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SHORT HISTORY OF THE RAMA VARMA RESEARCH INSTITUTE AND ITS BULLETIN

The idea of establishing a Research insitute in Cochin State was entertained as early as September 1920, and the first stage in its materialisation was reached in January 1925 when Shri P. Narayana Menon was the Diwan. The aim was to start a consulting and Research Library of rare books including Granthas with special reference to the territories forming the old Kerala country.

The Government appointed a small comittee to draw up a scheme for providing facilities for research work. According to the scheme approved by the Government the object of the institute was to collect books, journals and unpublished manuscripts on the History of South India in general and of Kerala in particular to afford facilities for carrying on research work on the ancient History of Cochin, to publish a bulletin and a series of rare and important works. An annual recurring grant of Rs 2,000/-was made available to the Committee for working out the schemes.

The Institute grew up steadily enhancing its reputation among scholars. In 1944 at the instance of the then Diwan of Cochin Sir George T. Boag, an Advisory Committee for Archaeology was set up, and with a view to maintain closer contact between the members of the Institute and the Archaeological Department, the Advisory Committee of the Department of Archaeology was appointed as the Managing Committee of the Research Institute. At a subsequent meeting of the members of the Institute and the Advisory Committee of the Department of Archaeology presided over by the Diwan, it was decided to organise a society devoted to the study of the History and evolution of Indian culture and civilisation with special reference to Kerala. And in order to enable the members of the Society to get into closer touch with the cultural and scientific activities outside the State, it was also decided to seek affiliation of the Rama Varma Research Institute as the Cochin Branch of the Archaeological Society of South India. The affiliation was granted early in 1945, and it has been recognised by the Government of India and by organisations abroad as one of India's Cultural Institution.

After the integration of the 2 States (Cochin and Travancore in 1949, the T. C Government expressed their doubt whether there is a real necessity for continuing the Institute as a separate institute name.)

Rama Varma Institute depending on Government Grant. At that time some institutions came forward to take up this society, but in 1958, it was transferred to the Kerala Sahitya Akademi.

The first issue of the Bulletin was published in 1930. Altogether 15 volumes were published, the last one in 1948. The other publications of the Society are 1) The EVOLUTION OF MALAYALAM MORPHOLOGY By L. V. Rama Swami Iyer and 2) FOLK PLAYS AND DANCES OF KERALA by M. D. Raghavan. Certian volumes of the Bulletin are now completely sold out and as such the Akademi undertook reprinting these volumes as they contain invaluable articles.

Secretary,
Kerala Sahitya Akademi.

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THE SCIENTIFIC BASIS OF THE TRADITION THAT PARASURAMA RAISED KERALA FROM THE SEA

I. C. Chakko, B. Sc. (London), B. A., A.R.S.M., A.R.C.S. (London).

I am thankful indeed to the Trustees of the Chathu Panicker Memorial endowment for the honour they have bestowed on me by asking me to deliver this lecture in pursuance of the object of the endowment. But, in view of the great burden the honour would entail on me, I would have requested the trustees to excuse me but for the irresistible persuasion of an old friend, Mr. T. K. Krishna Menon, whom I regard, he may be surprised to know, also as teacher—for, in the days of my literary pupilage, I had derived much benefit from his writing—exercised his personal influence on me and made me accept the invitation of the trustees.

The late Mr. Chathu Panicker was a notable person in the Cochin public service of his time. To his capacity for public business he had added an enviable knowledge of Sanskrit and Malayalam literature and a love for the dramatic art, which qualities were so noteworthy that they attracted the favourable attention of his sovereign. To commemorate his name, his son, Mr. T. K. Krishna Menon, no less meritorious than his father, who may justly claim a literary tradition from his mother's as well as from his father's line, has instituted these lectures, and I am happy to contribute to the implementing of his endowment.

But, when I look back on the galaxy of eminent scholars who have performed this duty before me, I am seized with consternation and a sense of presumptuousness. Although I take much delight in Kerala lore, with which these lectures must be connected, I cannot claim to have made any research in this line. And a lecture worthy of the endowment must be something original.

In these straits, I propose to take some geological facts connected with Kerala, with which I am somewhat familiar, and point out possible relations between them and the geographical facts contained in the Parasurama legend regarding Kerala.

Now, passing on to the subject matter, I have to observe first of all that the title of my lecture may be a little misleading. The title is capable of the meaning that I propose to prove that the tradition that Parasu-

Chathu Panicker Memorial Lecture, 1944—1945.

rama raised Kerala from the sea is scientifically true. This is not my intention. I do not know for certain whether Parasurama ever came to Kerala. I leave that question to historians. By the title I mean only that there is a geologically established fact, in explanation of which the Parasurama legend may have come into existence.

