañúlu wasá nisilesa.	

A double, gold-red robe that draped navel and over knee
He wore : and fitting robe it was, and glorious to see !
Rich was the dye, a richer never graced fabric of the loom,
Its colour mocked in brilliancy the choicest garden bloom.—*Steele.*

The same is described by Srí Ráhula in *Kávyasékhará* :—

රසුදුල රත්පල	ස
වසකෙච්චි රන් ඇඟප	ස
නුගපලවන් සක	ස
පෙරව මතු සිවුර ජිසිසෙකලෙ	ස
Rasuduḷa ratpalasa	
Wasnev ran eḡḡepasa	
Nugapalawan sakasa	
Perava matu sivura risiyenelesa.	

Having put on the Nuga-fruit-coloured robe gracefully with care,
as if covering part of a festoon work of gold with a brilliant red
cloth (of wool).

Srí Ráhula, in the course of the same work, compares the
science of ethics as follows :—

ගුරු අවගන් අකු	රු
සිකුරුලිය කොල විසිතු	රු
පරසරු කුසුමි ස	රු
හිමිහු නියලිය අමාපල ද	රු
Guru aṭagat akuru	
Sikuru liya kola visituru	
Parasaru kusum saru	
Himihu niyaliya amápaladeru.	

The creeper of science of ethics, which had been caused to sprout by Vrihaspati (Jupiter), to be decked with branches and leaves by Sukra (Venus), and to be productive of flowers by Rishi Parasara, was last of all made to bear ambrosial fruits by the Lord (Bodhisat).

The same poet, in his afore-mentioned *Seḷalihini Sandēsa*, describes a bird :—

පුල්මල් කෙසරු මෙන්—රණවණි තෙල සරණු	ග
සපුමල් කැලේ නුබ මදරනිනි මකන	ර
නිලුපුල් දෙලෙව් සමවනි පිය පියපත	ර
මලින් කළ රුඵ්වි—ඵබැවිනි යුඛින් ඵනව	ර
නිලුදලද සිදුබුවෝ දිඟුවරලැ නි	ල
නිලුදවට බිඟුපෙල අද නමරනි	ල

Pulmal kesaru men—raṇwaṇi tela saraṇayuga
 Sapumal kelew tuḍa madaratini manahara
 Nilupul delew samvani piya piya patara
 Malinkala rēw—eḷevini nubin enawara
 Niluda lada sidambuwo diṅgu waralē nilu
 Nilú dawaṭa biṅgupela ada tambaranilu

Golden are these limbs, like pollen golden,
 Of full-blown flowers : yellow thy fair beak
 As champac buds ; the comely feather blue
 As petals of blue lotus ; wherefore when,
 Like an image flower wrought, thou comest
 Through the sky, have not young goddess
 Placed thee among their long black locks ? or bees
 In lotus dwelling oft encircle thee ?—*Macready*

It is remarkable that in the descriptions of personal charms the poets are at one with each other in using plants and their parts for various comparisons.

In the following verses of the *Kavyasēkhara* a forest is compared to a woman :—

කමලවරලස නිලුපුලන් කෙත් සුරත් බිඹුවැල් ලවන ගේ
 කමර වන කොදදසන් මදකල සුසුන් කමපල කොමල ගේ
 නිසර පියසුරු බිඟු වසාගෙද කණාරඹ වටොරින් යු ගේ
 මකකොවුල් සර පිය තෙපුල් දෙක ඵවන දිව්වන් දිඟුකෙගේ

Tamalu waralesa nilupulan net surat bimbuwel lava nate
 Tambarawata koṇḍa dasan madanala susun tambapalu komalate
 Tisarapiyayuru biṅgu wasaroda kaṇaramba waṭorin yuté
 Mata kowulsara piyaṭepul dena evana ditiwan diṅgunete.

He saw that magnificent forest, which was like unto a fair lady whose charming voice was the *kokila's* music, whose thighs were the golden plantain trees, locks like unto [clusters of] bees, bosoms the golden *hansas*, soft palms the lotus petals, whose breathing the calm breeze, teeth the jasmine flowers, face the lily, red lips the *kem*, eyes the blue lotus, and flowing hair the *patchouli* creeper.

