JOURNAL

OF THE

CEYLON BRANCH

OF THE

ROYAL ASIATIC SOCIETY,

1849-50.

VOLUME II.

No. 5.

"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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ERRATUM.

☞ In head-lines to Journal, Volume II., Nos. 4 and 5, omit "Part I." and "Part II."

ROYAL ASIATIC SOCIETY,

CEYLON BRANCH.

REMARKS ON SOME ANALYSES OF THE COFFEE OF CEYLON, WITH SUGGESTIONS FOR THE APPLICATION OF MANURES.

By Dr. Rudolph Gygax.

(Read June 9, 1849.)

Having had my attention drawn to an account of some analyses of the Jamaica coffee berry, made by Mr. Herepath, the Liverpool chemist, I have paid some little attention to the subject of the coffee plant of this Island, forming as it does so very important a feature in the resources of this Colony. The desire that I thus felt for obtaining some information regarding the constituent parts of the Ceylon tree and its fruit was heightened by a knowledge of the fact that not a few of those coffee estates which once gave good promise of success are now in a very precarious state of production.

I much regret that the means at my disposal have not allowed me to carry out any quantitive analysis, but the results of my labours are sufficiently accurate for present purposes. I have analysed the wood and fruit of trees from two different localities, as well as the ashes of some plants sent me from the Rájawella estate, near Kandy, and they all tend to bear out the result of Mr. Herepath's inquiries. Placing the substances traced in the coffee plant in the order

in which they occur in the greatest quantity, they will stand thus :—

Lime.		Magnesia.
Potash.		Phosphoric acid.
	Other acids.	

Of these, lime is by far the most prominent, forming about sixty per cent. of the whole.

I cannot help, therefore, arriving at the conclusion that to cultivate coffee with any degree of success the first-named substance must be present in the soil, or, if not present, must be supplied to it by some process.

Now, it is a singular fact that the rocks and soils of Ceylon are greatly deficient in alkaline matter, and taking this view of the case, one no longer wonders that many estates cease to produce coffee. That all, or nearly all, the plantations did in their first year or two of bearing produce liberally in fruit may readily be accounted for by the fact that the alkaline poverty of the soil was enriched by the burning of the vast quantities of timber which lay felled on all sides. Whilst this temporary supply lasted, all was well with the planter. Heavy rains and frequent scrapings of the steep land by the mamoty soon dissipated this scanty supply, and short crops are now the consequence.

But nature, ever bountiful, ever ready to compensate for all deficiencies, has provided to our hands a ready means of remedying this evil of the soil by scattering throughout most parts of the interior supplies of dolomitic limestone. The dolomite of Ceylon is not pure,—far from it,—being mixed freely with apatite or phosphate of lime. Even in this very accidental circumstance the coffee planter is aided; for the phosphoric acid thus combined with the limestone is the very substance required in addition. Some of the finest properties in the Island are situated on a limestone bottom, and these no doubt will continue to yield abundant crops for a very long period.

It has been urged against this opinion, that in some districts where coffee planting has proved a complete failure, dolomite is found most abundantly; but I have very little doubt that the dolomite here alluded to is only magnesian limestone, of which a great deal exists in the Central Province, and which is most inimical to the coffee bush.

I am aware that already several manures have been tried on coffee with varying degrees of success. Guano has, I believe, quite failed, and is, besides, very costly. Cattle manure is said to be effective, and no doubt it is; but it is a costly and troublesome affair. Bones, ground fine, are now being tried, though they cannot but prove most expensive, especially when imported.

A ton of bone dust consists of :—

Animal matter	...	746 lb.
Phosphates of lime, &c.	...	1,245 lb.
Carbonates of lime, &c.	...	249 lb.

The virtue of bones lays in the phosphates far more than in the animal matter, and thus their action on soils is felt for many years after their application. The Singhalese cultivators of paddy about Colombo and Galle appear to have been long aware of the fertilising effects of this kind of manure, and import the article in dhonies from many parts of the coast. They bruise them coarsely before applying them.

The partially decomposed husks of the coffee berry have been tried for some years, and successfully; but they are difficult of collection and bulky to remove from one part of the estate to the other.

In Europe it would appear that little is yet known as to the causes of the fertilising effects of oil-cake: some suppose them to arise mainly from the oil left by the crushing process, but this is not at all clear. I do not, however, see that we must look for much assistance from poonac as a manure for coffee; for the cocoanut tree it is doubtless most

valuable. But we have yet to learn that beyond supplying so much more vegetable matter, it helps the action of the soil on the roots of the coffee bush, which, after all, is what is really required.

For the proper application of the dolomite to land as manure, it should be freely burnt in a kiln with a good quantity of wood, the ashes of which should be afterwards mixed with the burnt lime, and the whole exposed for several days to the action of the air, sheltered of course from the weather. The mixture should be applied just before the setting in of the monsoon rains ; if the land be tolerably level the lime may be scattered broadcast on the surface, though not quite near the plants. When the estate to be manured is steep, then the substance to be applied should be placed in ridges cut crossways to the descent of the slopes.

About one hundredweight to the acre would be ample for most lands ; some may, however, require more. The contents of the husk-pits might advantageously be mixed up with the burnt lime when a sufficiency of it has been saved.

A DESCRIPTIVE CATALOGUE OF THE WOODS OF CEYLON.

By John Capper.

(Read August 25, 1849.)

Thickly covered as the greater portion of this Island is with dense forests or jungle, it cannot be matter of surprise that its woods should be found in the greatest variety. This fact seems to have been noticed in almost every published account of the Island. All the works which treat of Ceylon make allusion to its many useful and ornamental woods, though very few of these have entered upon any detail. Indeed, we can glean but scanty information even from the best of these writers.

Knox, in his account of Ceylon, tells us but little on this subject, and the same may be said of Perceval; whilst Cordiner gives merely a list of some dozen kinds of woods. Bertolacci tells more than any other writer of the state and value of the timber trade of the Colony, though he does not seem to have been acquainted with many varieties of woods. He considered that by the acquisition of the Kandyan territory the British had opened the way to great resources as regards timber, and beyond a doubt the vast tract of country stretching from the Kandyan mountain range through Bintenna, northwards and eastwards, comprises forests full of most valuable timber. This source of wealth is, however, at present nearly closed against us from the utter inability of the natives to transport any produce of weight to the sea coast, on account of the impassable state of the Mahaveli-ganga, a noble river which, according

to Mr. Brooke's report, might easily be rendered navigable for one hundred and thirty miles from Trincomalee, and which runs during a great part of its course through a dense forest of ebony, satinwood, and halmililla.

A later writer on Ceylon—Mr. Bennett—enumerates ninety varieties of woods by their native names, but enters into no detail whatever as to their particular uses or localities, though he calls them "Kandyan woods."

A list of about two hundred varieties was taken home by the late Sir A. Johnstone, and by him presented to the parent Society, which afterwards, on the appointment of Mr. Stewart Mackenzie to this Government, requested him to collect and send the Society specimens of, and information regarding the woods. This was not done, and I believe nothing more has been attempted, save a few small collections by various individuals ; amongst these may be mentioned the specimens and catalogue presented to this Society by Mendis Muhandiram.

In offering a few remarks accompanying the catalogue which I have prepared of the woods of this Island, I consider that the subject is no more than barely touched upon. The few facts, however, now thrown together may be the means of inducing some of our many outstation members to contribute to our stock of information.

The first step towards an account of Ceylon timber is undoubtedly to form a catalogue. The list with this I have compiled by the aid of others. It comprises not less than four hundred and sixteen varieties, which, it is believed, are nearly all those which have been observed, though it is possible that in the dense forests of Bintenna there may be yet many new varieties.

But a small portion of these are known by English names, and I have as yet been able to find the botanical names of very few. A column is added to show the comparative

value of these woods for useful purposes, in which they are numbered 1 to 4.

Those numbered 1 are the most valuable, either for ornamental-work or for building purposes, and able to stand long exposure to weather.

The woods marked 2 are those which, though good, are not so strong nor so well able to bear exposure out of doors.

No. 3 are such as are only used for inferior purposes, and seldom, if ever, employed for house-building, except perhaps by the natives. They are used chiefly for packing-cases, dry casks, ceilings, stands for goods, common door or window frames, partitions in rooms, or similar purposes.

No. 4 comprises all those woods which are unfit for carpenters' work, and are either quite useless, or only employed for constructing mud and stick houses or other rough and temporary jungle work.

Of the four hundred and sixteen varieties, there are :—

33 of No. 1.	162 of No. 3.
82 of No. 2.	139 of No. 4.

Of those included in the first class, the most prominent are the calamander, the *kaḍumbériya*, the ebony, and satinwood, the two latter being best known, as they are found in sufficient quantities to enable them to be used for building or other purposes, as well as for ornamental works.

Ebony is too well known to require description. It grows chiefly in the Northern and Eastern Provinces, but it is also met with in the Kandyan district: a large forest of it existed at one time in the vale of Dumbara, which has since given place to coffee bushes. It is not used for any purposes in Ceylon beyond furniture and articles of ornament, but it is exported largely to Europe at times. It is far more difficult to work up than satinwood, and also more brittle.

The *kaḍumbériya*, or bastard ebony, is of a fine black colour, deeply and richly veined with red, and admirably adapted for furniture; it is excessively hard, but not so

plentiful as ebony. It is found in the same districts as the preceding.

Calamander is valuable, not only on account of its beauty, but also by reason of its increasing scarceness; it is only to be met with in the forests near Ratnapura and in the Pasdun kóralé, and even there it is found to be very small. The tree is of very slow growth, the natives believing that one of an ordinary size is at least three hundred years old; it is pretty certain that in a very few years there will not be sufficient calamander in Ceylon to make a single pair of couches.

The satinwood is more plentiful in certain localities than either of the preceding: it is found chiefly in the Northern, North-Western, and Eastern Provinces, growing generally to the height of one hundred feet. The variegated or flowered satin is the most valuable for furniture, but it is found in comparatively small quantities—probably not more than three per cent. of the trees on the east coast yield this quality; but in the country about Puttalam it is said to prevail to the extent of fifteen or twenty per cent. Satinwood is admirably adapted to all purposes requiring great strength and resistance to weather. It is much used for piles of bridges, and is almost, if not quite, the only wood which will stand as teeth in cog-wheels of machinery,—ebony, though harder, being too brittle. In the Eastern Province this wood is most abundant, and nearly all the houses are built of it, even down to the flooring.

There are some other woods which would appear to be well adapted for ornamental furniture work, though, with the exception of the *nedun* wood, not yet employed for such purposes: these are the *nedun*, the tamarind, and the *del* woods, all of which, save the last, are hard, of a close grain, admitting of a fine polish, and tolerably abundant in the Western and Southern Provinces.

After the four first-enumerated woods may be placed others equally useful, though less valuable, because more abundant, such as the teak, jak, *kina*, *milila*, *súriya*, *hal-milila*, *ná*, &c. Of these, the only one employed for furniture is the jak, which, when well selected and polished, very frequently equals good mahogany. The want of grain in the others named alone prevents them from being used for similar purposes, as they are equally compact in texture and smooth under the tool.

It is doubtful if teak is indigenous to Ceylon, but however this may be, the chief supply is derived from Moulmein and Cochin, though a good deal is to be met with in various parts of the Western and Southern Provinces, having been planted by the Dutch Government to a considerable extent. The quality of this cultivated timber is superior to that of the imported, though it does not often arrive at the same size. For quality the Ceylon teak stands first, the Cochin second, and the Moulmein timber last.

It will not be easy to find a tree more generally useful than the jak, if we except the cocoanut tree. Scarcely a native garden of any size is to be found without at least one spreading its ample shade over the space before the dwelling, and yielding its abundant harvest of fruit. Jakwood, besides being most valuable for furniture, is admirably adapted for all purposes of house or boat-building. It stands the action of the weather and attack of worms, it lasts longer under water, when used in boats, than does teak, and it is far superior to that wood for upper planking of boats, where it is liable to come in frequent collision with other bodies. For this quality of resistance jak is only inferior to satinwood. *Domba*, being cheaper, is usually employed to form the stems and stern posts of large cargo boats. The jak tree hollowed out makes an excellent canoe ; indeed, there are very few purposes for which this wood is not adapted.

Milila is superior to jak for some purposes, being of a rather closer texture. It is much preferred for frames of doors and windows, as it is not liable to warp or shrink; it is, however, rather more scarce than jak, and in the Western and Southern Provinces it is comparatively rare.

Hal-milila is a most useful wood for casks, especially as packages for oil or arrack; indeed, there is no other wood in sufficient quantity adapted for the same purpose. It is close grained, free from resin, and very pliable in the cooper's hands. It is, moreover, a very clean timber, and does not impart colour or taint to any liquid. Teak has been sometimes used for oil casks on the coast, but it is not liked here, as from its brittleness it is more liable to fracture. *Hal-milila* grows to a great height, and usually very straight; it is used frequently for beams of a large span, though not preferred for this purpose. It is also in great request amongst carriage-builders for spokes of wheels and several parts of the carriage body. The principal supply to the Colombo market comes from Trincomalee and Batticaloa, where, especially between the latter place and the Bintenna country, immense forests of it are found adjoining rivers, without the aid of which the cost would be greatly enhanced in conveying it to the sea coast. The timber contractors employ in the felling of this and other woods the village Veddás of Bintenna, and by their aid supply the owners of small vessels and dhonies, who are mostly Moormen, and these bring it round to Colombo, the profit on the transaction giving them a very fair freight for their vessels.

The *kina* is another lasting and useful wood, and from its great length and straightness is generally employed for masts and yards of vessels. It is to be met with in all the maritime provinces of the Island.

The principal use of the *súriya*, or Persian wood, is for

the shafts and other bent parts of carriages. The tree is too well known as the tulip tree to require any description.

Not the least important of these woods classed as second in value are the palmyra and *kitul:* both palms are valuable for building purposes, for which they are very lasting, as well as for yeilding a good quality of jaggery; from this in some places a fine white sugar is made. The former of these trees grows chiefly in the Northern Province, whence a large trade is carried on to Colombo and the opposite coasts of India. The chief use of the palmyra is for rafters, that of the *kitul* for reepers. These latter are known commonly as nipera reepers, and are dearer than any other kind; they last in many instances for fifty or sixty years. The *kitul* is used, in addition to the above purposes, for handling tools, and for spears for hunting wild hogs and porcupines. It grows in various parts of the Island, though not abundantly.

The *gal-mendóra* is very good timber for beams, wall-plating joists, planking, or similar purposes, and is much used as a cheap substitute for more durable wood. It is abundant in most parts of the Island, and grows to a large size.

In addition to the above enumerated, there are some others of this class equally valuable, but by far too rare to be cited as useful woods.

In the third class there are a far greater number than of the previous descriptions. Foremost amongst them in value are the *muruta*, *godapara*, *kiri-hembiliya*, *hora*, *gona*, *ubbériya*, *hal*, and *diyapara*. These are all good for secondary house-building use under cover, and the three former well adapted for dry coopering purposes. The *diyapara* and *muruta* for casks may be ranked just before *hora*, *hal*, and *ubbériya*. They are all light in texture, and easily worked; the most abundant of them is the *hal* and *hora* wood.

These are the woods almost universally employed for coffee casks, their cheapness greatly recommending them for the purpose. The former abounds in all the forests of the maritime and Central Provinces. I am of opinion, however, that more unsuitable wood could hardly be found than this and the *hora;* indeed, unless they be remarkably well seasoned or deprived of their resinous and gummy matters by boiling, they are about the worst timber that could be used for coffee. I have seen floating on the surface of water in which these woods had been boiled a scum, an inch thick, of dark gummy matter, the liquor emitting an offensive odour. In addition to this the porous nature of the wood is an objection not to be overlooked. These are disadvantages which do not occur in other kinds of wood to nearly so great an extent.

Although being placed in the third class for reasons already assigned, the cocoanut is by far the most valuable of the trees of Ceylon to the natives, and regarded in a commercial point of view, it must be so considered by Europeans. Its use generally as a building wood is confined to the natives, who require no other with which to construct their humble dwellings. For rafters it is also used generally. The harder part of the tree is capable of being worked up for furniture and ornamental purposes, admitting of a very good polish; it will not, however, stand any long exposure to weather, and the green wood will decay in ten days or a fortnight if left exposed. There would appear to be no portion of this truly valuable tree lost to the Sinhalese: every part from the root to the dried flower and the stalks of the leaves is placed to its own proper use.

In the fourth class are found all those woods which are either quite useless, save for firewood, or are only employed for the most inferior works, such as fencing gardens and for the walls of temporary mud and stick huts. They are

mostly of very rapid growth and equally rapid in decay, some of them falling to pieces within a few days of being felled.

I know of no peculiarity attaching to any of this class of woods, save to the *riti-gaha*, the wood of which is perfectly useless, but its bark is turned to good account by the natives of Badulla and Uva, in the forests of which districts the tree chiefly grows. The bark is very pliant and durable, and the villagers avail themselves of these qualities by stripping it from the tree in large pieces and sewing it up into bags, in which they convey coffee or paddy to market on their bullocks' backs. The *kirilla*, or corkwood, is useful on account of its softness for lining insect cases.

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*CATALOGUE OF CEYLON WOODS.**

Sinhalese Name.	English Name.	Botanical Name.	Quality.	Abundance.
Aaridde	—	—	3	B
Agalandere	Malabar Nut	—	3	B
Ahu	Broad-leaved Morinda	Morinda sp.	4	B
Akmelle	—	—	3	C
Alebeiriye	—	—	3	B
Aleheriliye	—	—	3	C
Alerin	Caneru	—	4	C
Alpedde	—	—	3	B
Aluboa	—	Calyptranthes jambolana	3	B
Alukettiya	—	—	4	B
Aludel	Dell	Artocarpus pubescens	2	B
Ambe	Mango	Magnifera indica	4	C
Angene	—	—	3	C
Ankende	—	—	4	B
Anoana	(Netted) Custard Apple	Anona squamosa	4	C
Arreloo	Gallnut	Terminallia chebula	2	C
Arreliye	Oleander	—	4	C

* Reprinted exactly from the original edition of 1849.—*Hon. Sec.*

Sinhalese Name.	English Name.	Botanical Name.	Quality. Abundance.
Arremene	—	—	2 C
Attikka	—	Ficus sp.	4 C
Atoketiye	—	—	4 C
Autton	—	—	4 C
Badoella	—	—	4 B
Bairiye	—	—	4 C
Bakmie	—	—	3 C
Bale	—	—	4 C
Baludan	—	—	4 B
Bambere	—	—	2 C
Bappede	—	—	3 C
Batdambe	—	—	3 C
Battedombe	Clove Tree	—	3 B
Battekeena	Wild Keena	Calophyllum acumenatum	4 B
Battekirille	Shining-leaved Erythoxylon	—	3 D
Bely	Bengal Quince	Ægle marmelos	4 C
Beligobot	Talia-leaved Hybiscus	—	1 C
Beriliye	—	—	2 C
Bilin	Bilimbi Tree	Averrhoa bilimbi	4 C
Boagaha	Buddha	Ficus religiosa	4 C
Boakiri	—	—	2 C
Boamboo	—	—	4 B
Boamea	—	—	4 B
Bookende	Malacca Tree	—	4 C
Borre	—	—	3 B
Booloo	—	Terminalia bellerica	4 C
Burutte	Satinwood	Chloroxylon Swietenia	1 C
Cabalmara	—	—	4 B
Cadol	Leafy Mangrove	Rhizophora Cadel	2 B
Cadoemberiye	Bastard Ebony	Diospyros ebenaster	1 C
Cadoroo	Spear-leaved Cerbera	—	4 A
Cahamilille	—	—	1 C
Cahate	Astringent Tree	Eleocarpus serratus	2 C
Cahadawata	—	—	3 D
Cadju	Cashew Tree	Anacardium occidentale	4 H

Sinhalese Name.	English Name.	Botanical Name.	Quality.	Abundance.
Calemadowa ...	— ...	— ...	3	C
Caletive ...	Cork-barked Quatteria...	— ...	3	C
Calooberiye ...	— ...	— ...	4	C
Caluhaberele ...	— ...	— ...	3	B
Calukeale ...	— ...	— ...	2	B
Calumediriye ...	Calamander ...	Diospyros hirsuta ...	1	D
Caluverei ...	Ebony ...	Diospyros ebenus ...	1	C
Carawoo ...	— ...	— ...	4	C
Carepinche ...	— ...	Bergera Konigii ...	4	C
Carewele ...	— ...	— ...	4	C
Carre ...	Small-flowered Canthum	— ...	2	B
Carreboo ...	— ...	— ...	3	B
Catepete ...	Horny Alengeiena ...	— ...	2	C
Catoandere ...	— ...	— ...	1	D
Catoburute ...	Thorny Satinwood ...	— ...	1	D
Catoembool ...	Five-leaved Silk Cotton	— ...	4	B
Catokende ...	— ...	— ...	4	C
Catoekeale ...	Knotty Thorn ...	— ...	2	C
Caotkittool ...	Thorny Nipéra ...	— ...	3	C
Catokurundu ...	Thorny Scolopia ...	— ...	3	B
Catoveiriye ...	— ...	— ...	3	C
Caumorangau ...	Carambela ...	Averrhoa carambola ...	3	C
Cauperiburute	Caffre Satinwood ...	— ...	1	D
Coan ...	Ceylon Oak ...	— ...	3	B
Coapy ...	Coffee ...	Coffea arabica ...	3	A
Cobbae ...	Saw-leaved Ornitrophe	Ornitrophe cobbe ...	2	B
Coboamelle ...	— ...	— ...	3	C
Cocatiye ...	— ...	— ...	3	B
Coembook ...	— ...	Pentapere paniculate...	2	B
Cohombe ...	— ...	— ...	2	C
Cohukiriille ...	— ...	— ...	4	A
Colon ...	— ...	— ...	3	B
Coodeludehy ...	Caffre Lemon ...	— ...	3	C
Cukurumaan ...	— ...	Randia dumetorum ...	3	A
Cooretiye ...	— ...	— ...	2	C
Corecaha ...	— ...	— ...	2	C
Cos ...	Jak ...	Artocarpus integrifolia	1	A
Cosdambe ...	— ...	— ...	2	B

Sinhalese Name.	English Name.	Botanical Name.	Quality. Abundance.
Cotekimbula	Double-leaved Fig	—	4 B
Cottepol	—	—	3 C
Cottambe	Country Almond	Terminalia catappa	3 B
Cukule	—	—	3 B
Cummelle	—	—	4 C
Curutiyedambe	—	—	3 B
Curundu	Cinnamon	Cinnamomum zeylanicum	4 A
Daanga	Long-flowered Spathodea	—	4 B
Dadamary	—	—	4—
Dalook	Triangular Spurge	Euphorbia antiquorum	4 C
Dambe	—	—	2 C
Daminne	—	—	3 B
Damonne	—	—	3 C
Dampere	—	—	4 D
Dan	—	—	4 A
Daweta	—	—	2 C
Dawalkurunda	—	—	4 B
Debere	—	—	3 B
Dedicaha	—	—	3 B
Dehy	Lime	Limonia sp.	3 A
Deloon	Pomegranate	Punica granatum	3 C
Demete	—	—	4 B
Dimbool	Wood Apple	Feronia elephantum	4 B
Devicadaroo	—	—	4 B
Diyebeiriye	—	—	3 B
Diyehaberde	—	—	3 B
Diyeheliya	—	—	3 A
Diyenan	—	—	2 A
Diyapara	—	Dillenia sp.	3 B
Diyeratembela	—	—	3 B
Diyetanliye	—	—	3 C
Dyietorene	—	—	2 B
Dodanpana			3 B
Dombe	Wild Jack	Calophyllum inophyllum	2 B
Dombekeena	Wild Keena	—	3 B
Dommele	Rosin Tree	—	3 B

Sinhalese Name.	English Name.	Botanical Name.	Quality. Abundance.
Doon	—	—	1 B
Donemadelan	—	—	3 C
Eapette	Tage-leaved Alungria	—	2 B
Eariye	—	—	4 B
Eheale	Purging Cassia	Cassia fistula	2 B
Eheate	—	—	4 B
Elekeheriye	—	—	1 C
Elewaran	—	—	4 C
Elemediriye	—	—	2 D
Emberelle	—	—	3 B
Embille	Small-leaved Bramble	—	3 C
Embooldeloon	Sour Pomegranate	—	3 D
Embooldodan	Sour Orange	—	3 C
Emboolbakmee	—	—	4 C
Erebadoo	—	—	4 A
Esbedde	—	—	3 B
Etdemete	—	—	4 C
Eteheriliye	—	—	3 B
Ettekerean	—	—	3 B
Etembe	Wild Mango	Mangifera indica	4 A
Etone	—	—	4 A
Etteiriye	Ash-leaved Munuya	—	1 D
Ettoare	—	—	4 C
Galandere	—	—	2 D
Galis	—	—	2 C
Galkerew	—	—	2 C
Galkulu	—	—	2 C
Galmendora	Mendora	—	2 C
Galmora	—	—	2 B
Gasiyembela	—	—	2 C
Galvereloo	—	—	3 C
Gammanlo	—	—	2 C
Gammee	Oleandu Cassia	—	2 A
Gandepane	—	—	4 B
Gedeboo	—	—	4 B
Geriette	—	—	3 B

Sinhalese Name.	English Name.	Botanical Name.	Quality. Abundance.
Getenitol ...	—	... —	... 2 C
Gerikuloo ...	—	... —	... 2 C
Goanebaroo ...	—	... —	... 3 B
Godacadooroo	Poison Nut	... Strychnos nux vomica	... 4 B
Godapara ...	—	... Dillenia dentata	... 2 A
Goketo or Kana Goraka	... Gamboge Tree	... Hebradendron gambogioides	... 3 B
Gonele ...	—	... —	... 3 B
Goolmore ...	—	... —	... 4 B
Gonkea ...	—	... —	... 3 C
Gonne ...	—	... —	... 4 B
Goreka	... Gorka Tree	... Garcinia sp.	... 4 A
Gotokeena	... Large Keena or Calaba	Calophyllum calaba	... 3 C
Gurukeena	... Small Keena	... —	... 3 B
Gereike ...	—	... —	... 3
Goorinde ...	—	—	... 4 C
Halpenne ...	—	... —	... 4 B
Hakurusiyembel	... Jaggery Tamarind	... —	... 3 C
Hal	... Hal	... Vateria indica	... 3 A
Halmendora ...	—	... —	... 3 B
Halmililie	... Halmililie	... Berria ammonilla	... 1 C
Hompalenden...	—	... —	... 3 B
Hampinne ...	—	... —	... 4 A
Handoonwenne	Ceylon Sandalwood	... —	... 3 C
Hedewoke ...	—	... —	... 2 B
Heenkebbel'e...	—	... —	... 2 A
Heennauren	... Small Orange	... —	... 3 C
Helenbe ...	—	... —	... 3 B
Hick ...	—	... —	... 3 B
Hingool ...	—	... —	... 3 B
Hiricadol ...	—	... —	... 2 C
Hoamdiriye ...	—	... —	... 1 D
Hondepera	... Large flowered Dilenia	... Dillenia sp.	... 4 B
Hora	... Thief Tree	... —	... 3 B

Sinhalese. Name.	English Name.	Botanical Name.	Quality. Abundance.
Hulanhik ...	— ...	— ...	1 B
Hulanmauraee	— ...	— ...	2 B
Hunukirille ...	— ...	— ...	4 B
Hury ...	— ...	— ...	2 B
Idde ...	— ...	— ...	3 B
Imbool	... Stained Silk Cotton-wood	Bombax malabaricum	4 B
Indy	... Small Date Palm ...	— ...	4 B
Itte ...	— ...	— ...	4 B
Ilookberiye ...	— ...	— ...	3 C
Jamboele	... Pumplemos or Shaddock	Citrus decumana ...	4 C
Jamboo	... Jambo or Malay Apple	Eugenia sp. ...	2 B
Jawenauren	... King's Orange ...	— ...	4 C
Jayepaule	... Purging Croton	... Croton tiglium ...	4 B
Krabu	... Clove	... Caryophyllus aromaticus	4
Kok	... Crane Tree ...	— ...	4
Keale ...	— ...	— ...	2 C
Kebelle	... Oblique Agineia ...	— ...	2 B
Kedepotta ...	— ...	— ...	3 B
Kekuna	... Molucca Nut	... Aleurites moluccanum	4 A
Kende ...	— ...	— ...	3 A
Keppettiya	... Aromatic Croton ...	— ...	3 A
Katekanle ...	— ...	— ...	2 B
Ketembelle	... Rose-leaved Bramble ...	— ...	3 B
Kekelimesse ...	— ...	— ...	3 B
Keneheriya	... Lobe-leaved Cestus ...	— ...	3 B
Kedemesse ...	— ...	— ...	3 C
Kintoloo ...	— ...	— ...	4 C
Keribeiriya ...	— ...	— ...	3 C
Kericoan ...	— ...	— ...	3 C
Kerihimideye...	— ...	— ...	3 C
Kerille	... Corkwood	... Sonneretia acida ...	4 B
Kiripolloo ...	— ...	— ...	2 C
Kiripelle	... Indian Fig or Banyan...	Ficus indica ...	3 C
Kiriwalla ...	— ...	— ...	3 B
Kittool	... Nepera	... Caryota urens ...	2 B
Kabari	... Blotched Wood ...	— ...	3

Sinhalese. Name.	English Name.	Botanical Name.	Quality. Abundance.
Keyiya	Screw Pine	—	2
Lamloe	—	—	4 C
Lawaloo	—	—	4 C
Liyan	—	—	3 C
Liyangoo	—	—	3 C
Looloo	Smooth-leaved Cordia	—	3 C
Loonumidelle	Common-leaved Tree	—	2 C
Lowy	Lovey-lovey	—	4 C
Luhankende	Three-leaved Fagara	—	4 C
Lunubinde	—	—	3 C
Lunuwanene	Sacred Grateena	—	4 C
Mabily	—	—	1
Margosa	—	Melia azedarachta	3
Maapatkebelle	—	—	2
Madetiye	—	—	3
Madool	Bog Tree	—	4
Madool Carende	Feast Tree	Dalbergia sp.	4
Mahadan	Jar Plum Tree	Calyptranthes jambolana	2
Malabede	—	—	4
Makalu	—	—	1
Mabburute	Flowered Satinwood	—	3
Malepete	—	—	3
Malkeare	—	—	2
Marada	—	—	4
Marende	—	—	4
Masan	Blunt-leaved Tree	—	4
Malavere	—	—	3
Mauran	—	—	4
Mauoessan	—	—	4
Madye	—	—	4
Mediye	—	—	3
Mee or Illipia	Honey Tree	Bassia longifolia	1
Meandel	Delwood or Wild Breadfruit	Artocarpus pubescens	1
Meiltavere	—	—	3
Meanmeille	—	—	1

Sinhalese Name.	English Name.	Botanical Name.	Quality. Abundance.
Meepook ...	— ...	— ...	3
Meeriye ...	— ...	— ...	3
Melli ...	— ...	— ...	3
Milille ...	— ...	Vitex trifolia ...	1
Midelle ...	— ...	—	4
Mille ...	— ...	— ..	1
Moalbedde ...	— ...	— ...	2
Molebeya ...	— ...	— ...	3
Moodilla ...	— ...	— ...	4
Moonemal ...	— ...	Minusops elengi ...	2
More ...	Eyeball ...	Nephelium pulpillatum ...	2
Motemole ...	— ...	— ...	3
Moodomuranga	— ...	— ...	4
Myle ...	— ...	— ...	2
Mugume ...	— ...	— ...	3
Murute ...	— ...	Lagerstrœmia regina	2
Malu ...	Bag Tree ...	— ...	3
Naa ...	Iron Wood ...	Mesua ferrea ...	1
Nan-nam ...	Stem-flowered Tree ...	— ...	4
Nangewally ...	— ...	— ...	4
Nanhingool ...	— ...	— ...	3
Nauwa ...	— ...	— ...	4
Nawehandy ...	— ...	— ...	4
Neke ...	— ...	— ...	4
Nelly ...	— ...	— ...	2
Nendoon ...	— ...	Dalbergia lanceolaria	2
Nereloo ...	— ...	— ...	3
Neten ...	— ...	— ...	4
Nuge ...	Banyan ...	— ...	4
Nomede ...	— ..	— ...	3
Ooruhonde ...	— ...	— ...	3
Oouankende ...	— ..	— ...	3
Oatoroo ...	— ...	— ...	3
Ookberriye ...	— ...	— ..	3
Oamby ...	— ...	— ...	4
Oala ...	— ...	— ..	3

Sinhalese Name.	English Name.	Botanical Name.	Quality. Abundance.
Odidehy	... Common Lemon	... —	... 3
Ooguresse	... —	... —	... 4
Ookoonu	... —	... —	.. 3
Oorukanu	... —	... —	... 4
Oorukeena	... Wild Keena	... —	... 3
Ote	... —	... —	... 4
Oul	... —	... —	... 3
Paloo	... Sweet-fruited Tree	... —	... 2
Palol	... —	... —	... 4
Pamburu	... —	... —	... 3
Pando	... —	... —	... 4
Pandere	... —	... —	... 3
Pamedambe	... —	... —	... 3
Panukeren	... —	... —	... 4
Patan	... —	... —	... 3
Patechamere	... —	.. —	... 3
22 Patengey	... Sappan	... Cœsalpinia sappan	... 1
Patkeale	... —	... —	.. 3
Pattadel	... Common Dell	... —	... 2
Pauberoo	... —	... —	... 3
Pauwatte	... —	... —	... 4
Payeroo	... —	... —	... 2
Pehimbiye	... —	... —	... 2
Petan	... —	... —	... 2
Peire	... Guava	... Psi lium sp.	... 4
Peiretombele	... —	... —	... 3
Pelim	... —	... —	... 4
Penele	... —	... —	... 3
Penibaru	... —	... —	... 2
Penidodan	... —	... Citrus aurantum	... 4
Pol	... Cocoanut	... Cocos nucifera	... 2
Polyabere	... —	... —	... 3
Poroadediya	... —	.. —	... 2
Puwak	... Areka	... Areca catechu	... 3
Poroabedde	... —	... —	... 3
Poroamaureu	... —	... —	... 4
Poojate	... Sacrifice Tree	... —	... 4

Sinhalese Name.	English Name.	Botanical Name.	Quality. Abundance.
Panawelle ...	— ...	— ...	4
Penile ...	— ...	— ...	4
Rambutam ...	Rambutam ...	Nephlium lappaceum ..	3
Rameneidele ...	— ...	— ...	2
Ranewere ...	— ...	— ...	3
Ratbereliye ...	— ...	— ...	2
Ratedel ...	Red Keena ...	— ...	4
Ratekakeena ...	— ...	— ...	4
Ratkeale ...	— ...	— ...	2
Rategoreka ...	— ...	— ...	4
Ratecombo ...	Evergreen ..	— ...	3
Ratejambo ...	Roseapple ...	— ...	4
Ratesappoo ...	— ...	— ...	3
Ratelowoloo ...	— ...	— ...	3
Ratenelle ..	— ..	— ...	4
Ruek ...	— ...	— ...	4
Ruekattene ...	— ...	— ...	4
Ritigaha ...	Pole Tree ...	— ...	4
Sal ...	— ...	— ...	1
Samedera ...	— ...	— ...	3
Sapoo ...	— ...	— ...	1
Sapumilile ...	— ...	— ...	3
Seirie ...	— ...	— ..	3
Sevelemediye...	— ...	— ...	4
Siyembela ..	Tamarind ...	Tamarindus indicus ...	2
Soketel ...	Smooth-leaved Chocolate	— ...	4
Sooriye ..	Persian Wood or Tulip Tree	... Thespesia populnea ...	1
Sooriyemaura ...	—	.. Mimosa ...	2
Sudoeanu ...	— ...	— ...	3
Sudoliyan ...	— ...	— ...	3
Sudokerew ...	— ...	— ...	3
Suvende ...	— ...	— ..	2
Samanele ...	— ...	— ...	4
Talgaha ...	Palmyra ...	Borassus flabelliformis	1
Tale ...	Basin Tree ...	— ...	4
Talandere ...	— ...	— ...	2

Sinhalese Name.	English Name.	Botanical Name.	Quality. Abundance.
Tarrene	—	—	3
Teakke	Teak	Tectona grandis	4
Telembo	—	Bombax neplaphillum	1
Telekehiriye	—	—	3
Tembiliya	—	—	3
Tibiry	Slime Apple	Diospyros embryopteris	3
Timbool	—	—	4
Totile	—	—	4
Veere	—	—	1
Vereloo	Ceylon Olive	Eleocarpus serratus	4
Velenge	—	—	2
Velandere	—	—	1
Wade	—	—	3
Walboambo	—	—	4
Waldombe	—	—	3
Walgonne	—	—	4
Waljambo	—	—	4
Walla	—	—	4
Walsappoo	—	—	4
Walakeena	—	—	3
Waneidelle	—	—	2
24 Wanemee	—	—	3
Wanepoloo	—	—	3
Wanepatoo	—	—	3
Wanesapoo	—	—	3
Waran	—	—	4
Wantemaditchiye	—	—	4
Weawarene	—	—	2
Wellenge	—	Pterospernum suberifolium	2
Welcaha	—	—	3
Welidamboo	—	—	3
Wielipenne	—	—	3
Welipiyanna	—	—	2
Werelle	—	—	3

Sinhalese Name.	English Name.	Botanical Name.	Quality. Abundance.
Wilendewenne	—	—	2
Yakebaluwa	—	—	3
Yakimbool	—	—	4
Yakedde	—	—	3
Yakbedde	—	—	4
Yakberiya	—	—	5

25

SKETCHES IN NATURAL HISTORY:

DESCRIPTION OF TWO MINUTE NEW FRESHWATER MOLUSKS OF THE GENUS *PLANORBIS* AND *BITHINIA*.

BY EDGAR L. LAYARD, ESQ., C.M.E.S.

THE minute shells here described were first detected by myself accidently: a mass of floating weed taken off the surface of a small tank or pond, about a mile and a half from Hambantoṭa, had been placed in a basin to be examined, to obtain specimens of the next species, and in stirring the floating particles with the hand, a dead specimen of a new *Planorbis* was found adhering to it. Every atom of the weed now underwent a close scrutiny, and the search produced seven or eight other dead examples, but none living.

Recourse was again had to the pond, but though a large quantity of weed was collected, and many dead shells found, the habitat of the living creature remained still unknown to me. Later in the year (in the month of June) I was 26 sent to this station, Point Pedro, and during my rambles through the many lanes of this populous village I examined one of the walled tanks which are so common throughout the district; here, to my delight, plentifully scattered along the edge of the water, were the bleached shells of the *Planorbis* and the *Bithinia* of the Hambantoṭa tank.

Fortunately the drought of several months had reduced the water so considerably as to enable me to examine the decaying vegetable matter at the bottom, and attached to the underside of leaves and sticks were found the *Planorbis*, while in similar situations, but principally on stones, the

Bithinia were detected. Many specimens were procured and taken home, and other descriptions now given of their habits and form are taken from examples which are living, and have been under my close observation for several weeks.

Planorbis Tennentii.

The largest example found measures two-eighths of an inch across the widest place. Whorles three, transparent and colourless, showing the animal within ; when examined through the microscope the substance of the shell may be perceived to be laid on in successive layers. When the molusk is alive it gives a spotted appearance to the shell ; mouth inferior.

Habitat, dead leaves upon tanks and pieces of wood, on which they feed.

The molusk is endowed with the power of swimming along the surface of the water in the manner of the *Lymma;* occasionally they reach the surface simply by detaching themselves from the bottom, when they rise by the air they have carried down with them on some previous occasion ; but when the air is all exhausted by a long continuance below the surface, they crawl up some aquatic plant till the air is reached ; the foot is then thrown out on a plane with the water, the long tentacles which are situated far back upon the body are moved rapidly about as if seeking for some support, the hold of the plant is gradually loosed and brought to bear on the surface, and with two or three sudden jerks the little voyager is fairly afloat ; its method of progression is by suction ; the whole foot is on a level with the surface of the water, which offers sufficient resistance for it to propel itself along by alternate contraction and expansion, the edges of the foot being frequently raised above the surface.

Unlike the common *Planorbis Indicus,* which carries its shell erect, *Planorbis Tennentii* crawls with its shell almost

flat, and its mouth is so situated that in this position it can be drawn down close to the object along which the inmate is crawling. Six minute eggs, strung together and fastened to the inner edge of the whorle near the entrance, have been detected by the aid of a powerful glass.

In company with the preceding was discovered the following, which I have named *Bithinia minima*, from its diminutive size :—

Bithinia Minima.

The largest specimen found measures three-eighths of an inch in length, one-eighth in breadth ; whorles three, mouth oval, plain, close with an operculum ; colour horny, transparent, the animal when alive imparting to the shell a reticulated green appearance.

Habitat, in company with the preceding, but giving preference to stones and rocks.

These minute shells are also endowed with the power of crawling along the surface of water ; they start in a similar manner, and progress by alternate expansion and contraction. So great is the hold they retain of the surface, that I have seen one with the whole of the foot even and level with the surface, apparently immovable, and yet the heavy portion of the molusk twisting and twirling round with great velocity to dislodge a fellow swimmer who had made use of it as a resting place. The mouth of the molusk is a small slit on the underside, through which is continually passing and repassing a small stream of water, much aiding it in its movements whilst swimming, which are brisk enough.

These minute molusks appear to be infested by a singular parasitic enemy, in the shape of a small active blood-red worm, which passes up into the shell and devours the inmate ; in a similar manner the glow-worm feasts on the *Cyclostoma* of the Kandyan country.

29

AN OUTLINE OF THE TAMIL SYSTEM OF NATURAL HISTORY.

By Simon Casie Chitty, Esq., c.m.r.a.s.

(*Read December* 1, 1849.)

Long before Natural History as a science had engaged attention in Europe, and Aristotle had written his *Historia Animalium*, the Tamils appear to have cultivated it to a certain extent and reduced it to a system, by naming and classing all objects in the animal, vegetable, and mineral kingdoms, as far as they were known, into different genera or families, according to the mutual affinities which are indicated by their external characters. There are, however, no works now extant amongst the Tamils which professedly treat of Natural History, but we are assured by traditions that Akattiyar, who has not undeservedly been called the Hippocrates of India, had composed numerous treaties upon it, which by the lapse of ages have perished or been forgotten. My materials for the present outline of their system of Natural History have therefore been principally 30 drawn from the different *Nikaṇḍu* or dictionaries, as also from the incidental notices which occur in other works. The Tamil system of Natural History embraces a two-fold classification of animated nature,—one mythological and the other natural.

According to the mythological classification, the "Gods" form a part of the zoological circle. All organised bodies being distinguished under the two heads of movable (*charam*) and fixed (*acharam*) are again distributed into seven different genera, the names of which, and the number

of species comprised by each, are stated in the twelfth chapter of the *Súḷámaṇi Nikaṇḍu*.

According to the natural classification, which it is curious to observe approximates in some points to that of Linnæus, all things that have life (*sívaráchi*) are divided into four classes (*tóṭṭam*), and these are again sub-divided into as many genera (*sáti*) and species (*pétam*) as they are known to comprehend.

The first class, called *Saráyucham*, includes such as are viviparous, as man, quadrupeds, the bat, the whale, the porpoise, the dolphin, the shark, the ray, &c.

The second class, called *Aṇḍacham*, comprehends such as are oviparous, as birds, fishes, the snake, the frog, the tortoise, the crocodile, the iguana, the lizard, the chamelion, &c.

The third class, called *Suvétacham*, embraces such as are engendered by heat and damp, as worms, maggots, gnats, fleas, &c.

The fourth class, called *Utpícham*, comprises such as are germiniparous, as trees and herbs.

It is a common saying among the Tamils that "from the ant to the elephant there are 84,000,000 species of living creatures," but this is altogether fanciful, and deserves no attention. The *Nikaṇḍu* which I have consulted scarcely exhibit the names of more than 100 species in the animal and 500 in the vegetable kingdom. It should, however, be observed that these works do not mention all the animals and vegetables known to the Tamils; and for the greater part confine themselves only to such as are noticed by the ancient poets.

The quadrupeds are distinguished as follows:—

1. *Kuriñchinila-vilaṇku*, or those that live in the hilly country, such as the lion, the tiger, the elephant, the bear, &c.

2. *Mullainila-vilaṇku*, or those that live in woodland country, such as the deer, the hare, &c.

3. *Marutanila-vilaṇku*, or those that live in corn-fields, such as the buffalo, the water-dog, &c.

4. *Pálainila-vilaṇku*, or those that live in sandy deserts, such as the wild dog.

5. *Kóḍilvál-vilaṇku*, or those that live upon the branches of trees, such as the monkey, the squirrel, &c.

The birds are distinguished as follows :—

1. *Kuṟiñchinilap paṟavai*, or those belonging to the hilly country, such as the parrot, the peacock, &c.

2. *Mullainilap paṟavai*, or those found in the woodland country, such as the wild fowl.

3. *Marutanilap paṟavai*, or those that frequent corn-fields, such as the heron, the andil, the pelican, the swan, the water-fowl, the duck, &c.