Rao Sahib Komattil Achutha Menon, one of my predecessors in this rostrum, speaking of the place-names of Cochin, pointed out how a legend might be spun round a natural phenomenon or a name. Wherever you find five boulders of stone with a small one close by, popular imagination sees a miraculous memorial of the five heroic Pandavas and their faithful consort. Not far from Cape Comorin there is a hill called Marutvan Malai. This hill is believed to be a boulder of rock that fell from the mighty clutches of Hanuman, who, exasperated by the reluctance of Himavan to show him the life-reviving herbs, was carrying that ponderous mountain bag and baggage by air to Lanka to revive the dead or comatose army of Sri Rama. On the Marutvan Malai there are some medicinal herbs, which lend support to the belief in the legend. I need not multiply instances; it is well known that there are legends all over the world associating heroes with natural phenomena.

Our forefathers seem to have been aware from their observations that some parts of Kerala had emerged out of the sea. I cannot say whether they got this idea from the silting up process that was going on in our lagoons in historical times and is still going on or from some evidence of an earlier upheaval, which I will describe in the course of this lecture. Somehow they got the idea. To account for the emergence of Kerala, they called in Parasurama, a hero of all-India fame.

From Parasurama's epithet Bhargava we know that he belonged to the Bhṛgu family. Scholars who attempt to construct history from the apparently incongruous statements in our epics and puranas say that Parasurama was an Arya hero who extended the Aryan conquest of India up to the Narmada in the south and Magadha in the east. He is regarded as a pioneer in the establishment of Aryan, if not Indian, nationalism in India.

The classical accounts of Parasurama's exploits do not mention any extension of them to Kerala. But, in order to account for the evidently aqueous origin of our land and our historical beginnings, for which we have no record, we claim that his activities extended to our

own land, although it is situated far from Aryavarta, the classical field of Parasurama's exploits.

Our tradition has it that Parasurama, having decided to make amends for his sin of having killed the Kshatriyas of Bharata twenty-one times by gifts of land to Brahmins, prayed god Varuna to recede a little and goddess Earth to raise a bit. The coastal tract of Kerala, extending from Gokarna to Cape Comorin, was formed by the compliance of Varuna and Earth with Parasurama's prayers. A variation of the legend says that, to persuade Varuna and Earth into compliance, Parasurama made a show of his terrible battle-axe and threw it by one effort of his mighty arm from Gokarnam to Comorin in one stretch. Incidentally the line of flight of the battle-axe indicated the western boundary of the land he would have for gift to Brahmins.

This is our Parasurama legend in a nutshell. The late Pandit Ramakkuruppu, a Guru of mine, in his once famous satirical drama called Chakkeechankaram, says that, along the line of the shadow of Prasurama's battle-axe in its flight, another land emerged out of the sea, which he calls Kalpithamcode, and lays the scene of his drama there. I expect I shall be able to prove in the course of this lecture that even this imaginary land of Ramakkuruppu must have been a fact in some past geological age.

THE PARASURAMA TRADITION

In order that we may visualize the geological fact underlying the Parasurama tradition, we must try to get a general idea of the geological structure of Kerala. Let us begin with the Western Ghauts and proceed westwards to the sea and note down our observations. We observe that the Western Ghauts and their spurs consist of metamorphosed igneous rocks, which we popularly call *karimkallu*. I will not trouble you with a description of the characteristics of these rocks, but I expect you have formed an idea of the nature of these rocks from its Malayalam name. These are primeval rocks. We may regard them as having formed by the freezing or solidification of the molten material of which the earth consisted in the early ages of its existence. These rocks form the foundation of Kerala. In the hilly parts of Kerala these rocks are exposed to view. In the Coastal regions, these rocks underlie later formations such as silt. If we sink a pit here at Ernakulam, we may strike the same kinds of rocks as we see on the Ghauts at a depth below 1000ft.

If we proceed westward from the ridge of the Ghauts, we shall see the following succession of rocks. First we see the igneous rocks mentioned above. In the middle lowlands we shall see the superficial layers of these same igneous rocks more or less decomposed and often capped with a layer of laterite. Farther we shall come across a very thick layer of soft friable material, which will also have a top layer of laterite. The trained geologists will notice a difference between the two kinds of laterites. The first kind of laterite is the product of the decomposition of the igneous rocks, which remains in its original position and has become hardened by certain geochemical processes. In this laterite one may often see some of the structural characteristics of the igneous rocks which have given birth to it. The second kind of laterite is found to overlie a series of beds of sands and clays, which, a geologist without any hesitation will say, were originally deposited in water. Here we have what geologists call a sedimentary formation. Since the sequence of the beds of this formation are very well exposed in the cliffs at Varkalay in Travancore, early geological observers gave it the name of Varkalay Formation.

Farther west we shall see this Varkalay Formation getting below the sands and silts of our backwater region.

It is not necessary for us to enter into a discussion of the characteristic of these formations, which will not also be interesting to a general audience. What I wish to draw your attention to is that the fundamental rocks of Kerala are the igneous rocks I have mentioned above. These are more specifically called gneisses. The Varkalay Formation is laid on these gneisses and the more recent deposits, such as the sands and silts of our backwaters are laid on the Varkalay Formation. If we

sink a pit here at Ernakulam, it will first pass through the sands and silts, then through the Varkalay Formation and finally strike the fundamental gneisses.