Another poet, Alagiyawanna, thus compares a woman :—

කෙතු මුවකුසුමු පු	☉
කරදර සරණ නවද	☉
පුන්තන අමාප	☉
එපුර ලීය කප්ලියන් එකතු	☉
Netu muwa kusumudula	
Karadara saraṇa nava dala	
Puntana amápala	
Epuraliya kapliyan ekatula.	

The women of that royal town were like “the wishing tree,”
 Their mouths and eyes, its blossomed flowers, right beautiful to see;
 Palms, lips, and feet were like the leaves beside the tender shoots,
 Their full-orbed bosoms like that tree's ambrosial precious fruits.—

Steele.

The above two characteristic verses will convey an idea of the methods by which the Sinhalese poets made their comparisons from plants. There are numerous instances where they describe each personal charm and compare it to some well-known plant, but in the verses quoted such comparisons are brought together in a small compass.

VI.—PLANTS IN RIDDLES.

There is many a riddle both in verse and prose current among the villagers which has for its meaning a tree or a part of it. The trees which are generally put into riddles are common, either by being used as food or widely met with. I give here some of the more prominent ones which I have been able to gather :—

අපේ ගෙදර වැටුණුල්ලේ රනේ	යා
මොණර සේම පිල් විදහාගනේ	යා
කුකුලා සේම කෙල් ඇති කරමොල්	යා
කෝරන්යාපු නලලේ ඇස් තුනේ	යා
Apégedara weṭamullé ranéyá	
Moṇaráséma pilvidaháganéyá	
Kukuláséma teḷēti karamoléyá	
Tóranýálu nalalé eṣṭunéyá.	

Friend, solve this : At the corner of our garden fence there is something with three eyes on the forehead, with a greasy or oily comb like that of a cock, and with feathers spread like a peacock's.

This refers to the cocoanut.

කොකෙක් සේම කඳ මැද්දෙන් බිදුග	ණ
මොණර සේම දසඅත පිල් විදහග	ණ
ගෙඩි කති කොල නොකති කවුරුත් බෙදුග	ණ
තෝරත් ශාල මේ තුන්පඳේ අසාග	ණ

Kokek séma kañda meḍden badágaṇa
 Moṇará séma dasa ata pil widahagaṇa
 Geḍikati kolanokati kavurut bedágaṇa
 Tóranýálu mé tunpade aságaṇa.

There is something like a crane clutching the stem of a tree, and, like the peacock, with its feathers spread in the ten directions. All eat its fruit, dividing among themselves, but not the leaves. Friend, listen to these three lines and solve [their meaning].

This refers to the arecanut tree.

ගසට නමකි ගස මලකොට එක නම	කි
ගෙඩියට නමකි ගෙඩි කනකොට එක නම	කි
සුඹුලට නමකි සුඹුලේ මදසට නම	කි
මේ තුන්පඳේ තෝරු කෙණේක් සපතෙ	කි

Gasata namaki gasa maḷakoṭa eka namaki
 Geḍiyaṭa namaki geḍi kanakoṭa eka namaki
 Sumbulaṭa namaki sumbulé madayaṭa namaki
 Mé tunpade térúkeṇek sapaneki.

The plant has one name [while living] and another when dead ; the fruit is known by one name, but when eaten by another ; the coat has a name and the kernel has another ; the person who propounds the meaning of these lines shall indeed be wise.

The above refers to rice. The rice plant is called *goyam*, the dead plant becomes *piduru* (straw), the fruit *wi*, when eaten it is *hál* and *bat*.

අටුවාවෙහි කෙටුවාවෙහි කොලේ සැ	පි
රතුකුලෙන් ගෙනුවා වෙහි මලේ සැ	පි
තුන්මස ගිය කලට කුකුලෙක් විතර සි	පි
අද බැරිනම් ගෙට තෝර එවනුව	පි

Aṭuwáweni keṭuwáweni kolé seṭṭi
 Ratunúlen getuwá weni malé seṭṭi
 Tunmasa giya kalaṭa kukuḷek wítara siṭṭi
 Ada beṛinan heṭa tórá evanuvatṭi

The leaf is as if it were bent and marked, the flower is as if it were woven with red thread. After three months it grows to the size of a cock, and if you cannot solve this to-day 'tis well to do it to-morrow.