4. *Pálainilap paṟavai*, or those peculiar to sandy deserts, such as the dove, the kite, the eagle, &c.

5. *Neytalnilap paṟavai*, or those that are located near the sea, such as the sea-eagle.

The fishes are simply divided into *Kaḍal-míṉ*, or the sea-fish, and *A'ṯṯu-míṉ*, or the river-fish.

With regard to the vegetable kingdom, the grasses, the esculent greens, the creepers, the edible roots, and the mosses being respectively arranged under the the heads of *Pul*, *Kírai*, *Koḍi*, *Kiḻaṇku*, and *Pási;* the trees are distinguished into *A'ṉ-maram*, or the male, *Peṇ-maram*, or the female, and *Ali-maram* or the hermaphrodite; these distinctions are not, however, as in the Linnæan system, founded upon the differences in the structure of the flowers, but upon the differences in the texture of the stems: thus, trees the inside of which is harder than the outside, as the ebony, fall under the class of male trees; those the outside of which is harder than the inside, as the palmirah, fall under the class of

females ; and trees which are spongy and have a milky sap, as the *Erythrina Indica*, fall under the class of hermaphrodites.

Independent of the foregoing distinctions, plants in general are sub-divided into four kinds, viz :—

1. *O'ḍati*, or those which bear fruit once and then die.
2. *Avakési*, or those bearing no fruit.
3. *Vaṇapati*, or those bearing fruit (apparently) without blossoms.
4. *Vaṇapátavam*, or those bearing fruits from blossoms.

The following is a list of the animals in the *Saráyucham* class, as known to the Tamils, and arranged according to their genera. Should it meet with the approval of the Society, I shall in my next communication follow it up with lists of the objects in the other classes.

LIST OF ANIMALS IN THE *SARAYUJA* CLASS.

I.—Genus, *Puli*.

1. *Vayappuli* or *Siṇkam*, the lion.
2. *Véṇkaippuli*, the royal lion.
3. *Karumpuli*, the black tiger.
4. *Sempuli*, the red tiger.
5. *Kaḷutaippuli*, hyæna.
6. *Siṛutteippuli*, the leopord.
7. *Koḍippuli*, the tiger cat.

II.—Genus, *Púṇai*.

1. *Púṇai*, the domestic cat.
2. *Káḍḍuppúṇai*, the wild cat.
3. *Puḷukuppúṇai*, the civet cat.

III.—Genus, *Yáḷi*.

1. *Yáḷi* or *Yáṇaiyáḷi*.

The name of this animal occurs in the different *Nikaṇḍus*, and is described as a lion with the proboscis of an elephant,

but it is supposed to have been either fabulous or one of the extinct species. Some think it was possibly the mammoth.

IV.—Genus, *Náy*.

1. *Náy*, the common dog.
2. *Chuṇaṇkunáy*, the long-eared dog.
3. *Koḍináy*, the greyhound.
4. *Chaḍaináy*, the woolly dog.
5. *O'náy*, the wolf.
6. *Chennáy*, the wild dog.
7. *Maranáy*, the polecat.
8. *Nírnáy*, the otter.

V.—Genus, *Nari*.

1. *Nari*, the jackal.
2. *Kuḷinari*, the fox.

VI.—Genus, *Karaḍi*.

1. *Karaḍi*, the bear.

VII.—Genus, *Yáṇai*.

1. *Yáṇai*, the elephant.

VIII.—Genus, *Káṇḍámirukam*.

1. *Káṇḍámirukam*, the rhinoceros.

IX.—Genus, *Paṉṟi*.

1. *U'rppaṉṟi*, the domestic hog.
2. *Káḍḍuppaṉṟi*, the wild hog.
3. *Muḍpaṉṟi*, the porcupine.
4. *Kaḍaṭpaṉṟi*, the porpoise.

X.—Genus, *Kutirai*.

1. *Kutirai*, the horse.
2. *Vaṉakkutirai*, the wild horse.

XI.—Genus, *Kaḷutai*.

1. *Kaḷutai*, the ass.
2. *Kóvérukaḷutai*, the mule.

XII.—Genus, *Oḍḍakam.*

1. *Oḍḍakam*, the camel.

XIII.—Genus, *A'* or *Máḍu.*

1. *A'* or *Pasumáḍu*, the cow.
2. *Kárá* or *Erumaimáḍu*, the buffalo.

XIV.—Genus, *A'ḍu.*

1. *Veḷáḍu*, the long-legged goat.
2. *Paḷḷaiáḍu*, the dwarf goat.
3. *Chemmaṛiáḍu*, the sheep.
4. *Kurumpáḍu*, the fleecy sheep.
5. *Varaiáḍu*, the mountain sheep.

XV.—Genus, *Máṉ.*

1. *Puḷḷimáṉ*, the spotted deer.
2. *Veḷimáṉ*, the antelope.
3. *Puluḍḍaimáṉ*, the hog deer.
4. *Kastúrimáṉ*, the musk deer.
5. *Maraimáṉ* or *Marai*, the elk.

Kavarimáṉ, the deer of whose tail the chouri is made.

XVI.—Genus, *Muyal.*

1. *Varimuyal*, the hare.
2. *Kuḷimuyal*, the rabbit.
3. *Charukumuyal* or *Ukkuḷáṉ*, the miminna.

XVII.—Genus, *Kuraṉku.*

1. *Cheṉkuraṉku*, the red monkey.
2. *Karuṉkuraṉku*, the black monkey.

XVIII.—Genus, *Téyváṉku*

1. *Namatéyváṉku*, the brown lemur.
2. *Karuntéyváṉku*, the black lemur.

XIX.—Genus, *Aḷuṉku.*

1. *Aḷuṉku*, the armadillo.

XX.—Genus, *Kíri.*

1. *Kíri*, the common ichneumon.
2. *Cheṉkíri*, the red-faced ichneumon.

XXI.—Genus, *Aṇil.*

1. *Varianil*, the common squirrel.
2. *Maravaṇil*, the dandulena.

XXII.—Genus, *Vauvál.*

1. *Mûttiravauvál*, the common bat.
2. *Kaṇṇavauvál*, the large bat.

XXIII.—Genus, *Eli.*

1. *Eli*, the common rat.
2. *Iṛappeli*, the house rat.
3. *Káḍḍeli*, the wild rat.
4. *Káreli*, the black rat.
5. *Veḷḷeli*, the white rat.
6. *Suṇḍeli*, the mouse.
7. *Muḷḷeli*, the hedge rat.
8. *Akaḷáṉ*, the mole.
9. *Peruchcháḷi*, the bandicoot.
10. *Múñchúṛu*, the musk rat.

XXIV.—Genus, *Churá.*

1. *O'ṇkiṭchuṛá.*
2. *Kuraṇkaṇchuṛá.*
3. *Kompaṇchuṛá.*
4. *Páṭchuṛá.*
5. *Maḍḍichchuṛá.*
6. *Vaḷuvaṇchuṛá.*
7. *Véláchchuṛá.*

Different kinds of sharks.

XXV.—Genus, *Tirukkai.*

1. *A'ḍát tirukkai.*
2. *Oḍḍait tirukkai.*
3. *Karun tirukkai.*
4. *Kuruvit tirukkai.*
5. *Kóḍḍát tirukkai.*
6. *Chen tirukkai.*
7. *Pañcháḍit tirukkai.*
8. *Puḷḷit tirukkai.*
9. *Maṇaṭ tirukkai*

Different kinds of rays.

37

PRISON DISCIPLINE IN CEYLON.

BY A. G. GREEN, ESQ.

(*Read December* 1, 1849.)

ALTHOUGH this paper only relates to one prison,—the Welikada Jail,—yet inasmuch as it treats of the sole place where any systematic mode of punishment and training has been carried out, it may truly be said to combine the whole Prison Discipline of the Island.

Previous to the erection of this prison, the want of a regular and systematic mode of treating criminals had been long felt and confessed on all sides—the imprisonment and labour in those days were of a most unsatisfactory nature; nothing like security of the prisoners, or real labour at their hands was ever attained. They appear to have preferred an imprisonment which offered them better lodging, food, and clothing than they could attain in their usual mode of life, with quite as little labour, and from which they could escape, whenever it suited them so to do.

This state of things had not escaped the attention of Government, and accordingly proper representations having been made to the home authorities by the then
38 Governor, Mr. Stewart Mackenzie, it was determined to erect a suitable prison which should be placed under new and efficient management.

In 1841, Sir Colin Campbell being then Governor, the present building was commenced by the Civil Engineer, with the artificers of his department, assisted by a number of the prisoners from the old jail. In 1843, a sufficient extent of accommodation was completed to enable the authorities to place eighty prisoners within its walls, and who

continued to assist in carrying on the remainder of the work. Within a year from this time the convicts had become such good artificers, that the Civil Engineer was enabled to dispense with hired labour, and rely upon them for the completion of the buildings.

This proved not only a great saving, but it also prevented hurtful communications from being kept up between the prisoners and their friends outside, by means of the usual hired labourers.

Not long after this it was determined to bring from Kandy about forty of the most troublesome prisoners there, in order that they might be turned to better account and reap the advantage of the new system. Amongst these convicts was the noted Puran Appu, since shot at Kandy during the late rebellion.

To keep the prisoners at continuous labour is a difficult task; on the one hand, the natural repugnance to toil inherent in the native of the tropics has to be contended with; on the other, the physical powers of overseers and others in charge of working parties are liable to be weakened, and their interest to flag in the same proportion as those of the workmen, in long continued monotonous tasks; hence will naturally follow among men deficient in energy and activity, a desire to get through the day as easily as possible, and their ideas of usefulness in their vocation are bounded by the simple effort to avoid censure or dismissal; from these and similar causes arises the necessity for strict and unceasing vigilance on the part of the prison government.

A great obstacle to the profitable employment of prisoners consists in their unwillingness to afford by their labour any benefit to Government, whom they consider as their enemy, in depriving them of their liberty. To such an extent was this feeling carried among them, that on the introduction of the system of trades instruction into the prison, only a few were found willing to avail themselves of

this advantage ; and the benefits which have subsequently accrued to the establishment from this course would never have been realised had not Government, on the urgent representation of the Civil Engineer, sanctioned the payment of a small allowance to each prisoner who should attain a certain degree of proficiency in his trade. This allowance was fixed at three farthings per diem to those actively and diligently employed *learning* a trade, and six farthings per diem to the expert, or first class workman ; any act of misconduct or breach of jail rules to entail the forfeiture of the whole. This allowance, however, only applies to labour performed under estimates sanctioned by Government.

It is a curious fact connected with the history of Prison Discipline in Ceylon that the admission of a tradesman to the jail is of very rare occurrence ; out of a hundred prisoners committed, there will not be more *than one* who has been brought up to any trade. It would seem therefore that when the natives are able to earn the ordinary wages of a mechanic they rarely resort to dishonesty.

It will be obvious that in proportion as the savings of the tradesman accumulate, so will his endeavours to prevent their forfeiture increase, hence the prison government possesses a powerful incentive to good behaviour on the part of the workmen, and cases of misconduct amongst them are of very rare occurrence.

The mode of selecting prisoners for instruction in trades is as follows:—On his admission the prisoner is first sent to work at cooly labour in the road gangs or at the cabook quarries, and there kept under a course of probation for some time, when, if his overseer is able to make a favourable report of his conduct and diligence at work, he is placed as an apprentice in one of the workshops ; a choice of trades is generally accorded to him if practicable, and the usual results of promotion to second class work, and after a time from second to first class, in most cases follow.

The tradesmen prisoners are generally well behaved. The few cases of misconduct which occur are generally punished with removal for a day or two to the outdoor gangs, which seldom fails of the desired effect. Serious or oft repeated offences are visited with final dismissal from the trades department, and consequent forfeiture of all earnings.

The duty of providing employment for the prisoners is entrusted chiefly to that department with the twofold object of completing the erection of the prison and providing for the employment of the prisoners.

Masons are chiefly employed in the erection of prison buildings, workshops, and on Government buildings within a reasonable distance of the prison.

Carpenters are similarly employed, and also in the execution of work for the Civil Engineer's department when available.

Smiths are also employed on the iron work required for the prison, and on making chains and fetters for criminals, iron work for bridges, and other public works.

Sawyers perform all works required for the public in and about Colombo, and for the cooperage in the department of the Commissariat.

Stone-cutters, besides dressing all the granite used in the erection of the prison, are constantly employed in cutting stone for bridges and other public works.

A shoemakers' shop has been opened under the superintendence of an European overseer: it has been in operation about six months, and although all those now working at it were previously ignorant of the use of a single tool, the manufacture is so far satisfactory that the prison work is beginning to be much sought after; upwards of five hundred pairs of shoes of all sizes have been made and disposed of. A cooperage is just being established which promises to be useful hereafter.

The construction of wire suspension bridges is also being attempted, which, if successful, will prove a profitable and useful branch of employment.

All painters' and glaziers' work required in the prison is performed by the prisoners themselves.

Coir-matting of excellent quality useful for doors, verandahs, and barbacues is manufactured in the prison.

All cabook stones required for prison buildings are quarried and carted by the prisoners.

All cooking, washing, and attendance on the sick is done by the prisoners.

When practicable, the trades instructors are selected from among the prisoners themselves; this is now the case with the carpenters, stone-cutters, and sawyers: the two latter learned the business in the prison.

The following statement shows the number employed at different trades, and the value of labour performed by each class.

	Masons.		Carpenters.		Smiths.		Sawyers.		Stone-cutters.		Shoemakers.		
	No.	Value per day.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	TOTAL.
		s. d.		*s. d.*		*s. d.*		*s. d.*		*s. d.*		*s. d.*	
1st Class. ...	6	1 0	2	1 0	5	1 0	12	1 0	3	1 0	3	0 8	31
2nd Class....	9	0 9	11	0 7½	4	0 6	12	0 9	10	0 9	5	0 6	51
Apprentices	8	0 7½	6	0 4½	4	0 4½	2	0 6	9	0 6	12	0 3½	41
Total ...	23		19		13		26		22		20		123

The hours of labour are the same as those in the public departments, viz.:—From 6 to 11 A.M.; half an hour for breakfast; from 11.30 A.M. to 3.30 P.M.

Instruction, Religious and Scholastic.

Table of religious persuasion of the inmates of the Prison.

Protestants	30
Roman Catholics	40
Muhammadans	33
Buddhists	158
Gentoos	39
Total ...	300

The different religious services conducted in the prison are: for the Tamil prisoners instruction by a duly qualified native Catechist, followed by Scripture reading, the church prayers, and a short address.

On the dismissal of the Tamil congregation, numbering usually from forty to fifty, the Siṉhalese service commences, conducted by a clergyman of the Church of England; the same course of instruction is pursued as with the Tamils, and in the catechetical part a knowledge of Scriptural history is sometimes shown to an extent which would surprise many Europeans. The practice of asking questions on any part of the minister's lessons is permitted and encouraged. The Siṉhalese congregation numbers upwards of one hundred. The prisoners are visited generally once during the week days, and addressed on religious subjects; those in hospital also receive attention.

Schools have been in operation in the establishment since its opening, but very few prisoners were found willing to take advantage of them; their ideas are, that Government must reap some benefit or advantage by their being instructed, or they would not incur such expense for masters, books, &c.; out of one hundred and seventy prisoners only seventeen for a long time attended school, and the system was about to be abandoned as hopeless. But on the suggestion of the Commission, the following regulation was sanctioned by the Governor, viz., "That every hour "attentively passed in school and Divine services should "be deducted from the sentences of all prisoners under

"confinement for more than three months." The effects of this regulation were speedily apparent; the number of scholars rose from seventeen to one hundred and fifty; instead of *one* teacher being sufficient for the wants of the schools *three* were found requisite, and in addition to this number it became necessary to appoint some of the more advanced pupils to be monitors over the junior classes.

The schools have continued in this satisfactory state for upwards of four years. The scholars may be thus arranged:—

	1st Class.	2nd Class.	3rd Class.	4th Class.	Total.
Tamil School, one Master ...	13	9	35	0	57
Sinhalese School, two Masters ...	48	20	18	17	103
Total ...	61	29	53	17	160

The instruction given in the schools is chiefly confined to reading, and writing on slates; a few learn a little cyphering, some few have attempted to learn the English language; in this, however, very little progress is made, nor are the prisoners encouraged in the attempt; only one man has been able hitherto to make proficiency in English, and he is "Chandrefoly," the leader of the revolutionary movement in 1842, whose sentence of death for high treason was commuted to fourteen years' hard labour in chains, and who since his imprisonment has evinced intelligence and capacity far beyond the generality of his countrymen; *he* has learned to read and speak English since he came to prison, has read the New Testament through, has learned the trade of carpenter, and by his general good conduct has won the goodwill of all with whom he is concerned.

Suitable books are provided for all who can read; a small library containing some useful works in English is provided for European and Burgher prisoners.

The numbers which have passed through the school and been taught to read well, and in about half the cases to write a little, are 95 Sinhalese and 46 Tamils.

Tables having reference to the state of education generally are here subjoined.

Table No. 1 shows the number who could read, or read and write, on their admission to prison, of the present inmates of the jail :—

Could read	16
Could read and write	63
Neither	221
Total ...	300

Table No. 2 shows the number who could read and write in every hundred prisoners committed during the last six years :—

Out of every 100 Prisoners committed in the year.	Could Read and Write.	Out of every 100 Prisoners committed in the year.	Could Read and Write.
1844 ...	26	1847 ...	26
1845 ...	31	1848 ...	28
1846 ...	22	1849 ...	34

Table No. 3 shows the state of education in different districts :—

(Prisoners admitted from the several outstations and Colombo.)

Place.	Number.	Could Read and Write.
Jaffna ...	84 ...	40
Galle ...	62 ...	19
Colombo ...	100 ...	30
Chilaw ...	58 ...	14
Kandy ...	100 ...	21

The hours for meals are 6 A.M., 10 A.M., and 5 P.M. The former consists only of bread, biscuits, or hoppers, and coffee ; the two latter each of one-third quart of rice and a curry of either dried fish or vegetables. The food is cooked by a portion of the prisoners. Twice a week fresh fish is

substituted for salted. This scale relates only to the native prisoners; for Burghers and Europeans beef and bread are substituted for a part of the curry. The cost per diem in the former case is $3\frac{1}{8}d.$, for the latter $6\frac{1}{4}d.$

For the hospital, of course, there are various scales employed, according to the orders of the medical attendant.

The clothing for the native prisoners is of the simplest kind, consisting only of two slips of blue and white cloth, the cost of which is 9*d.*, and they are expected to last fully three months. European and Burgher prisoners are allowed a straw hat, a jacket and trousers of blue calico, a shirt, and a pair of shoes, the whole costing 12*s.*, or £2. 8*s.* per annum.

The bedding for natives is simple—a common straw mat and cumblie; and for Europeans and Burghers a mattrass, blanket, and pillow.

The prison hospital is under the immediate care of a medical sub-assistant, who is allowed two prisoners to act as orderlies under him. He visits the whole of the prisoners weekly, and the inmates of the hospital daily. This officer has great need of the utmost vigilance and discretion in reference to the many reported cases of sickness amongst the inmates, who, quite aware as they are of the exceptions from labour of all the hospital patients, constantly resort to every description of feigned illness to gain admission to the sick wards. The obstinacy and endurance of actual suffering on the part of some natives who prefer anything to labour, are almost past belief.

In the same manner, prisoners sometimes feign insanity to a most remarkable degree—refusing food and playing the most fantastic tricks to give probability to their case. Instances are on record in which prisoners have starved themselves to death, or brought on fatal maladies from their obstinate determination not to give way.

The punishments resorted to for offences committed within the prison are flogging, solitary confinement, and

diminished allowance of food. The former is much dreaded by the prisoners, and the remembrance of it seems never to leave them. Solitary confinement is rarely resorted to for longer than three or four days, as it has a prejudicial effect on their health.

The practice of cutting off the hair of convicts, though so very general in other countries, has not been adopted here, which is to be regretted, as it is believed that the fear of losing their most cherished ornament would operate very powerfully upon them.

The following table shows the terms for which the three hundred present inmates of the prison have been sentenced :—

Transportation.

Life.	Ten years.	Seven years.	Five years.
1	10	6	2

Imprisonment with hard labour.

Years.

Life.	14.	10.	7.	5.	4.	3.	2.	1½.	1.	6.*
1	3	4	3	44	24	111	30	8	16	37

* Months and under.

Escapes have been numerous, but not more so than might be expected when the exposed situation of the jail, the density of the surrounding jungle, and the extent of grounds over which the outdoor gangs have been employed are taken into consideration.

The number of escapes during the last six years have been as follows:—

Year.	Escaped.	Re-taken.
1844	9	9
1845	3	2
1846	2	0
1847	5	5
1848	10	8
1849 (9 months)	3	0
Total	32	24

Escapes have been chiefly made from the parties at work at a distance from the prison, and are generally effected by men who were not liable to be suspected of such an intention, although there can be no rule given for placing confidence on any prisoner as regards his not escaping ; for men have escaped from the prison whose periods of imprisonment remaining were found to have been only fourteen days, thirty-six days, three months, and forty-five days respectively.

49 Of the general character of the prisoners the following Table of Offences will give an idea :—

Convicted of	No.	Convicted of	No.
Murder ...	3	Rape ...	3
Manslaughter ...	12	Poisoning ...	1
High treason ...	2	Forgery ...	3
Violent assault ...	15	Uttering forged instrument ...	7
Assault ...	13	Arson ...	1
Assault and robbery ...	31	Pejury ...	3
Burglary ...	15	Maliciously killing cattle ...	2
Burglary and robbery...	26	Breach of local Ordinances ...	6
Highway robbery ...	20		
Cattle stealing ...	35	Total ...	300
Robbery ...	22		
Having stolen property	19		
Theft ...	16		

It will be seen from the following table that the prisoners are chiefly young men, and the prison books show that the weighty offences are committed by men advanced in years, to a certain extent :—

Of 50	years of age	and upwards	...	11
45	do.	do.	...	13
40	do.	do.	...	11
35	do.	do.	...	24
30	do.	do.	...	60
25	do.	do.	...	111
20	do.	do.	...	63
18	do.	do.	...	7
		Total	...	300

In calculating the progress of crime in the Island it should be borne in mind the great advances the population has made in civilisation during the last five years. It is an admitted fact, that as new tastes are acquired and fresh comforts and appliances are ushered into society by the advances of civilisation, so will a certain class of offences against the laws increase: new wants are created, new desires spring up. Better clothing, larger houses, and increased conveniences are all aimed at as the inhabitants become acquainted with the habits and usages of their more civilised neighbours. What at first were deemed luxuries gradually assume the form of necessaries, and the demands for the gratification of these new cravings become impervious and irresistible, and either form effectual spurs to industry and enterprise, or where these qualities are not called into action, lead to acts of dishonesty, over-reaching, swindling, and the like, and in this way we may account for an increase in "offences against property."

The tables furnished below will show that this class of offences (against property) greatly predominates, and even in the few "offences against the person" enumerated, there has been in the majority of cases a remote bearing on the subject of "property"; as, for instance, in cases of murder and manslaughter, it will generally be found that the victim has in some way stood between the offender and the possession of property in the shape of land, money, jewels, &c., which the latter was bent on obtaining.

One of the tables exhibits a remarkable difference between the five principal districts of the Island as regards the prevalence of offences against the person. Thus it would seem that the offences of prisoners in the Colombo district have been principally against property alone, only fourteen per cent. having been convicted of offences against the person. This may in a greater measure be attributable to the greater degree of temptation thrown in the way of domestic

servants and others employed in the houses, stores, and shops of the merchants, traders, and others about Colombo, while in the Jaffna and Chilaw districts, where the inhabitants are scattered over a greater extent of country, and where European tastes and habits have not obtained such a hold upon the minds of the people, property is more secure; but quarrels, assaults, and even murder, are but too common.

Years.	Crimes against Property.	Crimes against Person.	Combined.	Against Local Ordinances.	Total.
1844	92	40	12	34	182
1845	90	38	7	28	163
1846	129	40	11	66	246
1847	199	104	54	94	451
1848	151	71	29	83	334
To September 30, 1849	150	23	25	21	219
Grand Total ...	818	320	138	326	1,529

Table of crime as prevailing in different districts :—

One hundred Prisoners from	Convicted of Offences against		Combined.	Total.
	Property.	Person.		
Kandy	67	22	14	100
Colombo	74	14	12	100
Chilaw and Jaffna	38	27	35	100

To those who watch the progress of the native mind, and the effects of contact with European usages, the foregoing details will, I trust, be found interesting, as the narrative of the introduction of prison discipline into this Colony. That much yet remains to be done there is no doubt: the jail as a Government institution may be said to be only in its infancy, and who can say what will yet be effected?

In future years, as opportunities offer, it would be well to watch the after-career of those released prisoners who have

been taught trades within the walls of Wẹlikaḍa; but at present this is not possible, and we can only hope and believe that the knowledge they have thus acquired is turned to good and profitable account, rendering them at once honest and useful members of society.

53

CATALOGUE OF BOOKS IN THE TAMIL LANGUAGE, WITH NAMES OF THE AUTHORS, THE SUBJECTS, AND DATES, AS FAR AS THEY CAN BE ASCERTAINED.

By Simon Casie Chitty, Esq., C.M.R.A.S.

(*Read December* 1, 1849.)

SECTION III.

Theology and Metaphysical Philosophy.

The following fourteen treatises are collectively called *Saivachittánta Núl*, and are considered to be the most authorised expositions of the theological position of the Vedas. They appear to have been written by different authors, and at different times, but none of them date earlier than the era of Máṇikkavásakar, the great champion of the religion :—

1. *Tiruvuntiyár :* by Máṇikkavásakar.
2. *Tirukkaḷiṭṭuppaḍiyár.*
3. *Sivañáṇapótam.*
4. *Sivañáṇachittiyár.*
5. *Irupávirupahtu.*
6. *Uṇmaiviḷakkam.*
7. *Sivappipirakásam :* by Sivappipirakása Suwámi.
8. *Tiruvaruḍpayaṉ :* by Umápati Sivácháriyar.
9. *Viṉávenpá.*
10. *Póṭṭippahṛóḍai.*
11. *Koḍikkavi.*
12. *Neñchuviḍutútu.* 54
13. *Uṇmaineṛiviḷakkam.*
14. *Saṇkaṭpanirákaraṇam.*

The following treatises illustrate the doctrines peculiar to the worshippers of Vishṇu :—

15. *Arisamaya-típam.*
16. *Tiruváymoḷi :* by the A'ḻwárs.
17. *Tirumoḷi :* by the Alwárs.
18. *Pakavaṭkítai*, translated from the Sanskṛit.
19. *Pañcharattiram*, translated from the Sanskṛit.
20. *Vaikánasaṉ*, translated from the Sanskṛit.
21. *Irusamaya-viḷakkam.*

The following treatises explain the doctrines of the six different philosophical schools of the Hindús, which were respectively founded by the Sages Kapilam, Patañchali, Kaṇátar, Viyásar, Jaimiṇi, and Paḍḍáchári :—

22. *Avirótavuntiyár :* by Santaliṉka Suwámi.
23. *Oḷiviloḍukkam.*
24. *Vayirákkiyatípam :* by Santaliṉka Suwámi.
25. *Vayirákkiyachatakam :* by Santaliṉka Suwámi.
26. *Tévikálóttaram.*
27. *Sivatarumóttaram.*
28. *Kaivalliyanavanítam.*
29. *Sachchitánantaviḷakkam :* by Vélaiyánanta Suwámi.
30. *Sittántachikámaṇi.*
31. *Sittántatípikai.*
32. *Sivapókacháram.*
33. *Sasivarṇapótam.*
34. *Sivañánatípam.*
35. *Sivánupútiviḷakkam.*
36. *Nátántaviḷakkam :* by Saṉkara Sivácháriyar.
37. *Nátántacháram :* by Saṉkara Sivácháriyar.
38. *A'ṉantattiraḍḍu.*
39. *A'ṉantakkaḷippu.*
40. *Vétántachúḍámaṇi.*
41. *Aṟivuviḷakkam.*
42. *Meyññáṉaviḷakkam.*

43. *Peruntiraḍḍu.*
44. *Kuṟuntiraḍḍu.*
45. *Tirumúlamantiram.*
46. *Sivaneṟippirakásam.*
47. *Aññavataipparani.*
48. *Mókavataipparani.*
49. *Víḍḍuneṟiyuṇmai.*
50. *Aḍukkunilaippótam.*
51. *Aṟiváṉantachittiyár.*
52. *Chorúpáṉantachittiyár.*
53. *Siváṇantamálai.*
54. *Tirunávukkaraiyar.*
55. *Máyápiralápam.*
56. *Pirapuliṉkalílai*, translated from the Sanskṟit by Sivappirakása Suwámi, 1652 A.D.
57. *Tattuvarattiṉákaram.*
58. *Tattuvámirtam.*
59. *Náṉmaṇimálái*: by Tattuvaráyar.
60. *Samayacháram.*
61. *Sittántakaraṇam.*
62. *Aruḍpirakásam.*
63. *Kaḷimaḍḍal.*
64. *Meymmoḻi.*
66. *Tuttuvacharitai.*
67. *Vírákamam.*
68. *A'ṉantapótam.*
69 *Aṉupavacháram.*
70. *Sorupacháram.*
71. *Sauntariyalakari.*
72. *Pirapótachantirótayam*, translated from the Sanskṟit.
73. *Satpótachantirótayam*, translated from the Sanskṟit.
74. *Upaniḍatam*, translated from the Sanskrit.
75. *Amirtacháram.*

76. *Avirótapótam.*
77. *Tirumantiram.*
78. *Ñáṇaváshiḍḍam.*
79. *Ñáṇasitti.*
80. *Paripúraṇasitti.*
81. *Tirukkaḍaipattu.*
82. *Paramártatarisaṇam.*
83. *Saivasamayaneṛi.*
84. *Anupútinilaiyam.*
85. *Unmainilaiyam.*
86. *Ñáṇasiriyaṉ.*
87. *Ñáṇakuṛal:* by Auvaiyár, the celebrated female philosopher, who flourished in the ninth century of the Christian era.
88. *Ñaṇa-veḍḍiyáṉ:* by Tiruvaḷḷuvar, the brother of Auvaiyár and the author of the "Kuṛal," which obtained for him a seat on the bench of the Tamil poets in the University of Madura.
89. *Ñáṇakkummi.*
90. *Ñáṇamatiyuḷḷáṉ.*

The following works treat of the illusory nature of all mundane existency, defend ascetic devoting, and inveigh against the dogmas of the A'kamas Puráṇas:—

91. *Siva-vákkiyam:* by Vákkiyar.
92. *Paráparakkaṇṇi:* by Táyumáṇa Suwámi.
93. *Ñáṇanúru:* by Akastiyar.
94. *Ñáṇamuppatu:* by Akastiyar.
95. *Koṇkaṇar Ñáṇam:* by Koṇkaṇar.
96. *Kapilar Akaval:* by Kapilar. A confutation of the claims of the Brahmins to superiority from caste. The author was the brother of Tiruvaḷḷuvar, and is said to have composed the present work in consequence of the Brahmins of Tiruvélúr, against whom he was brought up, having refused to invest him with the triple cord on his mother being a pariah woman.

97. *Akappaichchittar Pádal.*
90. *Aḷukuṇichchittar Pádal.*
99. *Iḍaikkáḍḍuchchittar Pádal.*
100. *Pattirakiriyár Pulampal.*
101. *Paḍḍaṇattuppiḷḷaiyár Pádal.*

A collection of verses of different metres, attributed to Paḍḍaṇattuppiḷḷai, a wealthy merchant of Kávérippúmpaḍḍaṇam, who is said to have ejaculated them extempore as he wandered up and down the country after he had parted with all his worldly possessions and assumed the life of an ascetic.

The following works belong to the Tamil Catholics :—

1. *Ñánópatésam.*—A course of lectures on theology: by the Rev. Father Robert De Nobiles.

2. *A'tma Nirṇayam.*—A treatise on the origin and nature of the soul of man, in opposition to the various conflicting opinions held by the Hindu philosophers about them : by the same author.

3. *Mantira Málai.*—A choice collection of prayers for the use of the laity : by the same author.

4. *Vétiyar Oḻukkam.*—Exhortations on the nature and duties of the office of catechists, in twenty chapters : by the Rev. Father J. C. Beschi, 1727.

5. *Ñáṇakkaṇṇádi.*—Meditations for catechists: by the same author.

6. *Ñáṇamuyaṭchi.*—Exhortations on the practice of piety : by the same author.

7. *Véta Viḷakkam.*—Exposition and defence of the doctrines of the Catholic Church, in eighteen chapters : by the same author.

8. *Pétakamuṟuttal.*—A confutation of schism : by the same author.

9. *Lútariṉattiyalpu.*—The apocalyptic vision of the fall of a star from heaven applied to the fall of Luther from the Catholic Church : by the same author.

10. *Ñáṇa Vuṇartal.*—Spiritual reflections: by the same author.

11. *Suviseshaka Virutti Urai.*—The Gospel for all the Sundays and festivals of the year, with practical reflections: by the same author.

12. *Reppremáta Tarkkam.*—Reasons for not attending the Dutch Church, written in the form of a dialogue between a Government schoolmaster and a Catholic boy: by the same author.

13. *Pusaittiyáṇam.*—Explanatory prayers at Mass: by the same author.

14. *Viyákulap Pirasaṇkam.*—Sermons on the Passion of our Lord: by the same author.

15. *Kristiyáni A'layam.*

16. *A'tma Vttiyáṇam.*

17. *Ñáṇa Appam.*—Pious instruction: by the Rev. Father Gabriel Pacheco.

18. *Aḷukaik Kuravai.*—Meditations on the griefs of the Blessed Virgin: by the same author.

19. *Sattiyajeyattaṇ Saṇkáram.*—An Answer to the Rev. Mr. Meloh's "Triumph of the Truth": by the same author.

20. *A'ṛu Ilakkaṇam.*—The Six Attributes of God: by the same author.

21. *Ñáṇa Putaiyal.*—The Spiritual Treasure: by Rev. Father Sebastian Pereira.

22. *Krístu Aṇucháram.*—The following of Christ, from the Latin of Thomas à Kempis: by the same author.

23. *Sañchívi.*—A vindication of the Catholic Church and its dogmas against the attacks of Heresy, in three books, comprising thirty-seven chapters: by the Rev. Father L. Du. Pui, Pondicherry, 1841.

24. *Sattiyavéta Paríkshai.*—A work of the same author, tending as the last.

25. *Teyva Paríkshai.*—A review and refutation of the Hindú religion.

The following works belong to the Tamil Protestants :—

1. A translation of the New Testament : by the Rev. B. Zeigenbalg, Tranquebar, 1715.

2. Another translation of the same : by the Rev. T. A. Bronsveldt and the Rev. J. J. Fybrandts, Colombo, 1759.

3. Another translation of the same : by the Rev. T. Farricius, Tranquebar, 1772.

4. Another translation of the same: by the Rev. C. T. E. Rhenius, Madras, 1823.

60 5. A translation of the Old Tastament: by the Rev. B. Zeigenbalg and the Rev. B. Schulze, Tranquebar, 1723–1728.

6. A translation of the Apocrypha: by the Rev. B. Schulze, Tranquebar, 1726.

7. A translation of the Pentateuch into high Tamil : by the Rev. Phillippus De Melho, Colombo, 1790.

8. Arendt's True Christianity, translated from the German : by the Rev. B. Schulze, Halle, 1751.

9. The Popes' Mirror, showing the errors of Popery.

10. The Liturgy of the Reformed Church : by the Rev. Phillippus De Melho, Colombo, 1760.

11. Triumph of the Truth, a refutation of the principal errors of the Church of Rome: by the same author, Colombo, 1753.

12. The Heidelburg Catechism : translated by the Rev. S. A. Bronsveldt, Colombo, 1754.

13. Bern's Compendium of the Christian religion: Colombo, 1778.

14. Borstin's short questions on religion.

15. Da Mulliu and Drellincourt's Meditations and Prayers : translated by the Rev. J. Franciscus, Colombo, 1778.

16. Catechism for children : by the Rev. S. A. Bronsveldt, Colombo, 1753.

17. History of the Old Testament: Colombo, 1753.

18. History of the New Testament: Colombo, 1753.

19. An abridged History of Christianity: Colombo, 1781.

20. Spencer's Dogmatic Theology.

21. A Dialogue between a Heathen and a Christian: Madras, 1776, 12mo.

22. A Dialogue between an Idolator and a Christian: Tranquebar, 1790, 12mo.

23. Dialogues inter Moslimum et Christianem de via ad salutem: Tranquebar, 1803, 8vo.

24. The Book of Common Prayer: translated by the Rev. Christian David, Serampore, 1818.

25. Bunyan's Pilgrim's Progress, English and Tamil: Madras, 1826, 4to.

26. The Book of Common Prayer: translated by the Rev. Dr. Rotler, Madras, 1828.

27. A Protestant Catechism, showing the principal errors of the Church of Rome: Vepery, 1830, 12mo.

28. The Evidence of Christianity: by the Rev. T. C. Rhenius, Madras, 1835.

62

SKETCHES IN THE NATURAL HISTORY OF CEYLON.

BY EDGAR L. LAYARD, ESQ., C.M.E.S.

(*Read June* 9, 1849.)

PART I.—MAMMALIA.

Order QUADRUMANA.

Family SIMIA.

Genus MACACUS.

1.—M. SINICUS *(L.)*, *Desmarest.*

SYN.—*M. Piliatus*, Lesson; *Vandurá*, Siṇ.

The common black monkey of the maritime provinces; very common also in the Kandyan districts; about Trincomalee it is replaced by *Presbytes thersites*, and in the Jaffna peninsula by *P. Priamus*.

Genus PRESBYTES.

2.—P. THERSITES, *Elliot et Blyth* (Journal R. A S., XVI., 1271).

This and the preceding species would seem to be peculiar to the Island, the present race being confined to the neighbourhood of Trincomalee.

3.—P. PRIAMUS, *Elliot et Blyth* (Journal R. A. S., XIII., 470; XVI., 732).

SYN.—*Kuranku*, Mal.; *Buji*, Port.

Confined to the Jaffna peninsula on this Island, but inhabiting also the Malabar and Coromandel coasts. They
63 are particularly abundant about Point Pedro, feeding on the palmirah, margosa, and other fruits. The young are produced in February or March.

4.—Pr. CEPHALOPPEUS, *Zimmerman.*

SYN.—*Simia dentata*, Shaw; *S. porphyrops*, Link; *S. pithicus*, Nestor Bennet; *Rilavá*, Siṇ.

Peculiar to Ceylon, and distributed all over the Island, with the exception of the extreme north.

Family LEMURIDÆ.

Genus STENOPS.

5.—S. GRACILIS.

SYN.—*Loris gracilis*, Geoff.; *Lemin loris*, Zimmerman; *L. Ceylonicus*, Fisch; *Unahapuluvá*, Siṇ.; *Teyvánku*, Mal.

Very common, and generally distributed; feeding on birds, eggs, and fruits. From its nocturnal habits it is not much noticed by Europeans, but by the natives it is much prized, being used in charms and love potions.

Family CHEIROPTERA, *Cuv.*;
VESPERTILIONIDÆ, *Gray.*

Genus PTEROPUS.

6.—P. EDULIS PERON.

SYN.—*P. Edwardii*, Geoff.; *Vavulá*, Siṇ.; *Vauvál*, Mal.; *Mursagu*, Port.

This destructive animal is generally scattered over the whole Island, infesting fruit trees by night, and during the day hanging in clusters from some huge tree in the depths of the jungle, from whence it sallies forth on the approach of evening. The natives use them for food.

Genus CYNOPTERUS.

7.—C. MARGINATUS, *Birch, Hamilton.*

The small flying fox of Europeans; abundant in the southern and midland provinces, but I have not met with it in the Jaffna peninsula.

Genus NYCTICEJUS.

8.—N. HEATHII, *Horsf.*

Abundant, and widely distributed; rises easily from the ground.

9.—N. TEMMINCKII, *Horsf.*

SYN.—*Vespertilio noctulinus et V. belangeri*, Geoff.

Common about Kalutara, inhabiting the old fort.

Genus KERIWULA.

10.—K. PICTA, *Gray.*

SYN.—*Vespertilio kerivoula*, Bodd.

I have only met with this species about Colombo in any abundance, and I obtained one solitary specimen at Ambagamuwa.

Genus PIPISTRELLUS.

11.—P. IRRORITUS, *Cautor.*

This small bat is abundant in the southern provinces; to the north it is replaced by the next species.

Genus HYPPOSIDERCS.

12.—H. SPEORIS, *Sch.*

SYN.—*H. apicelatus* (female), Gray; *H. penicillatus* (male), Gray.

Remarkably abundant here (at Point Pedro), dwelling in caverns, of which there are several in the stony country about the villages of Alváy and Toṇḍamánaṛu. It also clings under the roofs of houses in company with the next.

13.—H. MURINUS, *Elliot.*

This is equally abundant.

Genus MEGADERMA.

14.—M. LYRA, *Geoff.*

SYN.—*M. Carnatica*, Elliot.

Very abundant, and generally distributed; it rises easily from the ground when accidentally knocked down, and I am nearly sure I have seen it rise from a voluntary alighting.

Order CARNIVORA.

Family CANIDÆ.

Genus CANIS, L.

15.—C. AUREUS (?).

SYN.—*Sacalius Indicus; Nariyá*, Siṉ.; *Nari*, Mal.

I have never been able to obtain a specimen of our common jackal for identification; nevertheless, I believe the species to be identical with the Indian races.

Family FELIDÆ.

Genus FELIS.

16.—F. PARDUS, var. LEOPARDUS.

SYN.—*Puli (necjuvatus)*, Mal.; *Tigir*, Port.; *Koṭiyá*, Siṉ.

The leopard (or tiger of Europeans here) is too well known to need any notice, save that the common appellation of tiger wrongly bestowed on it leads people in England to suppose that *F. tigris* exists here, which it really does not.

A black variety of *F. pardus* is not unfrequently met with; it is nearly accidental.

17.—FELIS VIVERRINUS.

Common about Jaffna. I am in possession of a beautiful half-breed between this species and the domestic variety.

Family VIVERRINÆ.

Genus PARADOXURUS.

18.—P. ZEYLONICUS, *Schreber*.

Peculiar to the Island, and seems to be plentiful near Puttaḷam. I have not seen it from other parts.

Genus VIVERRA.

19.—V. ZIBETHA, *Lin.*

SYN.—*V. Midulata*, Gray; *Návi*, Mal.

Abundant about Jaffna. The natives keep them in confinement for the sake of the musk, which they secrete

largely. The method of collecting the secretion is by placing the animal in a small cage, against the sides of which it is obliged to rub itself, thereby depositing the musk on the woodwork, whence it is carefully scraped.

Genus GENETTA.

20.—G. INDICA.

SYN.—*Maranari*, Mal. (literally "Tree-dog").

We have one, if not more, species of this genus, but I have not been able to identify them, never having procured a full grown specimen; they infest the houses in Colombo, but would seem to be quite unknown in the Jaffna peninsula.

Genus MANGUSTA.

21.—M. VITTICOLLIS.

SYN.—*Herpestes vitlicollis*, Bennet.

Not uncommon in the interior of the Island, about Ambagamuwa and Pussellāwa, from which places I have received it.

22.—M. GRISEUS.

SYN.—*Herpestes griseus*, Sykes; *Kīri*, Mal.; *Bungoose*, Port.; *Mukaṭiyā*, Siṇ.

Very common in the Jaffna peninsula. It appears identical with the Indian race, except that the nose and paws are much darker. There is another variety at Trincomalee which accords exactly with the Indian animal.

Genus LUTRA.

23.—L. NAIR, *Cuv.*

SYN.—*Diyaballā*, Siṇ. (literally "Water-dog").

Not uncommon in the Bentoṭa river. I kept one alive for several weeks in a bath. It fed on fish and the heads and entrails of fowls; it was unfortunately neglected by the native servants, and died during my temporary absence from home. It uttered a low growl and a plaintive whine in showing anger or fear. When feeding it was very savage, and would snap furiously at anything held to it.

Family Ursidæ.

Genus Ursus.

24.—U. (Prochilus) labiatus, *Blainville.*

Syn.—*U. longirostris*, Seid.; *Valahá*, Siṇ.; *Karaḍi*, Mal.; *Usu*, Port.

The common bear of Europeans; *ubique.*

Order Insectivora.

Family Soridæ.

Genus Sorex.

25.

Syn.—*S. Indicus et S. Capensis*, Geoff.; *Miyá*, Siṇ.; *Múñchúru*, Mal. (literally "Smelling-rat").

The common shrew or musk rat; abundant everywhere. There are probably several species yet to be determined.

Order Rodentia.

Family Muridæ.

Genus Mus.

26.—M. Bandicota, *Bichs.*

Syn.—*M. Giganteus*, Hardwick; *Miyá*, Siṇ.; *Akaḷáṇ*, Mal.; *Ratu*, Port. name for all.

Common in the paddy fields round Kóṭṭé, doing great damage to the crops and embankments. The natives consider them very good eating.

27.—M. Indica, *Geoff.*

Syn.—*M. kok*, Gray; *Veḷḷeli*, Mal. (literally "White-belly rat").