As I have said above, a typical natural section of the Varkalay Formation may be seen at Varkalay. Some beds of it may be seen exposed on the shores of the Ashtamudi Lake near Quilon, which some of you who have travelled to Quilon by backwater may remember. The china clay, which is exploited at Kundara on shore of Ashtamudi by the Travancore Government forms a bed of the Varkalay Formation. Lignite, which is an inferior variety of coal, is also associated with this formation. Wherever china clay or lignite is found on the West Coast, we may be pretty sure that it indicates the existence of the Varkalay Formation there. A short while ago there was a report in the papers that lignite was found at Canannore. We may be sure that the Varkalay Formation exists there.

These deposits have been traced from the southern end of Travancore to its northern frontier. In some places they abut on the sea, as at Varkalay. At other places they lie to the east of the backwaters, as at Changanacherry, Kottayam, etc. Again in some other places we may not see any indication of them on the surface, the exposed parts having all been washed away by rain. Some of you may have travelled from Alwaye to Parur. The lateritic hill on which the Apostolic Seminary and the Union College are situated consists of the Varkalay Formation, which dips west from there. At Alangad it is not far below the sandy surface, but at Parur it lies deeper below the sands.

I cannot rely on any personal observations for the *proof* of its existence in the Cochin State. But there is no reason why it should abruptly end at the northern boundary of Travancore, the operations of nature not being conditioned by political boundaries. It must exist below the coastal sands and silts of the Cochin State and may be found exposed as lateritic patches on the eastern borders of the Cochin backwaters. The reported existence of lignite at Canannore shows that the formation extends to the north far beyond the frontiers of Cochin.

I have already said that this Varkalay Formation is sedimentary, *i. e.*, that it was laid down in water by natural agencies. Now, all the geologists who have examined these beds have come to the conclusion that it was laid down in a body of fresh water. It does not show any marine fossils. The only organic remains found in this formation are the lignite which consists of the remains of plants. Again some of the beds of the formation are sandy, which shows that they could not have been laid down far from shore. When a river flows into a body of water, you know, the heavier sediments, such as sand, will be deposited near the mouth of the river and fine particles, such as clay, will travel farther from the shore.

Now, let me recapitulate what I have said so far in order to fix your attention on certain facts from which I propose to draw a conclusion :

(1) The Varkalay Formation extends all along the coast from South Travancore through Cochin to British Malabar ;

(2) It was deposited in a body of fresh water.

What is the inference to be drawn from these two facts? In a former geological age there was a vast fresh-water lake, of which the eastern shore roughly represented the present coast line of Kerala. If it was a fresh-water lake, it could not have had any connection with the sea. In other words it means that there was land out in our present Arabian Sea, which entirely excluded the sea from the present Malabar coast.

This gives reality to Ramakkuruppu's imaginary Kalpithamcode. In honour of my Guru I will refer to this land as Kalpithamcode. And let us call the fresh-water lake in which the Varkalay Formation was laid down, as the Varkalay Lake. These may be taken as *nonce* names. The lslands of Laccadives off the Malabar coast may be the remaining remnants of Kalpithamcode, which may have submerged in the sea as the result of some geological cataclysm.

The top of the Varkalay Formation at Varkalay is about 145 ft. above sea level. This shows that, while Kalpithamcode was submerged in the sea, the Kerala coast of the ancient Varkalay Lake rose to a considerable height from its old level. Was this upheaval of Kerala sudden and simultaneous with the submergence of Kalpithamcode? I do not think that the upheaval was sudden. It happens sometimes that land appears where there was no land by sudden movements of the earth's crust. Kalpithamcode may have submerged as the result of some sudden catastrophic movement of the earth's crust. But the emergence of the Kerala coast seems to have been a slow process.

At Vazhappalli near Changanacherry there have been found some marine fossils including a coral reef below the recent deposits overlying the Varkalay beds. This shows that, after the submergence of Kalpithamcode and after the consequent extinction of the Varkalay Lake as a separate body of fresh water, the sea extended at least as far east as Changanacherry. Coral reefs are the *calcareous* remains of some minute animals living in colonies in the sea. These animals can flourish only between the low-water level and a depth of about 60 ft. The existence of a coral reef at Changanacherry shows that, during one period after the submergence of Kalpithamcode and the obliteration of the Varkalay Lake, the sea extended somewhat beyond Changanacherry, where the depth of the sea at low tide was anything between zero and 60 ft. The present site of the coral reef may be put down at about 10 ft. above sea level. It may, therefore, be surmised that a slow

upheaval was going on at least at Changanacherry since the destruction of Kalpithamcode and the encroachment of the sea eastward.

These marine fossils have not yet been found anywhere else on the eastern borders of our backwater tract. But this will not vitiate the assumption from the analogy of Changanacherry that during that period the sea extended eastward beyond the eastern boundary of the back-water tract of Kerala.