This refers to the pineapple, and the following to sugarcane.

දිග්දිගට කොල ඇති	නි	Dig digāṭa kola ṭi
ඊලනට ගැට ඇති	නි	Īlaṅgāṭa geṭa ṭi
කන්නන්ට රස ඇති	නි	Kannanṭa rasa ṭi
කෝරන්ට අකමැති	නි	Tōranṭa akameṭi.

The leaves are rather elongated, and next to them are the knots. Though sweet to the taste for the eaters, to solve [the riddle] is not pleasant.

රදගෙදර යන පා	රේ
වික්කි විකිරි ගසක් ඇති	නි
මල් පුස්මයි ගෙඩි තිත්ත	යි
කොකෝරුවෝන් වොකු විස්ස	යි

Radāgedara yanapāre
Tikki-tikkiri gasak ṭi
Mal pusmbayi geḍi tittayi
Notéruwot ṭoku wissayi.

On the road to the dhoby's house there is a *tikki-tikkiri* tree. Its fruits are bitter but its flowers very sweet. If you tell me not what it is, I will give you twenty slaps.

This is the hal tree (*Vateria indica*), the following the jak:—

වත්තේ ගසෙන් ඩුන්ගාලයි කඩ	න්තේ
පිටින් කටුව ඇටමදුළුයි බොල	න්තේ
දෙකට කඩගහා හැලියේ දම	න්තේ
හපනානම් කොහොමද මේකේ ස	න්තේ
Watte gahen ḍungālayi kaḍanné	
Piṭin kaṭuwa ṭamaduḷuyi bolanné	
Dekata kaḍagahā heḷiyé damanné	
Hapanānam kohomada méké sanne.	

If you are clever tell me what that is which is plucked with a falling noise from a tree in the garden. There is a covering, and within you find a lot of carps which are cut in two and put in a chatty [for boiling].

කොල ලොකු ගහක් ගේ අසලම තිබේ	න්තේ
ලඬින් මුවේකුන් ඵලියට පනී	න්තේ
ඇවිරි ගණන් වෙන්වසයෙන් වැඩේ	න්තේ
හපනානම් කොහොමද මේකේ ස	න්තේ
Kola loku gahak gé asalama tibenné	
Uḍin muwékut eliyāṭa paninné	
Ḷvari gaṇan wenwasayen weḍenne	
Hapanānam kohomada méké sanne.	

Near the house is a tree with large leaves, and from its top springs a flower-head of conical shape. The fruits grow out in different places. If you are clever solve this.

This refers to the plantain.

VII.—PROVERBS.

A great number of proverbs, too, are based on the characters of trees. We have—

පුහුල්හොරු කරෙන් දැකෙයි.

He who steals ash-pumpkins will be known from his shoulders.

The ash-pumpkin (*Benincasa cerifera*) is a large fruit with an ashy powder on its surface. The thief taking it on his shoulders is sure to show the marks of the ash.

බල්ලන්ට ලෙළිපොල් කුමටද?

Of what use are unhusked cocoanuts to dogs?

Dogs cannot possibly husk cocoanuts in order to get at the kernel.

එල කැරි ගඟේ කුරුල්ලෝ වසන්නේ නැත.

Birds do not settle on a barren tree.

හනි ගහ කවද උසකක් වේද?

When can a single tree become an orchard?

අලේ ලොකුවට බැස්සොත් ඉන්දු එකාටත් උගේ අඹුවටත් හොඳලු.

If the yam produces better the planter of it and his wife will benefit.

හමිත් කොස්වත්තේ කන්ට පොලහත්වත් නැත්තේ.

Jak garden by name, yet not even a (tender) jak to eat.

හැඳෙන ගහ පෙන්නේදී දෙපෙන්නේදී පෙනෙයි.

A thriving plant will be known after the first or the second bud.

ගම්මිරිස් ඇවේ රස දැනෙන්නේ විකුඩාමලු.

Only when you bite the pepper seed do you feel its taste.

ගහ දන්න අයට කොල පෙන්වනවා වගෙයි.

Like showing the leaves to one who knows the tree.