Not uncommon about Jaffna. The natives esteem them great delicacies, and they are much sought after.

28.—M. Setifer, *Horsf.*

Founded on a young specimen, the only one procured. I shot it in a paddy field near Galle, and also saw another near Mátara.

29.—M. DECAMENUS.

SYN.—*Velleli*, Mal.

The common European brown rat; introduced.

30.—M. RATTUS.

The common European black rat; introduced.

Genus GERBILLUS.

31.—G. INDICUS, *Waterhouse.*

Common throughout the low country. It does not appear to extend to the hills. It constructs its burrow just under the surface of grass land, to the great danger of horses and other animals, who frequently injure their feet or legs by stepping into them.

Family SCIURIDÆ.

Genus SCIURIES.

32.—S. TENNENTII, *Layard.*

SYN.—*Daṇḍu-léná*, Siṇ.

The large squirrel of the interior to which I have given the foregoing name, is found somewhat abundantly about Ambagamuwa and Pusselláwa. It differs considerably from *S. bicolor*. For full description of this and all our squirrels see Mr. Blyth's paper on the "Sciuri inhabiting Ceylon," which is compiled from specimens sent him by myself, and which are consequently not now in my possession to refer to. It is peculiar to the Island.

33.—S. MACROURUS, *Forster.* (Journal R. A. S., XVI., 1869.)

SYN.—*Maraṇil*, Mal. (literally "Tree-squirrel").

Common large squirrel of our western coast. It never intrudes on the haunts of the preceding, nor is it intermingled with it in its own locality.

34.—S. TRISTRIATUS, *Waterhouse.* (Journal R. A. S., XVI., 1001.)

SYN.—*Léná*, Sin. ; *Aṇil*, Mal. ; *Surkachi*, Port. for all the tribe.

The common low-country palm squirrel ; identical with the Indian race.

35.—S. BRODIEI, *Blyth* and *Layard.*

Peculiar to the Island ; common on the west coast from Point Pedro to Puttaḷam, replacing *S. tristriatus*, from which it is easily distinguishable by its pale colour and long pencil tuft at the extremity of the tail. This, however, is often wanting in stuffed specimens, and indeed even in live ones, the hair being but lightly attached to the skin.

36.—S. LAYARDI, *Blyth.*

This lovely little squirrel I procured in the jungles near Ambagamuwa. It is peculiar to the interior or hilly districts, and of a new species.

37.—S. KELAARTI, *Layard.*

I procured a *Sciurus* about Taṉgalla, which I fancy will prove a new species ; and shall therefore name it after one of our members who is now taking up the study of the fauna of his native country, thus offering a bright example to his apathetic countrymen. Our Society may look forward with strong hopes to many new species being added to our indigenous fauna by his researches.

S. Kelaarti may be described as very like *S. Palmarum* of India, the head much redder, the alves of the back and belly more blended, and the animal altogether smaller. It entirely replaces all the small *Sciuri* from Taṉgalla and Hambantoṭa, and I should fancy extends far on towards Trincomalee.

Genus PTEROMYS.

38.—P. ——?

I have seen a mutilated skin of a species killed in the neighbourhood of Ramboḍa. It requires identification, and there are probably other species.

Family HISTRICIDÆ.

Genus HYSTRIX.

39.—H. CRISTATA.

SYN.—*Eyp-paṇṇi* and *Muḍ-paṇṇi*, Mal.; *Porco di spino*, Port.; *Katu-úrá*, Siṇ. (literally "Thorn-pig.")

The common porcupine is unluckily very abundant, and generally distributed, doing great damage to the young cocoanut trees; the flesh is very white, and good eating.

Family LEPORIDÆ.

Genus LEPUS.

40.—L. NIGRICOLLIS, *F. Cuv.*

SYN.—*L. Meloncha*, Tem.; *Musal*, Mal.; *Levri*, Port.; *Hává*, Siṇ.

Common throughout the Island, and very abundant in the plains of the western coast.

Order PACHYDERMATA.

Genus ELEPHAS.

41.—E. INDICUS, *L.*

SYN.—*Yáṇai*, Tam.; *Aliyá*, Siṇ.; *Alphanti*, Port

The elephant.

Genus SUS.

42.—S. SCROFA, var. INDICUS.

SYN.—*Paṇṇi*, Mal.; *Porco*, Port.; *Uŕá*, Siṇ.

The common wild hog.

Genus Halicore.

43.—H. Dugong, *Cuv.*

Syn.—*H. Indicus*, Owen; *Kaḍaṭ-paṇṛi*, Mal. (literally "Sea-pig"); *Porco de mara*, Port.; *Múdu-úrá*, Siṇ.

Common in the Bay of Kalpiṭiya, feeding on the marine algæ; they are much prized by the natives for food.

Of the *Cetacea* that frequent our seas I have not had any opportunity of judging further than that occasionally we have an unpleasant visit from a carcass stranded on the Galle Buck, which would seem to be that of the common cachalot or spermaceti whale.

44.—Physeter Macrocephalus.

Order Ruminantia.

Family Cervidæ.

Genus Cervus.

45.—C. Hippulaphus, *Cuv.*

Syn.—*Marai*, Mal.; *Merong*, Port.; *Góná* Siṇ.

The common elk.

46.—C. Axis, *L.*

Syn.—*Máṇ*, Mal.; *Viado*, Port.; *Muwá*, Siṇ.

The common spotted axis.

47.—C. Muntjack, *Zimmerman.*

Syn.—*Vel-muwá*, Siṇ. (literally "Field-deer").

The paddy-field deer. I have been assured by many sportsmen that there exists of this deer *sed non vidi.*

Genus Meminna.

48.—M. Indica, *Gray.*

Syn. *Moschus Meminna*, Erxl.; *Uhkuláṇ paṇṛi*, Mal. (literally "Cleft pig"); *Míminná*, Siṇ.

The mouse deer of Europeans.

Genus Bos.

49.—B. GAURUS.

Knox gives this noble animal as existing in his time. They are undoubtedly now extinct, which is much to be regretted.

50.—B. BUBALUS.

SYN.—*Kuḷu Máḍu*, Mal.; *Mí-haraká*, Siṇ.

The wild buffalo.

Order EDENTATA.

Genus MANIS.

51.—M. BRACHYURA? *Erxl.*

SYN.—*Aḷuṇku*, Mal.; *Kaballéyá*, Siṇ.

I think our Island species is identical with the Indian race. It is not uncommon, but requires identification. I have also seen another species, which I have little doubt will prove to be the long-tailed *Manis* of authors.

The above list of mammalia has been the result of about three years' collection, principally in the Southern and Northern divisions of the Island. It is still very imperfect, and many more species and genera may be looked for from the interior.

I have trustworthy information of a true fox, and doubt not that a search would amply repay the time and trouble expended.

Such as this list is, I present it to the Society in full hopes that it may induce some one to come forward and contribute towards rendering it perfect.

PART II.

SKETCHES IN THE NATURAL HISTORY OF CEYLON: ORNITHOLOGY.

By Edgar L. Layard, Esq., c.m.e.s.

(*Read August* 25, 1849.)

Class—*AVES.*

Order Scansores.

Family Psittacidæ.

Genus Palæornis.

1.—P. Alexandri (*Edw., pl.* 292; *Nat. Lib. Psittacidæ, pl.* 2).

Syn.—*Psittacus Alexandri*, L.; *P. Eupatria*, L., the female; *Psittaca Ginginiana*, Bris., the female; *P. Guinneensis*, Scop. (*nec. Gem.*); *P. Sonneratii*, Gem.; *Pal. Nepalensis*, Hodg. (Journal As. Res., XIX., 177). *Pannúgirawá*,* Siṉ.; *Pañchavarṇak-kiḷi*, Mal. (literally *pañcha* "five," *varṇa* "coloured"); *Pappugaiha*, Port. (the name for all parrots); *Jongichy*, Dutch.

This parrot is found in large flocks about Colombo and in the jungles of the lower hills. It extends to Chilaw, where it is mingled with the smaller *P. torquatus*, and is also abundant at Galle, Mátara, and Batticaloa, the last place in particular. Its favourite food consists of the young blossoms of the cocoanut, and, where they are not procurable, of various wild nuts. The natives, who catch them in

* The Siṉhalese and Tamil names should be pronounced as if written with Italian vowels.

great numbers when young, report them to breed in hollow trees. They roost in large flocks in the cocoanut topes.

2.—P. TORQUATUS (*Daubenton's Pl. Enl.*, 551).

SYN.—*Psittaca Torquata*, Bris.; *Psittacus Alexandri*, var. B. Latham; *P. Cubicularis*, Hassel; *P. Docilis*, Viel.; *Girawá*, Siṇ.; *Marutaṉ-kiḷi*, *Teṉṉaṉ-kiḷi*, Mal. (*Marutu* literally, the name of a tree in which they breed).

Particularly common in the Jaffna peninsula, and extending to Chilaw. In the harvest time they feed in vast flocks on the stubble or standing grain, leaving sentinels on watch for danger. When the grain fails them they devour the fruit of the tamarind, margosa, &c.

The eggs are pure white, and with little distinction between the two ends: they are generally three or four in number, and are laid in holes in trees with but scarcely any nest. Weight, 2 drachms and 16 grains. Incubation begins in March.

They are brought to Colombo to be tamed, and when properly taught speak well, and are much sought after by the native bird-fanciers.

3.—P. CALTHROPÆ, *Layard*.

Of this lovely bird I procured but one pair, and those in the month of November, 1848, at Kandy. The male was killed on the wing, the female in the act of feeding on the ground on some decayed fruits. As these specimens are in Calcutta with Mr. Blyth, the Curator of the Bengal Asiatic Society's Museum, I cannot describe them from themselves, and must therefore subjoin the description which he has published; and here I would beg to acknowledge the great obligations I am under to that gentleman for the names and identification of all the species here enumerated. Had it not been for the aid thus kindly afforded, the rough notes of the birds collected would never have seen the light.

Mr. Blyth says: "A beautiful species, the representative in the mountainous parts of Ceylon of *P. Columboides* of the Nilgherries,* to which species it manifests the nearest affinity. Crown and back plumbeous-gray, passing to bluish on the rump, and rich dark indigo-blue on the middle tail-feathers and outer webs of the rest; tail yellow beneath and at the tips, sullied along the inner web of the rectrices above; forehead and cheeks (passing beyond the eye) broad, nuchal ring and entire under parts brilliant green; wings deeper green, paler and yellowish towards the scapularies; throat intense black and contrasting, with a tendency to form a ring round the neck. Upper mandible bright coral, with a white tip, the lower reddish. Wing 5½ in.; tail probably of the usual length, but its medial feathers in the specimen described appear but half grown.† A female or young male is wholly green, more yellowish below, except the rump, which is brighter blue than in the adult male, and the tail is mingled green and indigo-blue; the more vivid green ring of the neck but obscurely indicated. Both mandibles dull coral, with white tips, and the wing measures 5¼ in., the tail but 4½in."

To the above may be added that in a fresh specimen the feet are bluish-grey, as it were powdered, and the eye of a pale chrome.

Our late President, Sir J. Emerson Tennent, had a singular living variety of this species, wholly of a bright chrome colour, the broad green nuchal ring being slightly darker in some lights. When I saw it, it had moulted several times, but had always assumed the same garb. It was caught in the neighbourhood of Adam's Peak.

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* This species may yet be found here.—E.L.L.

† While going to press I have received a letter from Mr. Blyth enumerating some new birds received from Dr. Kelaart at Nuwara Eliya. He writes: "Among these is *P. Calthropæ* adult, with full-grown tail no longer than your specimen."

4.—P. CYANOCEPHALUS (*Edw., pl.* 233).

SYN.—*Psittacus Cyanocephalus*, E.; *P. Flavitorquis*, Shaw; *Palæornis Flavicollaris*, Frank; *Psittaca Bengalensis*, Bris.; *Psittacus Erythrocephalus*, Gume; *Baṭu-girawá*, Siṇ. (literally "Brinjal colour"); *Payaṭṭaṇ-kiḷi* Mal. (*Payaṛu* is literally the name of a bean).

This elegant parrot seems generally distributed (with the exception of the Jaffna peninsula) throughout the Island. It chiefly prevails in the low wooded hills between Colombo and Kandy, feeding in small flocks of one or two families on the nut of the *dombagaha* (Siṇhalese).

The adult birds are much prized among the natives; the young birds have the head of a greyish-purple, with a yellow ring round the throat. On assuming the plum colour of the adult bird, the feathers do not fall off, but change colour. From the numerous specimens procured, I am inclined to think this change takes place before the end of the first year.

Sub-Family LORINÆ.

Genus LORICULUS, *Blyth.*

5.—L. ASIATICUS.

SYN.—*P. Asiaticus*, Latham; *P. Indicus*, Geme.;

Mal-girawá, Siṇ. (literally "Flower parrot").

Very abundant in the plain extending along the whole sea coast from Puttaḷam (where said by Mr. Brodie to be common) to Taṇgalla. Plentiful also about Kandy and Ambagamuwa.

They are exceedingly fond of drinking from the toddy vessels; and in such situations are entrapped in horse-hair nooses by the native boys, who tame them. The young bird resembles its Indian representative *L. vernalis*. Not having the red heads, like as in the preceding species, the feathers themselves assume the bright red colour by age.

RAPTORES.

Tribe DIURNI.

Family FALCONIDÆ.

Genus FALCO.

6.—F. PEREGRINUS, *L.*

SYN.—*F. Barlarus*, L.; *F. Communis*, Bris.; *Rájáliyá*, Siṇ. (the name of the whole tribe of Raptores); *Paruntu*, Mal. (general name also); *Knykdief*, Dutch (literally "Chicken thief"); *Moitu*, Port. (general name also).

Very rare in Ceylon; one specimen only procured; this I shot in January, 1850, on the open plain near Vallai Bridge, Jaffna district, feeding on the waders which frequent the borders of the salt pans. In its maw were the remains of *H. Leschenaulti*.

Sub-Genus TINNUNCULUS, *Vieillot.*

7.—T. ALAUDARIUS.

SYN.—*Falco Alaudarius*, Brie.; *F. Tinnunculus*, Lin.; *F. Interstinctus*, McLelands.

This daring hawk is common throughout the Island on open ground dotted with low bushes. They are generally found hunting in couples, skimming low over the bushes and along the ground, and darting suddenly on their prey, which consists almost exclusively of small birds, such as larks and amadavats, which abound in such situations.

Sub-Family PERNINÆ.

Genus BAZA, *Hodgson.*

8.—B. LOPHOTES, (*Pl. Col.*, 10).

SYN.—*Falco Lophotes*, Tem.; *F. Syama*, Hodg.

Uncommon, but found occasionally in the Jaffna district in the cold season, from October to February. It is said to feed on caterpillars, but a specimen which I procured in Jaffna contained a lizard (*Calotes*) in its throat half devoured.

Sub-Family CIRCAETINÆ.

Genus HÆMATORNIS, *Vigors.*

9.—H. BIDO.

SYN.—*Falco Bido*, Hors.; *F. Bacha* (?), Daudin; *F. Cheela*, var.

Not uncommon in various parts of the Island, having been received from Mr. Brodie at Puttalam, procured by Dr. Templeton near Colombo, and another was shot by myself in the Pasdun kóralé near the hill Diyagallagolava, the habitat of the Edible-nest-building *Collocaliæ*, while sleeping on a low tree: a fortunate discharge of dust shot brought it to the ground, and on removing the skin a large mould shot was found embedded in the bone of the right wing: from its appearance it had evidently existed there for a long period.* The specimens procured in this country are uniformly smaller than the Indian race.

Sub-Family CIRCINÆ.

Genus CIRCUS, *Lacepede.*

10.—C. SWAINSONII, *A. Smith* (*Gould's B. E., pl.* 34.)

SYN.—*C. Pallidus*, Sykes; *C. Albescens*, Leson.

Not uncommon on the open plains about Puttalam and the neighbourhood of the salt lake at Vallai, Jaffna district. It preys on frogs, lizards, and reptiles of all kinds.

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* For the benefit of any person collecting in this region, into whose hands these "Sketches" may fall, the following description of a collecting gun, which I have in constant use, is given:—

Length of barrel, 3 ft. 7 in.; calibre rather less than 3-8ths of an in., carrying a ball 120 to the pound; thickness of metal 1-8th of an in., making a total of 5-8ths of an in. in the diameter of the barrel at the muzzle. At the breech the metal is much thicker, to counterbalance the length. The stock is fitted with a trap box holding wadding, balls, caps, a knife, needles and thread, &c. The charge for this gun is about a quarter the usual quantity, which will be found very economical in a country where all the collector's ammunition has to be carried by coolies. It kills at a long distance, and throws ball or three buck shot admirably, if required for deer, pea-fowl, or wild ducks. It was with this gun I killed *H. Bido.*

11.—C. CINERASCENS (*Gould's B. E., pl.* 35).

SYN.—*F. Cinerascens*, Montague; *C. Montagui*, Vieillot.

Abundant in the same localities as the preceding, and often mistaken for it in its adult plumage. When young it is rufous brown, with a light chocolate nuchal ring and a conspicuous whitish mark on the rump, by which it may be identified during its flight at a great distance. Its principal food consists of snakes, upon which it pounces in its low skimming flight. The prey is always seized with the foot near the neck, and instantly bitten across the head. I have seen it strike its quarry as often in the water as on land.

12.—C. MELANOLEUCUS.

SYN.—*Falco Melanoleucus*, Pennant.

One specimen only of this bird has fallen under my notice. I shot it near Mántóḍḍam, west coast.

Sub-Family ACCIPITRINÆ.

Genus MICRONISUS, *G. R. Gray.*

13.—M. BADIUS (*Rl. Col.*, 308, 336).

SYN.—*Falco Badius*, Gmelin; *F. Brownii*, Shaw.

This is the common sparrow-hawk of the European residents, and is most universally distributed, and very common. It preys on small reptiles and birds.

Genus ASTUR, *Bechstein.*

14.—A. TRIVIRGATUS (*Pl. Col.*, 303).

SYN.—*Falco Trivirgatus*, Rein.; *Astur Indicus*, Hodg.; *A. cristatus*, G. R. Gray.

Apparently confined to the mountainous districts, where, to the loss and annoyance of the planting community, it is very common, doing great damage in the hen roosts. It is very sly, and rarely falls by the planter's gun, although always killed when opportunity offers. The late Mr. Dewar

of Carolina estate, Ambagamuwa, told me many pairs built in the clefts of a perpendicular cliff overlooking the falls of the Kelani-ganga.

Sub-Family THRASÆTINÆ.

Genus SPIZAËTUS, *Vieillot.*

15.—S. LIMNAËTUS (*Pl. Col.*, 127, 134).

SYN.—*Falco Caligatus*, Raffles; *F. Niveus*, Tem.; *Kólik-kallan*, Mal. (literally "Fowl thief").

The crested variety of this noble hawk is rather abundant and generally distributed. I have shot it at Mátara about the banks of the river, and at Point Pedro, the northernmost point of the Island.

Sub-Family HALIÆTINÆ.

Genus BLAGRUS, *Blyth.*

16.—B. LEUCOGASTER.

SYN.—*F. Dimidiatus*, Raffles; *Icthyætus Cultrunguis*, Blyth. (Journal A. S., XI.) *Kadal-A'lá*, Mal. (literally "Sea eagle").

Not uncommon, but local, one pair frequenting the same place for several years and breeding on the same tree, generally an aged *bó*-tree, whose sanctity protects the nest from the depredations of the boys. I found the nest of one pair lately (January, 1850) in such a situation; and although I offered a good reward to some lads on the spot, not one would mount to rob it, saying that the demon of the tree would injure them.

This is the largest bird of prey now existing in the Island.*

* Bennet, in his work on Ceylon, includes *Gyps Indicus* among the birds of the Island. Traditional reports are also current among the natives in the extreme south, of the existence of a large bird of prey once existing in that locality.

Genus HALIASTUR, *Selby*.

17.—H. INDUS.

SYN.—*Falco Indus*, Boddaert; *F. Pondicerianus*, Gme.; *Milvus Rotundicaudatus*, Hodg. (young); *Chem Paruntu* Mal. (literally "Red hawk"); *Brimalgu Moitu*, Port. (literally "Red hawk").

The common red-fish hawk of Europeans is found abundantly all round the sea coast, and particularly at the mouths of rivers, where it preys upon all kinds of carrion brought down by the stream, fighting with the crows for the prize. They will sit for hours on the fish-kraals in the rivers and catch the small fish which rise to the surface in their endeavours to escape. I have known them seize a fowl, but this is of rare occurrence; one was cut down with a table knife by a gentleman while in the act of killing a large hen. They build in trees in the neighbourhood of water, making many false nests before they finally fix on a place which pleases them. While the female is incubating the male occupies one of these nests. The nest, like that of *Blagrus Leucogaster*, is composed of sticks and twigs without any lining; eggs about 2 in. in length by 1½ in. in diameter. Colour, dull dirty white, dotted at the thick end with bloody coloured unequal and uncertain small blotches and spots; in some instances these spots are nearly black, resembling dry blood. The young, of which there are generally two, are excluded about the first week in February, incubation lasting about three weeks. Before the appearance of their feathers they are covered with a grayish down, and are apparently fed with soft reptiles.

Genus MILVUS, *Cuvier*.

18.—M. ATER.

SYN.—*F. Ater*, Emen.; *M. Govinda*, Sykes; *Karum Paruntu*, Mal. (literally "Black hawk").

Common all along the sea coast, and easily distinguished by its deeply forked tail. It feeds in company with the last on the same substances.

NOCTURNI.

Family STRIGIDÆ.

Genus SCOPS, *Savingy.*

19—S. LEMPIGI *(Pl. Col., 99).*

SYN.—*Strix Lempigi*, Hors.; *Scops Javanicus*, Less.; *Punchy bassa*, Siṇ. (literally "Small owl," the name *bassa* being common to all the owls, and even including the *Caprimuljidæ*); *Nattu*, Mal.; *Koorooi*, Port.

The Ceylon variety of this bird (the *S. Lempigi*, Jerdon) is common throughout the maritime districts, though periodical in its appearance. During moonlight nights they hunt in pairs for *Coleoptera* and *Phalænæ* about umbrageous trees, uttering their monotonous and melancholy "*wagh wagh*" when at rest, and a quick tremulous cry when flying. The natives say they build in hollow trees, never in buildings.

Genus KETUPA, *Less.*

20.—K. CEYLONENSIS.

SYN.—*S. Leschenaultì*, Tem.; *Loku Bassa* and *Bakamúná*, Siṇ.; *U'mattaṇ-kúkai*, Mal.; *Bacamuna*, Port.

These large owls are common and apparently widely distributed, being found in Colombo, Puttaḷam, and Jaffna. The natives tell me they feed much on fish, which they catch by moonlight. A pair I kept alive for some time fed on fish with avidity. When alarmed they uttered a hissing note, ending in a deep growl, bulging out the throat. The natives report that they build in hollow trees and clefts of rocks, laying two large white eggs.

Sub-Family ATHENINÆ.

Genus NINOX, *Hodgson.*

21.—N. SCUTULATUS (*Pl. Col.*, 289).

SYN.—*Strix Scutulata*, Raffles; *S. Hirsuta*, Tem.; *N. Nialensis*, Hodgson.

Found but rarely in the interior of the Island. I know nothing of its habits, never having seen it alive.

Genus ATHENE, *Boie.*

22.—A. CASTANOTUS, *Blyth.*

SYN.—*A. Castanoptera,* Blyth (Journal A. S., XV., 280).

Peculiar to the Island, and discovered by Dr. Templeton in 1846 It is pretty generally distributed about the interior, and not uncommon.

Its description is fully given *loc. sit.*, and may be briefly summed up thus: Length, 7 to 8 in.; head and breast dark brown, barred with dusky buff; back and wings dark brown, barred like the head with a dark brown; tail similarly barred, but with wider stripes; vent and stomach whitish, and much mottled with brown; beak much hidden by the *vibrissæ;* feet small, and clothed with stiff hairs.

Sub-Family SYRNIINÆ.

Genus SYRNIUM, *Savigny.*

23.—S. INDRANI (*Gray's Il. Gen. Birds*).

SYN.—*Strix Indrani,* Sykes, T. A.; *Ulamá,* Siṇ.

Found occasionally in the densest and most lonely jungles. This is the dreaded "Devil bird" of the Siṇhalese, and its note is considered as a pure prestige of evil.

Sub-Family STRIGINÆ.

Genus STRIX, *L.*

24.—S. FLAMMEA, *L.*

SYN.—*S. Javanica,* Sykes.

The white or barn owl of Europe is probably identical with the species which we have in this Island. The only place whence I have procured it is the old Fort of Jaffna, where the dilapidated ruins and the vast old banian tree on the bastion overlooking the esplanade afford it a congenial home; here it may be nightly heard uttering its mournful cry while seated on a gable of the old Dutch church.

NOTES ON THE GEOLOGY OF CEYLON. LATERITE FORMATION.—FLUVIATILE DEPOSIT OF NUWARA ELIYA.

BY E. F. KELAART, M.D., F.L.S., F.G.S.
Assistant Surgeon to the Forces.

"*Even those who run may read in the Book of Nature, and if they read there is no reason why they should not note for the benefit of those who have not the opportunity of studying from the same pages.*"—NEWBOLD.

THOUGH the geological formations of Ceylon are of a simple nature, and described as such by writers, that attention has not been paid to the laterite formation of the Island which it deserves: some have called it decayed clay ironstone; others have described it to be granitic rocks weathered *in situ*. It has not, however, been so slightly regarded by Indian geologists. Their more recent researches have discovered new features in this peculiar formation, which have thrown great doubts as to its being the mere result of disintegrated or decomposed hypogene or trapean rocks *in situ*. Captain Newbold of the Madras Engineers has even gone so far as to suspect it to be of tertiary origin. It is with a view of drawing the attention of observers in this Island, for a more complete elucidation of this subject, that this communication is submitted to the Ceylon Asiatic Society.

The term laterite (derived from *later*, a brick) is applied to those masses of reddish clay, more or less indurated, and containing pebbles or crystals of quartz. It is called by the Sinhalese *cabook*, and is used extensively for building purposes. There are several varieties of laterite, and which admit of classification:—(1) Laterite, properly so called, of a hard compact, almost jaspedeous rock, formed of indurated

clay, tabular or sinuous, in which are impacted quartz crystals of various sizes and colours, generally of a reddish or brick colour. To this kind the term *quartzose* may be applied, as it contains a larger proportion of undecomposed quartz. The cavities and sinuosities are lined, or sometimes filled with a whitish, yellowish, or reddish clay.

(2) A second variety of laterite, and that most frequently met with in Ceylon, is of a softer consistence, and can be cut easily with a knife, but hardens on exposure to the atmosphere. The term *lithomargic* laterite has been applied to this kind.

(3) There is another form which my friend Staff Surgeon Dr. Clark calls *detrital*. This is found in nullahs or ravines. It is evidently formed of pebbles of quartz loosely imbedded in clay, both being washed down to these nullahs by the heavy rains. The detritus of laterite is seen about Colombo forming a brœccia with marine shells. A laterite gravel is also seen in various parts of the Island covering the laterite hills, and it is also found at their base. This gravel is nothing more than the quartz crystals of the laterite rocks separated by the rains from their clayey matrix: some of the pebbles are denuded entirely of the clayey covering, others retain still a thin coating of it. *Lithomarge* is a sectile clayey substance of variegated colours. It is chiefly formed of a decomposed felspar and hornblende,—whitish when the former prevails, and yellow or reddish when hornblende predominates in the rock from which it is derived, owing to the larger proportion of oxide of iron which the latter mineral contains. There are extensive hills of lithomarge in Ceylon, and frequently it lies under the hard laterite, and is often interposed between its layers.

With the exception of Voysey and his few supporters (who regard the laterite to be of igneous or volcanic origin), geologists consider laterite to be the product of the disintegration and decomposition of granitic rocks. The

difference of opinion rests upon the question whether the disintegration or decomposition took place *in situ*, or whether the disintegrated masses were deposited or brought from a distance and laid over the rocks on which laterite now lies; or, in other words, is it a formation in itself derived from rocks which formerly existed?

To the former view (weathering *in situ*) there are many more supporters than to the latter; and among them our late much lamented Dr. Gardner, who from observations both in this Island and on the Continent of India, attributed the formation of laterite to the simple decay of gneiss or granitic rocks. I cannot but agree with him that in many cuts or sections of the rock nature is detected in the act of disintegration, some of the original stratification (often seen running almost vertically) of the gneiss being preserved; in other places it is difficult to trace where the gneiss terminates and the laterite commences, one as it were running into the other. But I must observe that I could never trace this continuity in the hills of the harder variety of laterite. Here, certainly, the appearances are favourable to the opinion that laterite is a distinct formation of itself. And yet this hard laterite rests on gneissic rocks, as is seen at the bottom of wells sunk in the lateritic hills at Mutwal and in the Fort of Colombo. Laterite may also be seen, says Captain Newbold, capping hypogene or trap rocks of great elevations, while the adjacent hills, composed of an exactly similar rock and forming a continuation of the same bed equally exposed to the action of the weather, are quite bare of the laterite. He also observed laterite resting on limestone without a trace of lime in the laterite. If my information is correct, laterite is also seen over some of the limestones of Jaffna in the north of the Island. General Cullen found on the western coast of India, 15 miles south of Quilon, a layer of lignite in the

laterite, imbedded in a stratum of dark shale and clays. Lignite has also been seen in the laterite of Travancore, and graphite has also been observed there. These are the observations which have made Captain Newbold and others view the laterite of Southern India as a distinct formation, more recent than any of the hypogene rocks. Till similar features are observed in some of the laterites of Ceylon, we are obliged to regard them to be the weathering of hypogene rocks *in situ*.

To comprehend how a hard compact rock like granite or gneiss could moulder away into laterite and lithomarge, it is necessary to know the composition of the minerals which enter into the formation of these hypogene rocks.

The following are the mineral constituents of the most common forms of :—

	Felspar.	Mica.	Hornblende.
Silica	66·75	48·00	42·00
Alumina	17·50	34·25	12·00
Lime	1·05	—	11·00
Potash	12·00	8·75	a trace.
Magnesia	—	—	2·25
Oxide of Iron	·75	·50	·25
Oxide of Manganese	—	·50	·25
Water	—	—	·75
	98·25	96·00	98·25

Quartz consists of nearly pure silica, with a trace, however, of alumina and sometimes of iron.—From *Jameison's Journal.*

It is easily seen that the chief source of the alumina necessary for the formation of clay is derived from the felspar and mica which enter into the composition of granitic rocks, and that hornblende supplies the largest quantity of iron, the hyperoxidation of which, assisted probably by electric influences, precedes the disintegration of these rocks. In rocks in which felspar and hornblende predominate, the clay formed is much variegated. Pure felspar forms the porcelain clay or kaolin so abundant on the plains of

Nuwara Eliya. Quartz, if deeply impregnated with oxide of iron, will also moulder away, but not quite so soon as the other mineral constituents of hypogene rocks.

Before I had observed the immense lithomargic hills of Uva and Nuwara Eliya, it was difficult for me to believe that large mountain masses of hard rock could disintegrate so completely into lithomarge. When there are, however, such unequivocal proofs of rocks, several hundred feet high, mouldering away into kaolin or white procelain clay in some parts, and in others into lithomargic earths and clays of various colours and consistence, it is not difficult to account even for the formation of the harder forms of laterite. In sections made in Nuwara Eliya for the construction of roads, successive layers of sienitic gneiss are seen in various stages of decomposition, and these layers retain in some parts, where the decay is not far advanced, the original lines of stratification. Some of these layers are of pure kaolin, others of a reddish or yellowish clay; some mixed of all three, giving a beautiful variegated surface to these exposed parts of the hills. In half-decomposed portions of some of the hills on the plains of Nuwara Eliya may be seen dark reddish spots, which are formed of decomposed garnets, and in other hills are seen scaly graphite. Adularia and ceylonite are sometimes found in the beds of clay. If such then be the striking illustration of the decomposition of one form of gneiss in which hornblende and felspar prevail, it is easy to conceive other forms of granitic or gneissic rocks weathering into laterite in other circumstances and other situations. Laterite in any shape is not found in Nuwara Eliya. The stones used here for building are half-decomposed gneiss obtained from lithomargic hills, and it is yet to be ascertained how long these will last. I fear that the decomposed stone is too felspathic to last many years.

The presence of lignite in some of the laterites of Southern

India, and sometimes laterite being found over limestone, would lead us to suppose that laterites are of two periods: the one, and only one perhaps, existing in Ceylon being of the weathering of rocks *in situ*, and therefore still being formed, and the other a deposit of disintegrated lateritic matter (over more recent formations) derived from previously existing lateritic rocks. The subject, however, requires further investigation; it is involved in greater mystery than many other geological phenomena. Ceylon affords many opportunities for carrying on observations necessary for its complete solution. The features of the laterite of Southern India, which induced Captain Newbold to suppose laterite to be a distinct formation, may also exist in Ceylon; therefore Members of the Asiatic Society will do well to note the nature of the rocks on which the Ceylon laterite lies, and to examine whether any of it contains lignite or is in the slightest degree fossilliferous. The discovery of fossils alone will not prove that laterite is not decomposed gneiss *in situ*, for Sir Charles Lyell and others have suggested the possibility of finding fossils even in gneiss of later origin. Granting that this is the case, nothing could then be easier than to account for the presence of fossils in decomposed masses of the same kind of rocks. This subject is now engaging the attention of the Geological Society of London, their notice being attracted to it by the so-called *foot-prints* on the gneissic rock at Kurunégala, which I have not yet had an opportunity of examining.*

Though the geological features of Ceylon resemble those of Southern India, yet from the paucity of observations perhaps, there appears to be considerable difference in many respects, especially in the nature of more recent deposits. Kunker, a limestone gravel, has not been noticed in Ceylon,

* Since this Paper was written I have examined the rock and found it to be laminated granite, and the marks merely the effects of weathering.

nor has clay-slate been seen in this Island, though its associate rocks are found in great abundance. Both are found in extensive beds in Southern India. Regur, the black cotton soil which covers nearly two-thirds of Southern India, has not been noticed in Ceylon, and yet it is most probable that all these three formations exist in some parts of the Island, most likely in the northern districts.

The only alluvial, or rather fluviatile, deposit in Ceylon resembling in external characters the regur of India, is the black soil of Nuwara Eliya and its neighbourhood; with this difference, however,—regur lies over a limestone gravel and the blackish loam of Nuwara Eliya over a quartz gravel with a substratum of clayey earths, formed of the lithomargic hills and valleys over which the loam and gravel were deposited. A deposit of gravel and loam has also been observed on the Nilgiris, 6,000 ft. above sea-level. These deposits of loam and gravel on the patanas and plains of Nuwara Eliya are considered by casual observers to be the decayed particles of the rocks in the immediate vicinity, brought down by the rains. If this is their real nature, the decomposed particles of the gneiss and quartzite, which chiefly compose these existing rocks above the plains, could not by any means have taken their present position of the loam and gravel. The colour, too, of the decomposed particles would not be dark brown or black, but whitish or yellowish. The loam and gravel lie so conformably on the lithomargic surface of the hills and valleys that it is unreasonable to suppose that they were deposited from any other source than from a large sheet of water.* The heavier

* May not this account for the want of luxuriant vegetation on these patanas, the water having washed and carried away to the lower parts of the Island the alkalies and phosphates so necessary to plants? The black soil of Nuwara Eliya, however rich in appearances, requires much manuring; the best potatoes are the product of well-manured grounds; guano is as much required here as anywhere else.

particles in the form of gravel sinking first, and then the lighter particles held in suspension in the water, were deposited over the bed of gravel, or, as in some places seen, on layers of various-sized pieces of quartzite and gneiss. The loam is not mixed with gravel; it is composed of fine sand, just such as the mud of rivers or lakes is composed of. In the lower layers this loam is of a brown colour, but becoming darker as it approaches the surface, and after being mixed with the decomposed matter of the grasses which grow on it, the loam becomes nearly of a peaty nature and of a blackish colour.

In sections along the different roads which traverse the plains, a continuous layer of gravel, from 1 in. to 2 ft. or 3 ft. in thickness, is seen lying over the lithomargic hills, and on this gravelly surface the brown or blackish loam is seen of varied thickness, generally from 1 ft. to 3 ft.; in some places even 5 ft. or 6 ft. of loam is found. In a section near the Governor's Cottage an interruption appears to have taken place, after about a foot of mud was deposited; then came over the pure mud masses of gneiss and pebbles, now lying several feet thick, mixed with loam of a brownish colour. Over this mixed deposit is again seen a thin layer of loam such as is found in other parts of the plain,—the whole forming a curious variegated structure.

The above observations lead me to conclude that the plains of Nuwara Eliya, and perhaps those of higher parts, have once been the channel of a slow winding river or bed of an extensive lake. And it is probable that lower hills, which look like inverted tea cups, were elevated by subsequent upheavals after the waters had deposited the gravel and loam. It is perhaps in this manner only that the almost uniform thickness of the gravel and loam in the valleys and on the tops of the hills can be accounted for. Had the present elevated surface existed while the waters were

depositing the heavier particles held in suspension, we should expect to find thicker layers of gravel on the valleys than on the sides of hills. Such is not, however, the case: thick beds of gravel are even found on the tops of the hills several hundred feet above the present drainage of the plains. Geologists have decided that the mountains of Southern India were elevated to their present heights by successive upheavals, and therefore it is not objectionable to consider the higher lands of Ceylon to have also been elevated by more than one upheaval. There is abundant evidence too, besides the one just alluded to, to conclude that Ceylon has been subjected to successive internal forces, which will explain also the present configuration of the mountain masses of Nuwara Eliya and the characters of Nuwara Eliya and Horton plains.

Hitherto no evidences of deluvial or glacial currents have been found in Ceylon. The rounded blocks of granite and gneiss seen on various parts of the Island are the effects of a spontaneous concentric exfoliation which small and large masses of these rocks are susceptible of. Major Lushington has instanced this peculiar exfoliation in a gigantic scale on the rock of Dambulla. Alluvial and fluviatile deposits are seen in various parts of the Island, but none perhaps so extensive as the fluviatile deposits of Nuwara Eliya, which appear to extend from Horton Plains, passing over Nuwara Eliya and progressing towards the valleys of Maturata on one side and to Dimbula on the other. Although these deposits are not of a diluvial nature, still there is an importance attached to them, as they show that at a former epoch the interior of Ceylon was traversed by broader and more expansive sheets of water than any of the rivers of the present day. It is doubtful, however, whether this large lake or river which has deposited its mud on the plains of Nuwara Eliya is dwindled down

into the narrow streams which now exist on these plains as tributaries to the great Mahâwęl-gaṇga.

While geology fails to tell us how a world was made, this science teaches us how after it was made it was disturbed and altered for the habitation of successive generations of organised beings. Though the ground we walk upon and the hills which surround us are inanimate objects, we ought to remember that they too received and obeyed, and continue to receive and to obey, the laws of the same Creator, who made the grass to grow and animated the world with living beings. When we observe hard adamantine rocks mouldering away into soft clays and earths by the same forces which give life and energy to animal and vegetable natures, we also find that it is one and the same power which reduces both organic and inorganic matters, at later periods, to their primitive elements. To man is given the faculty of observing and recording the operations of this power, though from him is hidden the mysterious nature of that power which was from the beginning, still is, and will at last dissolve the great globe itself. Before the tender herb and scented flowers burst into life and beauty the inorganic world received the care of the Omnipotent God; and surely what required and received His first attention is deserving of much more than our least. Therefore it is to be hoped that Members of the Asiatic Society of Ceylon, and their friends in different parts of this Island, will make such observation as will contribute to a more perfect knowledge of the Physical History of Ceylon.

98

ON THE MANUFACTURE OF SUGAR FROM THE JUICE OF THE COCOANUT TREE.

By J. G. Taylor, Esq.

(*Read February* 23, 1850.)

In 1847, during my residence in the Southern Province, near the main road from Point de Galle to Mátara, this idea was first made known to me by a very ingenious person, now a resident in Galle; but I was too incessantly engaged in the duties of my situation to allow of my making any experiments. Nor had I then the requisite experience in the ways of the Island; besides, unfortunately, the native population had conceived so many prejudices against us and our sugar-making operations, that I think it would have been out of the question.

In the beginning of the month of September my attention was again aroused by the experiments of a friend, well versed in chemistry, on the products of the cocoanut tree, and, having procured a small quantity of sweet toddy, I had the satisfaction of perceiving that a very fair quality of sugar could be made therefrom. After this, my brother consented to tap two young trees near his residence, on small quantities of juice collected from which I made a great number of experiments, the results of which I now propose to lay before you; and I am even sanguine enough to hope that some of them (as well as the inferences deducible from other remarks) may be of some service also to the manufacturer of sugar from the juice of the cane. In fact, we find that very often more light has been thrown on certain investigations from observations on analogous inquiries than from direct experiment on the very subject itself.

Two methods are, as described by my brother, employed by the natives to preserve the juice from fermentation by separating the feculencies. As to the nature of these feculencies, we are still, unfortunately, very much in the dark. We have, even did we possess time and ability, no apparatus or materials for the investigation of the subject, and it is for that reason I earnestly entreat the Society, should they agree with me in considering the subject to merit sufficient importance, to cause all possible efforts to be made to have these particulars thoroughly and scientifically elucidated. But I will communicate what I know on the point, as that will be some guide perhaps as to what direction the attention of the investigator should be addressed.

From the end of the spadix, a slimy matter is observable, oozing out with air bubbles along with the juice, and whether with bark or lime, but more especially with lime, an abundant bulky mass of this substance, called in Tamil *mundi*, is generally found on straining the juice; but curious to say, when the spadix is reduced to a mere stump, and the running of the toddy draws near an end, very little indeed, if any of this *mundi* is seen. I imagine from this that the *mundi* goes, in the economy of the plant, to form the flowers, &c., but may not be needed by it when the fruit is established; but this is a mere suggestion. It is not the substance which is all precipitated by the defecating agents employed, for they are equally necessary when we see none of it, and it also exists in the drinking toddy, which has had nothing put into it. This *mundi*, then, is a white, opaque, pasty substance, quite tasteless and devoid of smell, and when washed and dried contracts, and becomes first elastic and india-rubber-like, and next hard, and of somewhat the appearance of gum, but when again put into cold water swells, and becomes as at

first. It possesses one very curious property, however, which may possibly give a clue to a discovery of one at least of its constituent parts. When added to starch paste, heated till the pellicles burst, it will liquify the same, and, in one instance only, saccharified it. The latter only happened with one parcel of *mundi*, which I suppose had been kept just long enough to allow of the particular principle which effects this being evolved in proper proportion. But the liquifaction took place in more than four trials; one on the scale of three gallons of water, kept three hours on a water-bath at 150°, with about two ounces of *mundi* stirred in. Probably this may suggest that a portion of that strange substance, diastase, is present in the *mundi*, as the nature of the scum or pellicle which rose to the surface from time to time seemed to look like caseine. The dried *mundi* thrown on a red-hot iron gives out the smell of toasted bread. This may indicate dextrine, and as starch itself exists, it is said, in the sap of all plants, that may be also present. A small quantity of *mundi* which I had put aside and forgotten for a time became quite saccharine by itself. Diastase is extracted from malt, which is formed by the germination of a grain; then why not in the bursting of a flower bud? It is the diastase, acting on the starch in the grain, which saccharifies malt. I trust some able chemist may take up the investigation, a most interesting one, even as regards the solution of some of the mystery of the physiology of plants, and of the elaboration of their proteine compounds, as they are justly named.

Whatever they are—and it is all-important for us that they should be known exactly—they seem to exercise under favourable circumstances no evil influence that we can see, on the liquor which reaches the hands of the manufacturer,—a clear white limpid fluid hardly distinguishable from water.

I am puzzled to know, indeed, what substances they may be which are separated by the defecating agents. So long as *mundi* was present I concluded that it was that; but I have lately manipulated liquor in which I could actually detect nothing but what had been put in, and yet we have proved that without anything sugar can be made (thouhg the litmus paper be unreddened at all), and that not even with the after addition of lime. A thick scum forms on the top after boiling, and the syrup assumes a viscous character.

From the hopelessly black colour of the native jaggery made from limed liquor (*peni*), I thought good sugar could not be made from it. However, I procured a quantity for trial. The enormous quantity of lime that had been put into the chatties was soon apparent, and it was partly diffused through the liquor like a very fine impalpable sediment. Fine English towels would not stop it from running through them. I earnestly beg for assistance also to enable a plan to be established for the extraction of this floating lime. It is true that most settles to the bottom, as I have since found, and might be left behind by drawing off the supernatant liquor; but still some is lost, which I am anxious to avoid. Now herein seems to be a great difference between cane juice and *peni*. Whatever quantity of lime one puts to the former seems taken up by it, and to exert its baneful influence at once; but in the toddy, as I say, we find the most of it at the bottom, while the supernatant liquid remains quite limpid, and not to have taken up more lime than so much water would have done. Although by the first experiment with the limed liquor I did not succeed in getting out the half of the lime, which I estimated correctly at over an ounce to a gallon, the sugar did not turn out nearly so black as I thought it would have done, and is the sample marked No. 3. These trials, I may add, were all made with open chatties.