When all this happened I cannot say. The Varkalay Formation is said to be of the Tertiary Era. Geological ages are measured by millions of years, which far transcend our historical ages and are not of much interest to us in the present connection. But it would appear that late in the Human Period, when man had become sufficiently civilised to give significant names to places, the sea extended as far east as the present eastern border of the backwater area.

The villages of Kadapra and Kadathurithi, which are situated on this line of the old sea coast have names suggestive of their proximity to the sea. The word *thurai* in Trippunithurai perhaps indicates that that village was once on the sea shore. The name Alwaye may mean that, when the name came into existence, the Periyar had its mouth opening into the sea somewhere in that neighbourhood. There may be other places on the line here indicated, whose names may have some signification connected with the sea. I leave the etymological study of these place names to others who may be more competent than myself.

When the slow upheaval of the coast of Kerala ended and the earth's crust settled down in its present level in this region, the present backwater tract formed a part of the sea. The backwater tract is the result of the deposit of sand and silt by the rivers following into that ancient sea. When rivers flow into the sea, a sand bar will be formed at some distance out in the sea in course of time. The Pampa, the Periyar, the Bharathappuzha and the other minor rivers between them laid a sand bar in the sea at some distance from the old shore, which is the present coast line of Kerala. The distance of the sand bar from the ancient coast depended on the power of the river which supplied its material. The part of the sea enclosed between the sand bar and the ancient shore became a long lagoon. The gradual silting up of this lagoon has given rise to our present backwater tract.

From geological evidence we have come to the conclusion that there was first a raising of the Kerala coast as represented by the eastern border of our present backwater tract. We have also seen that after the coast line became thus defined, the backwater tract was formed with a new coast line farther to the west of the ancient shore line. The one or

the other of these phenomena may be described as a reclamation of Kerala from the sea. Which of these is the basis of the Parasurama legend? I have said that the upheaval of the Varkalay beds from under water, may have taken place before the Human period. May be the ancient Keraliyas realised the fact that these beds, exposed above water in their times, must have been laid down under water and invented the legend to account for their occurrence above water. Or they may have invented the legend to account for the beginnings of the silting-up processes that were going on in the backwater tracts in their own times.

I will here draw your attention to a statement in the Parasurama legend as given in one of the version of Keralotpathi. The legend says that, after Parasurama raised Kerala from the sea, the land was in a trembling state. This is what might be expected for a considerable time after a violent movement of the earth's crust. I have said above that there must have been land off the present Kerala coast in some former geological age and that it must have submerged in the sea in consequence of some violent crust movement. I said also that, as a result of the same crust movement, the eastern shore of the ancient Varkalay Lake, which is more or less the same as the present Kerala coast, rose from its original level. We have also seen that the whole of this rise in level could not have been sudden; for a sudden rise to the present level cannot account for the presence of marine fossils as Changanacherry. After a voilent seismic disturbance the earth's crust in the neighbourhood of the centre of disturbance will be in a state of unstable equilibrium for some time afterwads. Due to gradual adjustment of equilibrium there will be tremors, which will be felt as earthquakes of various degrees of intensity. The Kerala coast seems to have been in such an unstable condition for a long time after a very violent seismic disturbance sent Kalpithamcode to the bottom of the sea. The Parasurama legend takes cognizance of these natural phenomena. It says that Parasurama stopped the shaking of the earth by scattering gold dust and burrying a treaure of coined *rasippanams.*

It would appear from this that the Parasurama legend referred to the period when Kerala had attained stability after the seismic catastrophe that overtook Kalpithamcode. It would also appear that the legend came into existence as the result of an attempt to explain certain natural phenomena experienced by the early inhabitants of Kerala. It appears that the legend refers to the period when the Kerala cost was beginning to attain stability in its slow upheaval and the rivers began to form the estuaries, which make our present backwater tract.

The legend seems to be calculated to explain these natural phenomena which had been experienced by the ancient inhabitants of Kerala.

It is not unreasonable to imagine that the socio-political part of the legend was tacked on to it by those who stood to profit by the social and political arrangements then existing to give those arrangements the appearance of divine sanction.

Although it is not relevant to the interpretation of the Parasurama legend how these seismic disturbances were brought about, the indications of their causes that have been observed may be interesting to you. The crust of the earth in any part of the globe cannot remian in stable equilibrium for ever. Let us for a moment consider what is going on on the Kerala coast, with which we are familiar. The hilly tracts are being eroded by the action of meteorological agencies and the products of erosion are carried down by the rivers to the backwater tract and to the sea. This process going on for ages will upset the balance of weightage of the earth's crust and there may come a time when the balance is so much disturbed that the crust will suddenly give way to adjust itself to the altered distribution of loads. The submergence of Kalpithamcode may have been brought about in this manner. The quantity of sediment deposited in the ancient Varkalay Lake must have been enormous. The height of the Varkalay beds exposed at Varkalay is about 150 ft. above the sea and there must be a considerable thickness of it below the sea level. Hundreds of feet of these sediments must have been washed away since they rose above sea level. Now, let us imagine the disturbance in the loading of the earth's crust by the accumulation of such a huge thickness of sediment in a lake extending from Cape Comorin up to Gokarnam and about a hundred miles broad. (I assume a hundred miles as the breadth of the ancient Varkalay Lake as this is about the distance, from the Malabar coast to the Laccadives, which, I have said above, may represent the western shore of the lake). We may guess that the crust gave way under this load and brought about all the changes described abve.