Coming to the poets we find in the *Subāhashita* :—

සත්ඉණ සුන් සතකට වැඩ කලොත්ස	රු
අත්පිට දියුනුමා එම කරකිතිල තු	රු
වත්කර දිය තෙරවතුරු මුලට පියක	රු
දෙත් මුදුතෙන් පලරස රැගෙන අමසු	රු

Satgūṇa yut satahata weḍa kaḷot saru
 Atpiṭa diyunuwá ema karati nilaturu
 Watkara diya neraḷuturu mulaṭa piyakaru
 Det mudunen palarasa reḡeṇa amayuru.

If any services are done to good men they will always be productive of good then and there. For by pouring water to the root of the cocoanut tree you get the fruit from its top which gives a sweet water.

නිදන සත උදවන තෙක් ඊවිතිර	ණ
නිදන සත සතස නිබුනත් මුළුදෙර	ණ
නිදන වේස හිලි ජවුල සෙ මතවර	ණ
නිදන සසි පැවිසි ඉසිවරතුමො පොර	ණ

Nidana sata udāwanatek rivi kiraṇa
 Nidana sata sahasa tibunat muḷuderaṇa
 Nidana wéya gili jivulase matawaraṇa
 Nidana yayi pēvasi isiwaratumo poraṇa

Those men who lie in bed till the sun is up will lose their riches, even if they had the whole of this earth, like the pulp of the woodapple devoured by the elephant. This is the moral told by the ancient Irishis.

Dr. TRIMEN said that the Paper read was a very interesting and valuable one, and he was glad to find the subject taken up by a Sinhalese gentleman, as it required a thorough knowledge of the native languages. Speaking of the Sinhalese nomenclature of plants, he said that the Sinhalese do possess a sort of classification into genera and species, but not based on any structural points. He ought not to omit to mention the name of Mr. Moon, one of his predecessors in office, who did a great service to the Botany of the Island during the early days, when there was no literature on the subject, by the publication of his "Catalogue of Plants" at Colombo in 1824, which contains a full vocabulary of the Sinhalese names. In addition to this work on Botany, Moon did great service to

the Island in the establishment of the Gardens at Pérádeniya, and had no doubt some hard work in removing the plants from the old Gardens at Kalutara, whence, it must be remembered, all had to be carried with great labour over footpaths, as there were no roads then. Mr. Moon contributed many valuable Papers to the Colombo Literary and Agricultural Society, of which he was the Secretary for some time. Dr. Trimen said that he had paid a great deal of attention to the Sinhalese names of plants, but that those given by villagers require careful checking. Natives, when questioned about the name of a plant, never like to plead ignorance, but either invent some name based on the characters of the plant, or give it the name of some other plant. He found it best to get the name of any particular plant from several different sources and then compare and take the most reliable. He also said that the carpenters caused a great deal of confusion by giving the names of low-country trees to those found in the hill districts, where there were no villages, and hence no real names. He concluded by saying that a great deal was left to be done by Sinhalese gentlemen like Mr. de Silva in determining botanically several plants of which only the native names are at present known.

A vote of thanks was unanimously accorded to Mr. DE SILVA for his Paper.

Mr. J. H. BARBER proposed a vote of thanks to the chair, which was seconded by Mr. FREDERICK LEWIS and carried with acclamation, after which the Meeting terminated.

ROYAL ASIATIC SOCIETY, CEYLON BRANCH.

FOUNDED AS THE ASIATIC SOCIETY OF CEYLON,
FEBRUARY 7, 1845; INCORPORATED WITH THE ROYAL
ASIATIC SOCIETY OF GREAT BRITAIN AND
IRELAND, FEBRUARY 7, 1846.

RULES AND REGULATIONS.

THE SOCIETY AND ITS MEMBERS.

1. THE design of the Society is to institute and promote inquiries into the history, religions, languages, literature, arts, and social condition of the present and former inhabitants of the Island of Ceylon, with its geology and mineralogy, its climate and meteorology, its botany and zoology.

2. The Society shall consist of Ordinary Members and Honorary Members, who may be either resident or non-resident.

3. Members residing in Ceylon shall be considered resident: Members who do not reside in the Island, or who may be absent from it for a year or upwards, shall be considered non-resident.

ELECTION OF ORDINARY MEMBERS.