As regards filters, having remembered seeing, when the coolies poured out the chatty of water round the cocoanut plants, that all the vegetable impurities seemed to remain on the surface of the sandy soil, the idea of a sand filter occurred to me. In a box filter of fine wire cloth I spread three inches of sharp sand from the bottom of a well, and poured on gently the liquor to be filtered. The sand stopped even the most minute particles, and the liquid came through quite limpid. These sand filters acted in the most perfect manner possible so long as *mundi* was present,—it preventing, in some curious way, the fine particles of lime from choking the sand ; but having lately tried them with the liquor which contained none, they failed of their effect. They still stop every impurity, but soon get choked, and are thus too slow for practical purposes. But cane juice which has been defecated passes through well, and therefore I recommend a trial of these sand filters to sugar-makers. I noticed in this trial that the lime which remained in the liquor was taken up and dissolved by the sugar when the density of the syrup was about 20° Beaume.

In the next trial, the floating lime was taken out with the white of an egg to two gallons. Eggs are not generally admitted as legitimate materials for defecation, as not always procurable, but in a country where this would only add one-sixteenth of a penny to the value of a pound of sugar I am not so sure that they might not be occasionally employed. In this case they took every atom of lime out, and the result was an excellent sugar, the grain of which I purposely "broke" for claying,* and it is the clayed sample No. 4. Thus I came to the conclusion that lime, merely in solution, does not make the sugar dark, and only injures the result by forming an undue quantity of molasses. And yet all the

* An operation the use of which is now quite exploded, or ought to be.

drained syrups granulated well on being boiled a second and third time ; but if not for the lime, a very small portion of syrup or molasses would drain from it on the very first boiling, as I have since proved. Our toddy-drawer boiled a lot from which the lime had been extracted by egg, and to his great surprise the result was a jaggery actually whiter than that made from bark toddy.

I need not tell any sugar maker that it is a popular error to think that eggs make sugar or syrup white. The albumen has no decolorising power at all, but only removes those impurities which would have made the sugar dark. If therefore we extract these by any other means it will do equally well. If it be true, what the natives tell us, that bark will not prevent the juice from fermenting somewhat in rainy weather (though that I doubt), if we are compelled to use lime, it is just as well that we know how to get it out. A nut is sold in the bazaars called in Tamil *kaḍḍukai*, and used by the tanners, but it is not the true gallnut. On the addition of an infusion of the powdered nuts to the strongly limed but clear liquor, a very abundant precipitate took place. The liquor, being filtered, was as brilliantly transparent as rock crystal, and all the subsequent processes perfectly satisfactory. I now find that the solution or infusion of *kaḍḍukai* should be added to the liquor at the temperature of 140° to 160°, and that filtered a minute after reaching the boiling point. The precipitate was a reddish brown colour. The result of this experiment, which I have repeated since, using another material, gave the sugar No. 2. The *kaḍḍukai* infusion gives a dark blue or nearly black colour with the muriate of iron, and forms a precipitate with the solution of gelatine. The following day, to give this experiment its collateral test, I ground twenty-five canes, which produced me two and a half gallons of juice, at 9°, to which I added two drams of lime. On the

addition of the infusion of *kaḍḍukai* just as perfect a precipitation occurred as with *peṇi*; after filtration it threw up no scum whatever, and was nearly colourless. Gallnuts are mentioned by Dr. Evans as one of the best defecating agents. I confidently recommend a trial of this to sugar planters, as I believe it to be of the last importance to extract the lime, and for the above idea I am indebted to the suggestion of a friend.

Before this I had ascertained a curious fact. Strange to say, though so large an amount of lime is present turmeric paper is not reddened unless the cream of lime is stirred up. But on adding a very great excess, the *peṇi* will redden a solution of turmeric. This was done till the liquor assumed a light red colour. To this common alum was added at 140°, until a bulky precipitate took place, and all colour whatsoever disappeared. The liquor being filtered was remarkably clear and pure, and notwithstanding we know that the sulphate of potash is still present* and will exercise a baneful effect on the liquor, it did not seem to do so, but granulated freely. Perhaps the sulphate of potash may pass into the molasses. I tried this plan with a solution of very black cane sugar, and with the same effect, the precipitation discharging nearly all the colour.

The idea of the last trial which I shall detail is taken from a pamphlet by Mr. Gay. His words are: "The addition of tannate of lime and alum as the liquor came from the mill would effectually prevent all fermentation, and gelatine could be added during the succeeding process of clarification." I must here remark that I have frequently boiled liquor defecated by bark, and though it made good sugar found it possessed a certain thickness which I did not like, and an unwillingness to part with its molasses. However, this idea

* Evans, p. 103.

of gelatine, on being pointed out to me in Mr. Gay's pamphlet, seemed very applicable to our liquor. Being already saturated with the peculiar principle of the bark, on the addition of the gelatine a decided and very abundant precipitate at once took place, which was all stopped by a flannel filter, leaving a pure limpid fluid, which we all agree in thinking cannot contain much besides sugar and the salts (supposed to be of potash) peculiar to the cocoanut juice. Though boiled in a quantity of only three pints, in a wretched little earthen pot, which burned the liquor in all directions, as they all do, the sugar No. 1 was the result, and the molasses merely nominal,* while it was easy to see the syrup would have mostly all grained on a second boiling. This process I consider as the one in every respect the best, and I also recommend this to the cane planter. The pounded *hal potu*, in sufficient quantity, I would leave in the clarifier all the time the juice is running in from the mill; or if that were insufficient, a decoction or infusion could be added. The gelatine must be mixed and the liquor filtered, I think, below the boiling point, or even cold, but that must be ascertained by experiment. The vessels for clarifying must be of copper. I fully intend to prove this point as soon as our present wet weather shall clear up.

Having written the above, I was favoured with the opinion of a scientific friend on the subject, on which I have detailed the experiment just described. He says he has been studying the action of the bark, and does not think it contains any tannin, for in the first place it shows no action with iron, and moreover the precipitate which it forms with gelatine is soluble in lime water. (This is true, for I have proved it also.) He says further:—"I am inclined to think that it contains a peculiar principle capable of throwing

* None of the samples of sugar I send have been drained for more than two days.

down gelatine, but differing from tannin. I find that other substances throw down gelatine; for instance, hematine, the peculiar principle of brazil wood, does so, but the precipitate is soluble in hot water. The *kaḍukkáy* doubtless contains tannin, and its precipitate is tannate of lime. I tried, as you requested me, the gelatine; the result was the best sugar I have made, and the quantity also was more satisfactory. A careful quantitative experiment is necessary to determine the relative value of the bark and the chunam toddy. The lime certainly does favour the catalytic change of the sugar into glucose, but probably it would not if thrown down by the tannin before the application of heat. Tannin throws down almost every vegetable proximate principle, and gelatine throws down albumen, so that I think with this we get rid of everything out of the toddy except the sugar, the dextrine, and the salts. There is an innocuous substance which precipitates gum, and probably would dextrine also, but which from want of proper apparatus I am unable to prepare; it is silicate of potash. The preparation of this compound is very easy and cheap, and if it acts as I think it would, it would leave us just the sugar and the salts."

I have since tried some juice, substituting the rind of the fruit of the pomegranate for the *kaḍukkáy*. It had the same effect exactly, and the result is excellent. The bark of the ironwood tree I believe will also do, and perhaps many other barks and nuts.

The addition of a true decolorising agent, such as animal charcoal, to the liquor while boiling, effects a wonderful improvement in the colour of the sugar, even in an open pan. But as that would involve a second and far more tedious filtration, in whichever way it is performed, it may be doubtful whether we shall ever adopt it. However, we can manufacture the animal charcoal here as advantageously as

in any place in Ceylon. I have fancied that even a small flannel bag-full placed in the pan improved the grain of the sugar in one or two trials, and I found the liquor passed through and through the bag as it boiled.

The gravity of all the *páṇi* we have experimented on is very nearly the same, being about 9·5° Beaume. Sometimes the mouths of the *mutties* not having been well protected a little rain water has got in, as we judge from a suddenly increased quantity and lower gravity. On one or two occasions the juice reached 8·9° Beaume. There is no doubt therefore that in practice over a pound of Muscovado sugar would be extracted from every gallon, and I myself think more nearly a pound and a half, by the processes, either of bark or lime, detailed above, and I think it not unlikely that could the trees be kept constantly running (which indeed they could) the extraordinary quantity of 180 to 200 pounds of sugar may be obtained annually from every cocoanut tree. How much more ought to be obtained the new publications on sugar making take great pains to inform us, but none of them detail any method by which, except in the laboratory of the chemist, they can really state the true result to have been procured in practice.

Many speculations of different kinds of planting having been undertaken in this Island, perhaps without due consideration of its adaptation to them, it is truly satisfactory to have every day increasing evidence of the fact that this country is at all events eminently fitted for the perfection of the growth of the cocoanut tree. Here we cannot go wrong, and therefore I consider the subject in this particular rests on the solid foundation. Objections against all new ideas are always raised, and sometimes where we expected to find encouragement we are met with a doubt. I have heard it observed against the probability of the establishment of a manufacture of sugar: "Such great numbers of

men would have to be employed that it would be a serious objection." It is true that very numerous gangs will have to be looked for, and probably brought from India. And yet look at the Galle district. Only let a beginning be made and a demand for labour created, the supply will soon come, especially in a fertile, cheap, and abundant country as ours is. And to the objection as to numbers, all I can say is, that any scheme which shows that a great force of labour, and perhaps also necessity for the employment of European talent, is required, and can be profitably exerted in the carrying out of any object, that object must surely be deemed of some importance.

ON THE SAP OF THE COCOANUT TREE, AND ITS MANUFACTURE INTO SUGAR.

By W. S. Taylor, Esq.

(*Read February* 9, 1850.)

At a time when there are complaints made of decreased production of sugar in our West Indian Colonies, of the failure of cane planting in the Madras Presidency, and of the ill success which has attended some speculations of a like nature in this colony,—when the futility of the means adopted by the English for the abolition of slavery has been gravely announced, whereby the sugar growers of Cuba and Brazil are likely to acquire too great a predominance in the market, and well nigh a monopoly of the article,—it will prove encouraging to many who are interested in the general welfare and prosperity of Ceylon to hear that its far famed cocoanut palms are calculated to yield a large amount of excellent sugar, the manufacture of which it is to be hoped we shall ere long see established. When, too, it is considered what thousands of tons of sugar must be destroyed by the distillation of the sweet sap of this palm into alcohol, and the moral pestilence which this baneful liquor occasions, it must be ardently desired by every philanthropic mind that the sap, if taken at all, should be converted into a blessing in the form of sugar, instead of being perverted into a curse in the shape of arrack. By this means we should be entering the list against vice, and not only the vice of intemperance and its concomitant evils of crime and suffering, but we should also be active rivals of the

pampered slave-owners, and directing a thoroughly practical crusade against Negro slavery. Every consideration therefore both of profit and humanity stimulates us to carry out this idea. Yet it seems singular that it should never have been attempted before, as the sap, or "toddy" as it is generally called, has been, I presume, from time immemorial made into the form of jaggery, which is however a far inferior mode of rendering it useful for purposes of domestic economy, it being with difficulty prevented from deliquescing, while sugar, from its being in separate crystals of considerable hardness, offers more resistance to the humidity of the atmosphere.

Having seen small samples of sugar made from the toddy, I determined about three months ago to try two young trees, six years old and coming into bearing, to see what quantity of sap they would yield, and whether the product could be readily manufactured into a useful and marketable article, and as far as the experiments have been carried (only as yet on a small scale) the result is very satisfactory. The natives have long been in the habit of making a very superior kind of white jaggery, and therefore it was only natural to suppose that if they could succeed in making it either white or black (at least, some they make with lime is dark brown) at their pleasure, any one accustomed to sugar making could produce a superior article at once from the tree, it being also quite easy, as has been proved here, to make a good grained sugar from the jaggery, and even from the common impure article manufactured at Point Pedro from the palmyra toddy, used for binding fine chunam work.

There are several ways of taking the sap here, which it may perhaps be useful to detail before proceeding to the manufacture of the sugar: that is to say, the mode of cutting the flower-stalk is the same in all cases, but I mean

as to what is put into the pots to precipitate the feculencies and prevent fermentation. For drinking purposes alone it is taken without anything being put into the pots, the main point being then of course to get it to ferment as soon as possible, when, if taken for instance at six o'clock in the morning, it is sourish early in the afternoon, in which state it is drunk in considerable quantities, and is very intoxicating. For this purpose it is taken from the tree twice a day, the morning's toddy being drunk in the afternoon, and the evening's at night. Limed toddy can however be kept till three or four o'clock P.M. without change. The fermented toddy is sold regularly in licensed taverns,—taverns which I need hardly say are perfect *foci* of idleness and vice, gambling, &c. No one can tap his own tree to get the pure sweet toddy, were he inclined to drink it, without paying one pound a year to the "toddy renter." There is no tax however on taking it for making jaggery or sugar, under certain restrictions, *i. e.*, with an infusion of bark or lime, which of course are supposed to render it undrinkable. This is as it should be, and with such a law we can work with tolerable freedom. Perhaps, however, the sugar manufacturer might be allowed by special license to take it without bark or lime, if he found he could make a purer article without them.

For jaggery the best method is to put some pounded bark into the pots (*muṭṭi*). This bark is called *tumpálam paḍḍai* in Tamil, and *hal-potu* in Siṅhalese. It is highly astringent, and the effects of its tannin is to coagulate and precipitate a white pasty sediment, and thereby prevent fermentation. This sediment is thrown away as worthless, but there is also some sediment found in the fermented toddy pots, which is used as a yeast for raising wheaten bread. Lime also is a powerful agent, as better not to use it, since it acts too strongly on the sugar

contained in the sap; the proportion of it, however, can be nevertheless so adjusted as not to have a very destructive effect; still, it generally causes the liquor to get more or less dark-coloured in the boiling, unless it be extracted by employing tannin or albumen, as will be elsewhere explained in my brother's paper on the manufacture of sugar, &c.

The toddy is called in Tamil *kaḷḷú* when it is used for drinking, and *páṇi* when it is intended to make jaggery or sugar. To obtain it the same method is practised here as in other parts of the Island. Sometimes trees which are not good bearers of nuts are selected for this purpose, which is merely done I presume in order that they may not be so unprofitable as if they only bore a few nuts—though a good bearing tree, one with large well-developed *páḷaikaḷ* or flower stalks, is decidedly the best, and will of course yield more sap than an inferior tree. Whatever tree may be selected then, it is necessary that the *páḷai* should be well matured and nearly ready to burst into blossom, at which time only it is certain to have a good flow of saccharine sap. The toddy drawer, called *Naḷavaṉ*, a peculiar caste, watches for this juncture, and at the proper time he ascends the tree—in the case of mine a mere step off the ground on to the lowest branch; but if the tree be lofty it is more difficult. In this case he makes a small circlet or fillet of palmyra leaf, leather, or coir rope, in which he inserts his feet to prevent their slipping apart; then, with the soles of his feet firmly pressed against the trunk and his arms closely embracing it, he alternately bends and straightens his back and thus climbs up the tall, snake-like stem. In the southern and western parts of the Island they do not require to ascend every tree separately, as there are ropes stretched from one to the other, along which the men pass safely and quickly at a great height from the ground, and this enables them to attend to about fifty trees a day each

man,* whereas here, twenty to twenty-five trees are considered about the mark. At Galle especially, where a great many trees are rented for arrack in the same plantation, this is easily managed, but at Batticaloa very few trees comparatively speaking are devoted to toddy, there being such a steady demand for the nuts, and no arrack distilled here, that people prefer to let their trees bear. The *Naḷavaṉ* is provided with a cylindrical-shaped mallet, called *taḍḍa-pudde,* made of a hard dark wood called *náka,* neatly turned, and a sharp, broad bladed crooked knife called *páḷaik-katti.* Arrived at the top of the tree he seats himself quite leisurely on one of the broad branches, resting the *muṭṭi,* before tying it on to the *páḷai,* in the hollow of another, which seems just adapted to the purpose. At first he merely beats the *páḷai* well, once a day, in the morning, and after the first time, and again after each beating, he binds the *páḷai* firmly round with fillets of cocoanut and palmyra leaves, to prevent its bursting into flowers. On the third morning he slices off the horny tip of the *spatha,* or sheath of the flower-stalk, exposing to view the young flowers and perhaps one or two young nuts, which it is hardly necessary to observe are formed by a kind of cryptogamous generation in the mysterious recesses of the *páḷai.* The flowers therefore which are seen on the numerous small side stalks which branch out of the main flower-stem are, I believe, the male flowers, which have to fecundate the embryo nuts. However this may be, all this process is interrupted by the first cut of the trenchant blade. The same evening the man slices a little more, and after that regularly twice a day, but he does not always beat it, only every three days, once in the morning. I

* I am told a man will actually take the toddy from two hundred trees, but probably with assistance.

suppose this is done to bruise the young flowers and nuts, and prevent their forming and exhausting the sap, which has to flow through the main and side stalks for our purposes perhaps somewhat different from what nature intended. Still it is quite as allowable to take the produce of the tree in this form as to let it mature its nuts with all their complicated structure of coir, shell, and oily kernel,—which one would suppose would task the tree quite as much as parting so readily with its sap can do,—which may in one sense be said to save the tree a great deal of trouble. By pursuing the above-mentioned treatment regularly, in from twelve to fifteen days, or less, the sap begins to exude from the sliced surface. At first, and for two or three days, it is too small in quantity to be worth collecting, and it is eagerly consumed by bees, wasps, and ants. In fact, I observed mine oozing out sufficiently to attract the insects on the seventh day, but the natives generally allow till the twelfth or fifteenth day before tying on the *muṭṭi*, by which they may lose some, which perhaps we could not afford to do on a large scale. I observed the *pâḷaikaḷ* began to drip pretty freely on the ninth day, on the evening of which the *muṭṭi* were tied on, and on the following morning they were taken down, and after being strained the liquor measured a pint and three quarters from the two trees, two *pâḷaikaḷ* on each tree being cut. After this the *muṭṭi* were taken down and fresh ones tied on twice a day, no more tapping or beating being required, only regularly taking off a thin slice twice a day, to form a fresh surface for the sap to exude from, otherwise it would soon become clogged up and would not run at all; and this is continued till the *pâḷai* is sliced away to a mere stump; and this obviously depends on the length and size of the *pâḷai*—if a short one, as on a very young tree, it may be exhausted in from twenty to thirty days, but if a good sized *pâḷai* on an

older tree, it may last as much as forty days, or perhaps a day or two more or less. Bark toddy (*paḍḍai-páṇi*) is taken from the tree twice a day, the *muṭṭi* being emptied, washed, and burnt out with a little dry grass or straw and kept for the next time, and clean *muṭṭi* immediately put on. When lime is used, however, it preserves the sap much longer from fermentation than the bark, for which limed *muṭṭi* are not taken down till twenty-four hours have elapsed; but it is requisite for the man to ascend the tree in the evening and take off the *muṭṭi* for a moment when he slices the *páḷaikaḷ* to make a fresh surface, and then replace them, only taking them down for boiling the sap into jaggery on the following morning.

I found that the trees soon began to yield an increased quantity of sap, which was boiled down to sugar or syrup in different methods, as explained by my brother. For thirty days I gave the two trees a fair trial, only ten *páḷaikaḷ* being cut on each, and the sap increased from $3\frac{1}{4}$ in a day or two to 7, 8, and even 9 pints a day from the two trees, when towards the thirteenth day it fell off to 5 or 6 pints. The average for the thirty days was $6\frac{1}{8}$ pints, or $\frac{3}{16}$ pint from each tree per day. In the meantime two other *páḷaikaḷ* had been cut on one of the trees and one on the other, which gradually came into yielding, and I gave the two trees another trial; this time for thirty-one days, during which period the yield increased from 5 or 6 pints to 9, 10, and $11\frac{1}{4}$ pints a day; and the average from the two trees for the thirty-one days was $8\frac{1}{8}$ pints, or $4\frac{1}{16}$ pints per tree per day. Since the end of the thirty-one days—*i. e.*, about the middle and latter end of November, when there was only one *páḷai* running on the smaller tree—it has frequently given 3 pints, which seems an immense quantity, as, if three or four had been running together at that rate, the tree would have given from 9 pints to a gallon and a half a day! At all

events, I am inclined to think that a gallon a day is but a reasonable yield to expect from each tree when arrived at a proper size and maturity and accustomed to yield its sap. The quantity of sap yielded by the two young trees in sixteen days from seven *páḷaikaḷ* was 439½ pints, or 54⅞ gallons, or 7⅞ gallons from each *páḷai*. Add one eighth more *páḷai*, which was matured but not cut, but might have been made to yield within the time, we have about 185 gallons in a year from each tree. These two trees give, say, 55 gallons in two months; one tree 27½ gallons in the same time, or 165 gallons in a year. Add one eighth for a *páḷai* not cut, we have 185⅝ gallons per tree per annum. Perhaps 200 gallons from a good large tree might not be too much to expect. A greater quantity would probably have been obtained had we gone on cutting the *páḷaikaḷ* as fast as they were ready, but I wished to stop to prove an assertion I heard, that after tapping a young tree for a short time it would bear nuts more abundantly than one which was not tapped. And I must say that, so far from the operation having tended to exhaust them, as some might imagine, the newly-developed *páḷaikaḷ* are larger and longer than any previous ones, and promise abundance of fruit, while it is not less probable that they would have yielded more toddy than any other had they been tapped in their regular turn. From the rains having set in, and other circumstances, I am waiting some time before recommencing toddy-drawing operations.

It is rather difficult to come to a decided conclusion of how much a tree will give in a year. The quantity of toddy must of course be proportioned to the number of *páḷaikaḷ* that come out on a tree. Ask any native and he will say the trees get one *páḷai* and one new shoot, or branch, every month, but there would seem to be no fixed rule for this, as more come out on some trees within a given time, and more on one tree than on another. I think two a month, or three

in two months, is much more likely to be the rate, but then some trees grow much faster than others. One of my trees matured and would have burst six *pálaikaḷ* between August 28 and November 20 ; the other tree only four in that time.

The sap, or *peṇi*, with bark infused, gives a much whiter jaggery than that which is limed, the latter, as made by the native method, being nearly black and full of impurities. Very few of the natives, however, take bark toddy, as they consider it more troublesome and expensive, though the jaggery makes amends for that by fetching a higher price.

The difference between the preparation of jaggery and sugar is merely this. For jaggery the liquor is boiled till it is extremely thick, and it is kept boiling and well agitated with the ladle to prevent its burning till it is quite inspissated, so as to be merely kept in a semi-fluid state by the heat : it is then turned into moulds (generally cocoanut shells), when it immediately cools into a hard concreted mass without any distinguishable grain ; whereas sugar (after being properly clarified) requires only to be boiled very carefully, yet quickly, till it attains a certain degree of tenacity, which is known to the experienced boiler as the "point." It is then taken off, "skipped" into another vessel called the cooler, in which it ought to part with its heat gradually : so they are generally made of wood, and this ensures its forming a good strong grain. It does not, however, become quite dry till it is transferred into a second vessel, constructed so as to drain off the superfluous syrup which will not grain ; and this is termed the molasses. This will sometimes grain on being boiled again, and it is a curious fact that the molasses from cocoanut, or coco sugar, even when the liquor has been very highly, perhaps excessively, limed, grains much more freely than that from cane sugar ; and this process may even be repeated several

times with a clear gain of sugar each time, till at length the remaining molasses is so trifling in quantity as would hardly require a still to work it off into rum (or arrack, whichever it might be termed), which is so necessary an adjunct to a cane-sugar making establishment. Nevertheless, it is probable a small still may be maintained with advantage to entirely prevent waste by the accidental souring of the liquor, working off whatever molasses there might be, &c.; but as to skimmings, the liquor can be so easily clarified, being much more manageable than cane-juice—there is hardly anything to skim off from the first boiling of the "skip."

I have, since writing the above, heard so many statements that the continual drawing of toddy would injure the trees, that perhaps it may oblige us to intermit our operations for three months, during the season in which the hot land wind blows—say, June, July, and August.

ON THE ELU LANGUAGE, ITS POETRY AND ITS POETS.

By James De Alwis, Esq.

(*Read February* 23, 1850.)

Contents.

The apparent inattention to the study of the Siṅhalese—The present low state of learning in the towns—The *Elu* defined—The derivation of the terms *Elu* and *Siṅhala*—The apparent difference between the old and the new styles in prose accounted for and exemplified—The general destruction of the Siṅhalese literary records—That *Elu* and *Siṅhalese* are synonymous terms proved—Authorities cited—That the Elu and the Sanskrit had one common origin—The Siṅhalese alphabet analysed—The formation of the letters pointed out—The *Sanskrit* and *Páli* characters embodied in the Siṅhalese alphabet—The sound of *f* found in the Sanskrit—Prose writings in the Siṅhalese classified—Examples—The Siṅhalese poetry defended against slights with which it is treated by Europeans—Similarity of thought between English and Siṅhalese poetry instanced—Translation of English and Siṅhalese poetry—The translated Holy Scriptures—The different kinds of poetry—Examples and rules of versification—Three diagrams—The මාරඝ poem with a translation—*Yuvala* verses—An attempt to ascertain the date of "Sidat Sangaráva"—Several species of puns in poetry, with examples—Acrostics—The twenty-six Siṅhalese epithets for Buddha in general critically translated and explained—Siṅhalese *dialogues* explained and illustrated—A few rules of Siṅhalese prosody—The eight rythmical feet in poetry—Native prejudices against some—Examples—The evil characters, &c.—The diagram called ඉඹුල explained—The four *Yavahan*—Examples—Brief notices of the poets and their works, with an attempt to ascertain their dates—"Kávyasékara"—"Seḷalihiṇi-sandéśa"—"Parawisandéśa"—"Moggalláyana Patipanchiká"—the "Peŗa Kumbá Sirita"—"Kowulsandéśa." *(To be continued.)*

INTRODUCTORY REMARKS.

IT is not easy to explain the reason why so little attention is paid to the study of *Elu* by the Siṇhalese. Many are the conjectures on this subject. Whilst some, it is said, have not the necessary time at their disposal, others complain of a want of teachers and books. Numbers having the means and time necessary for its study deprecate it as little less than *useless*. Others, though possessed of all the desirable advantages, devote their time to the study exclusively of the dead languages, ill-acquainted with, if not ignorant of, their own.

It is matter for regret to the writer that the Siṇhalese should so far neglect their own language; that though they use it in their everyday intercourse, and thereby shut themselves out from the possibility of acquiring a correct idiomatic knowledge of a foreign tongue, they, or at least the greater portion of the rising generation, should yet be incapable of carrying on an intercourse for any length of time without introducing Portuguese, Dutch, or English terms—a practice which, I regret, is gaining ground in the towns of this Island. I am however free to admit that with the introduction of European institutions, manufactures, &c., European words and names before unknown to the Siṇhalese must necessarily obtain amongst them: as for instance, ඔරලෝසුව, *Portuguese*, 'a watch'; බූදලේ, *boedel* in *Dutch*, 'estate'; කුස්තම්හොසිසිය, *English*, 'custom-house,' &c. But how can anyone therefore justify the admixture of pure English words with the Siṇhalese—*e. g.*, ඌ යස trick එකක් play කරපි *for* ඌ යස ප්‍රයෝගයක් කරපි, 'He has played a nice trick.' The writer has with regret observed the ridicule and contempt with which Europeans have frequently treated language such as the above, and that to his readers will furnish a satisfactory apology for the introduction of the subject in these pages, besides an

anxiety on his part to bring the subject prominently before his native readers, with a view to the discouragement of a practice which exists to a lamentable extent—a practice, too, from which no good results, since they who use a mixture of English terms neither think in English, and thereby exercise an easy mode of acquiring the idiom of that language, nor habituate themselves to a correct and fluent expression of their native tongue.

From such a state of things—I had almost said the degeneracy in literature—one would be led to believe that the Siṇhalese language is defective. But this is not so.* Such a belief would be inconsistent with the existence of books treating fully on a variety of subjects. It is said, however, that the books are written in Eḷu and not in the Siṇhalese. This, again, is a mistake. *There is, in fact, no difference between the Siṇhalese and Eḷu.* Owing to a plurality of vulgar terms which the natives use in their everyday intercourse, and also to a belief that "the dialect in which the Singhalese works are written is called Elu,"† Europeans have been led to this supposition.‡ But they are both appellations for one and the same language, although it is true that from time to time the Eḷu, like the English, has

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* "The Eloo has undoubtedly given birth to the vernacular language of this country. It appears to claim great antiquity, and being derived from the *Sanskrit*, a great proportion of the words may be traced to that source. This language is copious, and must, in former periods, have been cultivated to a high degree of perfection; it is regular in its grammatical construction, and possesses most of the elegancies of style; and, from the numerous works which are still extant, it is evident that it is capable of being used in every species of composition."—Clough's "Singhalese-English Dictionary," preface.

† *Vide* C. A. S. Journal, 1846–47, No. 2, p. 103.

‡ The Rev. B. Clough, in his "Singhalese-English Dictionary," p. 799, gives the following definition:—"ඉළු, the *Elu* or ancient language of Ceylon."

123 undergone a slight change.* Again, it is incorrect to say

* එබදු පෙර පියොවක්
දුටුව දනෝ හැරඹෙත්වත්
දිවවදනෙවි යන්යන්
පෙරලේ දනොමසියබස.—*Swábhásalaṅkare.*

"Although such tricks (of composition) previously existed, it is improper to attempt them now; for, unlike the language of the gods (Sanskrit), the Siṅhalese is not without a change from time to time."

The change here alluded to consists in the present disuse of certain words now obsolete, the introduction of many particles which were anciently omitted in composition, and in the abundance of certain decorations of style which were formerly avoided. The following, which I have elsewhere translated, will explain the difference :—

EXAMPLE 1.—පහන නඹරන්හි බමන බමරවූළු නඹ පිරියෙස් සරණ තිමිර බලල්වලා, when rendered into the modern, is read as follows :—පහන්වූ කල්හි නෙළුම්මල්හි හැසිරෙන්නාවූ බඹරසමූහය අඳුරුනැමති මවු සොයමින් ඇවිදින අඳුකාරපැටියන් වැන්නෝයි.

EXAMPLE 2.—සරණ නඹර වරලස, සෙවෙලවලකර අරියන : රදුවපෙර කලවමන්, කුසනිරිඳු සොසමෙලේ, in modern prose reads as follows :—පාදනැමති නෙළුම්මල්හි කෙහෙනැමති සෙවෙල් ගවසා ආරාධනාකරන්නාවූ රජදූවිසින් පෙර කලාවූ අවමානයන් කුසරජ්ජුරුවන්වහන්සේ කලපනා නොකෙළේය.

In the first example, බමන is the Siṅhalese for the Sanskrit word භ්‍රමන, which is now used. I have, however, given හැසිරෙන්නාවූ, which is more frequently used. තිමිර is of less frequent use than අඳුර, and බලල්, the substantive form of the adjective බාල, is obsolete, because, perhaps, the same is used for *cats*. වලා, as a term of comparison, is now obsolete.

In the second example, සරණ, "feet" (a word which occurs in the first as the verb for "walking"), is obsolete except in poetry. වරලස, in common parlance, either an ironical or sarcastic expression, is frequently used in poetry. නැමති, a term of comparison, was anciently, and is still, omitted in poetry, as in යොවුන්සයුර for යව්වන නැමති සාගරය; in prose, "the ocean of youth." The decorations of style to which I have alluded, and which are particles and honorifics, are the following :—කල්හි, මල්හි, වූ. නැමති, හි, වූ, විසින්, වූ, වල්, පුරුවන්වහන්සේ, ය, &c.

From the above examples it will be perceived that the modern prose is much more redundant in its style than the ancient, of which a few passages occur in the "Sidatsaṅgaráwa" and "Lakuṇumiṇa." My own suspicions are that this arose from the decline of the Siṅhalese as a language after the general destruction of literary records in the reigns of several kings, and also from a frequent reference to, and a close imitation of, the paraphrases and commentaries, being the great bulk of prose, remnants of an ancient date which *ex-necessitate* adopt the redundant style—a style ill-adapted to other species of composition.

that the ancient books were written in Elu and not in Sinhalese. The "Sidatsangaráwa," an Elu work (assuming that the ancientness of its date is the criterion which should decide the question)—a work indeed written in the most concise ancient style—designates the language of which it treats වහරටයුහුසියබස, "the colloquial Sinhalese"; and "Námáwaliya" (which is a vocabulary of terms contained in all confessedly Elu works) calls the language of which it is a dictionary "the Sinhalese."

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පද බැඳ කියම් නාමාවලිය සිංහල.

"I sing in rhyme Námáwali *Sinhalese*."

Now, those who maintain that an ancient obsolete dialect was the එළු different from the සිංහල, will not deny that the two books above quoted are in that so-called dialect.* How then will they who give the two words different meanings, reconcile their opinion with the positive assertion of the learned writers themselves as above cited, both of whom designate the language of which they wrote "*the Sinhalese*"?

Some writers have also defined the word එළු to be that dialect in which the poetical works of the Sinhalese are written,† doubtless intending to draw a distinction between the poets of old and those of a comparatively recent date. This is incorrect also. Any one who will be at the trouble

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* "සිදත්සඟරාව or සිඛාසාසංග්‍රහය—A Grammar of the *Elu* or Ancient Language of Ceylon."

"At a much later stage of my proceedings another native production came into my possession, the නාම වලිය, a vocabulary of *Elu* nouns."—Clough's "Dictionary," preface, vol. II., p. xix., p. 733.

† "Their scientific writings are generally to be found in Sanskrit; their religious writings in Pali; whilst their poetry is in a dialect of its own, the Elu."—C. A. S. Journal, vol. I., p. 36.

"එළු අකාරාදිය had been composed to facilitate the study of the purest *Elu* authors, especially the poets."—Clough, *l. c.*, vol. II., p. xix.

to compare together all the poetical works of the Siṇhalese will find that they are all (with the exception of a few in blank verse) written in the same poetical style now used amongst the literary Siṇhalese, and that there is no real difference approaching to anything like a dialect between any two of them. Indeed, I fail to perceive any difference of dialect between *Toṭagamuwa*, the father of poetry after "the destruction" to which allusion has already been made, and the celebrated *Miripeṇne* of the present day. It is however possible that several words which occur in the old poetical works are no longer in use. This, I apprehend, is not a sufficient reason to justify the conclusion that the so-called old dialect was not the Siṇhalese; for, otherwise, we may with equal reason say that Milton and Shakespeare were not English poets.

But I trust the question may be satisfactorily disposed of by an inquiry into what the poets themselves called the language or dialect which they wrote. For if (as it is supposed) there be a difference between Eḷu and Siṇhalese, and, moreover, if the first is an obsolete dialect succeeded by the second, the old writers alone could have designated that which they wrote the Eḷu. Far from this being the case, some of the old writers have called the language in which they sang the Siṇhalese; and some of the modern have designated it the Eḷu. And very often the same writer has given both the appellations. A reference to books will clearly show that—of which, however, I have no doubt—*the Siṇhalese and Eḷu are synonymous terms*, and have always been used as such, notwithstanding any slight changes that may have taken place from time to time in the construction of sentences, or in the formation of words, or the elision of letters in the language of the Siṇhalese.

Having but few books to which I can at once have

recourse, I shall quote but few passages in addition to the two extracts already given :—

1. මේ පිළිවෙළින් එළඳන්නේ.—*Lakuṇusara.*
"Thus is the *Eḷu* to be known." (Before 1415 A.D.)

සියබස්හි වනු මේමෙසේ.—*Ib.*
"They thus occur in the *Siṇhalese.*"

2. කියම් එළුවෙන් මදක් පදබැඳ.—*Káviyasékaré.*
"I do sing a little in the *Eḷu* language." (1415 A.D.)

3. එබැවින් එළුවෙන් කීවයි අනදර.—*Lóvẹdasangrahava.*
"That I have sung in *Eḷu.*" (1472 A.D.)

4. අජරමර මොක්පිණිස සිංහලබසින් කවිකලෙ නිසි මෙ කුසදෑ.—*Kusajátaka.*
"With a view to Niwaṇa devoid of death and decrepitude, I have composed '*Kusadá*' in the *Siṇhalese* language." (1610 A.D.)

5. සිහලබසින් සැකෙවින් කියම් පදබැඳ.—*Subásité.*
"In *Siṇhalese* rhyme do I sing." (1612 A.D.)

6. මකරද්දජ නමින් කී එළුපද අමුතු.
"*Eḷu* stanzas by the name of *Makaraddaja.*" (1768 A.D.)

7. එළුබස නගා රසකර.—*Kavmiṇikoṅḍola.*
"The *Eḷu* language sweetly rhymed." (1771 A.D.)

8. ගඟරුපුදය කවිකලෙ හෙළුබසින් මනා.—ගඟාරෝහ ණේ.
"I have rhymed in pure *Eḷu* 'the offering in the river.'" (*Kiramba*, 1807 A.D.)

9. මෙසියබසින් කවිකලෙ නෙක විරිතයුත.—*Siyabasmaldama.*
"I have rhymed in several tunes in *Siṇhalese.*" (*Kiramba*, 1821 A.D.)

10. සියබසිනි කවිකර.—*Nikinikatá.*
"Rhymed in *Siṇhalese.*" (1832 A.D.)

11. නගම්න් එළබසට.—*Kavmiṇi pahana.*
"Rhymed in *Eḷu.*" (1840.*)

An inquiry into the derivation of the words එළු and සිංහල will also furnish us with further proof in support of the position advanced by me.†

The term එළු (*Eḷu*) is derived from සිංහල (*Siṇhala*), which mutated into සිහල, සිල, සෙළු, and හෙළු, produce එළු. But scholars are by no means agreed upon this definition. According to some it may be from එ and ලදිව් (එලදිව්), ‡

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* Since the above extracts are nearly every one of them from the Siṇhalese poets, and lest the reader may therefore be inclined to the supposition that *Eḷu* is the designation for a so-called "poetical dialect," the following prose selection from the introduction to the *Pansiya-panas Játaka* may not be out of place :—

අටුවාසාමීන් ලී ජාතකය නියාව නොවරදවා එළුවෙන් ලියවූ ජාතක කථාව සත්පුරුෂවූ මනුෂ්‍යයන් විසින් කන් යොමා සිත් එලා ඇසියයුතු.

"It is proper that good people, having given their ears and bent their minds, should hear the *Eḷu* version of 'The History of Lives,' composed without departing from the method of the writer of the *Aṭuwáwas.*"

† The following passage is from the *Pradipikáva* : සිහලභාසා යන නන්හී සිංහලභාෂානම් කවරයත් ?

"At the place where mention is made of the 'Síhala language,' what can *Siṇhala* language mean ?"

The writer, after explaining why the Siṇhalese were called *Siṇhala* and this Island was called *Siṇhaladwípa*, proceeds to answer the inquiry thus:—

යම්සේ මචසථවූ ජනයෝ මචශබ්දයෙන් කියනුලැබේද්ද, එසෙයින් මේ සිංහල දෙශසථවූ ජනයෝ සිංහල ශබ්දයෙන් කියනු ලැබෙන්; ඔවුන්ගේ භාෂා සිංහල භාෂානම් වේ.

"As people who are natives (of a place) speak in (their) native tongue, so likewise the people of this *Siṇhala* country use the *Siṇhala* speech. Their language is called the *Siṇhala language.*"

The above furnishes us with almost conclusive proof against the position that the Eḷu, but not the *Siṇhalese*, was the ancient language of the Ceylonese. For, if according to *Guruḷugómi*, the writer of the "Pradípikáwa," both Wijayo's followers and their language were called *Siṇhala* from the period of their landing in Ceylon, it is impossible to maintain that *Eḷu* considered as a dialect different from *Siṇhala* was "the ancient language of the Siṇhalese."

‡ නොසින් නිමකෙළෙම් කව් හෙලදිව්බසිනි.—*Kavyamuktáháre.*

"Have I in *Heladiv* (Laṇka's) language with pleasure finished my song ?"

"Laṇká," the last word contracted and added to the particle ඒ producing ඒලව් or ඒළු. It is however to be remarked that the first of these definitions has not only the support of grammar, but the authority of the best scholars of the day; is apparently more correct than the second; and that both support the view that *Eḷu and Siṇhala are terms for one and the same language without distinction of dialects*, in that there is no difference between the two roots, since the one has reference to the nation (සිංහල *) and the other to the Island (ලංකාදිව) which that nation inhabits. But a question has been very frequently proposed, which has been, I believe, never satisfactorily answered: "What is the Eḷu language? Is it a dialect of the Sanskrit?"

We have already seen that the *Eḷu* was no other than the *Siṇhalese* language: but the question still remains, "Is it a dialect of the *Sanskrit?*"

Though at the risk of incurring the censure of some who maintain the affirmative, I shall venture upon laying down my own humble views on the subject, counter, I regret to say, to those of many whom I respect.

Let us first inquire "What is a dialect?" It is defined by several lexicographers thus: "DIALECT, *dialectique* F., *dialectica* L., *dialetike* G., is a manner of speech peculiar to some part of the country, and differing from the manner used in other parts, yet all using the same radical language as to the substance of it." Now, those who maintain that the Siṇhalese is a dialect of the Sanskrit, do so upon the ground that many words are derived into the former from that rich and invaluable source the Sanskrit. But this is no more correct than that the Portuguese which abounds with Latin terms and the English with French are

* "The name given in Ceylon subsequent to the landing of Wijayo, from සිංහ, *lion*, and the root ළ, *to destroy*."—Turnour.

respectively dialects of the languages from whence such terms are derived. If also the premise for the conclusion under consideration be correct, we may reasonably affirm that the Siṇhalese is also a dialect of the Mágahadí or Páli, for words derived from the Páli into the Siṇhalese are as generally abundant as those from the Sanskrit. Indeed, the author of the "Sidatsaṇgaráwa" says :—

"Words may be divided into three classes : (i.) සිවත්, purely native Eḷu words ; (ii.) සමම්, words common to Eḷu, Páli, and Sanskrit ; and (iii.) සමව්, words derived from the Páli and Sanskrit, but slightly different from the original by their adoption into the Eḷu."

Upon the above process of reasoning we may well conclude that the Siṇhalese is a dialect of the Sanskrit *and* Páli. But this is absurd, if on no other ground, upon a view of the definition with which we have set out. For, since the Eḷu has words of its own, and words, too, which, though bearing some affinity to, are not derived from, the Sanskrit, they cannot be pronounced to be the same radical language as to "the substance of it."

Again, a language and the dialect of that language are not diverse, but one and "the same radical language": *e. g.*, the *Attic*, the *Ionic*, the *Doric*, and the *Æolic*, are dialects of the same radical language, the *Greek*, and agree with each other in the general principles of declensions, conjugations, &c., but, I believe, differ from one another in spelling or pronunciation, or both—variations which, in the words of our definition, affect merely the "manner of speech" and "the manner used." The Siṇhalese is however different from the Sanskrit in more than one substantial point. A great portion of the language is not derived from the Sanskrit: the Siṇhalese has but two genders, whereas the Sanskrit has three: in the former, the verbs are not conjugated as in the latter ; nor are the roots the same in both. The changes which words undergo in the Siṇhalese are

altogether upon a process different from, and less certain than, that in the Sanskrit. The declensions are also different in the Siṅhalese from the Sanskrit, the dual being unknown to the former, &c. If further it can be shown that the Siṅhalese is capable of being written without an admixture of Páli and Sanskrit terms,* I apprehend there will be no difficulty in establishing my position, which is this : *that the Siṅhalese bears an affinity to the Sanskrit, and that they are both cognate languages, derived from one and the same source, which is perhaps now irrecoverably lost.*

If, as I have once heard, it be maintained, because certain words in one language bear affinity to others of like signification in another language, that therefore the former must be and is a dialect of the latter, I fear we shall be driven to the absurdity of pronouncing the Siṅhalese to be a dialect of the English,† and the Sanskrit a dialect of the Latin. For "the Sanskrit language," to quote from Sir William Jones (*vide* his works, vol. I., p. 26), "whatever be its antiquity, is of wonderful structure: more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident—so strong, indeed, that *no philologer could examine them all three without believing them to have sprung from one common source, which perhaps no longer exists.*"

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* The writer's acquaintance with the Sanskrit and Páli is indeed inadequate to illustrate this part of the subject with an example; but upon the authority of the "Sidatsaṇgaráwa," it is to be presumed that a language of which two-thirds are *nipan* and *tasama*, is capable of being expressed without a mixture of the Sanskrit, &c.

† *E. g.*, *lop*, ලොප් ; *door*, දොර ; *mud*, මඩ ; *water*, වතුර ; *hour*, හෝරා ; *serpent*, සළු ; *new*, නව ; *way*, වේ ; *name*, නම ; &c.