Now I may describe another set of phenomena connected with the facts underlying the Parasurama legend. Among the gneisses, which I have described above as the fundamental rocks of Kerala may be found a good number of volcanic dykes. Some times fissures are formed in the crust of the earth by the pressure of the underlying molten rock substance and the molten substance injected into the fissures. It becomes congealed in the fissures and forms different kinds of ingeous rocks according to its chemical composition. Such rocks are called dykes. Dyke in ordinary language means ditch, ridge, embankment, dam, &c., and geological dykes have been given this name on account of their similarity in form to these objects.

Such dykes are abundant among the gneisses inTravancore and we may be pretty sure that they are equally abundant in Cochin and other parts of Kerala. I have traced a huge dyke from near Kanjirappalli

in Travancore to the northern frontier opposite the Cochin territory of Malayattur and beyond it among the Manjapra hills. From a few miles east of Perumbavur this dyke sends off a branch, which passing through Perumbavur, enters Vellarappalli. This branch is nearly as huge as the main dyke. Besides this there are very many minor branches going off in all the directions of the compass.

These dykes could not have come into their places quietly. The splitting of the earth's crust and the pushing of the sides of the splits apart would require tremendous forces and such forces would set the crust of the earth in their neighbourhood a-trembling.

I picture to myself the earth tremors alluded to in the Parasurama legend as having been caused by the forces called into play in the formation of these dykes. I imagine further that the magma or the molten rock beneath the crust of the earth was brought to exert pressure from below on our present hilly tracts by the subsidence of Kalpitham-code, to which I have alluded above. When any part of the earth's crust subsided, the liquefied matter below it would be squeezed out and would be dodging to find an exit in order to relieve the pressure. Splits or fissures would be formed along the lines of least resistance in the crust and these would be followed by tremors or quakes. These adjustments must have been going on for a long time until the crust became settled in its present apparently stable equilibrium.

These are the facts, which may be proved or reasonably surmised, contemplated in the title of this lecture. And, having fulfilled the promise implied in the title, I may conclude the lecture here. But the spirit of speculation urges me a step further.

How long ago did the Kerala coast attain the stability, which we now observe? As I have observed above it is difficult to say. All that we can say is that these things happened in some past age.

Some years ago a friend of mine at Changanacherry told me that a coil of rope, such as is used on sailing ships, was found in the lignite bed in a well sunk in the premises of the Bishop's House at Changanacherry. The Bishop's House is situated on the Varkalay Formation and the lignite bed is some fifty feet below the surface. The well was sunk in the early nineties of the last century and the diggers found the coil in the lignite bed, which here consists of black carbonaceous mud with the remains of plants. I was told that the coil of rope was found in its natural shape. But, when it was taken to the surface and left exposed to air, it crumbled and was reduced to powder. That this happened to the rope is not strange. But its presence where it is said to have been found presents a problem.

A coil of rope indicates a somewhat advanced stage in human civilization. Its occurrence in the lignite bed shows that when the rope was dropped there, presumably by accident, the bed was the topmost layer. Over it we now find many feet of sands and clays topped by a layer of laterite. If we suppose that the rope was dropped from a sailing vessel, it would mean that there was a considerable depth of water then where the Bishop's House is now situated. This in its turn would mean that the body of water over which the vessel plied extended farther eastward.

Now, we have come to the conclusion that the Parasurama legend refers to that epoch when the upheaval of the land which now lies to the east of our backwater tract had terminated and the silting up of the backwater tract had commenced. This kind of rope, which I find no reason to repudiate as it is averred by an eye-witness, although it looks incredible, would indicate that there was a population and civilisation in Kerala before the face of the earth here assumed the present aspect. This, however, would not contradict the Parasurama legend. It says only that Parasurama brought the present Malayalee Brahmins from abroad and established them in Kerala. Let us not worry ourselves further about this rope, whether real or imaginary.

Let us now pass on from geochronological considerations to historical records. From Strabo's treatise on geography, the Periplus of the Erythrean Sea and such other ancient works, we may get some idea of the physical features of Kerala at about the beginning of the Christian Era. I am sorry I have not been able to get hold of copies of these treatises for reference in connection with this lecture. What I say here will be largely from memory, and I hope you will excuse me for possible slight inaccuracies. But I do not propose to get into details, but only to refer to some broad features, in which I trust that my memory will serve me right.