4. Any person desirous of becoming a Member of the Society shall be nominated by two or more Members, who shall give the candidate's name, address, and occupation, and shall state whether such candidate desires to be admitted as a resident or non-resident Member. Notice of such nomination shall be given in writing to one of the Honorary Secretaries fourteen clear days before the assembling of any Meeting of the Council of the Society at which it is to be considered.

5. The nomination shall remain exposed in the Library until the day of the Meeting of the Council, and any objection to the election of a candidate named therein shall be made in writing to one of the Honorary Secretaries at least three days before such Meeting.

6. The several nominations shall be considered and decided upon by the Council, and at the next General Meeting of the Society the names of the Members elected by the Council shall be announced.

HONORARY MEMBERS.

7. Any person who has rendered distinguished service towards the attainment of the objects of the Society shall be eligible for election as an Honorary Member for life.

8. All Medical Officers of Her Majesty's Regular Forces stationed in Ceylon shall be *ex officio* Honorary Members during the term of their residence in the Island.

9. Honorary Members for life shall be elected only on the nomination of the Council at a General Meeting of the Society.

10. There shall not be at one time more than twelve Honorary Members of the Society besides the Military Medical Officers above mentioned.

11. An Honorary Member so elected shall be informed of the election by letter bearing the seal of the Society and signed by the President and one of the Honorary Secretaries.

12. Honorary Members shall be entitled, without payment, to all the privileges of Ordinary Members.

THE COUNCIL OF THE SOCIETY.

13. The Council of the Society shall consist of the Honorary Officers and twelve other Members of the Society.

14. The Honorary Officers shall be the President, Vice-Presidents, Treasurer, and Secretaries.

15. The Honorary Officers and the other Members of the Council shall be elected annually at the Annual General Meeting.

16. Of the twelve Members of the Council who are not Honorary Officers of the Society, four Members shall retire annually, two by seniority and two by reason of least attendance. Of the four retiring Members two shall be eligible for immediate re-election and two for re-election after the lapse of one year.

17. Should any vacancy occur among the Honorary Officers or Members of the Council during the interval between two Annual General Meetings, such vacancy may be filled up by the Council.

18. Five Members of the Council shall constitute a quorum.

19. At Meetings of the Council the chair shall be taken by the President, or, in his absence, by the Senior Vice-President present, or, in the absence of the President and Vice-Presidents, by some other Member of the Council.

20. The affairs of the Society shall be managed by the Council, subject to the control of the Society. The Council shall have power to appoint Committees for special purposes and to report upon specific questions. Unless otherwise arranged, three Members shall form a quorum of such Committees. The Council may also appoint paid officers to

execute especial duties in connection with the working of the Society.

21. The Honorary Treasurer shall keep an account of all moneys received and paid by him on account of the Society, and submit a statement thereof to the Council. The accounts shall be audited annually, and the report of the Auditor, appointed by the Council, shall be read at the Annual General Meeting of the Society.

MEETINGS OF THE SOCIETY.

22. The Annual General Meeting of the Society shall be held in January, to receive and consider a report of the Council on the state of the Society; to receive the accounts of the Honorary Treasurer and the report of the Auditors thereon; to elect the Council for the ensuing year; and to deliberate on such other questions as may relate to the regulation, management, or pecuniary affairs of the Society.

23. At General Meetings the chair shall be taken by the President, or, in his absence, by the senior Vice-President present, or some other Member of the Council. Provided that if the Governor of Ceylon for the time being shall have consented to become Patron of the Society, His Excellency shall be requested, whenever present, to take the Chair.

24. Five Members shall form a quorum.

25. The course of business at General Meetings shall be as follows:—

- (a) The Minutes of the preceding Meeting shall be read by one of the Honorary Secretaries, and on being accepted as accurate, shall be signed by the Chairman.
- (b) Donations presented to the Society shall be announced or laid before the Meeting.
- (c) Any specific and particular business which the Council may have appointed for the consideration of the Meeting shall be discussed.

(d) Any question relating to the regulation, management, or pecuniary affairs of the Society, of which 14 days' notice in writing shall have been given to one of the Honorary Secretaries, shall be discussed.

(e) Papers and communications shall be read.