Just so with the Siṇhalese. The affinity which it bears to the Sanskrit is great, so that the conclusion is not that the former is a dialect of the latter, but that they had one common origin. This view seems to be confirmed by the opinion of Dr. Stephenson, who, in a paper read before the Royal Asiatic Society "On the Maharatta Language, on its connection with the other spoken dialects of India, and on its derivation from the Sanskrit, Persian, and other sources," says: "It was thought at one time that all the spoken dialects of India were merely corruptions of the Sanskrit; and although many words were found in those dialects which could not be referred to that source, it was supposed that those words had merely crept in by reason of the barbarism and carelessness of the speakers, who introduced them from ignorance of the correct terms. This opinion, however, lost ground as our acquaintance with the native languages increased: and it is now pretty generally admitted that those of the south of the peninsula at least are of origin quite distinct from the Sanskrit, and that they have admitted words of that language, not from a want of native terms, but from the influence of religion, all their orthodox writings being composed in Sanskrit."

Now, the Siṇhalese is unquestionably an Indian dialect; and Dr. Stephenson conceives that the case is the same, though in a less degree, with the other languages of India; that in all of them the Sanskrit is grafted on an aboriginal language; and that, proceeding from the north, it diminishes in quantity as we go southwards, becoming scarcely anything in the vernacular Tamil: in the same way as in Europe the influence of the Latin, which is predominant in the south, decreases as one approaches Britain and Germany.

To the Eḷu language, then, which is the Ceylonese or Siṇhalese, are known ten vowels and twenty consonants. The vowels are subdivided into එකු or ලඝු "short," and දීර්ඝ "long."

In fact, the short vowels, අ, ඉ, උ, එ, and ඔ, are rendered long thus: ආ, ඊ (or ඒ), ඌ, ඒ, and ඕ. Each of the twenty consonants, ක, ග, ජ, ට, ඩ, ණ,* ත, ද, න, ප, බ, ම, ය, ර, ල, ව, ස, හ, ළ, except ං (some of which are otherwise written to produce corresponding aspirate sounds, but which are not here reckoned), may be so expressed as to produce all the sounds of the vowels, both long and short. Thus, take, *e. g.*, the first consonant ක. It contains the sound of අ. Render it කි, it produces the sound ඉ; render it කු, it produces උ; render it කෙ, it produces එ; render it කො, it produces ඔ. So likewise are the five long vowel sounds produced by rendering ක into කා, කී, කූ, කේ, කෝ. The other consonants may in like manner be varied, except the last ං, which, being immutable, and having no vowel sound associated with it, cannot be uttered without the help of a vowel sound, and it is usually expressed in the alphabet with the first vowel, thus, අං. The nineteen consonants thus produce ten times nineteen, or one hundred and ninety sounds. Add to this number the unchangeable consonant ං and the ten vowels, and we then have two hundred and one, the total number of sounds which compose the Sinhalese alphabet. These, according to the author of the "Sidat-saṅgaráwa," are all the symbols which are necessary for a correct expression of the Eḷu; yet we find two letters or sounds exclusively Eḷu which are not included by the grammarian in the above number. They are ඇ and ඈ, and are the vowels by whose assistance the changeable nineteen consonants are rendered කැ and කෑ; හැ හෑ, &c. Thus, by adding ඇ and ඈ and twice nineteen consonant

* The general use of this gutteral sound must here be explained, since there is another dental, න, having the same sound. ණ is used after ර or ෂ, thus: සරණ "feet"; සිරිගණ "Buddha." But where the ර or ෂ is not in the same syllable with ණ, the dental should be used, as in සුරනර "gods and men," and අගනම "last name."

sounds which are formed by their assistance to the two hundred and one sounds to which I have already called the reader's attention, we obtain the two hundred and forty-one sounds in the Siṇhalese language.

Beside the above, it must be remembered that some of the consonants have different forms producing corresponding aspirate sounds. They are not used in the Eḷu, except in expressing words of a foreign origin, and are therefore omitted in the "Sidatsaṇgaráwa." But since they are essential to a correct expression of the Páli and Sanskrit (languages which the Siṇhalese anciently used in common with the Eḷu), and also of *tabava* words (words derived into Eḷu from either the Páli or Sanskrit), these aspirate letters with several others which I shall hereafter enumerate are found in the Siṇhalese alphabet.

The aspirate letters or sounds are the ten following :—ඛ, ඝ, ඣ, ඨ, ඪ, ථ, ධ, ඵ, and භ.

The Siṇhalese alphabet also contains six Sanskrit vowels, ඍ, ඎ, ඏ, ඐ, ඔෟ, ඕෟ, and the unchangeable ඃ expressed with the first vowel, thus, අඃ. It is by their assistance that the Siṇhalese or Eḷu consonants, which are common to both Páli and Sanskrit, are changed into කෘ කෲ, කෟ කෳ, කෞ කොෟ, කඃ, &c.

I must not here omit to mention, that besides the above there are several Sanskrit and Páli consonants which are inserted in the Siṇhalese alphabet. They are ශ and ෂ, Sanskrit exclusively, and ඛ, ච, and ඤ, Páli and Sanskrit.

To these may be added several compound or mixed letters which are formed by a union of two consonants : ඟ, ඦ, ඥ, ඬ, ඹ, ඳ, ඛ, ඕ, ච, and ඟ.

ඟ is common to all the three languages. In Eḷu it is sounded differently from Páli and Sanskrit. Thus, අඟ, *aṅga* (Eḷu), "horn," is pronounced more softly than ගඟා, *gaṅgá* (Páli and Sanskrit), "river." This letter is formed in Eḷu by

a union of ං and ඟ, and in Páli and Sanskrit by incorporating ඬ with ඟ. It is however, though mistakenly, supposed that its formation in the Elu is the same as in Páli and Sanskrit.*

ච (Páli and Sanskrit) is compounded of ඤ and ච, as in වඤ, *vañchá* (Páli and Sanskrit), "deceit."

ඥ. This form, also common to both Sanskrit and Páli, although less frequently used in the former, is compounded of ඤ and ඥ, as in අඥ, *añja*, "anoint."

ඥ is exclusively Sanskrit, and is a compound of ඥ and ඤ, as in ප්‍රාඥ, *prájña*, "pandit" or "scholar."

ඨ is common to both Páli and Sanskrit, and is formed by a union of ට and ඨ, as in අඨ, *aṭṭha* (Páli), "eight."

ඬ is used in all the three languages, and is a contraction of ණ and ඩ, as හඬ, *haṅḍa* (Elu), "sound"; ගඬ, *gaṅḍa* (Páli and Sanskrit), "fruit." As is the case in all the compound letters used in Elu, this is pronounced more softly in Elu than in Páli and Sanskrit.

ළ is exclusively an Elu character, compounded of ණ and ළ, and is pronounced softly as in හළ, *haṅḷa*, "moon."

ඬ, common to Páli and Sanskrit, is produced by a union of ද and ඩ, as is බුඬ, *buddha* (Páli and Sanskrit), "Buddha."

ඹ, used in all the three languages, is composed of ම and බ. In the Elu it has the soft sound, as in අඹ, *aṁba*, "mango"; in Sanskrit and Páli hard, as in අඹු, *aṁbu*, "water."

ව, common to Páli and Sanskrit alone, is formed by a union of ද and ව, as in වය, *dwaya* (Páli and Sanskrit), "two."

ඟ is peculiar to the Sanskrit, and is a compound of ං and ඟ,† as in අඟ, *aṅga*, "side." I may add to the above ළු, common to Elu and Páli, and formed of ළ and උ, as කළු, *kaḷu*, "black."

All the characters which are comprehended in the 241 already enumerated are used in the Páli and Sanskrit, with

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* *Vide* එළිඳෙසස, Elu Prosody, p. 1.

† In Elu as in Páli ං "corresponds with the French *n* in *mon*."

the exception of ඍ and ඎ, which are peculiar to the Eḷu; ඏ, which is used only in Eḷu and Páli; and ඓ and ඖ, which, though used in Páli and Sanskrit, are therein pronounced long, as ඒ and ඕ.

It is not a little curious to find that the sound of *f*, utterly unknown to the Siṇhalese, and so difficult to be pronounced by the natives, is to be found in the Sanskrit. See *Saraswatívyákaraṇe.*

A brief elucidation of the so-called Siṇhalese alphabet leads me to a consideration of the prose writings of the Siṇhalese, which I confess are not so many and varied as their poetical works. Nor indeed are they so recent as the last-mentioned.

In prose, as in poetry, nothing is more to be desired than clearness and elegance of expression. What that clearness and elegance are can be decided by none but those intimately acquainted with the language; for that which is elegance in the English is the very opposite in the Siṇhalese. To enter into a detail of the rules of composition is indeed to translate the "Sidatsaṇgaráwa" into English. But since the object of the writer is to give the English reader a sketch of the distinguishing features of the Siṇhalese literature, I may as well call his attention to the *sine quâ non* in Siṇhalese composition, *the necessity of introducing one's entire thoughts and ideas on a subject into one unbroken sentence.* In this respect the Siṇhalese is as different from, and as much opposed to, the English, whose "soul" is "brevity," as any two things can possibly be. If the reader will take the trouble to examine some of the prose writers, he will find a great similarity between their writings and the superabundantly exact style of an English conveyancer, or the tedious legal phraseology of an Act of Parliament.

From my limited reading I have been able to divide the prose compositions into but three classes : (1) the simple or common, (2) the elegant, and (3) the refined.

(1) The first, which I shall call the "common," is that without ornament, the elegant style of an English scholar. Of this species the following from the *Sidatsangaráwa* is an example :—

පහන තඹරන්හි බමණ බමරමුළු තමඹ පිරියෙස් සරණ තිමිරබලල්වලා.

A swarm of bees, which in the morning hover over (in) the lotuses, are like the offspring of darkness walking in quest of their parent of darkness.*

(2) Of the second, which is the Sinhalese decorated with all the glittering ornaments of compound words, comparisons, &c., and which in English may be denominated "the verbose," the following is a specimen from the introduction to the *Bauddha Śatakaya* :—

ශ්‍රීමජ්ජම්බුවිපයෙහි සකල විද්‍යානිධානවූ ගෞඩදෙශයෙන් ශ්‍රී ලංකාවිපයට පැමිනි තර්කව්‍යාකරණ කාව්‍යනාටකාදි සමයන ශාස්ත්‍රයෙහි නිපුණ කාත්‍යායනගොත්‍රසම්භූත ශ්‍රී රාම චන්‍ද්‍රභාරතී නම් බ්‍රාහ්මණ පණ්ඩිතොත්තම තෙනෙක් ශ්‍රීසඞ්ඝ බොධි ශ්‍රී විජයබාහුපරිවෙණාධිපති ත්‍රිපිටක වාගීශ්වරාචාර්‍ය්‍ය ශ්‍රී රාහුලස්ථවිරපාදයන්වහන්සේ කෙරෙන් ත්‍රිපිටකධර්‍මය අසා ඉගෙණ ශාසනාභිප්‍රසනන චිත්ත ඇතිව පරමවිශුඛ ශ්‍රද්ධාතිශය භක්තියෙන් භක්තිශතක නම්වූ බුබසෙනාත්‍ර ප්‍රකරණයක් කරන්නාහු "ඥානං යස්‍ය සමස්තවස්තුවිෂයං" යනාදි ශ්ලෝකයන් රචනාකළෝ.

Translation.

Sri Rámachandrabhárati, an illustrious Bráhmin, born of the family of (Kátya), learned in all the rich sciences of logic,

* This sentence conveys the idea that bees are inactive at night, and that their activity upon the absence of darkness is such, that it may be almost supposed that these children of darkness are in search of the night—their lost mother.

grammar, poetry, music, &c., having arrived in the beautiful Island of Laṇká (Ceylon) from the treasury (seat) of all science (language) Gauḍa in the prosperous Jambuddwípa,* and having inquired and learnt the Tripiṭaka doctrines from the Reverend and Venerable Srí Ráhula Sthavirayo—Supreme Master of the Tripiṭaka doctrines and Principal of the temple Srí Saṇgabodhi Srí Wijayabáhu—and being (also) greatly pleased in mind (delighted) with the religion (or those doctrines), hath with supremely sincere and greatly devout faith paraphrased *Ñánaṇ Yasya Samasta Wastu Wishayaṇ* † and other stanzas of the book composed by himself in praise of Buddha, and called *Bhaktiṣatakaya*, "A Centum of Faith."

(3) The third is what Europeans call "the bombastic": and so great is the difference of taste between Europeans and the Siṇhalese on the subject of composition, that I had almost said the rules of English composition may be used with the rule of contraries to attain a good native style. The Siṇhalese regard the bombastic as the best; and the following from the *Dévadúta sútra sanné* will serve as an example:—

පවුරු පදනම් දෙරටු අටළු වාසල් ගෝපුර හිමල් සෙල් විසල් තුල් පළඟෙල ලකළ සුළුපා මහපා පෙළිනුදුල සුවල දලදළිනුදුල කොපුලතින් වගල නොමද මදසුවඳ පබඳ කළ දළින් බමණ මත්බමරකැලන් කන්තලිනි දුරුකල ගුගුළ දලවලවලින් හා මහඟ තුඟ තුරඟ පෙළ අසුර බල හළ පුවළ ඔලමොල බලමුලින් යුත් සිවුරඟසෙනඟින් හා සවිසිරි සපිරි පවර කුවෙරරද අලකපුර අයුරු නිවත්ජන ඉවත්කළ සැවත්පුර වෙත්හි දෙව්රම් වෙහෙර වැඩවසන බුදුන් විසින් මහණුන් කැඳවා මෙසේ වදුරණලදී.

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* *Gauḍa* stands for Calcutta, and *Jambuddwípa* for one of the four quarters of the globe, being the *terra cognita* of the Buddhists, a part of Asia. The *Tripiṭaka* doctrines embrace nearly the whole of Buddha's sermons.

† This is a part of the first stanza of the work called "Bauddha Sataksya," one of the school books of the Siṇhalese.

At the temple called Jétawana, in the city of Seṿet [like unto the city of Alaka, the seat of the powerful king Kuwera],* full of prosperity, teeming with the wealthy and possessed of armies composed of soldiers (foot), horsemen, elephant-men (cavalry), and cars containing men (artillery); numbers of brave and intrepid troops able to withstand the demi-gods; beautiful fleet horses; splendid elephants with huge double teeth, and which with their spreading ears remove swarms of bees that hover over them, invited by the tempting odour of the matter which greatly oozes from their (elephants') cheeks; splendid rows of beautiful white spacious squares of sizes (small and large); hills as large as the Himálayas; and gates, entrances, porticos, towers, batteries, and fortresses (at the aforesaid temple of the aforesaid city)—did Buddha, presiding, speak as follows to the summoned priesthood.

Besides the above division of prose compositions into the "simple" or "common," the "elegant," and the "refined," they are susceptible of another classification into the "pure" and the "mixed." The first comprehends the pure native Siṉhalese, and the second a style compounded of Sanskrit and Páli words derived into the Siṉhalese. Of the first species the first and the third sentences above extracted are examples; of the second, the second from the *Bauddha Ṣatakaya* is a specimen.

Turn we next to the poetry of the Siṉhalese, a department of literature cultivated to great perfection, if prefection could indeed be attained in any human performance. That the Siṉhalese poets have over-excelled the great and celebrated Indian authors is perhaps not true; but that there are a few Siṉhalese works which equal in merit

* Kuwera, in the Indian Mythology, stands for the Grecian Plutus. He is the lord of wealth and master of nine inestimable treasures. His city, called Alaka, is situated on Mount Kailása, and inhabited by Yakkhó, demi-gods.

some at least of the Sanskrit works, I shall venture to assert. The *Selalihini-sandésé* of Srí Ráhula Sthavíra, mentioned above, may indeed be cited as one which is by no means inferior in point of imagery to the celebrated "Meghadúta" of Kálidása, translated into English by Mr. Wilson in 1813.* But I must not omit to mention that, unlike the Sanskrit, which can be procured from India, the

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* තනුවිශ්‍යාමා සිබ්‍රර දශනා පක්වබිම්බාධරෝෂ්ඨී
මධ්‍යෙක්ෂාමාචකිතහරිණීප්‍රෙක්ෂණා නිම්න නාභිඃ
ශ්‍රොණීභාරාදලසගමනා ස්තොකනම්‍රාස්තනාභ්‍යං
යාතන්‍රස්‍යාද්ධ්‍රුවතිවිශයෙ සෘෂ්ටිරාද්‍යෙව ධාතුඃ.

The above is from the "Meghadúta," p. 88, and the following, from Mr. Wilson's beautiful translation, with his notes, will give the English reader a faint idea of the writings referred to in the text :—

———"a beauteous creature stands,
The first best work of the Creator's hands ;
Whose slender limbs inadequately bear
A full-orbed bosom and a weight of care ;
Whose teeth like pearls, whose lips like *bimbas* show,
And fawn-like eyes, still tremble as they glow," &c.

NOTE.—"*The first best work of the Creator's hands,*" literally the first creation of Bráhma, and "*first*" may refer to time or to degree ; it most probably here means "best." So Milton speaking of Eve—

"Oh ! fairest of creation, last and best
Of all God's works."—*Paradise Lost.*

"We now enter upon perhaps the most pleasing part of this elegant little poem—the description of the Yakshá's wife. I may perhaps come under the denomination of those who, according to the illiberal and arrogant criticism of such a writer as a Mr. Pinkerton, prove 'that the climate of India, while it inflames the imagination impairs the judgment,' when, standing in very little awe of such a poetical censor, I advance an opinion, that we have few specimens either in classical or modern poetry of more genuine tenderness or delicate feeling."—*Wilson.*

Siṇhalese or Eḷu works are few in number; and this arises from the grievous loss which they have sustained from the invasions of this Island by the Malabars, and from the general destruction of literary records during several reigns. At least, it is difficult to account for the share of civilisation possessed by the Siṇhalese prior to the age of Vídágamá and Toṭagamuwa, much less for the great talent and learned research displayed by those *literati*, without supposing that many valuable manuscripts which once existed are now lost. But, however few their works, the Siṇhalese have sufficient to prove that they do not deserve to be disparagingly spoken of by Europeans—the majority of whom, whatever may be said of their superior powers of intellect, can never appreciate those beauties of native style which one thoroughly acquainted with the native idiom, the genius of the language, and the religion of the Siṇhalese, finds in the Eḷu works. The Siṇhalese scholar finds, indeed, in the writings of his country's poets the unmatched sublimity of a Milton, the flowing gracefulness of a Pope, and the sparkling wit of a Goldsmith. Of course the English reader must understand the comparison here instituted with reference to the idiom of expression and the genius of the language, the habits of nationality, and the peculiarities of the religion of each class of writers. Perhaps it is difficult for an European, accustomed from his infancy to the peculiar expressions of his language, the numbers of his poetry, and the national and religious feelings which they convey (all which dispose his ear and bias his judgment to give preference to his own language), to understand what is here attempted to be shown—the existence in the Siṇhalese of works which may be compared to those of England, *from the sameness of the effect which they severally produce upon the minds of the two classes of readers.* Perhaps also, for the same reason, a native is

incompetent to form a correct opinion on this subject.* Be this as it may, it cannot but be admitted that in the mind's eye of one who can enter into the spirit of both the languages, the Eḷu is not a language which should disparagingly be spoken of.

Apart from the mere beauties of composition (which can only be appreciated by an intimate acquaintance with a language), I have occasionally found in the Siṅhalese books, as in all Oriental literature, a vein of thought exactly similar to that of the Western writers. Who, for instance, could read the following from *Subhásité* of Alagiyawanna Mohoṭṭála and would not be struck with the sameness of idea, if not the exactness of their symbols?

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* The writer once explained Goldsmith's beautiful lines "On the death of a mad dog" to several of the most intelligent Siṅhalese scholars of the present day, and instead of hearing from them what Mrs. Barbauld thought of "this specimen of Goldsmith's poetical powers," that it "was wonderfully pathetic, and that it was sweet as music and polished like a gem," the writer was told by the Pundits that they could not perceive the wit of being informed by a poet "that his song could not hold them long, if they found it *wondrous short*."

In like manner, the English reader will indeed fail to perceive the gay and smiling imagery, and the smooth and flowing numbers of the two following stanzas, the last composed under the circumstances which I shall here briefly detail. A native poet, who was rather deficient in personal beauty, conceived an attachment to a lady of great attractions. A marriage was proposed, but was not concluded for some time. About this time one of his friends, wishing to rouse the dormant powers of the enamoured bard, sent him an extract of the following lines from the "Kusajátaké," wherein the beautiful princess Pábbáweti, indignant at the deformity of her husband, King Kusa, is said to have exclaimed at the eve of her separation from her royal consort:—

යමෙක් විසුළුව ඉ ද
පතානම් රුසිරැති ල ද
අවැඩම මිස නොම ද
වැඩක් වූයේ ඔහුට කිකල ද

On Criticism.

"One Science only will one genius fit."

"ලොවින් එකෙක් එකදේකට වෙයි සමත."

I need not remind the reader, however, that to render the English literally into the Siṇhalese is difficult, if not impossible. And the absence of the same pithy expressions in both the languages, and the difference of idiom between the two, must necessarily render a literal translation little less than ridiculous. But if the well-conceived and understood idea of an English sentence be conveyed in the Siṇhalese suited to the peculiarities to which I have already alluded, the translation thus made will serve the purposes of a literal one. Of this the following from Goldsmith

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"If one were deformed, and yet longed for a beautiful woman, when did any good result to him, but inordinate ill!"

To the above the poet's answer was not only pert, but what was more (to use the words of Mrs. Barbauld), "it was wonderfully pathetic —sweet as music, and polished like a gem." He knew that this was a biting sarcasm upon himself, and therefore was sarcastic in return without being offensive. He appealed to the sequel of the very "Kusajátake" to prove the illiberality of a sentiment expressed in the heat of anger; and referring to Pábáweti, who afterwards *ex necessitate* and voluntarily adored her previously-loathsome husband, and also to the alleged circumstance that their reunion resulted in the loss of the king's deformity by the power of a miracle, the poet answered :—

එසි බස බොරු වී ය
එහිමි අදහස සිදු වී ය
යලි ඉසුරුමත් වී ය
එදු දඹදිව මඟුල්ගෙය වී ය

"That dictum was incorrect; for the lover consummated his wish and attained prosperity, and Dambadiwa did on that day present the appearance of a festive house."

(one of the exercises of the writer) will serve as an example :—

On Woman.

When lovely woman stoops to folly,
And finds too late that men betray ;
What charms can soothe her melancholy
What arts can wash her guilt away?

රැසිරු ලිය ක් සලෙලුන් පියොවට අ සුව
නැවත කල ක් ගොස් දැනගණ ඉන් ප සුව
පැමිනි එදු ක් තමහට වරදින් මු සුව
කුමන දෙය ක් කර සිත කරණේද සුව

The only art her guilt to cover,
To hide her shame from every eye,
To give repentance to her lover,
And wring his bosom—is to die.

වර ද සමඟ ඇගෙලජ්ජා වැසිම ට
තව ද විපිළිසරවීමට භිමියා ට
නොඉ ඳ ලොවේ නෙදනන් සියැස හමුව ට
වෙන ද ඇති කරුණ මියයාමය ඈ ට

Whilst on the subject of translations, it is perhaps not amiss to introduce into these pages one or two remarks upon the subject of *the translated Holy Scriptures.* It indeed behoves everyone who feels assured that the religion of the Bible will, in process of time, become the universal faith of the Ceylonese, to have the Scriptures translated into correct idiomatic Siṇhalese, so that this Book of Books may prove to the Siṇhalese scholar what the English version is to the English,—in the words of Dr. Lowth, "the best standard of the English language." That any of the Siṇhalese versions now extant are as correct as they can or ought to be, I am not prepared to say. Nor, if called upon to pronounce an opinion with reference to the style adopted, can I much hesitate to decide in favour of the old version in preference

to the so-called "Kotṭé version." I shall not, however, here pause to consider the disputed question regarding the pronouns තෝ (*tó*) and ඔබවහන්සේ (*obawahansé*); nor indeed do I blame the pious and learned gentlemen who introduced the innovation, believing as I do that they were actuated with the best of intentions. But that the simplicity so much studied by the new translators after "an elegant English style" is opposed to the genius of the Siṇhalese language, I trust I have already shown by exhibiting the difference between English and Siṇhalese compositions. I admit that long parenthetical clauses and laboured periods should, if possible, be avoided in the translation of the Scriptures, and that clearness of expression should be the first endeavour of any writer or translator. But I do indeed object to one or more concurrent ideas which can be well and elegantly expressed in one continuous sentence being broken into two or three periods, either in writing in, or translating into, the Siṇhalese.

I shall here extract a few paragraphs from a paper written by me some time ago :—

It will be perceived that in the English version the first three verses of our Lord's Sermon on the Mount (St. Matt. v. 1–4) comprise one period :

1. And seeing the multitudes, he went up into a mountain : and when he was sat, his disciples came unto him :
2. And he opened his mouth, and taught them, saying,
3. Blessed are the poor in spirit, for theirs' is the kingdom of heaven.

The Kotṭé translators have divided the above into four complete sentences ; and that, too, in a language whose very elegance consists in the introduction of as much matter as one can into one continuous sentence.

1 { පසුව ඔහු සමූහය දැක කන්දකට නැඟී එහි ඉඳගත්තාය
{ ඔහුගේ ගෝලයෝ ඔහු ළඟට ආවාය.

2. එකල ඔහු සැබෑදේ නගා මෙසේ ඉගැන්නුවාය, ඒනම් :—
3. සිතින් දිලිඳුන්ට සුභාරොජ්‍යය අයිතිනිසා ඔවුන් ආසිරිවාද ලත්තෝය.

Such a style, especially in the Bible, is calculated speedily to impoverish the Siṇhalese as a language, and is unfit for any composition above juvenile books or little tales for children.

* * * * *

Without omitting any of the words above given, the following would be preferable :—

1. සමූහය දැක ඔහු කන්දට නැගී එහි ඉදගත්තාසින් පසු ඔහුගේ ගෝලයෝ ඔහු ලඟට ආකල 2. සැබෑදේ නගා ඔහු මෙසේ ඉගැන්නුවාය. ඒනම් :—3. දිලිඳුන්ට සුභාරොජ්‍යය අයිති නිසා ඔවුන් ආසිරිවාදලත්තෙ ය

* * * * *

Nor, as far as we can be guided by the English version, does the above appear to us to be a correct translation. පසුව has no equivalent in English. සමූහය is singular, and not "multitudes." සමූහයා දැක in the old version is preferable to the above, though rendering the English literally it should be සමූහයන් දැක. "When he sat" conveys "*after* he was sat": and the Evangelist evidently wishes us to understand the period of time when the disciples came—"when he was sat, the disciples came unto him." The Kóṭṭé version, however, does not give one an idea as to *when* the disciples came. According to the distinctly separate periods into which the above passage is rendered in Siṇhalese, it is perhaps not unreasonable to suppose that the disciples came unto Our Lord *before* he was sat. ලඟට is "near"; but "unto" required වෙත. A person may come *unto* one, and yet not come *near* him. ආවාය for the third person plural is ungrammatical : it should be ආවෝය. Here we find a change of expression by the translators, who, in the controversy regarding *tó* and *obawahansé*, object to වහන්සේ, upon the plausible ground of a violation of the prohibition solemnly given in Revelations xxii. "Opened his mouth" is rendered සැබෑදේ නගා, which means "tuned" or "sounded." To such an expression we do not positively object ; but සැබෑදේ නගා is incorrect : it should be සැබඳ නගා. But wherefore change the English expression, which is in the Oriental idiom, and foreign to the

Occidental? මුවෙන් නොබැන is a common but idiomatic Siṅhalese expression, and means "without abusing by (word of) mouth." Why then not render "opened his mouth" literally as in the old version, මුඛය ඇර? Or, why not shorten the expression by still keeping to the original words and the idiom මුඛයෙන් (Sanskrit) or මුවෙන් (Siṅhalese)? Buddha is said to have "opened his lotus mouth" (මුවපියුම පොඹයා), and to have "inquired" from the priests "in what conversation they had been engaged."

කුමිනම් පුවත කි නි
සුනුව උනුදැසි විනාලේ මු නි—*Guttilé.*

එකල is not the Siṅhalese for the first "and" in the second verse; nor was there any necessity arising out of any supposed difference of idiom to omit in the Siṅhalese the pronoun "them" after "taught." ඔවුන් ආසිරීාද ලත්තෝය is, strictly speaking, ungrammatical. According to the "Sidat Saṅgaráwa" it should be ඔවුහු, the nominative case. සිතින් දිලිඳුන්ට, though not wrong, is better expressed සිතිහි දුක් ඇත්තළුන්ට.

Being poor in heart (or spirit);
සිත්හි දුක්පත් වෙලායා.—*Miripenné.*

But lest it should be supposed that I have carefully selected the above passage, I shall turn to the very commencement of the new version, where at least for divers reasons one expects greater accuracy than in the "parenthetical clauses of St. Paul":—

Kotté Version.

In the beginning God created the heaven and the earth.—I. Gen. i.
දෙවියන් විසින් පටන්ගැම්මේදි සඞගීයත් පොලවත් මැවුවාය.

In the first place, the above passage is inelegant in construction. In the Siṅhalese, as in several languages of Europe, the governing words generally follow the governed, and the former precede the verb. This is a rule which is not to be acquired by consulting grammars, but from a competent knowledge of a language, by reading and observation. Take, for instance, an example from "Sidat Saṅgaráwa," "a book of the highest possible authority," and which I shall have to cite hereafter to test the grammatical

accuracy of the sentence before me—දහම්, නරදම්සැරිහුවිසින් දෙසිනි—"The doctrines were preached by Buddha." But not, as the Siṇhalese of the first verse in Genesis above given, නරදම් සැරිහුවිසින් දහම් දෙසුවාය.

The words දෙවියන් විසින් මැව්වාය, "created by God," are ungrammatical, and therefore incorrect. If the translators were conversant with the Siṇhalese language, they would not only have shortened the sentence by the omission of the preposition විසින්, but would also have rendered the English sentence literally, and word for word into idiomatic and grammatical Siṇhalese. The word විසින් requires a passive termination in the verb මැවිනි, as in the example already quoted from the "Sidat Saṇgárawa"—දහම් නරදම්සැරිහු විසින් දෙසිනි. * * *

That is to say, the expression "God created the heaven and the earth" is at present translated "By God the heaven and the earth created," instead of "By God the heaven and the earth were created."

* * * *

To return, however, to the subject from which we have digressed. The Siṇhalese books abound in pastorals and descriptive poetry, which are divided into many (nearly thirty-five) heads, all which comprise the several species of poetry known to the English. Besides the legitimate Siṇhalese poetry there is a species called the එළුශ්ලෝක (*Eḷu ślóka*), of comparatively modern introduction.

The last-named follows the rules of Sanskrit Prosody, and is written in a variety of measures with which that beautiful language abounds: it will suffice to give two examples:—

No. 1.—*On Night.*

සඳකැන්මී සඳකත් උරා බොනු බලා රැබුදිගැස් සිත්රොසින් කොඳදත්පා හසිමින්තමස්යමගුරත්සොල්වාසපත්වත්සෙදින් සැඩරුස්රත්මිණ රත්වලා රතඹරත් ගන්මින්දුවත් ඈ ලී තුරුරුස් මිබිඳු වන් ඉසියරිදී නුත්වන් දුමූ සේකරා.

When the nocturnal spirit, seeing the goddess of the evening sip the honey of the moonbeams, fastly and indignantly approached (the latter) exposing with her mirth her flowery teeth, and waving the iron staff of night; the evening fled indeed with her scarlet jewel of a sun, and the crimson mantle of a scarlet cloud: the remnants which she left behind—a silver salver and the honey-drops which it scattered—illumined into the moon and the spangled stars.

The above selection from the *Gaṇgáróhané* is composed in the *Mattébhavikríḍita* tune,* and comprises :—

⏑ ⏑ – – ⏑ ⏑ – ⏑ – ⏑ ⏑ ⏑ – – – ⏑ – – ⏑ –
⏑ ⏑ – – ⏑ ⏑ – ⏑ – ⏑ ⏑ ⏑ – – – ⏑ – – ⏑ –
⏑ ⏑ – – ⏑ ⏑ – ⏑ – ⏑ ⏑ ⏑ – – – ⏑ – – ⏑ –
⏑ ⏑ – – ⏑ ⏑ – ⏑ – ⏑ ⏑ ⏑ – – – ⏑ – – ⏑ –

anapoest, a dactyl, cretic, tribrach, molossus, bacchic, short and long.

No. 2.

The following, one of the concluding stanzas of a beautiful little poem, "A Critique," upon the work from which the last has been selected, is from the pen of a celebrated living author named *Míripeṇné*:—†

---

* The rule, which is the following :—

සභරන්මයාලගශිඛිත්‍රයොදශයති : මත්තේභවික්‍රීඩිතං

⏑ ⏑ – – ⏑ ⏑ – ⏑ – ⏑ ⏑ ⏑ – – – ⏑ – –; ⏑ and –

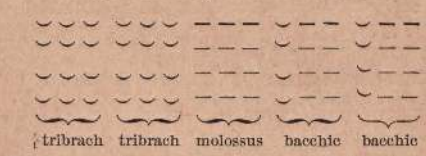
exemplifies itself; "an anapœst, a dactyl, a cretic, a tribrach, a molossus, and a bacchic, ending with two letters, of which the last either long or *al*, and with a pause at the end of the 13th syllable, compose the species called *Mattébhavikríḍitam*."

† This talented and venerable priest is a resident of the Galle district. As a Siŋhalese poet he is unrivalled at the present day. Some of his earlier productions, quite of a piece with Cowper's "John Gilpin," were burnt by the writer, as they were a source of great annoyance to an individual who was the hero of the tale. There are many persons, however, who had committed the whole poem to memory; and I believe it is by no means impossible still to reclaim it from the Destroying Angel of time. His miscellaneous writings comprise two volumes, and are a valuable addition to the Siŋhalese classics.

හොඳ හොඳ හපනෙක්වාමපි කියාලා පසැස්මි
ම ද මදවරදක් නැත්වූ දෙයක් දැන් කොයින්දැයි
ස ද ගඳ වැහෙනා දුල්පුල් සහස්පත්හි දණ්ඩේ
භ ද කොරහැඩිනිබ්බා ඇයිපෙණෙන්නේ නොමැද්දේ.

I do indeed esteem him as a clever writer: but what is there free from fault? For do not you see even in the lotus (*nelumbium speciosum*), whose glowing flower is so sweet, that its stalk is full of thorns?

The metre and construction of the last are founded upon the rule called *Málini*.* In this species of poetry, as in the above stanza, every line must not only contain the same number of short and long or *al* sounds,† but those several sounds must uniformly correspond in all the four lines. Thus each of the lines in the above selection contains fifteen sounds, of which seven are either long or *al* and eight short; and they are uniform.



It must however be borne in mind that in this species of poetry the last sound or syllable must always be long or *al*. This distinguishes the *Elu ślóka* from the real Siṅhalese poetry, which may end with either a short or long sound, and need only have, except in one or two

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* The rule of *Málini* versification is the following:—

නනමය යයුන්යං මාලිනීභොගිලොකෙඃ

"Two *na-gana* tribrachs, one *ma-gana* molossus, and two *sa-gana* bacchic, with a pause before and after the eighth letter, comprise the málinâ versification." The very rule will serve as an example.

නනමයයයුන්යෝයංll මාලිනීභොගි ලොකෙඃ

† In Siṅhalese prosody a long letter is equal in quantity to an *al* consonant, together with the vowel by whose assistance that අල් letter is sounded; *vide infra.*

species, an equal number of sounds; regarding a long sound or the syllable of an අල් sound as being equal to two short; as in

සමතැ ස් මුනිඳු පිරිනිව් වස පටන් ල ද
දෙදහ ස් පසළොසක් අව්රුදු පිරුණුස ඳ
දිසගොඃ ස් පැතිර බුවනෙකබුජ නිරිඳුස ඳ
පිරිව ස් තුණෙහි සිරිලක රජබිසේල ද

Buduguṇa Alaṅkáré.

Upon the completion of 2015 years from the era of the death of the Omniscient Supreme Intelligent (Buddha); and three years since the installation into regal office, in prosperous Laṅká, of King Buwaneka Báhu of worldly renown :—

⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — = 14 short and 2 long.
⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — = 12 do. 3 do.
⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — = 16 do. 1 do.
⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — ⏑ ⏑ — = 14 do. 2 do.

We must get $\left\{\begin{matrix} 14 + (2 \times 2) = 18 \\ 12 + (3 \times 2) = 18 \\ 16 + (1 \times 2) = 18 \\ 14 + (2 \times 2) = 18 \end{matrix}\right\}$ an equal number of sounds.*

It will be perceived from the above that a return of the same music in all the lines is not essential to Siṅhalese poetry, although it would greatly add to the solemnity of compositions. The writer had been successful in this in the following elegy "To the memory of a friend" who lately met a watery grave :—

සි ත බැති මම්තුරා එන මග බලම් න්න
ස ත වෙත නොවතොරා දුක සැප අහ ල න්න
අ ත රට ඔහු මරා අසලදී වැලිපැ න්න
ග ත මරු අපසොරා නොදැකම් අපෙ ගි න්න

Whilst watching the return of the friend of my heart (and) inquiring from people after his health, the Angel of Death hath at Wełipeṇṇa snatched him away by stealth, unmindful of our grief!

---

* To the Siṅhalese is known poetry of different numbers but uniform in all the four lines. I almost think of this species the numbers of sounds or feet vary from two to twenty-eight.

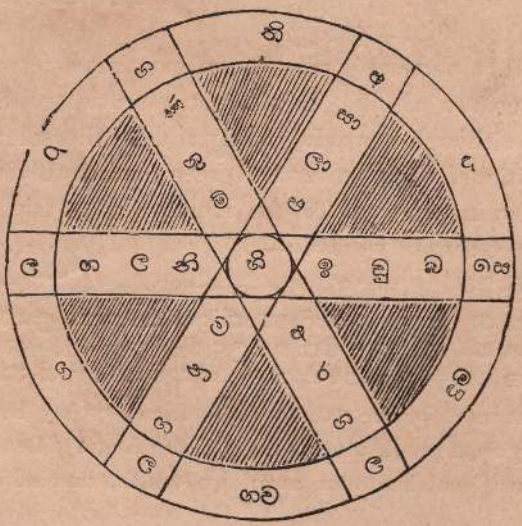
I have said that, except in one or two species of poetry, a stanza had an equal number of sounds in all the four lines. Of the exceptions the short common metre is one; but I cannot find any rule for its construction. From observation, I have however clearly ascertained that the first line consists of nine sounds, the second eleven, the third nine, and the fourth fourteen.

Example.

ගනගුම්හි අරග ල
අසාලා එහි වනගල
සෙබඩුහි නිලගල
රහති අදසෙම දුලව ගලගල.—*Kavmiṇikoṅḍala.*

The peacocks with their mates in the mountainous forest hearing the din of tumultuous torrents, and glistening (with beauty), freely play about from hill to hill.

⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ; = 9
⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ = 11
⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ = 9
⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ — — = 14



Although out of place, I must not here omit to remark that the above stanza is so composed as to be used in the diagram without the repetition of eight of the letters found in all the lines.

Besides the above and the blank verse (of which I shall treat hereafter) there are three or four others, as far as I can remember, which have an inequality in the number of sounds or feet in the four lines of a stanza; and they are of a modern introduction—at least I suppose so, having only met with a few in two of the modern poets. Dunuvila Gajanáyaka Nilamé, and Kiraṁbé Terunnánsé have both adopted them in their works. They are very pleasing to the ear, besides being in one respect similar to the Latin, in that it is permitted in the latter to place the two syllables of a word in two lines—a license neither permitted in the English* nor so 'ludicrous' in the Siṅhalese as it would seem if introduced into the former language. From *Kiraṁbé*:—

කොමල සුපිපිසර සදි	සා...පද
සු ග ල මලවිරද තුවුකර නොල	සා
නි ම ල කනකපලු විල	සා...දිඟු
ල ක ල ඇඟිලිපෙළ දිලි පදසර	සා

* "Can anything give us a more ludicrous idea than the practice of the ancients in sometimes splitting a word at the end of the line and commencing the next line with the latter part of the word? This must have been nearly as ridiculous as the following English verses in imitation of this absurd practice:—

Pyrrhus, you tempt a danger high
When you would steal from angry *li-*
oness her cubs, and soon shall fly
inglorious;

For know the Romans, you shall find
By virtue more and generous *kind-*
ness than by force or fortune blind,
victorious."—*Walker.*

Also: Gallicum Rhenum, horribilesque *ultim-*
osque Britannos.—*Catullus*, Od. 11, 12.
Labitur ripa, Jove non probante, *ux-*
orius amnis.—*Horace*, Od. 1, 2, 19.

The row of long beautiful toes like superb gold shells ornament the feet; and the two feet greatly pleasing to King Cupid, are like the full-blown soft lotus.

⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ — ⏑ ⏑ = 14
⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ — — — ⏑ = 16
⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ — — = 14
⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ — — — ⏑ = 14

155 The following has one word split into two, whereas in the preceding the noun is only removed from its adjective.

හෙ ල් මැලි සිව්මැලි කොම ලී...ඕහි
ප ල් ඕහිලොල්ලොබකල පුල්කම ලී
දු ල් සිරිකල් දිනු ලක ලී...සැම
ක ල් මුදුනත මල්කඩ මෙන් බැබ ලී

The fair princess, like the soft and delicate nymphœ lotus coveted as the full-blown lotus by the bee-like king; and who surpasses the beautiful Sirikata (Goddess of beauty)—has illumined the heads of all women like a garland of flowers.

To the last may be added, from *Dunuvila*, one other species, which has a sort of "catch-word" at the end of the first and third lines, which thereby are rendered unequal in number to the second and fourth.

Example.

එන වා කී බොරුවට කරස ත්තේ...ඉඳ
පිණ වා සිත උන්සඳ ඒවැ ත්තේ
දන වා හදඟිනිවිල නොනවැ ත්තේ. .මගෙ
යන වා දිවි නියමයි හිමිම ත්තේ

Having believed that thou would'st come, I was brimful of joy: (now that thou hast disappointed me) the very core (field) of my heart continually burns with fire; and on thy account shall my life cease.

⏑ ⏑ — — ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ — — ⏑ ⏑ = 18
⏑ ⏑ — — ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ = 16
⏑ ⏑ — — ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ = 18
⏑ ⏑ — — ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ ⏑ = 16

Another species, also of modern introduction into the Siṅhalese (probably from the Tamil), is to be found in several works of the elegant poet from whom I have already quoted, Kirambe Terunnánsé. This has eleven feet in the first, second, and fourth lines, and twelve in the third, in which, as well as in the other line, the cœsural pause falling at the end of the sixth foot, or syllabic instant, renders the stanza very sweet and elegant. It is also remarkable that in this species the third line does not rhyme with the rest. The following is from the beautiful poem called *Kánchanadé-vikatáva* :—

සසලප නැති : සඳ ලෙසේ
දෙස කිසි නැති : එදිගැසේ
දසබල දම් : අසන විලස
එතැන් පත්ව : සිට මෙසේ

The female without blemish, like a moon without the hare's shadow, having thus reached the place to hear Buddha's doctrines :—

⏑ ⏑ : ⏑ ⏑ : ⏑ ⏑ :: ⏑ ⏑ : ⏑ — = 11
⏑ ⏑ : ⏑ ⏑ : ⏑ ⏑ :: ⏑ ⏑ : ⏑ — = 11
⏑ ⏑ : ⏑ ⏑ : — :: ⏑ ⏑ ⏑ : ⏑ ⏑ ⏑ = 12
⏑ — : — ⏑ :: ⏑ ⏑ : ⏑ — = 11

The following is also from the same writer :—

මෙන් අම පිරි : යස කමල්
සත් සඟහස : සෙවි නිමල්
යුත් සවණක් : කිරණ තරඟ
නමදිමි මුනි : පියුම්විල්

I do bow unto Buddha, like unto a lotus pond, full of the water of benevolence and the renown of lotuses, frequented (attended) by swans, like unto the purely virtuous priests, and having waves of six-coloured rays :—

— : ⏑ ⏑ : ⏑ ⏑ :: ⏑ ⏑ : ⏑ — = 11
— : ⏑ ⏑ : ⏑ ⏑ :: ⏑ ⏑ : ⏑ — = 11
— : ⏑ ⏑ : — :: ⏑ ⏑ ⏑ — ⏑ ⏑ ⏑ : = 12
⏑ ⏑ : ⏑ ⏑ : ⏑ ⏑ :: ⏑ — : = 11

"Blank verse," which is called ගී *gí*, though known to the Siṅhalese,—as indeed it was the species of musical composition with which many nations commenced poetry in the early ages,—is not, however, in use now. Nor are there any correct books to ascertain the rules of its construction. The *Eḷu Chandasa*,* the only work of its kind, is found so incorrect, owing, probably, to the errors of ignorant copyists, that with the assistance of four copies procured from different parts of the Island, and with the living aid of two Siṅhalese scholars, I have been unable to obtain the information I desire. But I may venture to state, that of *gí* there are nearly fifteen species, differing in quantity from each other. The number of sounds do not, however, altogether exceed 44.† The following are examples :—

සරණ තඹර වරලස	= 10
සෙවෙලවලකර අරියන	= 11
රදුව පෙර කළවමන්	= 10
කුසනිරිඳු නොසැමෙලේ	= 10 = 41

King Kusa forgot the indignities which had been previously offered to him by the princess upon her prayers at his lotus-like feet, covered (leaved) with her *sevel* ‡ like flowing hair.—*Kusa Játaka.*

මහද ගඳකිළි කැරැ	= 9
සවිනේ ගෙවා දත්හට	= 11
දුහුනන් දැනුම් සඳහා	= 11
කරණෙම් සිදත්සඟරා	= 11 = 42

---

* Since writing the above I have met with another work on versification, called *Swbhása Alaṅkáraya*, from which it will be perceived that I have already presented the reader with a specimen in a previous note. It is supposed to be a translation into the Siṅhalese of a Sanskrit work called *Dandiya Alaṅkáraya.*

† We ought not to omit another species of poetry called සැහැලි *seḥeli*, and compounded of "blank verse" and "rhymes," and which, perhaps, to avoid repetition, we may well consider hereafter (*vide infra*).