We see from these works that the face of Kerala had pretty much the same aspect about two thousand years ago as it has today. There was the famous Muziris, which is identified by all authorities with our modern modest village of Kodungalloor, Palayur, Parur or Kottakavu, Niranam or Neakunda and other places situated in or near our backwater tract are mentioned by the ancient geographers. This shows that the silting up of the backwater area had been going on for many centuries before the commencement of the Christian Era. The alleged establishment of the Brahmin villages by Parasurama, some of which are situated in the silted up areas, must have taken place a long time after the final upheaval of the Kerala coast and the formation of the sand bars.

It is mentioned in the *Periplus* that Neakunda was 500 stadia from Muziris by sea or river. Which is the village or town in Kerala with

which we can identify Neakunda? In some editions of the *Periplus* this name is given as Nelkunda, alpha and lamda (a and l) having similar looking characters in Greek, in which language the work was originally written, I adopt the reading Neakunda for a reason, which will appear presently.

In some versions of Keralotpathi, the alternative name Niganda is given to Nirmannu, one of the ancient Brahmin gramams in the neighbourhood of Tiruvalla. Where is this Nirmannu? There is no village of that name now. I guess that the well-known village of Niranam, a little to the west of Tiruvalla, is the Nirmannu of the Keralotpathi. I believe that Niranam is an altered form of Nirmannu. To all our Place-names we can give a meaning etymologically. Rao Sahib Achyutha Menon has shown and we know that, when we fail to grasp the literal meaning of a place name, our failure must be due to our ignorance of the meaning of an obsolete word or to some corruption in the pronounciation of the name. I cannot attribute any meaning to the word Niranam unless it be a corrupted form of Nirmannu.

The name Nigand, which is an alternative name of Nirmannu or the name of some other village close by, looks like a sanskrit word. But I expect it is some Dravidian word, which some Sanskrit scholar, acording to the habit of Sanskrit scholars in the past, had glorified with a Sanskrit aspect. There are placenames in Kerala which contain the element kanda, such as Chenkanda, the name of a place near Sherthala. I believe that the refind-looking Niganda had its lowely origin in the *vernacular* word kanda.

However this be, I believe that the Neakunda of the *Periplus* is the Niganda of the Keralotpathi. According to this work, Neakunda was 600 stadia from Muziris and could be reached by river or sea by the ships of those days. By the sea route ships had to come to a place called Barkare in the *Periplus* and then go up a river for a distance of 120 stadia to reach Neakunda.

I identify the Barkare of the *Periplus* with our modern Porakad, a village a little to the south of Ampalapuzha. This was an important trade centre until less than a century ago. The distance from Muziris to Barkare is said to be 500 stadia. A stadion is about 202 yards, and it will be seen that the distance from the Munambam Bar, the exit from the Muziris to the sea, to Porakad is about 500 stadia or 55 miles.

McCrindle, one of the editors of the *Periplus*, has also identified Barkare with Porakad. But he came up against a difficulty in the identification of Neakunda. The *Periplus* says that ships could go by river from Barkare to Neakunda. But no such river now exists. But I think I have solved this difficulty. Two thousand years ago, and even

later, there must have been a river flowing past Nirmannu or Niganda and falling into the sea at Porakad. This is the conclusion I have arrived at from the geological exploration of this tract. The Munambam Bar through which ships approached Muziris is now partially silted up and the Purakad or Barkare Bar completely. It is the partial or complete silting up of these bars that gave rise to the Cochin Bar. Prevented from easy exit into the sea by the silting up of these ancient bars, the flood waters gradually worked out a way at Cochin thereby transferring also commercial importance to Cochin. We know that the Cochin Bar came into existence in recent historical times. The distance from Barkare to Neakunda or from Purakad to Niranam as we have identified those places is about 120 stadia as stated in the *Periplus*.

Niranam is now all silted up. No vessel which can be characterized as a ship can now go to Niranam. It is not now on the bank of any notable river although the course of the mighty Pampa is not far from there. The deviation of the course of the Pampa, the silting up of its mouth at Porakad and the silting up of the old Neakunda itself and similar new features have been brought about since the *Periplus* was written, which is said to have been in the first century of the Christian Era.

The river on which Neakunda was situated and through which the ships sailed to that place is called Barise in the *Periplus*. I think this name is the Tamil word Perisu, meaning, big, distorted into Barise (where the last *e* is to be pronounced) in Greek. Possibly the Pampa, being one of the biggest river, was the Periyar (perisu aar), of the first century. May be our present Periyar got its name after the Pampa glorified herself with her present classical name.

Those who form their idea of the size of ships from the modern vessels bearing that name may doubt whether it is true that ships were plying in our puny little rivers. The ancient ships were no larger than the present pattemars and they could easily navigate the lower reaches of some of our rivers and the lagoons. That such vessels were navigating our rivers in ancient times is indicated by the word *kappachal* current at least in Ampalapuzha and neighbouring taluks. The word literally means the course of a ship and is now employed to denote the deepest part of a river. It appears that the word must have come into use more than two thousand years ago when ships were actually navigating our rivers.