26. Every Member of the Society shall have the privilege of introducing visitors at a General Meeting, either personally (in which case the names of such visitors should be notified to one of the Honorary Secretaries) or by a card to be handed to one of the Honorary Secretaries containing the name of each visitor and of the introducing Member.

27. General Meetings shall be convened by the Council at its discretion, or upon the written requisition of ten Members of the Society.

28. Public notice shall be given of General Meetings, but business such as is provided for in section 25, sub-sections (c) and (d), can be introduced only at General Meetings. At least seven days' notice, together with an intimation of such special business as is to be brought forward for consideration, shall be given to Resident Members.

PAYMENTS BY MEMBERS.

29. Every Resident Member shall pay on admission an entrance fee of Rs. 5·25 and as subscription in advance for the current year a sum of Rs. 10·50. Every Non-resident Member shall pay an entrance fee of Rs. 5·25 and as subscription in advance for the current year Rs. 5·25. Provided that in the case of Members admitted in the last quarter of any year the subscription for that year shall be remitted.

30. The annual subscription (viz., Rs. 10·50 for Resident Members and Rs. 5·25 for Non-resident Members) shall be due on the 31st day of March of each year; and the Council shall have power to strike off the roll of the Society the name of any Member whose subscription is more than two years in arrear.

31 (a). The following compositions are allowed in lieu of the annual subscriptions due by Resident Members, and payment thereof shall entitle to Membership for life, viz. :—

		Rs.	c.
Upon election	...	...	115 50
After two annual payments		...	84 0
After four	do.	...	73 50
After six	do.	...	62 0
After ten or more do.		...	50 0

(b) The following compositions are allowed in lieu of the usual subscriptions due by Non-resident Members, and payment thereof shall entitle to Membership for life, viz. :—

		Rs.	c.
Upon election	...	...	60 50
After two annual payments		...	42 0
After four	do. ...	...	36 75
After six	do. ...	...	31 0
After ten	do. ...	...	25 0

32. The Publications of the Society shall not be forwarded to any Member whose subscription remains in arrear beyond two years.

33. A Member's resignation shall not be accepted by the Council until all arrears of subscription due by such Member have been paid.

PAPERS AND PUBLICATIONS.

34. The Society shall from time to time publish a Journal containing papers, illustrations, notes, or letters on subjects submitted to, or discussed before, the Society, together with all Proceedings of the Meetings of the Council and General Meetings.

35. The Council shall appoint a Standing Committee to decide on the admission of Papers into the Journal, or on their being read at the General Meetings of the Society.

36. The Honorary Secretaries shall edit the Journal and send a copy, post free, to each Member of the Society entitled thereto whose address is known. Members requiring more than one copy of the Journal may be supplied with them at half the published price.

37. The author of any Paper published in the Journal shall be entitled to twenty-five copies of such Paper.

THE LIBRARY.

38. The Library shall be open on Monday, Tuesday, and Thursday from 10 A.M. to 6 P.M., on Wednesday and Saturday from 10 A.M. to 8 P.M., and on Sunday from 3 P.M. to 8 P.M., but not on Christmas Day or New Year's Day.

39. Every Resident Member shall be at liberty to borrow any books from the Library, except such works as may have been reserved for use in the Library itself.

40. For every book so borrowed a receipt shall be signed by the Member borrowing it, on one of the printed forms provided for the purpose.

41. No Member shall borrow at the same time more than three sets of books, without the special permission of one of the Honorary Secretaries.

42. Books borrowed may be retained for a month. If not asked for during this period, the loan may be renewed by the Member signing a fresh receipt.

43. All books borrowed shall be returned to the Library before January 1 in each year.

44. The Council may by special resolution sanction, on such terms as it thinks fit, the loan of manuscripts or of works reserved for use in the Library; and may under special circumstances suspend the operation of rule 39.

MISCELLANEOUS.

45. Members of the Royal Asiatic Society of Great Britain and Ireland shall be entitled to the use of the Library on the same terms as ordinary Members of this Society, and to attend the Meetings of the Society. If desirous of joining this Society, they are eligible for admission without the formalities prescribed by rule 4.

46. Any of the foregoing rules may be altered or repealed at a General Meeting provided two-thirds of the Members present shall vote for such alteration or repeal.