‡ The Siṅhalese poets have frequently compared the flowing hair of a female to the floating masses in the water called ඔසෙවල් (*Vallisnaria octandra*), the Eḷu form of ඔසෙවාල in Sanskrit.

Having made my heart the residence for him who knew the end of all things, I compose the "Sidat Saṇgaráva," in order that the ignorant may be instructed.—*Sidat Saṇgaráva.*

පැළඹී කල්පහස = 9
බඹලොවිනා මහත් හුදු = 11
පිරිහුනුහු හා රජනෙන් = 11
අන් දනනකුරු හා කෙවදන් = 13 = 44

Even the great beings who came from the Brahama world have, enticed by the allurements of love, lost all the prosperity of kingdoms: how much more then (can we say of) other people like unto little tender plants?—*Eḷu Chandasa.*

Although I have given the above in four lines, each verse is properly written in two. Thus:—

බලනෙක්දෙස් විලස් තිදසිඳු වත් වණනනත් ॥
පබවතු නෙවිලස් හා පවසමිලුයි මේවි—
ඇය රැසිරු සරණතල තඹර නියරුස්නෙන් ॥
සිනා ගතෙව් තඹරට සියඹ මුහුලස පානා—
ඇය මනදඟ දඟ දුවන් විමනැත් වදනා ॥
වියොවගට දුලු කල් යුවල වැටුප් පුවල හල—

(They said) Indra alone could (with his thousand eyes) behold, and Ananteya (with his thousand mouths) alone could expatiate upon even a portion of Pabawatu's deportment. If we attempt to describe it, we should say the lotuses of her lovely feet, by means of their charms, the nails, constantly laugh at the lotus of her hair, whilst her lovely slender calves emulate the proud (light) of the two lamps lit for the Cupid who entered the habitation of her body.—*Kawsilumina.*

There is also a species of poetical composition (similar to the English "ballads" of a former day) called විරිදු *viridu*, which is sung at festivals and other places of rejoicing, without preparation or previous reflection, and upon a subject selected, often suggested, at the spur of the moment. Of this the following, from *Munkoṭuwéṛála*, one of the attendants of the late Kandyan Minister Pilimé Taláwa, and the

author of a beautiful work called *Saňga Rája guṇa alaṇkáré*, may serve as an example :—

(1) නිල ම කීප පලකට මම කිම් පිළි ලබාග න්ට
(2) දළ ම පිළි ලැබුනි මෙමට ඉන පල්ලටනම් අඳි න්ට
(3) කොළම ගොතා අඳිතත් බැරි දළපිළි මතුපිට අඳි න්ට
(4) පිළි ම තලව්වේ නිලමෙගෙන් ලැබිය බලබලා ඉන්ට

(1) To several chiefs have I sung to obtain clothes ; (2) if for my inward coat I have received coarse cloth, (3) and although leaves can be worn by being woven together, coarse cloth can I not wear outermost ; (4) Chief Pilimé Taláwa will, however, give me (something fine*) as a token of remembrance.

There are also different kinds of "puns" by poets, soaring high in the immense regions of fancy ; and to give even a sketch of these beauties of native literature is to exceed the bounds of this Paper. I may however mention a few. Under the head of pun I may include that which is known as the English "acrostic." However, the Siṇhalese language, which has certain sounds with which one cannot commence a line (*e.g.*, ල් *l*), is ill-adapted to this species of composition, which on that account is rare in the Siṇhalese. In the absence of a suitable specimen from a book, I shall here present the reader with a letter forwarded by the writer a few months ago to a friend :—

සසඳුව.

සරද සඳකැනෙව් දිග පතල යසසි නි
සපිරි බුලත්ගම නැණයුත් යතිසඳි නි
දූනකර මෙකව් පද මුල සිව්කුරෙ නි
වරද හැර පොතක් එව මැනව කුළුණෙ නි

Rev. Bulatgama, of universally esteemed fame, like the moon in

* The words within parantheses in the translation are introduced here, as elsewhere, to explain what the idiom of the language conveys to the reader.

autumn: pray kindly send me a correct book answering to the first four letters of this stanza.

The following from the *Káviyasékaré* is a specimen of a stanza containing the same word repeated several times, but conveying at each repetition a different meaning:—

(1) මලිතිය බොන මීවන පුප් මී ව න
(2) පිපි තුඟවන මීවනවන මී ව න
(3) හඟිනිදුරණ මීවන වන මී ව න
(4) රණසුනු වැකි මීවන බිල මී ව න

(1) The paroquet which extracts honey from the sweets of flowers;
(2) The bees which enter the widespread lofty *mí* forest;
(3) The wild buffalo which destroys the ground and the forest by its horns;
(4) The rats daubed with glittering chalk (plumbago) which enter the holes of trees.

Carrying the last plan a little further, the author of the *Kavminikoṇḍala* has given us one line, which when repeated four times conveys four several meanings:—

(1) වනකදල දෙලෙනුදුල
(2) වනකදල දෙලෙනුදුල
(3) වනකදල දෙලෙනුදුල
(4) වනකදල දෙලෙනුදුල

(1) The jungle trees became bright with the tender foliage;
(2) The forest became bright by reason of the assemblage of plantain trees;
(3) The eloped wife glistened with (her) streaming tears;
(4) The jungle was bent with (the weight of) the dew upon the tender leaves.

The same elegant writer has given us several puns of this kind, of which the reader will observe the following stanza, consisting of ten letters in each line, when divided into two may be read without the second half, by supplying

its place with the first half read from the last letter; or from the end to the beginning and from the beginning to the end, as in the English word *Glenelg*.

සරනිපිපි : පිපිනි ර ස
සරඟලද : දලඟ ර ස
සරඳලව් : විලඳ ර ස
සරලදස : සදල ර ස

(1) The lotus *(Nelumbrium speciosum)* reared in the water of the river was opened;
(2) The *kéndattá (Cuculus melano-leucas)** obtained its great delight, the water;
(3) The noise of the birds that received the water echoed;
(4) The moon that emitted rays on all sides lost her brilliancy.

162 From the same writer, abounding in puns of different kinds, the following is selected as a specimen of a stanza

---

* A species of cuckoo, with a peculiarly plaintive cry. It is supposed by the Siŋhalese that this bird is "begging for water from the clouds, since it cannot satisfy its thirst otherwise than by swallowing drops of water in the air." Some suppose that it has a hole or defect in its beak or tongue which prevents it from sipping water. Mr. Wilson has the following note with reference to this bird at page 14 of the "Mégha Dúta":—

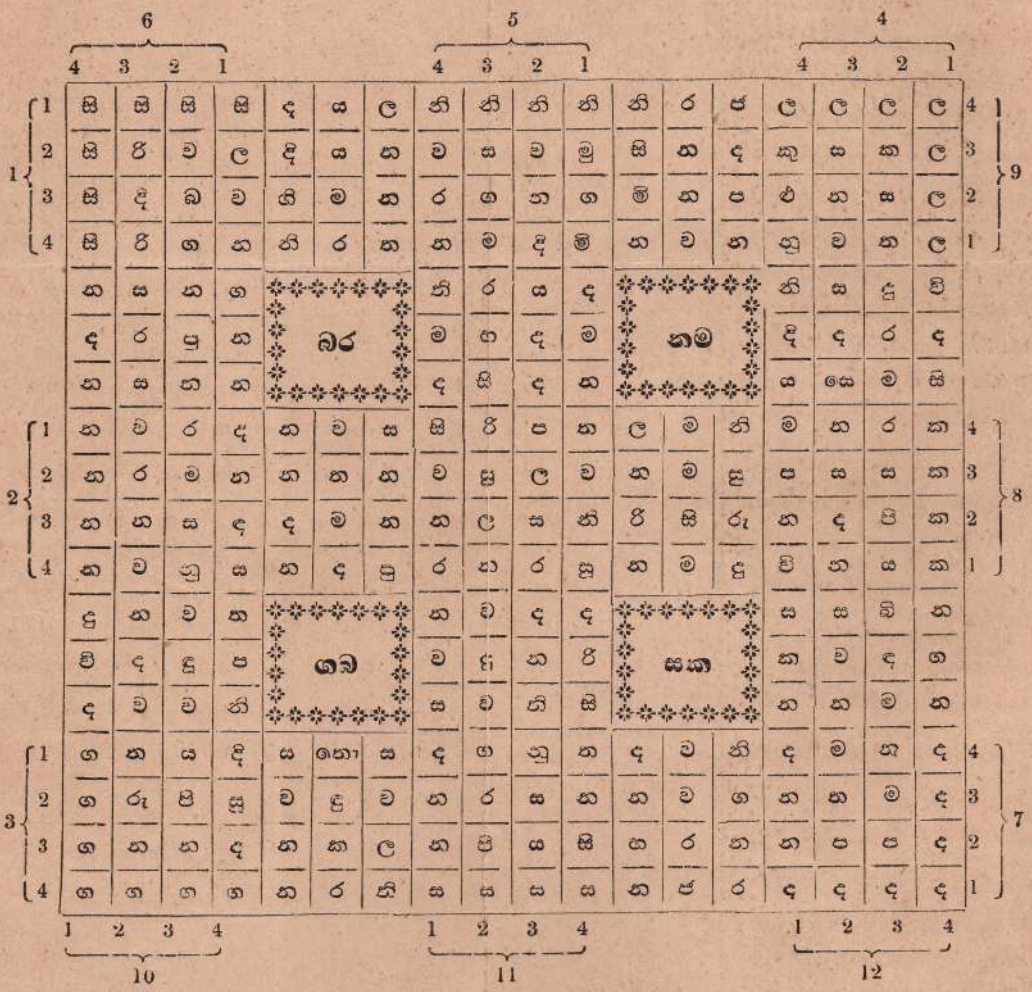
"The *Chataca* is a bird supposed to drink no water but rain-water; of course he always makes a prominent figure in the description of wet and cloudy weather. Thus, in the rainy season of our author's 'Ratu-Saŋharé,' or assemblage of seasons:—

කෘෂාකුලෛශ්චාතක පක්ෂිණං කුලෛඃ,
ප්‍රයාචිතාපේක්ෂායහරාවලම්බිතඃ.
ප්‍රසාතනිමඳං නවවාරි ධාරිණඃ
වලාහකාඃ ශ්‍රොත්‍ර මනොහරස්වනාඃ.

The thirsty *Chataka* impatient eyes
The promised waters of the labouring skies,
Where heavy clouds, with low but pleasing song,
In slow procession murmuring move along."

In the translated "Amarakósha" it appears that the *Chataka* is a bird not yet well known, but that it is possibly the same as the *Piphia*, a kind of cuckoo *(Cuculus radiatus)*.

බරනම ගබසක.



(see page 283*) by *Koratoṭa Terunnánsé*, who received a handsome reward from his sovereign, Rájádhi Rájasiṅha,* for the cleverness and ability with which he introduced into one diagram twelve well-meant elegant stanzas.

I.
1. සිසිසිසිදයල නිනිනිනි නිරජ ලලල ල
2. සිරිවිලදියන වසවමුසිනද කුසක ල
3. සිදිබවගිමන රඟනගමින පළුනස ල
4. සිරිගන නිරත නමදිමි නවන නුවත ල

(4) I bow to the great *Sirigana* (Buddha),† who abstained from idle praise (exaggeration); (3) who was firm, renowned,

---

* The writer has given his name and the date of his composition, &c., in the following stanzas. The *Saka* era (from the date of the reign of a king of that name) is much in use among Siṅhalese scholars. It commences 78 years after the Christian era.

ස ක වසිනෙක්දහස් සත්සිය දෙසිවූ ව න
ල ක සිරිරජ දිරජ සිහනිරිදුට ස ව න
නි ක රජගුරු ගෝල දම්රම් යති රෑ ව න
ස ක කෙලෙ මෙබර කව්ගැප් නම් අමුතු ව න

Rev. Dhammáráma, the disciple of the Preceptor of three Sovereigns, hath composed this novel diagram embodying twelve stanzas, in the sixth year of the reign of Rájadhi Rájasiṅha, and in the year of *Saka* 1708 :—

මෙනිරි දු මෙසක නරඹා සියසකින්දු රා
නෙවිරි දු කිවිදු කල ගෙලෙ වන් පාසසු රා
මෙනමු දු ලන් පල්ලේබැද්ද ගම්ව රා
මෙයති දු ගව පිදී මිහි පවතිනා තු රා

This king, having with delight seen with his eyes this diagram, like unto a noose on the necks of his (the writer's) rival poets, has made an offering to this Chief Priest of an estate called Pallébeḍda, as long as the earth shall endure (in perpetuity).

† There are no less than twenty-six epithets for Buddha. They are embodied in the following six lines from the "Námavaliya" :—

and, like a precious gem, who extinguished the fire of metempsychosis; (2) who was the chief of the world, blessed with prosperity, who when king Kusa heard the lion's roar, who (by self-denial) extinguished in himself the allurements of sin and vice,—who was gentle (cold) as the moon, benevolent, the saviour of men, the ocean of river-like wisdom, and who destroyed the weakness of the heart by means thereof.

II.
1. නවරදනවසසිරිපතලමනිමනර ක
2. නරමනනතනවසුලවනමසුපසස ක
3. නනසදදමනනලසනිරිසිරනදපි ක
4. නවනුසනදපුරනරසුනමදුවිනය ක

සවණ සනර මරරූපු මොකැදුරු මුනි ඳු
සමනැස් පසැස් දියබස් දසබල දිනි ඳු
සමන්බදුරු සිරිගන ලොවඟ සුගති ඳු
නරදම්සැරි විනා දම්රද සුගත් බු ඳු
තිලෝගුරු ලොවිදු සිදු සවණ සිරිම ස්
දිසනා තිලෝනා දින නම්ලු සැමසුග ස්

(1) සවන, derived from සර්ඤ (Sanskrit), means "allwise"; (2) සනර, from ශාස්තෘ (Sanskrit), means "master" or "teacher"; (3) මරරූපු means "the enemy of Mára," a god inimical to Buddha; (4) මොකදුරු, from මොක් and අදුරු, means "the teacher of Niwan"—the *summum bonum* of the Buddhist—the doctrine of the extinction or annihilation of the human soul; (5) මුනිඳු, compounded of මුනි and ඉඳු, means "supreme intelligence"; (6) සමනැස් is the Elu expression of the Sanskrit සමන්ත චක්ෂු, "eyes on all sides"—omniscient; (7) පසැස්, "five eyes," having reference to the five powers of sight which his followers attribute to Buddha—they are, first, මසැස, which means මස්අක්ෂ, "bodily eye," the power whereof was so great that it is said he could see the distance of sixteen miles just as we can see at the distance of sixteen inches, and that it was composed of five colours; *i.e.*, the eye-lids were *blue*, their sockets *glossy yellow*, their corners *red*, the whites of the eyes *snowy white*, and their black *jet black*; secondly, දිවඇස or දිව්ඇස, "godly eye," which had the power of seeing that which the මසැස could not penetrate; thirdly, පැනැස or පැනැඇස, "eye of wisdom," which means in English "the mind's eye," capable of an insight into superlative wisdom; fourthly, බුදුඇස, "Buddha's eye," a sight which none possessed but those who became Buddha by predestination; and fifthly, සමනැස (*vide supra*), "omniscience"—(8) දියබස්, from දිස and

(4) Bow ye to the peerless (Buddha) of golden rays, without pride and the evil propensities of humanity ; (3) whose face was like the moon, who had beauty which pleased all, and a voice like that of the Indian cuckoo ; (2) who was not covetous, was without a thirst for evil desires, unavaricious, five-eyed, and the emancipator of hell ; (1) who was blameless, precious as a gem, not led away by the allurements of royalty, and preserved the mind from vacillation.

III.
1. ගතයදිසතොස දගනුතදවනිදමන ද
2. ගරුපිසුවදුවනරසනනවගනතම ද
3. ගනනදනකලනපියසිහරනනපප ද
4. ගගගගනිරතිසසසසනජරදදද ද

බප්, "father of the world"; (9) දසබල or දසබුල් means "of ten-fold power," having reference to the ten powers of the body and the ten powers of the mind which his followers attribute to Buddha ; (10) දිනිදු, from දින "to conquer" and ඉදු "supreme"—the supreme conqueror—which means the conqueror of *death* මර (the powers of the soul—පංචඤකඬ, *vide* Clough's Dictionary ; lust, anger, ignorance, self-confidence, and pride—ක්ලෙස ; merit and demerit—අභිසංඛාර ; and මාර, god of that name before explained); (11) සමන්බදුරු or සමන්බහදුරු, from සමනත භදු (Sanskrit), "good in every way" ; (12) සිරිගණ (the word in the text), from ශ්‍රීඝණ (Sanskrit) "full of prosperity" ; (13) ලොවඟ, from ලොකඝන (Páli), means "chief of the world" ; (14) සුගතිදු has different meanings, one of which, according to its plain derivation, means "the chief who is gone to good (Nirvána)" from සු "good," ගත් "received," and ඉදු "chief" ; (15) නරදම්සැරි, "men-converting driver," having reference to the facility with which he converted mankind to his doctrines, just as easily as a coachman leads his horse ; (16) විනා, a term as also used to one of the heathen gods *Ganadeviyó*, and means, when applied to Buddha, "the peerless," who has not his like—himself supreme ; (17) දම්රද, "king, by reason of his righteousness" ; (18) සුගත් *vide* සුගතිදු, without the adjunct ඉදු ; (19) බුදු (it will exceed the bounds of this Paper to enter into a definition of this term, suffice it, however, to state that it means) "a pandit," "blossoming," or "awaking from sleep" ; (20) තිලෝගුරු, "teacher of the three worlds" ; (21) ලොවිදු, "chief of the world" ; (22) සිදුසවන, "all wisdom acquired by himself" ; (23) සිරිමත්, "altogether a beautiful person" ; (24) දිසනා "chief of the world" ; (25) තිලෝනා, "chief of the three worlds" ; and (26) දින, "conqueror."

(4) Bow ye to the supreme Buddha, who was without lust, decrepitude and its concomitant ills, the donor of donors, the admiration of the good, who arrived at the goal of metempsychosis; (3) who pleased the priesthood, was houseless, a stranger to distress; (2) who was humble and agreeable, gave consolation to men, and procured *Nivana*; (1) who was easily satiated, quick of perception, self-denying, renowned in the world, and (who moreover) granted Bráhma's prayer.

IV.
1. ලලලලවිදසි කකකකනඝනදදද ද
2. ලකාසතදුරමරසපියබ්දමනමප ද
3. ලසනවසඳසෙ නසදනසවනමතප ද
4. ලකුළුනුනිදිසමපනවිසකනදනන ද

(4) Bow ye to the feet of Buddha, who was a treasure of compassion, successful in profound meditation (that which brings its object fully and undisturbedly before the mind), and pleased all men; (3) who was like the new brilliant moon, did not secretly sin, and gave *Nivana*; (2) who loved not sinful men, and practically carried out his profound doctrines; (1) who could dive with his into other's minds, and who cared "not a straw" (2½ gr.) for the impure human body which the ignorant regard as a banner.

V.
1. නිමුගම්දමනතවනීසුදරිසිතනසි ස
2. නිවනදියදදපලසරදනතිනුසය ස
3. නිසගමරඝසිරිසුලනවදුවගරපි ස
4. නිවරනනීමදසිවනරනවසඳනන ස

(4) Bow ye to him who had no impediment against seeing, was unintoxicated with vain-glory, the chief of *Nivana*, resident in forests, and who enjoyed the food of meditation; (3) who was not enticed away by desires, was deserving of offerings, worthy of adoration, and had no lusts; (2) who was the (victorious) banner of the world, who obtained the fruitful *Nivana*, enjoyed laudable prosperity, subjugated evil concupiscence and all improper desires, ceased to wander (in the regions of metempyschosis), was able to convert men, and was self-denying and omniscient.

VI.
1. සිලවනගතනදනදසතපනිදිසුද ගා
2. සිවබගනපුනරමසනුවදුවයපින ගා
3. සිරිදිරියරසවරනවනදවතරුන ගා
4. සිසිසිසිනදනතනනනනදුවිදගගගා ගා

(4) Bow ye to him who, at the foot of the *Bó* tree, by the subjugation of evil passions and lusts, attained pre-eminence, who sent many to *Nivana*, dried the springs of sin, and was in speech bold as a lion; (3) who was of young and tender body, and of superior mental and bodily accomplishments, who continued in moral merit, and destroyed the morbid appetites; (2) who was pre-eminent in merit and happiness, unattracted by the female sex, and peculiarly fit for *Nivana*; (1) who was steady and uniform in the observance of religious and moral obligations, and wishful of pleasing the priesthood; who acted up to the letter of his doctrines, and was a treasury of penance.

VII.
1. දදදදරජනසසසසතිරනගගග ගා
2. දපපනනරගසියපිනලකනදනන ගා
3. දමතනගවනනසරනවදුවවසුපිරු ගා
4. දනමදනිවදතනුගදසතොසදියත ගා

(4) Bow ye with pleasure to him who gave *Nivana* and consolation to people, had the speech of wisdom, and was the chief of the world; (3) who was very full of *telesadhutáňga*,* who revealed to men the hidden treasures of morality, and did not annoy or distress any being; (2) who was the chief of men—humble, and dazzling with the resulting prosperity of hundreds of meritorious acts, and sinned not; (1) who was sinless, firm as Mahaméra, possessed of *chatussatya*†; and for whom love was begotten in the minds of wise Bráhmins.

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* *Telesadhutáňga* are thirteen religious ordinances to be observed by the priesthood, and which, with their minute subdivisions, are too numerous for detail here.

† *Chatussatya* are four articles of belief in Buddhism, and are the following:—A belief, 1st, in that certainty of sorrow; 2nd, that it proceeds from sensual desires; 3rd, that the subjugation of both is by *Nivana*; and 4th, in the means of obtaining that happy state.

VIII.
1. කයනවිදුමනසුරනරපුදනසතුව න
2. කපිදනරුසිරිනිසලනනමදදසන න
3. කසසපසුමනවලසුවනතනනමර න
4. කරනමනීමලතපරිසිසවනදරව න

(4) Bow ye to Buddha, who was pure, and wishful of subjugating the passions and evil desires; (3) who died to die no more, was without desires, fond of the forest, benevolent, and unqualified for the laity; (2) who was robed, handsome, firm, and unintoxicated with vanity, and had tenfold-wisdom; (1) who possessed six species of intelligence superior to that of all men, was infinite in wisdom, and obtained offerings from gods and men.

IX.
1. ලතවතුනවනම්දිමනතරනිනගරි සි
2. ලසනළු පනම්ගනඟරනමඟිවබදි සි
3. ලකසකුදනසිමුවසව නයදිලවරි සි
4. ලලලලජරනිනිනිනිලයදසිසිසි සි

(1) I bow unto him who had no affliction or sorrow, was wishful of redeeming others, was like unto a ship (which wafted men over the ocean of metempsychosis), and free from desire to sin; (2) who was of glowing splendour, chief of the priesthood—had no delight in witnessing the fights of beasts and birds, and shunned the allurements of hell; (3) who was the chief of science and of the fine arts, was least desirous of asking (so as to subject himself to ignominy); (4) who with his heart gauged the world—was a master mind, a store-house of wise designs (whereby and by reason of his ordinances men obtained *Nivana*)—the chief of the wise, and the holiest of the holy.

X.
1. ගඟගඟදවිදු නනනනනදනසිසිසි සි
2. ගනරුතවදනවනරවසරසරිදිරි සි
3. ගනපියවදුවතුසමරනපුනගබව සි
4. ගදසුදිනිපතසදනදනනගනවල සි

(3) Bow ye (to Buddha) who will be born no more, the father of the priesthood; (1) the chiefest of the chief—chief by reason of his moral and religious lectures—who extinguishes sorrow—attracted many to himself, whose smile played amidst the rays of

his white brilliant teeth ; (4) whose word was the theme of the wise, who was not idle, and the chief of men ; (2) whose word had a deep signification, whose voice was sweet, and whose prowess was great.

XI.
1. සනනදසවන රනවසිදමනිනරව නි
2. සපිරගවදුවනලසුරිසිහරමඟස නි
3. සයසනුතිනද රසලපදදයදිනව නි
4. සසිනතසිරද සුනිවතනමදම්ගමු නි

(2) Bow ye to him who was of a fully developed body—avoided Anangeya's flowery charms, and was engaged in deep meditation regarding *Nivana* ; (1) who pleased all, resided in the country, was of six colours, peaceful, and actuated with righteous principles ; (4) was worthy of praise, had a fascinating speech—and gave to beggars without question ; (4) who was the chief of the *Sákiya* race, great and happy, well clad, worthy of adoration ; and who subjugated the passions.

XII.
1. දනනදනකස ච්නපමයදිනිනුළුකු ලෙ
2. දපතමනවස නදසනසෙදසවනස ලෙ
3. දපමනමද බියපිසරමරදුතසක ලෙ
4. දදදදනගන කකකකසිදවිලලල ලෙ

(1) Bow ye to him who was the delight of men, and devoid of vicious inclinations, was born of an illustrious race, who enjoyed in meditation the fruits of *Nivana* ; (2) which men procured as soon as his words reached their ears ; (3) (bow ye him) who was moderate in speech, who swept away all fear, and frightened the three daughters of Mára ; (4) who was like unto a banner, who raised the banner of victory in all his actions, who had an insight into things in the earth, the air, and the water ; who was resplendent, and was (moreover) pure at heart.*

* The above, although a free translation, made with the assistance of several commentaries, is nevertheless—being confined to each line, and therefore without any attempt at arrangement—less elegant than it should otherwise prove. The governing words of each sentence "Bow ye" or "I bow" will be found placed at the beginning of each line with which the writer has commenced the translation.

There is also another species of pun called සුවල *suvala*, or "double-meaning verse," much esteemed by the Siṅhalese. It is to be found, though sparingly, in several of the best authors. In the *Kávyaśékaré* we find the following :—

නත්වරද ලොප් වන
කිරියඅදියර සත් වන
අදෙස් හැදහිලි වන
එසඳ ගුණයෙන් සදලකුණු වන

Free from many faults—

1. ලොප්වන.....නත්.....වරද
   possessed of previous (ly obtained or done) merit (and) intelligence,
2. වන.....කිරියඅදියර.....සත්
   imbued with faith.
3. අදෙස්.....හැදහිවන
   Woman, by reason of those qualities, is like "grammar."*
4. එසඳ.....ගුණයෙන්.....වන.....සදලකුණු

This comparison is explained by the same stanza conveying different ideas, as follows :—

It is by reason of (the following) properties that

4. වන.....ගුණයෙන්.....
   she is like the symbols of sound :
   එසඳ.....සදලකුණු

that is to say—

1. "*Nat*" and "*varada*" are produced by elision.†
   නත්.....වරද.....වන.....ලොප්
2. The verb is the seventh section.‡

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* The word here rendered "grammar" is in the Siṅhalese a compound term, which means the "symbols of sound" (*sadalakuṇu*).

† As නත් and වරද are produced by the elision or lopping of අනත් and සුවරද, so woman, according to the first translation, was shown to be *blameless*, lopped of all her faults.

‡ The verb which is the subject of the seventh section of the grammar conveys an act, as in the agency which is indicated by previously done or obtained merit.

කිරිය.....වන.....සත්.....අදියර

3. The word "hḍahili" is produced by substitution.*

හැද හිලිවන.....අදෙස්

The above conveys both a rule of grammar and an eulogium upon the female sex. In either sense it is grammatically correct, in both senses it is elegant, and in neither is it defective in imagery.

These lines afford us an opportunity to ascertain the date of the "Sidatsaṇgaráva." For although many a Siṇhalese scholar believes that the grammarian who professes to write his work upon the precepts of "unerring custom" after the established usage of eminent writers, has borrowed most of his illustrations—such as නත් or අනත්—from the *Káviyaṣékaré*, yet I think, apart from the modernism of the style of the last-mentioned work,—a fact which sufficiently refutes the above opinion,—there is almost conclusive evidence to support the more generally prevailing belief that "the last-mentioned work was in point of date subsequent to that of the grammar." I say there is nearly conclusive evidence, because the poet, in reference to the verb in the stanza under consideration, places it in the seventh section or chapter of grammar—a division which, as far as my inquiries have extended, is to be found in no other work on grammar except the "Sidatsaṇgaráva." Taking then, the date of the grammar to have been before the *Káviyaṣékaré*, we are by no means at a loss to say that it was written after the *Kavsiḷumana*, from which the grammarian has quoted the following passage :—

නරනිදුහු ඉංගෙන් සෙමෙනද නැසිපැසැහි.

She came slowly, according to the king's wish, and hid herself aside, &c.

* As by *ades* (a term of grammar for giving possession to one sound a different one) අදහිලි becomes හැදහිලි, so the naturally unbelieving sinful woman was imbued with faith.

Kavsilúmina was written by Kalikála Sahitya Sarawajayna, or King Paṇḍita Parákrama Báhu III., who flourished A.D. 1266, and the *Káviyasékaré* was composed by Toṭagamuwé in the 34th year of the reign of Parákrama Báhu VI., who ascended the throne A.D. 1410.

Between these two dates, therefore, was the "Sidatsaṇgaráva" composed. But we are still unable to state at what precise period of time (during an interval which covers a space of 178 years) it was published.

Extending, however, our investigations a little farther, it may not prove to be an idle theory, nor one inconsistent with that which we have just propounded, to identify *Patirája*, to whom allusion is made at the conclusion of the "Sidatsaṇgaráva," with the Wírasiṇha Patirája mentioned in the introduction to the "Pansiyapanas Játakaya." The grammarian, in a sort of dedicatory address with which he concludes, says :—

"May Patirája, like unto a banner on the summit of the mansion-like village Radula, and who by the arm of his extensive ramparts governs the whole of the southern (division of) Laṇká, be long prosperous! I have composed the 'Sidatsaṇgaráva' at his kind request, and with a view to disseminate (the knowledge of) the rudiments of cases, &c., in the native (Siṇhalese) language. The wise man, who shall have learnt its rules both primary and secondary, and shall have made grammar his study—having with facility removed the pretensions of the learned, who are elated with pride—will constantly hoist up the flag of victory in (this land of) Laṇká, like the boundless ocean with the renown of its waves widespread in all directions."

Patirája was not a king, but a chieftain in the south of Ceylon, "who by the arm of his extensive ramparts governed Southern Laṇká," and "at whose request this grammar was composed." Nor is it consistent with the known history of

this Island to regard him as a king of Ceylon; nor indeed is he named by the grammarian with a dignified expression such as to justify a like supposition. And that he was a minister of the ruling sovereign, and clothed with the authority of a petty governor, we may without difficulty believe, since we have numerous instances of the kind in the "Mahávaṇsa."

Having thus far arrived in the chain of our investigations, the question presents itself, When did Patirája flourish? We can only obtain an answer to this in case his identity with Wírasiṇha Patirája, "the supreme minister" named in the following extract, be established :—

"It is well that good people, having given their ears and bent their minds, should hear the Eḷu version of the History of the Lives, composed without departing from the method of the writer of Atuwá, and with the assistance of the Supreme Minister Wírasiṇha Patirája, and at the request of the good Minister Parákrama, who commended the translation into the Eḷu of the lectures called 'The Five Hundred and Fifty Lives,'" &c.—*Introduction.*

The like laudable exertions in either case bestowed by the minister in the promotion of native literature, besides the similarity of name given to the chieftain mentioned in each of the above selections, prove the identity of the patron under whose auspices the "Pansiyapanas Játakaya" was translated into Eḷu, with the provincial chieftain who directed the publication of the Eḷu Grammar. Taking their identity to be thus established, we are enabled—with the assistance of a tradition current in this Island, and supported by evidence as to its truth, that the "Pansiyapanas Játakaya" was translated during the reign of a king of the name of Parákrama Báhu, who had *Hastisalapura* (Kuruṇégala) for the seat of government — to ascertain as nearly as possible the date of the "Sidatsaṇgaráva," by fixing upon Paṇḍita Parákrama Báhu IV. (A.D. 1300—1347),

the only king of that name who had his court at Kurunégala.*

There are many other *Yuvala* verses in several books; but it will suffice to make one more selection from the *Yógaratnákaré*—a book no less celebrated for its doctrines on medicine than esteemed for the elegance of its versification:—

පිහිටි ගුණ තිරස ර
කළ සව්කුලන් පිරිව ර
විහිදි රස් මනහ ර
වඳිමි සිරිගණසුනෙර හැමව ර

First translation, taking the subject of the stanza as *Buddha*:—

Always do I bow to the Mahámera-like Buddha, who
හැමවර...වඳිමි.....සුනෙර.....සිරිගණ
surrounded by all castes and races—
පිරිවරකළ.....සව්.....කුලන්
emitting lovely rays—
විහිදි...මනහර...රැස්
possessed unchangeable fruitful virtues.
පිහිටි.....තිර.....සර...ගුණ

Second translation, taking the subject of the stanza as the *Mahámera*:—

Always do I bow to the Buddha-like Mahámera, who†
හැමවර.....වඳිමි..... .....සිරිගණ...සුනෙර
encircled by all hills and rocks—
පිරිවරකළ.....සව්.....කුලන්

* The following remarks from the learned translator of the "Mahavansa" support the above theory:—"Pandita Parákrama Báhu IV. (Kurunégala, A.D. 1319–1347).—Relationship not stated; devoted his time exclusively to religious observances, and to the building and establishing sacred edifices at Kurunégala. Many religious and historical works, among them the 'Mahavansa,' were compiled under his auspices."—*Turnour*.

† This is used in the masculine gender; and it is not a little remarkable that the Elu has not the neuter, although it is known to most of the Oriental languages.

resplendent with pleasing lustre—
විකිදි.....මනහර...රැස්
has firm substantial qualities.
පිහිටි...තිර...සර.....ගුණ්

I should not omit to add to the above one other species of composition called *Debas*, or "dialogues." They are generally the language of imagination, wound up at the conclusion with some reality or praise (as the case may be) which the writer wishes to convey. The following from the *Perakumbá-siritá* is a good illustration:—

ඡේසඳ කිම මුහුද කිම සැඟවෙනු වෙල ත
මෙම ගජ හය අහින් පැරකුම්රජ දිමු ත
දෙසි ගිජිදුන් ඔහු මදහස කර ලව ත
තදුන් කැලුම් සොම්ගුණයුත් පඬුරුඇ ත

The above, when rendered into a dialogue, is read as follows:—

The Ocean:—ඡේසඳ. O Moon!

The Moon:—කිම මුහුද. What, O Ocean?

The Ocean:—කිම සැඟවෙනු වෙලන. Why does thou hide thyself behind the skirts of the shore?

The Moon:—මෙම ගජ හය අහින් පැරකුම්රජ දිමුන දෙසි ගිජිදුන්. (Because) the enlightened King Parákrama gives away his (elephants) to those who are in quest of elephants and horses.*

The Ocean:—ඔහු මදහස කර ලවන තදුන් කැලුම් සොම් ගුණයුත් පඬුරු ඇත. (Nay) the offering of that silver brilliancy (gentleness) of rays, which thou hast emitted is (alone) sufficient to please him (towards thee, and deter him from such an act).†

* This answer conveys to a person well read in the mythology of the East greater information than the words themselves impart. "I do so, lest the enlightened King Parákrama, who gives away elephants to those who are in quest of elephants and horses, should also part with my own elephant, which is my habitation."

† The ocean is here represented to have spoken thus: "Nay, the offering of that silver-brilliancy (gentleness) of rays which thou hast emitted is alone sufficient to please him towards thee, and to prevent him from giving away thy habitation."

Having thus given a brief, and doubtless an imperfect, account of Siṇhalese poetry, I shall now proceed to show a few rules of Versification or Prosody.

Quantity, feet, and pauses are necessarily constituent parts of all verses; and one great advantage which the Siṇhalese possess over the Western nations is the existence in the language of the former of symbols for long and short sounds, indubitably expressed, and without reference to usage (very often an uncertain arbiter) for the ascertainment of their quantity. It is for this reason that I have throughout used the word *sound* instead of *letter*. I must, however, not omit to mention that there is a poetical license which permits the use of a long letter for a short or a short for a long letter; but this is very rare indeed in good compositions. The word පිළි *pili*, "short," in the following line, is used for the long පිළි *pili*, "clothes":—

කොලම ගොතා අදිතත් බැරි දැලපිළි මතුපිට අඳින්ට

Even if leaves can be worn by being woven together,

Coarse cloth can I not wear outermost?

The melody of the Siṇhalese verse depends chiefly upon the sounds or letters being short or long,—not to mention what is common to all poetry, the choice of words, the seat of the accent, the pause, and the cadence. As in English, the cœsural pause* is not without effect in the Siṇhalese. Of this, the following beautiful lines from the celebrated *Guttila Játaka* is a good illustration:—

2 1 2 1 1 2 1 2 = 2 = 1 1 1 2 1 1 1 1 1 2

රූරුසේඅදිනාලෙසේ : අත් : : ලෙලදිදිවිදුලියප බා

2 1 2 2 1 1 1 2 = 2 = 2 1 2 2 1 1 1 2

රන්රසේඑක්වනලෙ සේ : වෙන : : නාදනුපාතබන බා

* This pause sometimes falls before the middle of a line, but it does not thereby render the poetry less sweet.

2 1 2 1 1 1 1 1 2= 2 = 1 1 1 2 1 1 2 1 2
කම්පසේදෙනසැරලෙසේ ඃදෙස ඃඃ බලබලාතෙතගින්සබා

2 1 2 1 1 1 1 1 2 = 2 = 1 1 1 2 2 1 1 1 2
මම්කෙසේපවසම්එ සේ ඃවර ඃඃ සුරලඳුන්දුන්රහසු බා

How can I describe the dances of the goddesses—whose hands move like lightning, and as if intent upon portraying a mass of pictures—whose feet move after the music with the same ease with which gold adheres to mercury—and who look at the company from the corners of their eyes with the sharpness of Cupid's darts ?*

The short sounds or letters are called *luhu* or *lahu*, marked in the *Sinhalese* thus, —; and the long sounds, or *al*† sounds, together with their respective vowels, with whose assistance they are pronounced, are called *guru*, marked thus, ⌢.

Three of these sounds compose a *foot*, and by a diversity of arrangement these tri-syllables produce *eight* kinds of

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* The chief accomplishments of the goddesses are hereby portrayed. Mr. Wilson says at p. 76 of the *Megha Duta*:—

"It is to the Commentators also that I am indebted for the sole occupation of the goddesses being pleasure and dress. That fact—

..... to sing, to dance,
To dress, and troll the tongue, and roll the eye—

constitutes a very well-educated female according to the custom of Hindústán."

Amongst the Sinhalese, however, it is different. Except amongst inferior classes, all the above so-called "ornaments of nature," save elegance in dress, are looked upon by the Sinhalese as unbefitting the female sex.

† An අල් *al* letter is a consonant which cannot be sounded without the help of, and being preceded by, a vowel sound, and which has its inherent vowel sound suppressed by a symbol on the top of the letter; *e.g.*, ල් *l* cannot be sounded without a vowel; this, together with its vowel, produces one compound sound: and they are therefore reckoned as two short letters or sounds, or as equal to one long sound. Thus, මම *mama* = ම් *m* = මන් *man*.

181 feet ;* and without attending to any particular classification, I shall here enumerate them with their corresponding classical terms :—

Quantity.	Greek.	Sinhalese.	Meaning.	Sanskrit.
1 ⏑ ⏑ ⏑	Tibrach	දේවගණේ	godly	නගණේ
2 ⏑ ⏑ —	Anapoest	වායුගණේ	windy	සගණේ
3 ⏑ — —	Bacchic	ජලගණේ	water	යගණේ
4 ⏑ — ⏑	Amphibrach	කිරුගණේ	sun	ජගණේ
5 — — —	Molossus	බූමිගණේ	earth	මගණේ
6 — — ⏑	Antibachic	ආකශගණේ	air	තගණේ
7 — ⏑ ⏑	Dactyl	චඳුගණේ	moon	භගණේ
8 — ⏑ —	Cretic	ගිනිගණේ	fire	රගණේ

As in all matters emanating from Buddhists, poetry is with them attended with its good and bad effects upon the poets. But, unlike the Sanskrit, Sinhalese poetry need be free from bad feet only at the beginning of a stanza. The Sinhalese poets have, however, little attended to such a slavish fear, and it seems have freely given vent to their muse wherever they could elegantly express themselves.

182 1. Three short sounds, as in *dŏminŭs*, compose the *Dévagaṅe*, and it is esteemed a good foot.

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* The diagram, by means whereof the quantity of poetry is ascertained, is indeed a clever expedient or device, called ප්‍රස්තාරකරණය, "spreading the rythmical feet." It is borrowed from the Sanskrit and adapted to the exigencies of the Sinhalese. I shall merely content myself at present with the following, which is the correct mode in which the eight rythmical feet are placed, and which is just sufficient to ascertain the quantity of any piece of poetry composed of three letters :—

Sinhalese.		*Greek.*
1 ⏑ ⏑ ⏑		— — —
2 — ⏑ ⏑		⏑ — —
3 ⏑ — ⏑		— ⏑ —
4 — — ⏑		⏑ ⏑ —
5 ⏑ ⏑ —		— — ⏑
6 — ⏑ —		⏑ — ⏑
7 ⏑ — —		— ⏑ ⏑
8 — — —		⏑ ⏑ ⏑

To enter into a detail of this subject will necessarily occupy several pages, which I can hardly afford at present.

Example.

Tibrach.

⏑ ⏑ ⏑

වෙනඅය අසිතිව ත්
එබවදූනමුත්සොරසිත් ත්
පියෝ ඉත් ගැනුමුත් ත්
දෙවනසිකපද පසඟකැසියෙ ත්—*Káviyaṣékaré.*

The second institute of religion is said to be compounded of five ingredients ; the taking—the deceit—the intent to steal—another's property—and the knowledge thereof.*

2. When a long or *al* sound is preceded by two short sounds, as in *spĕcĭēs*, the rythmical foot is called *Wáyagané*, one of the bad feet. The Siṇhalese have a belief that the author of *Guttila Játaka* suffered transportation—a misfortune, the result of his beautiful work having this foot at its very commencement. That his first stanza is an *anapoest* is true enough ;† but whether he at all suffered banishment is not correctly known except from tradition.

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* This definition of the crime of theft, *furtum*, seems to be more comprehensive than the one in the Institutes—*Furtum est contractatio fraudulosa lucri faciendi gratia, vel ipsius rei, vel etiam usus ejus, possessionsive. l. 4t.* 1§. The text, when freely rendered into English, runs : "The second institute of religion is said to be (the abstaining from) *theft*, which comprehends the fraudulent taking away of *another's property* with intent to steal (*lucri causá*), knowing that it is of another."

† The stanza referred to is the following :—

⏑ ⏑ —

සි ය පි න් සි රි න් ස රැ
දෙතිස්ලකුණෙන්විසිතුරැ රැ
කෙලෙසුන්කෙරෙන්දු රැ
වදිම් මුනිඳුතුමන් තිලෝගු රැ

I bow to (his) intelligent Highness (Buddha)—the preceptor of the three worlds (who), having subjugated all the evil propensities of his nature—embellished with thirty (corporeal) beauties, thrived in the (resulting) prosperity of hundreds of meritorious acts.—*Guttila.*

NOTE.—" The subjugation of the evil propensities of human nature " is a doctrine of Buddhism, according to which none but a Buddha can enter into that holy state *without fault or sin*—a doctrine, too, similar to one of the three doctrinal maxims inculcated in the Elusinian Mysteries, " the attainment of mental peace by a course of penetential purification."

Example.

Anapoest.

⏑ ⏑ —

ය ස ගී එ නි රි ඳු — න
නාලියකියත නිතිසෙ — න
නා ර ජ හ ට අ ස — න
මදක්බාඳු සතුටුකඳුලෙ — න—*Káviyaṣékaré.*

The king of the Nágas who (lost in admiration) listened to the sweet songs complimentary to himself oft repeated by the Nága woman, was only interrupted by tears of joy.

Versified.

The king of serpents bent his ear
To th' oft-repeated lays ;
And did, with breathless silence, hear,
The music of his praise.
The minstrel fair he views and hears,
Deep lost in reverie,
Until a flood of joyful tears
His captive soul sets free.

3. When one short sound is followed by two or long *al* sounds, as in *hŏnēstās*, the foot is called *Jalagané*, and it is esteemed good.

Example.

Bacchic.