I have referred to these observations in the ancient works on geography in order to gauge the physiographical changes that have been brought about in Kerala in the last two thousand years. In the first century of the Christian Era, a ship could sail from Kodungalloor to Niranam by the lagoons and the rivers. Then ships could enter the

lagoons by the openings at Munambam and Porakad. All these are now silted up. Could we gauge from the rate of progress of these natural phenomena how long before these works were written the towns and villages situated in the estuaries of our rivers came into existence? The data are not sufficient for such an attempt. But I think we may unhesitatingly conclude that the state of things indicated by the Parasurama legend came into being at least two thousand years before Christ.

I do not intend to pursue the subject any further and tax your patience. I thank you for your tolerance and patience in so far attending to this lecture.

MURUGA OR KARTHIKEYA

HIS PROTO-INDIAN ORIGIN AND DEVELOPMENT

By Dr. A. P. Karmarkar, M.A., LLB., Ph.D., Poona

The history of Mūruga or Kārthikeya, or more properly known as subrahmaṇya in the south, is of absorbing interest. Like the history of the other deities of the Dravidian pantheon, the history of Kārthikeya also was shrouded in mystery up till now. But the Indus Valley discoveries have thrown sufficient light on the origin of this god. It is proposed here to trace the gradual development of this deity.

Proto-Indian Period

Father Heras observes that Mūrugaṇ or Velan, the proto-type of the historic Kārthikeya was one of the gods of the Divine Triad in the Mohenjo-Daro period. One of the inscriptions records, "the people of the united countries of Velan had the harvest counted on one side", (1) In this connection, Father Heras observes that, "Velan means 'the one of the trident' and is even at present used as a name of Subrahmaṇya in South India. Velan has always been the god of the Velāḷas, for he holds the Vel after which they themselves are styled. (2)" Velan in the above inscription is spoken of in connection with the harvest.

Another inscription states, that, "the moon (is) over the white mountain of the Velan of the Liṅga of the divided house of the two high suns."(3) Heras perceives that, "the inscription states that the moon is over the white mountain of He of the Velan. The latter being a son of Śiva in the historic period, he should also be a son of Āṇ in the proto-historic period. Now Āṇ has only one son named Āṇil, literally meaning 'the son of Āṇ".....His proper name is Mūrugaṇ, the ancient Dravidian name of Subrahmanya, found in one of the inscriptions of Mohenjo-Daro, which reads "*Mūrugaṇ adu*". "that is Mūrugañ".(3)

The vedic period and later

That the early name by which the later Kārthikeya or Subrahmaṇya was designated was Mūrugaṇ, becomes evident from the expression

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1 Marshall, Mohenjo-Daro and Indus Civilization, III, M. D. No. 397.

2 Heras, "The Velāḷas of Mohenjo-Daro", New Indian Antiquary, 1, page 52.

3 Photo, M.D., 1930-31, Dk. 10551.

Mūradevāh used in the Ṛgveda. (1) The expression *Mūradevāh* described as having bent necks, has been variously interpreted, by scholars. Sāyaṇa comments on it as "destructive Rākṣasas". As we have suggested elsewhere, the Mūradeva forms one of the deities of the Divine Triad.(2)

In the Taittirīya Āraṇyaka, Agni and Vāyu are described as the servants or attendants of Indra, called by the name of Subrahmaṇya. Narayana Ayyar rightly proposes that, "the southerners were influenced by this wide-spread movement, and, identifying their own deity Mūrugaṇ with Subrahmaṇya, regarded him as an equal to Indra and Varuṇa"(3). The Atharvaśiras Upaniṣad refers to the word skanda(4). The word Kumāra by which name Kārthikeya is known later on, is referred to in the Ṛgveda (V. 2) and the Satapatha Brāhmaṇa (6, 1, 3, 7, 8). But the word Kumāra used here does not at all signify the later Kārthikeya.

The Epic and the Puranic accounts on the birth of Karthikeya

The Epics and the Purāṇas have detailed various stories in regard to the birth of this God. The Rāmāyaṇa describes that Kārthikeya was the son of Agni and Gangā(5). The Mahābhāratā details the following story:

"Agni fell in love with the wives of the seven Ṛṣis, and, being unable to attain the object of his love, resolved in despair to give up his corporeal form. Svāhā, one of Dakṣa's daughters, who enamoured of Agni took advantage of the opportunity, appeared before him in the guise of the wives of the six out of the seven Ṛṣis, for she could not assume the divine form of Arundhatī, the wife of Vasiṣṭha, and had intercourse with him in succession. She repaired, every time after her union with Agni, to the top of an inaccessible mountain, and there stored in a golden reservoir, his seed, out of which arose in course of time a son with six heads, twelve ears, eyes, arms and feet united to a single body and neck. While

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1 Ṛgveda, VII, 104, 24; X, 87, 2; and X, 87, 14. On the first Sāyaṇa comments, "Maraṇa- krīdā Rākṣasa; in the other two as, Mūḍha-devān.....Māraka--vyāpārān Rakṣasān or simply Marana-vyāpārān, etc. Wilson renders the term as those who believe in vain Gods.