⏑ — —

අ මා වෙ න් වි ස ත — ද
බානවිලසින් සුරවෙද — ද
මොහුසිත දුක්නොම — ද
සිතා දුරුකරමෙවිපින්බ — ද—*ib.*

As the divine doctor by means of his heavenly antidote removes the malignant poison (the Bodisat), with an intention to remove the inordinate heaviness of his (the Bráhmin's) heart, said :—

4. A long or *al* sound preceded and followed by a short sound, as in *ămĭcŭs*, is the *Hirugané*, a bad foot productive of sickness.

Example.

Amphibrach.

⏑ — ⏑

දුදුන් කිව් දුන් ගෙ ණ
බ්ලිදුන් සහ ලදුන්ගෙ ණ
කළ වරද නො ම ගෙ ණ
හලෝපෙරරජතුමෝසසොබ ණ—*Kusa Játaka.*

Ancient, righteous monarchs disregarded the faults of fools (the ignorant), of poets, of children, and of wives.

5. Three long or *al* sounds, as in *dōctōrēs*, compose the *Búmigané*, which is a good foot.

Example.

Molossus.

— — —

බත් පැන් වත් යහ න
මල් සුව දස හවිලවු න
පහන ට තෙල් වීම න
මෙලෙසදන්වත්සමගවාහ න

The (ten) meritorious gifts (charities) are rice, water, garments, beds, flowers, scents, ointments, oil for the lamp, habitation (lodging), and conveyance.

6. When two long or *al* sounds are followed by a short sound the foot is called *A'kásagané*, a bad one.

Antibachic.

— — ⏑

දෙස්ම ලවිසි න
මෝරා දෙස් වැඩී ම න
වැන සෙත් නෙ දහම් න
කෙනෙක්රජසොරසතුරුබියයෙ න

Some persons die from (diseases of) *dá*, the constitutional parts of the body ; or *dos*, the functions of life ; or *mala*, the excretions of the body ;—others die from folly, (excessive) lust, or evil

passions ;—others from unrighteous acts ;—and others again from causes (immediately) proceeding from kings, thieves, and enemies.*

7. When two short sounds are preceded by a long or *al* sound, as in *cărmĭnă*, the foot is termed *Chandragané*, a good one.

Example.

Dactyl.

— ◡ ◡

ඇල්නලව්දළුනවැදසමනි ද්දේ
කල්බිගුරුවුරැදිමල්තුරුමැ ද්දේ
තල්ඇතුගෙන්බැසනිරිදුපසිද්දේ
ලොල්කරනරඹාළුවන ඇවිද්දේ

186 The far-famed monarch having descended from his stout elephant, walked with alacrity, inspecting the park, amidst flower trees echoing the buzz of the bees, and enjoying the cool air impregnated with (the sweets of) jasmine *(Jasminum grandiflorum)* and *idda* (oleander) flowers.

8. The last and the most objectionable foot is the *Ginigané*, consisting of a short sound preceded and followed by a long or *al* sound, as in *Cāstītās.*

Cretic. *Example.*

— ◡ —

රෑරැ සේ අදිනාලෙ සේ අත්ලෙලදිදිවිදුලයප බා
රන්ර සේ එක්වනලෙ සේ වෙනනාදනුපාතබත බා
කම්ප සේ දෙනසැරලෙසේ දෙස බලබලානෙතඟින්ස බා
මම්කෙසේ ප ච ස ම් එ සේ ච ර සු ර ල දු දුන්රඟසු බා†

---

* දූ *dá*, දොස් *dos*, and මල *mala*, according to the doctrines of the Sinhalese books on medicine, are the three constituent parts of the human frame, and whence all distempers result. *Dá* comprehends: 1 taste, 2 blood, 3 flesh, 4 fat, 5 bone, 6 marrow, and 7 semen ; *dos* comprehends bile, phlegm, and wind ; and *mala* are the seven excretions of the seven දූ; *i.e.*, 1 phlegm, 2 choler, 3 ear-wax, serum, &c., 4 sweat, 5 nails and hair, 6 excrement ; and 7 rheum, sediment.

† *Vide* translation, *supra.*

Besides the avoidance of evil feet, a serious clog in the way of elegant versification, one other difficulty is chiefly attributable to the necessity of avoiding the use of certain letters which are deemed objectionable by writers of great authority. The author of "Sidatsangaráva" has laid down the following rule:—

එකයමරජඅනණිලඅංඅවාක ර
උපඛගඝානරනම්තිරිවේඅම ර
සුරකරපෙරපසැහිවැඩදේඅවාක ර
නසාසුබසියල්නරකරුමැදුන්සර ර

The above, when freely rendered into English, means :—

Of the alphabet,* එ, ක, ඝ, ම, ර, ජ, අ, න, ණ, ල, and ° are evil characters; උ, ප, ඛ, ඝ, and ඟ are human characters; and the rest, ඉ, ඔ, ව, ච, ඤ, ද, ව, ඝ, ළ, are divine characters; any one of which last must be preferred to the human characters, both in the beginning of a stanza as well as before and after the name of any person mentioned therein. The evil letters, as being destructive of all prosperity, are to be avoided at those places.

අඔතලඇවගවණසිවිපිළිවෙළි නා
යොදුනකුල්මියුමහවත්වගසපු නා
තුරඟබිලිපුටුසරහන්දුන කෙමෙ නා
පෙරපසුයොන්බඳුනමයෝනටසොඬ නා

By dividing the alphabet† into four, so as to produce the letters අ, ඔ, ත, and ල respectively in the beginning of each division, the following diagram consisting of eight classes is produced :—

---

* *I. e.*, five vowels and twenty consonants, without reference to the long vowels, since they are produced from the short.

† The *Sidatsangaráva* confines the Elu alphabet to ten vowels and twenty consonants; *vide supra*.

Weesel.	Buffalo.	Owl.	Tiger.	Serpent.	Horse.	Raven.	Deer.
1	2	3	4	5	6	7	8
අ	ආ	ඉ	ඊ	එ	ඒ	ඔ	ඕ
ඛ	ඹ	ක	ග	ජ	ට	ඩ	ණ
ත	ද	න	ප	බ	ම	ය	ර
ල	ව	ස	හ	ළ	ං	්	්

The first class letters, called *Nakul*, "weesel," are inimical or opposed to the fifth, called *Saputá*, "serpent"; the second, *Miya*, "buffalo," to the fifth, *Turanga*, "horse"; the third, *Mahavat*, "owl," to the seventh, *Biliputu*, "raven"; and the fourth, *Vaga*, "tiger," to the eighth, *Surangan*, "deer." All the characters opposed to the first letter of a person's name must be avoided both *before* and *after* that person's name.

It is also laid down as a rule of versification in several books of authority, that it is objectionable to rhyme a stanza with any of the following sounds : ය, ව, හ, and න්, unless the penultimate letter, *i. e.*, the letter immediately preceding any one of the above characters, be the same in all the four lines ; * *e. g.* :—

ය.

දුදන සහ වා සය
සැම දුකට මුල් දෝ සය
සුදන සහ වා සය
එසේනොවසැපදෙසි විසේ සය

Kavminikoṅḍala.

* I must not omit to remark that this is a rule strictly attended to by all who have the slightest claim to scholarship. Indeed I have not found a departure from it by any of the standard writers amongst the Sinhalese.

The association with the wicked is the primary cause of every species of ill; but the company of the righteous will, on the contrary, result in prosperity.

ව.

දුදනන්ගෙන්දු රුව
සුදනන්කෙරෙහි මිතු රුව
ගුණනැනිති ගැඹු රුව
දිලෙම්වාකුලවිමනම්තු රුව—*Kusa Játaka.*

Away from the wicked—attached to the righteous—possessed of deep wisdom and gentle virtues; may I flourish (like a lamp) in the household of my race.

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හ.

රජදම්නොකල සිහ
යස රැසින් දියනු සිහ
විකුමැති එතර සිහ
නමැතිවිකිත් සිරිරාජ සිහ

Full (unempty) of kingly virtues *—replete with the rays of his worldly renown, and of great prowess, was the lion of men, Kríti Śrí Rája Siṇha.

න්.

දෙබැම දෙදුනු වන්
පවුනලලන වසඳ වන්
ඇගෙ දිගුයුග සව වන්
කෙලෙහරූසිරුරනෝවිලි වන්

Káviyaśékaré.

Her two brows were like the rainbow, her narrow forehead like the moon in her crescent, and her two long

* The ten moral virtues of kings are here meant, and which are 1, charity or almsgiving; 2, observance of religious precepts; 3, liberal in presents; 4, uprightness and justice; 5, tenderness; 6, addicted to religious austerities; 7, mildness of temper; 8, compassion and mercy; 9, patience; 10, peacefulness.

pendant ears like the golden swing of beauty's goddess, Lakshmi.*

*** The numerousness of the Siṇhalese poetical works, the paucity of information regarding their writers, the difficulty experienced in the collection of even the little known of them, and the absence of a library to which reference may be conveniently had,—added to my other pursuits (which leave me but little leisure),—do not, I regret, permit me to bring to a close the last division of my paper —the Siṇhalese Poets. I have, however, drawn out a few remarks, though even these will, I fear, exceed the bounds which I originally intended for this Paper. I must therefore content myself at present with the following, with a hope of continuing the subject hereafter :—

Káviyaṣékaré.

"A garland of flowers on the crown of poetry."

Perhaps no poetical work in the Siṇhalese surpasses this in point of originality and depth of thought, and of

---

* "Her *narrow* forehead like the crescent moon," it would seem, savours much of Oriental imagery. English poets have always considered "an *ample* forehead" or "a *spacious* forehead" as beautiful; here the very reverse is the admiration of the Siṇhalese poet! But, it must be remarked, that however "ample" or "spacious" the forehead, it does not bear any resemblance to the full orb, but the moon in her *vane*. Hence, although the poet has evinced but little taste by his allusion to "her *narrow* forehead," he yet, in my opinion, is far more correct than many who have compared the forehead to the full moon. Mr. Wilson, in a note to the *Megha Duta*, at page 106, says: "Comparing a beautiful face to the moon has been supposed peculiar to Oriental poets; instances, however, may be found in English verse. Perhaps that passage in Pope, where, speaking of an amiable female and the moon, he says :—

'Serene in virgin modesty she shines,'

may not be exactly in point, although the general idea is similar. Spencer, however, is sufficiently precise—

'Her spacious forehead, like the clearest moon,
Whose full-grown orb begins now to be spent,
Largely displayed in native silver shone,
Giving wide room to Beauty's regiment.'"

gance and correctness of expression. Its diction is simple, and its imagery sterling and rich. It was written by a Buddhist priest of the name of *Toṭagamuwé* (after his native village in the south of Ceylon), properly called *Srí Rahúla Sthavírayó*, who was the teacher of the celebrated Chandrabhárati, the author of *Bauddha-ṣataka* (බෞද්ධශතකය) and two other valuable works—one of which is a commentary on Sanscrit Prosody and the other the well-known *Virttimálákhyáva*, (වෘත්තිමාලාඛ්‍යව.) Toṭagamuwa converted his Hindú pupil to Buddhism, and thereby received the thanks of his countrymen, including his sovereign, Srí Parákrama Báhu VI., 1410. A.D. The poet was a favourite of the king, and continued to benefit by his patronage to the same extent that he had, before taking holy orders, been fostered in the king's household. The priest was not ungrateful to his benefactor. He gave him the most invaluable token of his regard,—the use of his pen; and, besides dedicating the work under consideration to the Princess Royal, Ulkuda Dévi, at whose request it was composed, he addressed to the king several stanzas of great beauty. He possessed a correct knowledge of several Oriental languages besides the Elu.* Hence the self-importance which he seems to

* The foreign languages of which this scholar was a proficient are enumerated in the paraphrase to the *Seḷalihiṇi Sandésé*. They were six in number: *Sanskrit*, *Maghaḍi* (or Páli), *Apabbranse*, *Paisachi*, *Sureseyni*, and *Tamil*.

Most of our readers are probably acquainted with what is meant by *Sureseyni*; but it may not be amiss to state that it is the *Zend*. The *Edinburgh Review* for April, 1810, at pp. 396–97, in reference to a paper written by Dr. Leyden, on the language and literature of the Indo-Chinese nations, says: "Dr. Leyden imagines that the Páli may be identified with the *Magahdi*, and the *Zend* with the *Sureseyni* of Sanscrit authors; but without stating the grounds for the conjecture. We conceive that the emigration of the *Sureseyni* under Crisna, from the banks of the *Yamuna* to the shores of the ocean on the west of Guzerat, would afford much countenance to the conjecture, if supported by other proofs."

have assumed in the *Káviyasékaré*, a weakness though common to many, if not all, poets, yet in this instance without, I believe, its parallel in the history of the world. He speaks of himself in the following strain :—

සව්සත කෙළ පැමි
ගුරුවන් දෙරණ සපැමි
පිරිසිදු සිල්ගිහි
සියල් ලෝ වියතුන්ට සිළුමි

Like a Brahaspati* on earth renown'd,
The limits of each science fully found,
Radiant with heavenly-derived religion's beams,
On learning's head a living gem he streams.

Literal translation.

Arrived at the end of all sciences,
Like a Brahaspati who entered the earth,
And possessed of an assemblage of pure observances of religious duties,
A gem (am I) worn on the head of all eminent talents in the world.

This is a work which cost the writer years of great labour, although, judging from its easy and unlaboured style, one is led almost to disbelieve the writer's own account of it, that it was commenced 1958 A.B., or 1415 A.D., and was concluded in the 34th year of the reign of Srí Parákrama Báhu VI., who ascended the throne 1953 A.B., or 1410 A.D. For, if the writer brought this work to a termination in the 34th year of the reign of the said king, he must have spent twenty-nine years in the composition of 885 stanzas, unless indeed the dates given in the *Mahávaṇso* cannot be relied upon. He next wrote the celebrated—

* *Brahaspati* :—The teacher of the Hindú gods is often designated by a term supposed to be its equivalent—Jupiter. But this I believe is incorrect, since the one has nothing in common with the other. The Grecian Zeus and the Roman Jupiter is more like Brahma in one sense and like Indra in another. "He is the site of gods and men ; also *the* Thunderer."

Selalihini Sandésé (සැලලිහිණි සන්දේසේ).

"An epistle per *Gracula religiosa*."

Well indeed may this work be compared to the *Megha Dúta* of *Kalidasa*. The writer's thoughts, brilliant and original, sparkle as we go along his elegant and flowing rhymes. Both the ear and the mind are at once satisfied. His language is free, and has a fascination which words cannot describe. His illustrations are truly original and lively. We shall present the reader with the following specimen :—

1.—සැරද සුලඤළකුරු මියුරුතෙපුලෙන් රඳනා
රජකුලරහස මැතිනිය සියනිහි සැලලිහිණිසඳ.

2.—පුල්මල්කෙසරු මෙන් රන්වණ් තෙලෙ සරණයුග
සපුමල්කැනෙව් තුඩ මදරතිනි පැහැස ර
නිලුපුල්දෙලෙව් සම්වණ් පිය පියපත ර
මලින්කළ රූඑව් එබැවින් නුඹතෙනවර

3.—නිලූද ලදසිදඹුවො දිගුවරලනි ළූ
නිලූදවට බිහුපෙළ අද තඹරනි ළූ

4.—වනදෙව්ලියෝ නොකලොද සවණ අබර ණ
එනමග දුකෙක් නොවිද සබඳිනි කල ණ
සෙනෙහස බැඳුතුනැන නොහරිණ කරදිවු ණ
වෙන සැප කුමට තොප දකිනා එමපම ණ*

Versified.†

Hail wond'rous bird! whose wisdom's pow'r is known
To equal theirs before the royal throne—
Bird of the sweet and richly varied lay,
Long may'st thou flourish 'midst thy fellows gay!

---

* The above, which is the opening address of the poem, is what is called සැහැලි, *Sehéli*, consisting of, first, a blank verse; second, a verse whose four lines are of different feet, except the second and third, which not only rhyme but are equal in their number of feet; third, half a stanza followed by, fourth, a complete stanza. Of this genus there are divers species.

† For this, as well as the last translation into English verse, I am indebted to Mr. J. R. Blake, and for the following to Mr. A. M. Ferguson.

How does thy feet a golden hue disclose,
So like the pollen of a full-blown rose?
How does thy ruddy bill enchanting glow?
Not fairer blossoms can the *champac* show!
And what can match thy wing's superior hue,
Which wave, wide-spreading, like the lotus blue?
When, beauteous as a vegetable gem,
Which winds have sever'd from its parent stem,
Thou soar'st, exultant, through the balmy air?
Have not young goddesses made thee their care,
And fix'd thee, fluttering, in their jetty hair?
And have not bees, who take their nightly rest
Within the water lily's fragrant breast,
Deceiv'd, crowd round thee in their mid career
In search of honey, through the fields of air?
And have not Dryads, bright in charms divine,
Taught thee as pendents in their ears to shine?
Friend of my soul! say, hast thou e'er been prest
With pangs so fierce as those that wound my breast?
No, happier in thy love, thy life is peace,
And rolling years but bring thy bliss increase;
Such bliss, as searching the wide world around,
Save in thy presence, friend, is nowhere found.

Literal translation.

O Gracula religiosa! in wisdom equal to that of ministers of princes, and of speech sweet, and composed of excellent notes! mayest thou in the company of thy species live long! When thou, whose (two) feet are of golden hue, like unto the pollen of a full-blown blossom—whose beak partially red and glistening, like unto a cluster of champaka flowers—and whose wings, black and delightfully wide-spread, like unto the leaves of the blue lotus; (when thou) takest thy airy flight like a flowery figure: have not youthful goddesses dressed thee in their long jet-black (blue) hair? Have not swarms of bees, which make the lotuses their habitation, approached and encircled thee? Have not the goddesses of the forest made thee their ear ornaments? Has no

(such) ill befallen thee in thy journey? Happy friend! who possessest inviolate, and with increasing vigour, an attachment which thou mayest form: what is bliss save that which is known in thy presence?

Totagamuwa undertook this work with grateful affection for the king and his country. He felt interested in the welfare of the young family of Parákrama Báhu VI., and indeed sympathised with the Princess Ulkuda, who mournfully longed for a child. The argument of the poem is well conceived. It is an epistle addressed to Víbushana, the presiding deity of the Kelani temple, invoking the blessing of a grandson to the king (or rather a son to the princess), and as if intended to be conveyed by means of a bird of the name of *Selalihini* from Kótté, the seat of the then Government. No precise date is given in this work, although we learn from other data that it was written a year after the last. It contains one hundred stanzas.

The poet next gave to the world his

Paravi Sandésé (පරවි සඳෙස්).

"An epistle per a pigeon."

A poem of great merit, and generally of a piece with the last in style, although perhaps in many parts inferior to it in imagery. It was an epistle addressed to Krishna, invoking blessings upon the army—the king's brother of the name of Parákrama, who had the government of Jaffna, or Mayaduna—and upon Chandrawati, the granddaughter of the King Parákrama Báhu VI. The poet's attachment to the family of his sovereign seems to have been indeed great. Even in this there are tender allusions to the royal family. That Chandrawati might soon enter the bonds of matrimony, and that, allied to a noble prince, she might soon be the mother of a virtuous son, are amongst the orisons of the writer and the topics of his song. No date is given to this work; nor is it easy to ascertain it. But from the slight difference of style to which allusion has been

made, I am led to suppose that this was written shortly after the last. I select the following as a specimen of its style :—

සැරද පරෙව්දුසඳ පඬුවන් සුරත්සරණින් ॥
පහළ කිරිමුහුදින් සහ පබලපපලුසක්වන්—
ඕතුරුතුරු සරහන මම්තුරු නවවසත යුරු—
නුබිනෙනසඳ නද මදමද පවතලෙ ලී
හෙබිපුල් කුමුදු හැඟැ නොගතුද අතින්ගි ලී
සුරගඟිනල නෙළුඹුදැලිස දහස නොවෙතපත—
සුදුබුදුනිවසිනෙන තොපදුක ලෙව් එස ඳ
සුදුබුදුරැස්පිඩෙකැයි නොකලෝද පු ද
සඳෙකින් නදුනුයනිනෙනම්ලෙක සුරන ඹෙ
සඳෙකින් ලොබින් වටලා නොදැමුද ඉ ඹෙ
නිදුකින් අව්ද සකිසඳ අතරමගනු ඹෙ
ඉතිකින් අපට සැපනම් දැක්මමසි නු ඹෙ

Versified.

Hail ! beauteous dove, the subject of my lay ;
Long may'st thou live, through heaven's blue vault to stray !
When on thy sacred mission thou had'st sped,
With plumage white and feet of roseate red :
Like one of those pearl-gleaming shells that rest
On coral stems in milky ocean's breast ;
Like the star-spangled, clear, autumnal sky ;
When borne on gentlest breeze thou passed'st by,
Did not the gazers hail a lily given,
Full-blown and bright—a blossom dropt from heaven ?
Did'st thou not seem, with thy soft pinion's quiver,
A lotus-bud from the celestial river ?
Did they not off'rings make, and homage pay,
As unto Buddha's brightest, purest ray ?
Did not e'en goddesses, delighted kiss,
What seemed a flower from Indra's bowers of bliss ?
Hast thou unscath'd pursued thy airy flight ?
Hail noble friend, dear to our longing sight !

Literal translation.

Mayest thou, O noble pigeon, live long! My friend! by reason of thy yellow-white hue and deeply red feet, like unto a chank with coral plants produced from the milky ocean—like unto the clear autumnal (sky) bespangled with the sun and the stars! when thou wast slowly moving in the sky, and in a delightfully gentle breeze, were not (people) deceived in thee for a beautifully full-blown white lily dropt from (heaven)? Did they not approach thee under a belief that thou wast a lotus-bud fallen off from the celestial river? Did they not make offerings to thee under the impression that thou wast a white ray emitted from Buddha's pure court? Did not goddesses kiss thee with delight under the mistaken idea that thou wast a flower from Naṇdene, the heavenly park? Hast thou arrived without accident in thy aerial journey? Noble friend! To us thy sight is bliss!

Although many were the writings of this eminent scholar, the only other work handed down to us with the sanction of his own name is *Moggalláyaṇa Patipañchaká* (මොග්ගල්ලායණ පතිපඤ්චකා), a commentary on the Páli grammar written by a pandit of the name of *Moggalláyana*.

Peṛakumbá Sirité

(පැරකුම්බාසිරිතේ).

"The character of Parákrama Báhu."

Although the poet has not given us his name, we yet have internal evidence sufficient to justify the conclusion, consistent with a tradition on the subject that the above was written by the author of the last. It is true that, unlike the rest of the great writer's works, this contains a great admixture of the Sanskrit; but, nevertheless, wherever the language is purely Eḷu, it has indubitable evidence of the great scholar's style, his masterly and peculiarly fine turns of expression, and his originality and depth of thought. From this and the *Seḷalihiṇi Ṣandésé* and *Paravi Ṣandésé* we may select three verses written of the reigning sovereign, in the same measure, with the same rhymes, and

the same peculiarity of expression, but with an originality of thought in each which is surprising, and certainly uncommon. Many a sentiment of the writer in praise of Parákrama Báhu, whose character and virtues the poet has delineated in this work, is indicative of the kind feelings which he entertained towards his patron and sovereign, and the knowledge he possessed generally of his country's history. This poem may indeed be ranked amongst, and is by no means inferior to, the rest of the supposed writer's works, but for the admixture of foreign words, which, it appears to me, the writer intentionally introduced with a view to adorn his Siṅhalese with the glittering ornaments to the celebrated "language of the gods"—the Sanskrit. The following will serve as a specimen :—

පැහැදිසර ඕබා රැදි මනර ඕබා
තුදුසිරිර ඕබා පසි පිළිබ ඕබා
රූපුරණර ඕබා වන මතකු ඕබා
දින පැරකු ඕබා හිමි තෙවිකු ඕබා

Prosper thou Lord Parákrama Báhu! who hast a gentle arm like Krishna's—an arm which is the abode of the lovely Laksmi—who art beautiful as the consort of the goddess Ramba, and powerful as an enraged elephant in the battlefield-like plantain estate.

Kovul Ṣandésé (කොවුල්ශන්දේසේ).

"An epistle per an Indian cuckoo."

This is a poem which sustains a like character as the last, and written by Totagamuwa's contemporary, Irugalkulé Pariwenádhipati, the presiding priest of Mulgiri-gala. The writer in this poem seeks a blessing from Krishna, the deity presiding over the temple at Devundara (Dondra Head), upon Prince Sengapperumal, or Sapumal, the son of Parákrama Báhu VI.; and also prays that the war in which the prince was then engaged at Jaffna (probably in support

of his uncle against A'riya Chakkravartti, the king of Karwati) might prove victorious. Again, no date is to be found in this work. Mention, however, is made of the prince; and the war is spoken of in terms which clearly indicate that his success was uncertain at the time the poet wrote. But *Selalihini Sandésé*, which we have above considered, alludes to the same war, and the poet joins in the general shout of joy amidst which the prince was then returning to his father at Kóṭṭé after a successful encounter with his country's foes. We are thus led to conclude that the work under consideration was written at most a few months, if not weeks, before *Selalihini Sandésé*. The following is a specimen from the work under consideration :—

තෙවලාසත්රුවන්හර පැලඳිලරතු ම
තෙවලාවදනිසුරුවිජයබතෙරිඳුතු ම
සබාසමුවලොවවෙසෙසින්පෙනුනලෙ ස
සබාසකවිබැඳලන්සඳතෝපිවි ස
සුබාසුරිඳුසපුමල්කුමරුවැනුය ස
සබාසයෙන්අස්නැත්ගෙණයෙම්පව ස

O bird! enter thou into (the presence) of the chief of the temple, Wijaya Báhu, supreme master of the Tripiṭaka doctrines, adorned (in his neck) with the golden garland of Piṭakaṭṭiya, and amidst his poetical labours in the six languages exhibiting to the world the same beautiful but natural form that Kanda Kumára presented; and say that thou carriest an epistle in the native language expressive of the prosperity of the India-like Prince Sapumal.

(*To be continued.*)

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LIST OF MAMMALIA OBSERVED OR COLLECTED IN CEYLON.

BY E. F. KELAART, M.D.

Order PRIMATES.

Family SIMIADÆ.

1. Presbytes cephalopterus, *Zimm.* — The Nestor, *Kaḷu Wandurá.*
   Var. b. monticola, *nobis.* — The Kandyan variety.
2. Presbytes Thersites, *Elliot.* — The Jaffna Monkey, *Ḷi Wandurá.*
3. Presbytes Priam, *Elliot.* — The Crested Monkey, *Kondé Wandurá.*
4. Macacus Sinicus, *Linn.* — The Bonnetted Maccaque, *Rilawá.*

Family LEMURIDÆ.

5. Loris gracilis, *Geoff.* — The Loris, or Sloth, *Una Hapuluwá.*

Family VESPERTILIONIDÆ.

6. Pteropus Edwardsii, *Geoff.* — The *Roussette*, or Flying Fox, *Maha Wawulá.*
7. Pteropus seminudus, *n. sp., nobis.* — The smaller variety.

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8. Cynopterus marginatus, *Gray.* — The Margin-eared Bat, *Koṭakan Wawulá.*
9. Megaderma lyra, *Geoff.* — The Megaderm.
10. Hipposideros Templetonii, *nobis.* — The Horse-shoe Bat.
11. Hipposideros atratus, *n. b.* — Species of same.
12. Hipposideros Lankadiva, *n. sp., nobis.* — Large Horse-shoe Bat.
13. Rhinolphus rubidus, *n. sp., nobis.* — Red Horse-shoe Bat.

14. Rhinolphus, *n. sp.?* Kaḍugannáwa species.
15. Nyctecejus Heathii, *Horsf.* The Barbastelle.
16. Nyctecejus Isabellinus, *Blyth.* New species of same.
17. Kirivoulha picta, *Gray.* The Painted Bat, *Kehe Wawulá.*
18. Taphozous Longimanus, *Hard.* The Long-armed Tarphien.

Order FERÆ.

Family FELIDÆ.

A.—FELINA.

19. Leopardus varius (Felis Leopardus). The Leopard, or Chetah, *Koṭiyá.*
    Var. melas. Black variety of same.
20. Felis viverrinus, *Hodgson.* The Tiger Cat, *Handun Diviyá.*
21. Felis Chaus? The Lynx-like Cat, *Kula Diviyá.*

B.—VIVERRINA.

22. Viverricula (Viverra) malaccensis, *Horsf.* The Indian Genette, *Urulèvá.*
23. Herpestes vitticollis, *Elliot.* The Streaked Mungoose.
24. Herpestes griseus, *Sykes* The Common Mungoose, *Mugaṭiyá.*
25. Herpestes flavidens, *n. sp.? nobis.* } These may turn out to be two new species recently discovered by Mr. Waller Elliot.
26. Herpestes rubiginosus, *n. sp., nobis.* }
27. Paradoxurus Zeylanicus, *Schreb.* The Golden Paradoxure.
    Var. b. fuscus. Black-brown variety of same.
28. Paradoxurus typus, *F. Cuv.* The Palm Cat, *Uguḍuwá.*

C.—MUSTETINÆ.

29. Lutra nair? *Sykes.* The Otter, *Diya Balla.*

D.—CANINA.

30 Canis aureus, *Linn.* The Jackall, *Nariyá.*

Family URSIDÆ.

31. Ursus labiatus, *Blainv.* The Indian Bear.

Family TALPIDÆ.

32. Sorex murinus, *Linn.* The Musk Shrew, *Kunu Míyá.*

33. Sorex montanus, *n. sp.*, *nobis.* The Black Mountain Shrew.

34. Sorex feroculus, *n. sp.*, *nobis.* The Long-clawed Shrew.

35. Sorex ferrugineus, *n. sp.*, *nobis.* The Dimbula Shrew.

Two specimens of Hedgehogs are in the Army Medical Officers' Museum at Colombo, but it is doubtful whether they are natives of Ceylon.

Order CETÆ.

36. Halicore dugong, *F. Cuv.* The Dugong, *Mudú Urá.*

Species of Dolphins, Porpoises, and Whales are also occasionally found in the neighbouring seas.

Order GLIRES.

Family MURIDÆ.

37. Mus bandicotta, *Bechst.* The Bandicoot, or Pig Rat.

38. Mus decumanus, *Linn.* The Common Brown House Rat.

39. Mus Kandianus, *n. sp.*, *nobis.* The White-bellied Rat of the Kandyan Province.

40. Mus Asiaticus, *Gray.* Paddy-field Rat.

41. Mus arboreus, *B.H.M.S.* The Large Tree Rat.

42. Mus Ceylonus, *n. sp.*, *nobis.* Small Outhouse Rat of Colombo.

43. Mus musculus, *Linn.* The Mouse.

44. Mus nuwara, *n. sp.*, *nobis.* The Nuwara Eliya Soil Rat.

45. Mus coffœus, *n. sp., nobis.* The Coffee Plantation Rat.
46. Mus tetragonurus, *n. sp., nobis.* The Four-sided Tail Rat of Colombo.
47. Mus dubius, *n. sp., nobis.* The Short-tailed Godown Rat of Kandy.
48. Gerbillus indicus, *Cuv.* The Indian Yerboa.

Family HYSTRICIDÆ.

49. Hystrix leucurus, *Sykes.* The Indian Porcupine, *Itévá.*

Family LEPORIDÆ.

50. Lepus nigricollis The Indian Hare, *Hává.*

The Rabbit and Guinea Pig have been introduced in the Island.

Family JERBOIDÆ.

51. Sciurus macrurus, *Forster.* The Rukiah, *Daňḍu Léná.*
Var. b. moutanus, *S. Tennantii.* The mountain species.
52. Sciurus tristriatus, *Waterh.* The Palm Squirrel, *Léná.*
53. Sciurus sublineatus (trilineatus), *Waterh.* The Olive-coloured Squirrel of Nuwara Eliya.

I have not yet seen the S. Layardii, *Blyth*, S. Brodei, *Blyth*, nor the S. Kelaartii of *Layard.*

54. Pteromys oral, *Blyth and Tickell* (P. petaurista of former list) The Flying Squirrel, *Egalle Léná.*
55. Sciuropterus Layardii, *n. sp., nobis.* The Flat-tailed Flying Squirrel of Dimbulla.

Order UNGULATA.

Family BOVIDÆ.

A.—BOVINA.

56. Bos taurus, *var.* Indicus. The Indian Ox, *Haraká.*
57. Bubalus buffelus, *Gray.* Tame and Wild Buffalo.

Varieties of Sheep and Goats are also domesticated.

B.—MOSCHINA.

58. Memmina indica, *Gray*. The Memmina, or Indian Mouse Deer, *Wal Muvá*.

C.—CERVINA.

59. Muntjacus vaginalis, *Gray*. The Muntjac, or Ceylon Red Deer, *Veḷi Muvá*.

60. Axis maculata, *Gray*. The Spotted Deer, *Tik Muvá*.

61. Cervus (species not identified). The Paddy Field Deer.

62. Cervus hippelaphus, *Cuv*. The Rasse, or Sambur Deer, *Góná*.

The Horse and Ass are also introduced in the Island. Mules are rarely seen.

Family ELEPHANTIDÆ.

A.—ELEPHANTINA.

63. Elephas indicus, *Cuv*. The Indian Elephant, *Aliyá*.

B.—SUINA.

64. Sus indicus, *Gray*. The Indian Wild Boar, *Wal Urá*.

The domesticated Hog (*S. scrofa*, var. *Sinensis*) is plentiful in the Island.

Family DASYPIDÆ.

65. Manis pentadactyla, *Linn*. The Pangolin, or Scaly Anteater, commonly but erroneously known in the Island as the Armadillo, *Kebellíyá*.

The words in italics after the English are the Siṇhalese names.

DESCRIPTION OF NEW SPECIES AND VARIETIES OF MAMMALS FOUND IN CEYLON.

By E. F. Kelaart, M.D.

Presbytes Cephalopterus, *var. b.* Monticola, *nobis.*

The variety of the Nestor, found in great abundance in the higher parts of the Kandyan Provinces, differs from the low country animal chiefly in the absence of the white on the croup and inside of the thighs. It also attains a larger size, is stouter limbed, and is generally of a darker colour, with a rufous tinge on the neck, and the hair longer and more wavy.

Mr. Blyth, to whom I sent a specimen from Nuwara Eliya, is inclined to consider this a distinct species; at all events, he thinks that it bears the same affinity to the *P. cephalopterus* of the jungles of the low country as *Sciurus Tennantii* of Layard does to *S. macrurus*. This is the large monkey noticed in Colonel Forbes' work on Ceylon as inhabiting Nuwara Eliya. A female specimen killed at Nuwara Eliya measured as follows:—

	ft.	in.
Length from vertex of head to root of tail ...	1	5½
„ of tail	2	2
„ from ear to chin	0	3½
„ of forearm	0	7
„ of palm	0	2¼
„ from knee to heel	0	7¼
„ of foot	0	6
„ of sole	0	4

This is but a medium-sized specimen. The one sent to Mr. Blyth was larger. They are usually seen in large

numbers jumping on the trees, and when disturbed make a peculiar short howling noise. One was known to have attacked a cooly on a coffee estate carrying a rice bag. The Malabars eat the flesh of this monkey, and consider it very delicious food; and some Europeans who have tasted it are of the same opinion.

HIPPOSIDEROS TEMLETONII, *nobis.*

*Rhinolphus Voulha,** Temp.

Above dusky brown, this colour being confined to the tips of the hairs, the rest being grayish. Beneath, lighter coloured. In males, above and behind the complicated nasal appendage there is the cup-like depression containing a waxy matter, apparently secreted by a glandular body placed under the skin, so often seen in other species of *Hipposideros.* Tail excerted for about one-eighth inch.

Length of head and body ...	... 3 inches.
Tail	... 1 „
Expanse	... 11 „

Dr. Templeton has fully described this species and the next, which he was inclined to believe was only a variety, in his unfinished Catalogue of Ceylon Mammals.

HIPPOSIDEROS ATRATUS, *nobis.*

Rhinolphus ater, Temp.

Smaller than the last; tips of hair sooty blackish brown, the rest silvery grey; membrane, also darker coloured, beneath fuscus.

209 Both these species are common in old buildings in Colombo. I have also seen them in Kandy.

RHINOLPHUS RUBIDUS, *n. sp.*, *nobis.*

Head and body of a deep orange red colour; membrane pale brown; interfemoral membrane, enclosing the whole

* *Vavulá* is a very vague term for a species of bat, for *Vavulá*, the Singhalese word, applied to all bats.

tail, and the free edge running almost in a straight line and rounded off near the tail.

Length of head and body	...	1½ inch.
Length of tail ...	...	0¾ „
Expanse ...	...	8 „

I am unable to give a description of the complicated nasal processes, as all the specimens received were dried and imperfectly preserved. This beautiful bat is seen at Kaḍugannáwa (2,000 feet) only for a few days in the month of August.

RHINOLPHUS, *n. sp.?*

Rufescent brown; face slightly fulvous; round the ear and on the sides of the posterior half of the body bright fulvous; tail enclosed in the interfemoral membrane.

Head and body	...	2½ inches.
Tail ...	...	1 „
Expanse ...	...	11 „

Only one dried specimen procured by my brother from Kaḍugannáwa. None seen since.

HERPESTES FLAVIDENS, *n. sp., nobis.*

Yellowish brown; hair annulated with brown and yellow rings; tips yellow; tip of tail of a reddish colour; muzzle blackish; chin flesh-coloured; face brown and slightly ferruginous; ears fulvous, thickly clothed with hair; feet blackish; soles, ¾ bald. A full-grown specimen obtained at Kandy measured as follows:—

		ft.	in.
Length of head and body	...	1	4½
Tail ...	...	1	0¼
Planta ...	...	0	3
Palma ...	...	0	1¾
Small intestines ...	...	4	5
Large intestines ...	...	0	7½
Cæcum (pointed) ...	...	0	2
Stomach and pylorus ...	...	0	4½

This species was supposed hitherto to be only a variety of *H. griseus*, but there are strong characteristic differences between the two—the golden yellow rings and tips of hair are very marked. Generally found in the higher parts of the Island. I obtained one of a very deep brown and yellow colour from Nuwara Eliya.

HERPESTES RUBIGINOSUS, *n. sp., nobis.* *Dito*, Sin.

Reddish and ferruginous brown—more of the red on head and outer sides of legs. Hair annulated black and white, and terminating in long reddish points; muzzle flesh-coloured; sides of nose and circle round the eyes of a light rusty colour; feet black; tip of tail black.

Nearly as large as the *H. vitticollis*. I am indebted to my friend Mr. Casie Chitty, District Judge of Chilaw, for a live specimen of this animal, among several others which he very kindly placed at my disposal.

PARADOXURUS ZEYLANICUS, *var.* FUSCUS.

Beetle brown throughout; no streaks on the back perceptible; fur very glossy; a bright golden yellow subterminal ring to the tail.

Size of the other variety. At first I supposed this to be another species. It was killed at Nuwara Eliya. In every respect, except the colour, it corresponded with the ordinary coloured *P. zeylanicus*.

SOREX MONTANUS, *n. sp., nobis.*

Fur, above soft sooty black, beneath lighter coloured; whiskers, silvery gray, and long; lower part of legs and feet grayish, clothed with dressed hair; toes, five; six tubercles on soles, in pairs; claws short, whitish; ears large, round, naked, outer margin lying on a level with the fur of the head and neck, the ears being thus concealed when seen from behind; tail tetragonal, tapering, shorter than the head and body, covered with short dark brown hair,

and among these are scattered longer silky hairs, of which a few are also seen in the posterior and inferior parts of the body.

A specimen found at Pidurutalágala (8,000 feet) measured as follows :—

Length of head and body	...	$3\frac{3}{4}$ inches.
Length of tail ...	...	$2\frac{1}{4}$ „
Length of hind feet ...	...	8·12 „

I am indebted to Mr. Montenach, H. M. 15th Regiment, for this and many other interesting animals of Nuwara Eliya. This black shrew is also found in other parts of the Kandyan Provinces.

SOREX FEROCULUS, *n. sp., nobis.*

Fur soft, above bluish black, beneath lighter coloured; tail black, rounded, tapering; tip naked, flesh-coloured; claws white, those of the fore feet elongated, compressed, acute. It is somewhat larger and fuller in the face, but in many other respects this animal resembles the last described. It is a spirited lively animal even in confinement.

SOREX FERRUGINEUS, *n. sp., nobis.*

Fur soft, ferruginous brown, washed with blue, smaller than the *S. montanus;* feet and legs naked. Large secreting glands on the pubis; odour very disagreeable. No cetæ or glands could be traced on the two other species, nor had they any of the smell.

I am indebted to Mr. Alexander Gordon, of Dimbula, for a specimen of this small shrew, which he found on a coffee estate.

There are two other larger black shrews than any of those now described, one in the possession of Mr. Thwaites, of Pérádeniya, and the other—with a very powerful musky odour, stronger even than in the *S. murinus*—occasionally seen in the godowns at Kandy, of which further notice hereafter.

MUS KANDIYANUS, *n sp., nobis; Mus Albiventer, MS.*

Fur very soft and silky; above yellow brown, beneath and inside of limbs milky white; hair of back and upper parts lead colour, with yellow and black tips, the latter fewer; whiskers black, very long, a few shorter grayer ones; ears large, ovate, slightly villous; feet grayish-flesh-coloured; claws, white those of the fore feet short; rudimentary thumb clawless; claws of the three middle subequal; hind toes acute and longer, overlapped with gray hairs; soles bald, flesh-coloured; five tubercles to fore and six to hind soles; internal and hinder tubercle of the latter elongated; tail, longer than the head and body, scaly, and covered with short dressed black hair, which are longer towards the extremity; cutting teeth smooth, yellow.

Length of head and body	...	$6\frac{1}{2}$	inches.
Length of tail	...	$7\frac{1}{2}$	„
Palma ...	...	5 5-12	„
Planta ...	...	1 12-12	„

This is one of the common house rats of the Kandyan Provinces. The specimens from Nuwara Eliya are larger, and the fur softer and of a deeper lead colour than those from Kandy, Badulla, or Kurunégala. As there is more than one white-bellied species of rat in the Island, the term *Kandiyanus* has been substituted for *albiventer*.

MUS CEYLONUS, *n. sp., nobis.*

Fur soft, lead colour, that of upper parts tipped with fawn colour; ears large, naked; whiskers black, moderately long; tail brown, scaly, and covered with short adpressed brown hair; feet brown; soles purplish.

Head and body	...	$4\frac{3}{4}$	inches.
Tail ...	...	5	„

This small rat is found in outhouses in the Cinnamon Gardens, Colombo.

MUS NUWARA, *n. sp.*, *nobis.*

Fur very soft, above of a deep yellow olive brown colour, beneath yellowish gray; hair of the upper part of the head and body of lead colour, with some longer silky black ones, both tipped golden yellow; hair of lower part of a lighter lead colour; tail shorter than the body, tapering, scaly, and covered with adpressed hairs; superior surface brown, and inferior light yellow; feet yellow brown; soles nearly bald, blackish; claws purplish; rudimentary thumb clawless; four tubercles to the soles of the fore feet and four tubercles to the hind soles; incisors yellow, upper ones grooved in the middle.

Length of head and body ...	$3\frac{1}{4}$	inches.
Length of tail ...	$2\frac{1}{4}$	,,

This small rat is found in pairs in the black soil of Nuwara Eliya, especially in the potato fields.

MUS COFFÆUS, *n. sp.*, *nobis.*

Fur thick, stiff above yellow, mixed with brown; beneath, yellow gray or tawny; face rough; whiskers short, thin, black, a few gray; hairs of upper parts flattened, ashy gray, and tipped yellow; some thinner and longer ones also tipped yellow, with subterminal black band; under fur soft, and of a light lead colour; ears moderate, subovate, villious, yellow ferruginous; tail round and tapering; upper surface dark brown, lower yellow-gray; cutting teeth yellow; upper incisors grooved, as in the last.

Length of head and body ...	$4\frac{1}{2}$	inches.
Tail	4	,,

The above description is from dried specimens. This is the rat which is so troublesome to coffee estates in some seasons of the year, when probably from scarcity of their ordinary food they cut and eat the coffee berries and buds. Both this and the *Mus nuwara*, I am inclined to think, are

allied species to *Mus hirsutus* of India, but I have neither specimen nor description of that rat, except the small notice of it in Mr. Walter Elliot's Catalogue, which he has kindly sent me. However, as Mr. Elliot has now a specimen of the coffee rat from me, he will be able to determine the relation.

215 SCIUROPTERUS LAYARDII, *n. sp., nobis; S. Fuscocapillus? Jerdon.*

Fur soft, moderately long; upper surface of rufous chestnut colour, beneath gray; hairs of upper surface of body blackish to near the tips, which are of a rufous dark brown colour; under parts of neck and cheek slightly ferruginous; face and head blackish, mixed with gray; whiskers long and black; legs deep brown; feet grayish; membrane brown above and gray beneath, and upper part of the former of a velvety black, with a soft delicate white fringe on the border. Tail flat and broad, lighter chestnut than the body, washed with black.

	ft.	in.
Length of head and body	1	2
Tail	0	11½

I am indebted to Messrs. Palliser, of Dimbula, for this and many other interesting specimens. This is the first time that a second species of flying squirrel has been noticed in Ceylon. Mr. Blyth, who has examined this specimen, is inclined to think than this is a full-grown specimen of the *S. fuscocapillus* of Jerdon (Jas. B., 1847, page 867), but he could not well decide, as he had no specimen of the latter to compare it with. The description certainly does not in all respects correspond with the characters of the Ceylon animal.

DESCRIPTION OF ADDITIONAL MAMMALS.

By E. F. Kelaart, M.D.

Pteropus Seminudus, *nobis.*

New species of Frugivorous Bat.

Body slightly covered with light brown fur; membranous expansion of a darker brown colour; interfemoral membrane deeply emarginated; head and body 5¾ inches; head alone 1⅞ inch; tail ¾ inch; expanse 1 foot 8 inches.

I am indebted to the Rev. Dr. Macvicar for a specimen of this hitherto undescribed bat, found at Mount Lavinia.

Hipposideros Lankadiva, *nobis, n. sp.*

Ceylon Gigantic Horse-shoe Bat.

Ears large, accuminate, and emarginated externally near apex; transverse striæ on inner surface naked, with the exception of the inner edge; muzzle short, but face rather prolongated; body long, covered with soft, dusky, rufous brown fur, which is grayish at the basal termination; head, neck, and beneath of a lighter brown colour; pubis hairy; interfemoral membrane accuminated to tip of tail, which is not exserted; no frontal sac, but two tubercular points from which grow stiffish hairs.

A full-grown male measured as follows:—

Length of head and body	...	4 ¼ inches.
„ of tail	...	2 „
„ of forearm	...	2 „
„ of tibia	...	1½ „
„ of carpus	...	1¾ „
„ of tarsus	...	0⅓ „

Ears, ⅝ in. broad, and nearly as long. Space between ears, ¾ inch. Weight, 2. oz. 3½ drs.

This bat is found in great abundance in and about Kandy. I have several fine specimens from the Kurunégala tunnel, which swarms with them. This is the largest of all horse-shoe bats hitherto seen in Ceylon. I have ventured to consider it new, as it is not to be found in Mr. Blythe's Monograph of Indian Bats.

MUS TETRAGONURUS, *nobis, n. sp.*

Four-sided Tail Rat.

Fur above fulvous brown, mixed with longer black-tipped lead-coloured hairs, beneath grayish; whiskers long, black; ears moderate, naked; feet brown, hairy; tail longer than the head and body, four-sided, scaly, covered with very short thin adpressed hairs.

Head and body	...	$6\frac{3}{4}$ inches.
Tail ...	...	$7\frac{1}{2}$ „

I have only seen one specimen of this rat from Hendala, near Colombo, procured by Mr. Gill, to whom I am indebted for some rare animals.

MUS DUBIUS, new species, or a marked variety of

MUS KOK of *Elliot.*

Fur soft, mixed with black and rufous brown; under fur lead colour, beneath grayish, washed with rufous on the sides; whiskers few, moderately long, black, some with gray tips; tail shorter than the head and body, scaly, and covered with short, soft, black hair; feet grayish brown, and middle toes subequal, and rudimentary thumb with a short, broad claw; ears moderate, villose; head and body, $7\frac{1}{2}$ inches; head $1\frac{3}{4}$ inch; tail $5\frac{1}{2}$ inches; length of small intestines 3 ft. 4 in.; large 11 in.; cœcum 2 in.; stomach 3 in.

This is the common outhouse rat of Kandy. It appears to replace the well-known brown rat (*M. decumanus*). The common house rat is the white-bellied variety, *Mus kandiaus mihi.*

APPENDIX.

PROCEEDINGS OF MEETINGS.

General Meeting.

June 9, 1849.

Major Lushington in the chair.

Read and confirmed Minutes of last Meeting.

The following gentlemen were then proposed, ballotted for, and admitted Members of the Society :—

J. C. Chitty, Esq., proposed by J. Capper, Esq., seconded by Dr. Willisford.

L. de Soyza Mohandiram, proposed by E. C. Caldwell, Esq. (proxy), seconded by J. Capper, Esq.

D. Smith, Esq., proposed by R. E. Lewis, Esq., seconded by J. Steuart, Esq.

Museum.

The following donations were then presented to the Society's Museum :—

A case containing 96 specimens of the timbers of Ceylon, with a catalogue of their names, specific gravity, uses, and durability, &c., by A. Mendis, W. S. Mohandiram of Moratuwa.

Master Carpenter, Royal Engineers' Department, ten specimens.

Additions to the same by J. Capper, Esq.

Seeds of the tea plant grown at Pusselláwa, by Messrs. Worms.

Barley grown at Nuwara Eliya : specimens in the ear.

Balls of Scarabeus Socu (Sacred Beetle of Egypt), E. L. Layard, Esq.

Specimen of black coral, A. Mendis Mohandiram (this splendid specimen is a smooth slender shaft upwards of six feet long, affixed to a stone ; unfortunately the extreme end has been broken off).

Five specimens of the genus *Heliodorus* (Swain), J. E. Middleton, Esq.

Specimen of iron found at Galle in digging a well, by G. Gunewardena, Esq.

A Dutch silver coin, De Perera Mudaliyár.

Read a letter from Mr. Justice Stark expressive of his regret at not being able to attend the Meeting, and forwarding for the inspection of the Members the following coins and a Buddha :—

Two Dutch coins, gold, 1763, silver, 1765 ; one Batavian copper coin, 1644 ; 1 Portuguese silver coin, 1640 ; one Hindu copper

coin ; 3 specimens of the *Ridimassa;* one Scotch doit of King Charles' time.

Mr. Layard also exhibited an alabaster Buddha from Siam.

Fifteen copper coins dug up at a temple at Kotté, presented by L. de Soyza, Mohandiram.

Library.

Twelve volumes of the Transactions of the Batavian Society of Arts and Sciences, in Dutch, presented by the Society, with a translated Index of Contents by Rev. J. D. Palm.

Calcutta Review for March, 1849.

Journal of the Bengal Asiatic Society.

The Society's Journal of the Eastern Archipelago.

Journal of the Statistical Society of London.

Journal of the Geological Society of London.

Travels of the Chinese Traveller Fa Hi Han, by the Editor and Translator, Mr. Laidly.

Moved by Edgar L. Layard, Esq., seconded by J. Capper, Esq., "That with a view to facilitate the selection of Papers for publication, a Council should be appointed, and that the matter be referred to the General Committee for their report."—Agreed to.

The following Papers were read :—

On the Monetary System of Ceylon, by James Steuart, Esq.

Analysis of the Coffee Plant, with the Manures best adapted to the same, by Dr. Rudolph Gygax.

Sketch of the Natural History of Ceylon : Part I., Mammalia, by Edgar L. Layard, Esq.

Mr. Caldwell (by proxy) begged to withdraw his Paper.—Allowed.

GENERAL MEETING.

December 1, 1849.

Rev. D. J. Gogerly in the chair.

The Minutes of the preceding Meeting were read and confirmed.

Three recommendations from the Committee were then read, and in pursuance of those recommendations it was resolved :—

1. That the Proceedings of each General Meeting be published as soon as possible after such Meeting, and circulated among the Members.

2. That the Journal be published whenever and as often as sufficient matter be collected.

A letter was then read from E. L. Layard, Esq., laying before the Society some propositions from the Jaffna Members. The

Secretary was requested to communicate with Mr. Layard on the subject, asking for further particulars as to the objects they had in view.

A letter from Mr. Mooyaart was read, offering to co-operate with the Society in the introduction of the cochineal insect into the Island, on condition of the Society's bearing the expenses thereby incurred. It was resolved, that the objects proposed by Mr. Mooyaart did not come within the scope of the Society.

The correspondence with the Bombay Geographical Society was then read.

In reference to one of the Papers subsequently read, on the Tamil System of Natural History, the Secretary was requested to inquire whether the classification of animals given in the Paper is that of the Niganda.

The following gentlemen were ballotted for and elected Members of the Society :—

E. H. Burrows, Esq., proposed by Sir J. E. Tennent (proxy), seconded by J. O'Halloran, Esq.

Robert Davidson, Esq., proposed by E. L. Layard, Esq. (proxy), seconded by J. Capper, Esq.

Dr. Kelaart, proposed by Major Lushington (proxy), seconded by E C. Caldwell, Esq.

Museum.

The following donations to the Museum were laid on the table and the thanks of the Society voted to the donors :—

A collection of corals, from J. N. Mooyaart, Esq., Trincomalee.

A collection of corals, from J. E. Middleton, Esq.

A case of shells, from J. Swan, Esq.

A case of birds, from A. O. Brodie, Esq., Puttalam.

Copy of ancient rock inscription, from A. O. Brodie, Esq. Puttalam.

A petrified seed vessel, from W. S. Taylor, Esq., Batticaloa.

Specimen of the wood of the *Ritigaha*, and a bag made of the bark, as used by the Veḍḍás, from E. R. Power, Esq.

Fifty-two specimens of Kandy woods, from E. de Saram, Esq.

Some iron pyrites, from C. Whitehouse, Esq., Jaffna.

An antique stile, from G. Goonewardana, Esq.

Papers.

The following Papers were read :—

1. On the Tamil System of Natural History, by Simon Casie Chetty, Esq.
2. Catalogue of Books in the Tamil Language, with notes of their contents, by Simon Casie Chitty, Esq.
3. Prison Discipline in Ceylon, by A. G. Green, Esq.
4. On some supposed Footprints in a Rock near Kurunégala, by A. O. Brodie, Esq.

Library.

The following additions to the Library were laid on the table, and the thanks of the Society voted to the donors of such as were gifts :—

A Meteorological Diary from Batticotta, July to September, 1849.

A Meteorological Diary from Trincomalee.

Four numbers of the Journal of the Asiatic Society of Bengal, from the Society.

Six volumes of the Transactions of the Geographical Society of Bombay, from the Secretary.

Three numbers of the Journal of the Asiatic Society of Bombay, from the Society

The Calcutta Review for September.

Four numbers of the Journal of the Eastern Archipelago (June to September), from the Editor.

A number of the Journal of the Statistical Society of London.

A number of the Journal of the Geographical Society of London.

Contributions to Knowledge, vol. I., from the Smithsonian Institution of America.

Pilgrimage of Fa Hian.

Orientalists' Guide, from Dr. Willisford.

Pamphlet on Artesian Wells, by Dr. Kelaart.

GENERAL MEETING.

February 23, 1850.

Rev. D. J. Gogerly in the chair.

The Minutes of the preceding Meeting were read and confirmed.

Three recommendations of the Committee were discussed, in accordance with which it was resolved :—

1. That the Committee be authorised to expend in the purchase of two cases the funds necessary for that purpose.

2. That the Society, fully concurring in the expediency of taking steps towards securing to themselves the use of the entire room which they occupy, do leave the Committee to choose a fitting opportunity for moving in the matter.

3. That the Society, deeply interested in all that relates to the industry of the Island, undertakes to procure and forward to England such objects as may appear suitable for the exhibition of the works of industry of all nations, to be held in 1851, and that the Committee of Management do at once proceed to take steps for this purpose.

The following gentlemen were then ballotted for, and elected Members of the Society: —

The Hon. J. Cauldfield, Esq., proposed by A. O. Brodie, Esq., seconded by J. Capper, Esq.

F. Straube, Esq., proposed by J. Capper, Esq., seconded by E. C. Caldwell, Esq.

—Flanderka, Esq., proposed by J. N. Mooyaart, Esq. (proxy), seconded by E. L. Layard, Esq. (proxy).

Rev. J. Katts, proposed by Rev. E. Muttukistna, seconded by J. Capper, Esq.

G. H. K. Thwaites, Esq., proposed by R. E. Lewis, Esq., seconded by J. E. Middleton, Esq.

H. P. Muttukistna, Esq., proposed by Rev. E. Muttukistna, seconded by Rev. J. Ondaatjie.

J. Dalziel, Esq. (re-admission), proposed by Dr. Misso, seconded by J. Capper, Esq.

Museum.

The following donations to the Society's Museum were then laid on the table, and the thanks of the Society voted to the donors :—

A wild cat, stuffed large horned owl, 33 specimens of wood, presented by Mr. C. D. Alwis, a student of the Academy.

Specimens of Batticaloa cloth, four specimens of Bourbon and native cotton grown at Batticaloa.

Four specimens of cocoanut sugar, specimens of cleaning nuts, J. G. and W. S. Taylor, Esq.

Four specimens of coral, eight specimens of fossils, forty birds, sixty land shells, specimens of dye stuff, two monkeys, bones of the dorsal fin of a chetadon, E. L. Layard, Esq.

Skull of a boar, skull of a Sciurus Bordieu, J. Davidson, Esq.

Fifty-seven specimens of wood, S. C. Chitty, Esq.

Six coins, W. S. Gunaratna, Esq.

Several specimens of natural history and geology, Dr. Kelaart.

Specimens of sponges, J. N. Mooyaart, Esq.

Specimens of sponges, J. E. Middleton, Esq.

Seven flying lizards, J. de Alwis, Esq.

A box of shells, T. Morgan, Esq., Galle.

Case of butterflies, J. P. Green, Esq.

Library.

The following additions to the Library were also laid on the table :—

Bennet's Ceylon, presented by D. Smith, Esq.
A number of the Journal of the Statistical Society of London.
A number of the Journal of the Geological Society of London.
A number of the Calcutta Review.
Meteorological Diary for Batticotta.
Meteorological Diary for Trincomalee.

Papers.

The following Papers were read :—

Notice of the Geological Formation of Nuwara Eliya, by Dr. Kelaart.

Notice of the Manufacture of Sugar from the Sap of the Cocoa-nut, by Messrs. J. G. and W. S. Taylor.

On the Elu Language, its Poets and its Poetry, by J. de Alwis, Esq.

SPECIAL GENERAL MEETING.

March 23, 1850.

Rev. D. J. Gogerly in the chair.

The objects of the Meeting were explained by the Chairman, viz., to receive a Paper by Lieut. Henderson on some supposed footprints discerned in a rock near Kurunégala, and other general business.

Lieut. Henderson's Paper was then read by the Secretary, and proposed for publication in the ensuing number of the Journal, with another from A. O. Brodie, Esq., of Puttalam, on the same subject, but written in contravention of the former gentleman's view. With regard to the Paper now before the Society, it was objected that having been already submitted to the Geological Society of London, it could not now be received into this Journal. On the other hand, it appeared to all manifestly unfair towards Lieut. Henderson to publish Mr. Brodie's Paper without his, and it was further suggested that it would be more advisable to wait for a reply, which Mr. Henderson had promised to Mr. Brodie's strictures on his views. A long discussion ensued, during which, in addition to the geological question at issue between the writers, much of a very interesting nature was elicited from the native gentlemen present, on the existence of similar rocks in other parts of the Island, and the native legends regarding the nature and origin of the marks on them. It was finally determined that the Society should not be hasty in giving their sanction to views which were at least entirely new in the annals of geology, and that the publication of both Papers be deferred for the present.

It appeared at the same time that other bodies at a distance had a right to expect from them as a local Society to institute a full and searching investigation into all the circumstances connected with a question of so great scientific importance, and the Committee were accordingly requested to take the matter into their special consideration, to invite communications from the native gentlemen and others on the subject, and, if possible, to make a local examination of the rock at Kurunégala, to procure specimens from it for the Museum, and to report on their proceedings to the Society.

The Treasurer having reported a want of some instruments required to complete the Meteorological Registers furnished to them from outstations, it was resolved that a sum not exceeding £5 be placed at the disposal of the Committee for the purchase of them.

C. P. Layard, Esq., was proposed by J. O'Halloran, Esq., seconded by Dr. Willisford, and unanimously elected a Member of the Society.

The Special General Meeting then resolved itself into the

ANNIVERSARY MEETING,

The Rev. D. J. Gogerly retaining the chair.

The Report of the Committee of Management for the past year was then read by the Secretary.

Report.

In taking a retrospect of the labours of the Society during the past year, your Committee regard with satisfaction the progress which it has made within that period; and they look with the strongest confidence to the future, when they reflect that the same steady advances have attended it throughout the whole of its career, unabated even during the season of unexampled depression and distress which not long since pervaded the whole of the civilised world.

Since the last Anniversary Meeting 20 new Members have been admitted, and one Member re-admitted on his return from England, while the zeal and activity evinced by the Members at outstations, who have poured in contributions so largely to the Society's Museum that your Committee have been called on three times to extend the accommodation at its disposal for their reception.

Large contributions have also been made by persons wholly unconnected with the Society; nor can your Committee fail to recognise in this circumstance an earnest of the interest which a portion at least of the public take in its proceedings. A list of the contributions will be found appended.

But your Committee desire not to take leave of this subject without recording their sense of the inconvenience and disadvantage under which the Society labours, especially in regard to its Museum, by having to share with the Loan Board the room originally devoted to its use by the Government.

They have further to report the non-arrival of the Taxidermist whom they expected from Calcutta; nor can they assign any reason for his withdrawing from the engagement which the Society was willing to make with him. Your Committee have long since given up all expectation of him, and would probably find no difficulty in getting his place supplied; but as many of the circumstances are now changed which would have rendered his services desirable, your Committee reserve for future consideration whether they shall recommend this course to be adopted.

As a token of the prosperity of the Society and of the position which it begins to assume among its contemporaries, your Committee refer to the number and character of the learned bodies with which it at present corresponds. Besides those with which it was in communication at the beginning of the year, its co-operation has been sought by the Smithsonian Institution of America, under the immediate direction of the United States Government; the Geological Society of Bombay; the Antiquarian Society; and the Syro-Phœnician Society of London; while from itself has emanated a correspondence with the Asiatic Society of Paris. It would not be fair to pass by the circumstance that an assembly of the Members at and about Jaffna has recently been brought about by the energetic perseverance of your late Secretary, Mr. Edgar Layard, for the purpose of promoting the interests and furthering the views of the Society.

The Treasurer's accounts, too, show a larger balance than at the close of any previous year; and thus, notwithstanding that the whole expense of publication has for some time past devolved on the Society, and that considerable expenses have been incurred in the purchase of cases and almirahs to furnish the Society's Museum, your Treasurer reports a balance in hand :—

	£	s.	d.
On account of the General Funds of the Society of...	20	14	0½
On account of the Museum Fund of	28	0	10
Total ...	48	14	10½

To that, whether regard be had to the external relations of the Society, its internal economy, or the number and activity of its Members, your Committee deem that it has now reached a position and a stability to which it never yet approached at any previous period of its existence.

Your Committee do not, however, recommend any relaxation of the strict economy which has hitherto regulated their expenditure. The time, in their opinion, has not yet come when the Society can dispense with the smallest share of caution or prudence in the disposal of its funds. XI

With regard to the business which has come before the Society during the year, your Committee have to report the arrival of the meteorological instruments which were ordered before the last Anniversary Meeting. These have now been set up some time in convenient places, and your Librarian lays before the Society the result of observations made by himself in Colombo since August last, with two meteorological registers for the year from Batticotta and Trincomalee.

Your Committee desire further to direct attention to their measures lately introduced for the better regulation of the Society's Publications. It was found that much delay was the inevitable result of the old plan, and that many Members, especially those at outstations, had no means of arriving at a knowledge of the subjects laid before the Society until all interest in them had ceased. It has been, in consequence, determined :—

1. That the Proceedings of each General Meeting be published as soon as possible after such Meeting, and a copy of these Proceedings be sent to each of the outstation Members.

2. That the selection of Papers for the Journal be entrusted to a Council appointed by the Society for that purpose.

3. That instead of being confined to a yearly issue, a number of the Journal be published whenever and as soon as sufficient matter is collected.

Considerable advantages seem already to have accrued from the first two regulations, which came into effect immediately, and your Committee think they can trace to your operation a portion of the increased energy on the part of the outstation Members alluded to in a former part of the Report. Your Committee count on similar results from the third, but as it will not begin to take effect till after the publication of the ensuing number, they cannot speak from experience. XII

The Papers which have come before the Society have been of a very interesting nature. Mr. Layard's Papers on Natural History derive considerable value from the fact that specimens of many of the animals described have been forwarded to Calcutta, and there carefully compared with those in the extensive Museum of the East India Company, by the learned Curator of that Institution.

Lieutenant Henderson's and Mr. Brodie's Papers on the marks in a rock at Kurunégala are of great geological interest, and similar marks are said to be found in other parts of the Island. Some notes

on the Geology of Nuwara Eliya, by Dr. Kelaart, will perhaps prove of higher interest, as they treat of a formation which now engages the attention of Indian geologists.

Connected with ancient Oriental literature and history, a very able sketch has been laid before the Society by Mr. Alwis, on the Elu or ancient Singhalese poetry. A valuable catalogue of books in the Tamil language, and a sketch of the Tamil systems of the Natural History, have been presented by Mr. Casie Chitty, and some interesting notes by Dr. Macvicar on the Gansabhâwa or village councils of the Singhalese. With regard to this last Paper, your Committee regret that insuperable obstacles are raised against its publication by the author; and your Committee deem they would scarce do justice to it did they attempt to give an outline of its contents. Your Committee have also to acknowledge while on this subject the receipt of another rock inscription taken by Mr. Brodie from the celebrated Vihâré at Mihintale.

The other Papers presented to the Society concern the industrial economy and the resources of the Island at the present day. Under this head your Committee have to enumerate a Catalogue of Woods, the growth of the Island, by John Capper, Esq.; on the Coffee Plant and its appropriate Manure, by Dr. Gygax; on the Manufacture of Sugar from the Sap of the Cocoanut Tree, by the Messrs. Taylor of Batticaloa.

But the most important topic, and the last, which has engaged the attention of the Society, is a project for forming and sending to England a collection of objects calculated to represent the industry of Ceylon in the great exposition of the works of industry of all nations, to be held in 1851.

In this your Committee can report but little progress, as the project has engaged the attention of the Society for only a short time. But their views have already been laid before the Government, and they have to acknowledge the promptness and liberality with which they have been met.

The circular now laid on the table details the objects your Committee have in view. It is already printed at the expense of Government in the Singhalese, Tamil, and English languages, and circulated under their auspices to the Government Agents and headmen of the Island. Your Committee have further to acknowledge a promise of the most ample pecuniary and other assistance from His Excellency the Governor in carrying out the scheme. They would, in conclusion, commend it to the best consideration of the Society and its individual Members. They trust that no efforts will be wanting on their part towards carrying out to the fullest what is already so auspiciously begun, and hope that the present opportunity may not be lost for extending the influence of the Society, and making widely known the interest which they take in all that concerns the public good.

Resolved, that the Report as now read be adopted.

The Treasurer then laid on the table his accounts for the past year, and it was resolved that they be received and passed.

A list of the books added to the Library was then laid on the table.

The following Members were then proposed, and duly elected as office-bearers of the Society for 1850 :—

Patron.

His Excellency the Right Honourable the Governor.

Vice-Patrons.

The Right Rev. the Bishop of Colombo ; Sir A. Oliphant ; and Mr. Justice Stark.

President.

The Honourable C. J. MacCarthy, Esq.

Vice-President.

The Honourable J. Cauldfield, Esq.

Librarian.

R. E. Lewis, Esq.

Treasurer.

J. O'Halloran, Esq.

Secretary.

J. Capper, Esq.

Committee.

The Rev. J. G. Macvicar, D.D.; the Rev. D. J. Gogerly ; the Rev. G. A. Muttukistna ; Major Lushington, C.B. ; F. W. Willisford, Esq., M.D.; J. B. Misso, Esq. ; James de Alwis, Esq.; James Swan, Esq. ; E. H. Burrows, Esq.

Sub-Committee for Works of Industry.

F. W. Willisford, Esq., M.D.; J. Capper, Esq. ; J. O'Halloran, Esq.; A. de Alwis, Esq.

A vote of thanks was then passed to the Secretary of the past year for the Report which he had drawn up, and to the Chairman for his able and efficient discharge of the duties of Vice-President of the Society, and for his conduct in the chair on the present occasion. The Meeting then broke up. (see back p 331)

GENERAL MEETING.

June 22, 1850.

Rev. Dr. Macvicar in the chair.

The Minutes of the last Meeting were read and confirmed.

The Secretary read a communication from Mr. J. Mooyaart of Trincomalee, suggesting certain alterations in the Rules of the

Society, with a view of affording encouragement and co-operation to native associations at outstations. After some discussion, in which it was shown that new Rules could not be proposed except at the Anniversary Meeting, it was resolved that the matter be left for the consideration of the Committee.

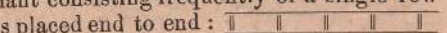
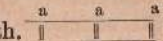
The following letter was then read from Mr. Thwaites of Pérádeniya, describing the nature of a vegetable substance received by the Society from Mr. Edgar Layard of Point Pedro :—

Royal Botanical Gardens, Pérádeniya,
June 13, 1850.

MY DEAR SIR,—Directly I took into my hands the cotton-like substance contained in your letter, and before I put it under the microscope, I suspected it to be a species of Conferva (or fresh-water Alga), and such it proves unquestionably to be. It is a species of *Tiresias* of Bory (*Vesiculifera*, Hassall).

In England it is no uncommon thing to find, after the subsidence of floods, large quantities of what is called "vegetable flannel" left upon fields which have been covered by the water ; and the "vegetable flannel" I have always found to consist of one or more species of Conferva matted together. The origin of this substance has been a puzzle to many a naturalist, but is nevertheless easily explained, and thus :—

Previously to the fall of rain, every stagnant pool and ditch has contained an abundance of these minute plants, which grow floating without any attachment to the bottom or sides ; when these pools, therefore, become overfilled, the Conferva are floated out, carried away by the descending streams to the lower grounds, and there left as the waters subside.

The structure of these plants, as shown by the microscope, is very simple : the whole plant consisting frequently of a single row of similar cylindrical cells placed end to end :  When in a growing state each cell has a small quantity of green colouring matter, or "endochrome," within it, differently arranged in the different genera, and which almost disappears when the plant is dead and dry ; and I should have been unable to identify the genus to which the plant you have sent belongs but for certain ring-like markings (a) upon the end of some of the cells, and which are characteristic of the genus *Tiresias* in one of its states of growth. 

I am, &c.,
G. H. K. THWAITES.

JOHN CAPPER, Esq.,
Secretary, Royal Asiatic Society.

A letter was next read from Mr. S. C. Chitty, accompanying several inscriptions taken from stones near Puttalam, &c.

Chilaw, *May* 12, 1850.

SIR,—I have the pleasure of transmitting to the Society a copy of an inscription taken from a stone slab, which is placed upright in the ground, at the head of the grave of a Muhammadan saint at Piramanenkandel, a deserted village situated to the eastward of the Mí-oya, about ten miles from Puttalam in a north-east direction. You will observe that the characters of this inscription are not Arabic, but an ancient and obsolete form of Páli, and I am therefore inclined to believe that it records some event connected with the history of Buddhism in Ceylon, and has no reference to the Muhammadan saint.

The ruins of Tammana-nuwara, of which I have published an account in volume VI. of the Journal of the Royal Asiatic Society, are not very far from Piramanenkandel, and it is likely that the stone slab was removed by the Moors from those ruins and placed in its present situation.

I avail myself of this opportunity to send to the Society a copy of another inscription engraved on a flat stone (4 feet long, 1 foot and 5 inches broad, and 5 inches thick), which the inhabitants of Dummaladeniya have removed from a neighbouring jungle, and fixed on the side of the high road leading from Chilaw to Kaimal through their village, as a boundary stone. The inscription in question is in ancient Grantha character, and it covers all the four sides of the stone, but on one side alone it is legible.

I have the honour, &c.,
SIMON CASIE CHITTY.

To the Secretary of the Ceylon Branch,
Royal Asiatic Society, Colombo.

The Secretary then read a Report from the "Exhibition Committee," dated the 20th instant:—

First Report of the Committee appointed at the Anniversary Meeting of the Asiatic Society of Ceylon, on March 23, 1850, *to promote the objects of the Industrial Exhibition of* 1851.

Your Committee, impressed with the great importance of the object for which it was appointed, and fully sensible of the necessity for obtaining the best information upon which to proceed, lost no time in seeking the assistance of the various Government Agents, which was done under the sanction of His Excellency the Governor. The returns requested from these sources have not as yet been received. Your Committee, aware of the obstacles invariably met with in collecting data in this country, are still in hopes of obtaining the information sought at an early period.

By means of circulars freely distributed, in Singhalese and Tamil as well as in English, the inhabitants of this Colony have, it is believed, been fully apprised of the nature and objects of the great Industrial Exhibition to assist in promoting which this Committee was appointed; and though in some few cases misapprehensions are said to have existed amongst the least informed Singhalese, who appear to have looked upon the collection of information regarding works of industry as a step towards new Fiscal regulations, the proper intention of the exhibition is believed to be entirely appreciated by the great bulk of intelligent natives.

With a view of affording encouragement to native talent, and at the same time to impart, as much as possible, a local character to such objects of art as may be sent from the Island, premiums have been offered for designs for carvings and ornamental works of Ceylon artists, and embodying Ceylon objects. Although a limited number only of these have been received, your Committee trusts that by the selections which have been made from them the intention will have been at least partially realised.

xxii Communications have been received from Her Majesty's Commissioners of the Industrial Exhibition of 1851, through the local Government, to which your Committee have replied. The principal points contained in the printed circulars of the Commissioners have been embodied in a paper circulated through the Colony for general information, a copy of which accompanies this Report, together with a classified, though imperfect, list of objects to be forwarded from Ceylon to the Exhibition. Consequent upon the distribution of the catalogue, much new and valuable information has been received by your Committee, especially in reference to the vegetable productions of this Island. Amongst those who have voluntarily tendered their assistance may be named Mr. J. B. Misso, Mr. W. Ondaatjie of Puttalam, and Mr. T. A. Pieres of Kandy.

It would be premature at this moment to enter into details of such works as are in course of execution upon orders, or of those which have been presented by various contributors in their own names. Your Committee, however, indulge in the hope that within two months from this date there will be formed a considerable collection of interesting articles ready for shipment by sea, which it would be desirable to exhibit in Colombo previous to their being despatched to Europe.

Not the least interesting portion of the collection will be the medicinal substances, gums, resins, and oils, most of which are as yet little if at all known to Europeans. In fibrous materials experiments are being made, the results of which it is hoped may prove of practical utility and value. In manufactured articles Ceylon can scarcely hope to approach the many more highly favoured countries of the Indian continent; such, however,

as exist in this Island will be sent, in the hope that they may prove of interest, though not perhaps on account of their costly fabric or rarity of design.

Your Committee cannot conclude this brief report without noticing the ready liberality of His Excellency the Governor, who has undertaken to defray out of the Colonial Treasury the whole expense attending the collection of such objects as Ceylon can produce adapted to the Exhibition of 1851.

JOHN CAPPER,
Secretary of Committee.

Colombo, *June* 20, 1850.

The following gentlemen were then balloted for, and declared duly elected Members of the Society :—

S. Amblawanan, Esq., of Kayts, proposed by E. L. Layard, Esq., seconded by H. Pole, Esq.

The Rev. J. Robinson, of Batticaloa, proposed by E. L. Layard, Esq., seconded by W. Twynam, Esq.

T. A. Pieres, Esq., of Kandy, proposed by Dr. Kelaart, seconded by J. B. Misso, Esq.

C. P. Marcus, Esq., of Kurunégala, proposed by Dr. Kelaart, seconded by Dr. Stuart.

The following donations, &c., were laid on the table :—

Museum.

Specimen of vegetable flannel from E. L. Layard, Esq.

Two earthen coins (?) from N. S. Guneratna, Esq., of Mátalé.

A collection of specimens illustrative of the geology of Nuwara Eliya, from E. F. Kelaart, Esq., M.D.

Antiquities.

A plan of the ruins of Pollanuwara from J. N. Mooyaart, Esq.

Two inscriptions from stone slabs in the neighbourhood of Puttalam, and a stone inscription from a slab in the Island of Jaffna, from S. C. Chitty, Esq.

Library.

Royles' Productive Resources of India.

The Calcutta Review for March.

Journal of Eastern Archipelago, December to February.

Journal of Bengal Royal Asiatic Society, August and September.

Journal of Statistical Society of London, March.

Journal of Geological Society of London, May.

Meteorological Register of Colombo, March to May.

Meteorological Register of Batticotta, March and April.

Meteorological Register of Trincomalee, March and April.

Papers.

The following Papers were then laid on the table and read :—

Sketches on the Natural History of Ceylon : Part III., by Edgar E. Layard, Esq.

A short account of the Veddás of Bintenne, by the Rev. J. Gillings.

The Geology and Fauna of Nuwara Eliya and Horton Plains, by E. F. Kelaart, Esq., M.D., F.L.S.

The Zoloogy of the Tamils : Part II., by S. C. Chitty, Esq.

Sermons by Buddha, by the Rev. D. J. Gogerly.

The Materia Medica of the Siṅhalese, by T. A. Pieres, Esq.

The Mammals of Ceylon, by E. F. Kelaart, Esq., M.D., F.L.S.

XXV

GENERAL MEETING.

August 13, 1850.

Rev. D. J. Gogerly in the chair.

The Minutes of the last Meeting were read and confirmed.

The Secretary notified the arrival by overland of the meteorological instruments ordered from England. Sets of these were agreed to be sent to Captain Higgs at Trincomalee and G. H. K. Thwaites, Esq., at Pérádeniya, which, with the observations at Batticotta and Colombo, would make the registry of observations complete.

The following gentlemen were unanimously elected Members of the Society :—

W. Herft, Esq., proposed by J. N. Mooyaart, Esq., seconded by J. Capper, Esq.

C. A. Lorensz, Esq., proposed by J. de Alwis, Esq., seconded by R. E. Lewis, Esq.

Mr. Capper having signified his intention to leave the Colony at an early date, begged to be relieved of the duties of Secretary. It was proposed by J. de Alwis, Esq., and agreed to, that R. E. Lewis, Esq., be requested to assume the duties of the office, temporarily.

The following books were laid on the table :—

Library.

Meteorological Register for Batticotta and Trincomalee for June and July.

Translation of the Sidatsaṅgaráva, or Siṅhalese Grammar, by J. de Alwis, Esq., from the Author.

The Journal of the Statistical Society of London.

The Journal of the Geological Society of London.

British Moths and Butterflies, 2 vols.

Papers.

The following Papers were then read :—

On the Singhalese Language, by J. de Alwis, Esq.

The Statistics of the Puttalam and Chilaw Districts, by A. O. Brodie, Esq.

The business of the Meeting having terminated, it was resolved that this Meeting, having a due sense of the indefatigable zeal of Mr. Capper as the Secretary of the Society, regret that his departure from the Colony obliges them to accept his resignation. The Meeting desire Mr. Capper to accept their best thanks for his efforts in furthering the objects of the Society.

The Meeting then adjourned.

ABSTRACT OF A METEOROLOGICAL REGISTER KEPT AT BATTICOTTA, NORTHERN PROVINCE, IN 1849.

1849.	THERMOMETER.		WET BULB THERMOMETER.			BAROMETER CORRECTED.		AMOUNT OF RAIN.	COURSE OF WIND.	STRENGTH OF WIND.	CLOUDS, &c.
	Minimum.	Maximum.	A. M. h. m. 9.30.	A. M. h. 12.	P. M. h. m. 3. 40.	Maximum.	Minimum.				
January ...	76·5	82·0	5·6	7·0	6·9	29·987	29·889	0·39	N. E. & N. N. E.	2·4	Clear, with flying clouds[1]
February...	77·7	83·6	5·8	·0	8·4	29 981	29·913	0·00	N. E. & S. E.	2·4	Mostly clear sky[2]
March ...	79·1	85·8	5·3	6·1	6·9	29·959	29·834	0·00	Variable	2·5	Generally flying clouds[3]
April ...	82·2	88·6	5·1	6·3	6·5	29·850	29·757	0·76	S. E. & S. W. to N. W.	2·5	Flying clouds[4]
May ...	82·7	88·8	5·2	6·5	5·8	29·773	29·682	0·57	S. W. to W. S. W.	3·5	Generally cloudy[5]
June ...	81·9	87·3	6·1	7·3	6·7	29·799	29·708	0·56	S. W. & S. S. W.	2·6	Flying clouds[6]
July ...	80·2	86·2	4·6	6·0	5·6	29·794	29·707	0·05	W. S. W. & S. W.	1·5	Generally cloudy[7]
August ...	80·6	86·4	4·5	6·3	6·1	29·810	29·725	0·45	W. S. W. & S. W.	3·6	do. do.[8]
September	80·8	86·3	5·3	7·7	6·5	29·816	29·706	0·68	S. W.	2·4	Usually clear sky with light clouds[9]
October ...	80·3	85·4	4·0	5·0	5·4	29·895	29·788	3·57	S. W. & W. by S. W.	2·4	Cloudy and hazy[10]
November	78·4	82·4	2·8	3·4	3·4	29·924	29·829	25·73	S., N. N. W., & N. E.	1·3	Heavy, cloudy sky[11]
December	76·1	80·2	2·4	3·2	3·3	29·927	29·837	10·17	N. E. & N. W.	2·5	Generally flying clouds[12]

GENERAL REMARKS.—[1] Generally dew; showers at night on 2nd, 4th, 10th, 24th, and 31st. [2] Light dew; very fair. [3] Hazy, with occasional dew; some rain and thunder throughout the month. [4] Hazy at times, with occasional light rain and thunder. [5] Hazy throughout the month, with little thunder and one or two light showers. [6] Occasional haze; fair usually. [7] Hazy at times, with thunder and little rain. [8] Hazy at times, with occasional thunder and light rain. [9] Fair, with one or two light showers and one squall of wind. [10] Eight rainy days, with frequent thunder. [11] Twenty-one days of rain. Maximum rain in 24 hours, 4.16 in.; minimum ditto, 0·02 in. [12] Fourteen days showery; dew in morning.

DR. The Royal Asiatic Society of Ceylon, in account with the Treasurer. CR.

1850.	£.	s.	d.
To amount paid for books, London and Calcutta	20	7	7
Do. for printing Society's Journal, 150 copies	24	0	0
Do. for printing Notices, &c.	3	15	6
Do. for Advertisements ...	1	18	11
Do. for Stationery, &c. ...	0	9	5
Do. for Book-case and Table Cover	7	8	0
Do. for Stand for Meteorological Instruments	0	14	0
Do. for Duty, &c., on ditto...	0	13	10
Do. for Postages, India and Europe	1	4	6
Do. for Carriage of Parcels	1	19	8½
Do. for Binding Books ...	1	5	0
	63	16	5½
Balance ...	20	14	0½
Total ...	84	10	6

1850.	£.	s.	d.
By balance from last year ...	16	0	6
By Annual Subscriptions ...	52	10	0
By Entrance Fees	14	14	0
By sale of Society's Journals ...	1	6	0
Total ...	84	10	6

	£.	s.	d.
Arrears of Entrance Fees, 1848 .	1	1	0
Do. do. 1849...	1	11	6
Do. of Subscriptions for 1850...	18	18	0
	£21	10	6

Colombo, February 28, 1850.

E. & O. E.

JOHN CAPPER,
Treasurer.

MUSEUM FUND.

DR. The Royal Asiatic Society of Ceylon in account with the Treasurer. CR.

1849.		£.	s.	d.
March	To amount paid for a Bird Case ...	8	0	0
"	Do. for fitting Almirah with Drawers	2	5	0
June	Do. for Mineral Case	7	5	6
"	Do. for fitting Insect drawers, printing labels, cases, &c.	1	16	8
1850.				
Feb.	To amount advanced for new cases	3	0	0
		22	7	2
	Balance ...	28	0	10
	Total ...	50	8	0

1849.		£.	s	d.
By sundry Donations ...	...	28	7	0
By sundry Subscriptions ...	..	15	1	0
By Grant from General Fund	...	7	0	0
Total ...		50	8	

Colombo, February 28, 1850.

E. & O. E.

JOHN CAPPER,
Treasurer.

XXIX

LIST OF MEMBERS

OF THE CEYLON BRANCH OF THE ROYAL ASIATIC SOCIETY.

Alwis, Rev. C.	Colombo
Alwis, J. de	do.
Armitage, John	do.
Bessell, H.	do.
Birch, Woodford	Kurunégala
Bishop of Colombo, The Right Rev.	Colombo
Boake, Rev. B.	do.
Bowker, John	do.
Brodie, A. O.	Puttalam
Burrows, E. H.	Colombo
Caldwell, R. C.	do.
Capper, John	do.
Cauldfield, Hon. J.	do.
Chitty, John C.	Wéweldeniya
Chitty, Simon C.	Chilaw
Crawford, Hugh	Travancore
Dalziel, J.	Colombo
Davidson, R.	Jaffna
Dawson, Rev. C. C.	Mátara
Dawson, Robert	Colombo
Dickson, Rev. W.	Mátara
Flanderka, —	Mullaittívu
Gogerly, Rev. D. J.	Colombo
Grace, A.	Galle
Gunawardena, G.	do.
Gygas, Dr. G.	do.
Herft, W.	Maduwelle-tenne
Katts, Rev. J.	Colombo
Kelaart, E. F., M.D.	Trincomalee
Kessen, The Rev. Dr.	Galle
Layard, C. P.	Colombo
Layard, E. L.	Point Pedro
Layard, F.	Kandy
Lewis, R. E.	Colombo
Livera, F. de	Mátara
Lorensz, C. A.	Colombo
Lushington, Major	Mátara

MacCarthy, Hon. C. J.	...	... Colombo
Macvicar, The Rev. Dr.	...	... do.
Marcus, C. A. ...	...	... Kurunégala
Margesson, H. D., R.A.	...	... Colombo
Middleton, J. E. ...	...	... do.
Misso, Dr. J. B. ...	...	... do.
Mooyaart, J. N. ...	...	... Galle
Murdoch, John ...	...	... Kandy
Muttukistna, Rev. G. R.	...	... Colombo
Muttukistna, J. N. ...	...	... Jaffna
Nelson, J. B. ...	...	... Colombo
O'Halloran, J. ...	...	... do.
Oliphant, Sir A. ...	...	... do.
Ondaatjie, J. M. ...	..	... Mátara
Palm, Rev. J. D. ...	...	... Colombo
Percival, Rev. P. ...	...	... Jaffna
Perera, H. ...	...	... Mátara
Pole, H. ...	...	... Jaffna
Selby, Hon. H. C. ...	...	... Colombo
Sellery, H., C.R.R. ...	...	... do.
Shand, C. ...	...	... do.
Smith, D. ...	...	... Kaderana
Smith, James ...	...	... Colombo
Soysa, L. de ...	...	... do.
Straube, F. ...	...	... do.
Staples, H. J. ...	...	... do.
Stark, The Hon. Justice	...	... do.
Steuart, Dr., C.R.R. ...	...	... do.
Steuart, George ...	...	... do.
Steuart, James ...	...	... do.
Swamanaden, Edriemanesinga	...	... do.
Swan, J. ...	...	... do.
Tennent, Sir James Emerson	...	... do.
Thwaites, G. H. K. ...	...	... Pérádeniya
Twynam, W. ...	...	... Jaffna
Whitehouse, E. S. ...	...	... do.
Williams, J. E., R.A.	...	... do.
Willisford, F., M.D. ...	...	... do.
Worms, G. ...	...	... Pusselláwa
Worms, M. ...	...	... do.

OFFICERS OF THE SOCIETY.

Patron:

His Excellency Sir George Anderson, C.B.

Vice-Patrons:

The Hon. Sir A. Oliphant, C.B., Chief Justice; the Right Rev. James Chapman, D.D., Bishop of Colombo.

President:

The Hon. C. J. MacCarthy, Esq.

Vice-President:

The Hon. J. Caulfield, Esq.

General Committee:

The Rev. J. G. Macvicar, D.D.; the Rev. D. J. Gogerly; the Rev. G. R. Muttukistna; Major Lushington, C.B.; F. W. Willisford, Esq., M.D.; J. B. Misso, Esq.; James de Alwis, Esq.; James Swan, Esq.; E. H. Burrows, Esq.

Treasurer:

J. O'Halloran, Esq.

Secretary and Librarian:

R. E. Lewis, Esq.

LIST OF BOOKS, PAMPHLETS, &c.,

PRESENTED TO AND PURCHASED BY THE SOCIETY DURING THE YEAR 1849.

Transactions of the Batavian Society.
Travels of Fa Hi Han.
Narrative of a Mission to Ceylon and India.
Essay on the Human Mind.
Natural History of Fishes.
Pamphlet on Russian Coins.
Blue Book of Ceylon.
Swainson's Birds and Taxidermy.
Smithsonian Contributions to Knowledge.
Orientalist's Guide.
Pamphlet on Artesian Wells.
Annals of India.
Bennett's Ceylon.
Royles' Productive Resources of India.
British Moths and Butterflies.
The Calcutta Review.
Journal of the Royal Asiatic Society.
Journal of the Eastern Archipelago.
Journal of the Statistical Society of London.
Journal of the Royal Asiatic Society of London.
Journal of the Geological Society of London.
Transactions of the Statistical Society.
Transactions of The Geographical Society of Bombay.
Journal of the Asiatic Society of Bombay.

H. C. COTTLE, ACTING GOVERNMENT PRINTER, COLOMBO, CEYLON.