2 A. P. Karmarkar, "The Vrātyas in Ancient India", Jour. of University Bombay.

3 C. V. N. Ayyar, Saivism in South India, pp. 102 ff.

4 Mūir, Original Sanskrit Texts, IV p. 35.

5 Ramayana, I. 37.

still a babe of four days, he split the Krauñca hill, demolished one of the peaks of the śveta mountain, and caused a great commotion in Śvarga. The Ṛṣis, who learnt from the panic-stricken gods that the cause of their trouble was the son born to their wives through their illicit intercourse with Agni, cast them off. In course of time, the boy bĕcame a mighty hero and was formally invested in the presence of the assembled gods, including Śiva, with the imsignia of his office; and his marriage with Devasenā was duly celebrated. The wives of the six Ṛṣis who had been abandoned unjustly by their husbands then came to him, and, having explained their sad plight, begged him to provide them with some place in heaven. Kumāra took pity on them and persuaded Indra to accommodate them in the neighbourhood of Rohiṇī in the place vacated by Abhijit who had gone to perform austerities. Thenceforward these six wives of the Ṛṣis are shown in the sky under the name of Kṛṭhikās with Agni as their presiding deity".(1)

The Purāṇas give varied accounts regarding the birth of Kārthikeya. The main story may be briefly narrated as follows:

"The gods who were sorely beset by Tāraka, approached Śiva with a request that he should give them a commander capable of destroying the demon. Śiva agreed. To implement his promise, annoyed beyond measures at the unwelcome intrusion, Śiva discharged upon Agni the seed intended for Umā's womb. Groaning under its weight, the latter made at first an unsuccessful attempt to deposit the precious burden in the celestial Gangā; next, he proceeded to the lake Śaravaṇa where, on perceiving the wives of the seven Ṛṣis, he was smitten with love, and when all of them excepting Arundhati, came to him believing him to be mere fire, he embraced them, and penetrating into their wombs deposited therein the seed of Śiva. They became pregnant forthwith. Fearing the wrath of their husbands, they forcibly ejected the seed from their wombs, and placing it on a lotus leaf in the lake, returned to their homes. The Ṛṣis, however, were not deceived; irate with their spouses for their unworthy conduct, they cast them out without compunction".(2)

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1 Of Venkataramanayya, Rudra Siva, page 73, Mbh. III, 228, 229.

2 Cf. Venkataramanayya, *op. cit.*, p. 72. For the story of Kārthikeya and Tārakāsura: cf. Skanda, Kaumārikā kh. adh. 16; *Ibid,* Māheswara kh., Kedāra kh., adh. 31. (In adh. 28 is described the Kumāra—Muchukunda war.) *Ibid, Nagara kh.*, 244 ff. Anusāsana Parva (Mbh.), 130 ff. Linga Pūrvārdha, adh. 100. Brahmāṇḍa pu., madhyabhāga, adh. 65. *Ibid,* Uttarabhāga, adh. 11. Siva Purāna, Rudrasaṃhitā, Parvathi kh., adh. 15. On the birth of Kārtikeya, see: Padma Purāṇa, Sriṣti Khaṇḍa, adh 37 ff. Salya Parvan (Mbh.), adh. 45 ff. Skānda Purāṇa, Chaturāsītilinga-māhātmya, adh. 6. Varāha Purāna, adh. 25—32 ff. Vana Parvan, (Mbh.) 225—26. Viṣhṇu Dharmottara, Ist kh., adh. 229 ff. Siva Pu., Rudrasaṃhitā, Kumāra-Khaṇḍa, adh. 3. Garuḍa, Purāṇa, purva kh. Ist amsa, adh. 6. Brahmāṇḍa Purāṇa, Madhyabhāga, adh. 10. Vāmana Purāṇa, adh. 57. Soura Pu., adh. 53.

Mainly depending upon these and several other passages in the Vedic and Purāṇic literature, Venkataramaṇayya emphatically states that, "Nevertheless, it is in these vedic texts that we catch the earlist glimpses of the later war-god in his embryonic state; the incidents of his birth and some of the names such as Kumāra, Agnibhūh, Śarajanmā, Kārthikeya, and Senānī by which he is known clearly indicate that before his differentiation into a separate deity and affiliation to Siva and Pārvati as their son. Skanda Kumāra was closely associated with Agni." (1) But we are not to be easily convinced with the line of argumentation adopted by him. The abrupt rise of a god out of 'nothing' seems to us an utter impossibility. The early account of the Mohenjo-Daro inscriptions and the Śangam literature do point out that Karthikeya had from the start an independent personality of his own. And what the vedic Brāhmans seem to have done is that they have attempted to Aryanise this early deity of the Dravidians. They had already identified Rudra with Agni. Eventually Kārthikeya also was depicted as the child of Agni, possessing all the characteristics of the latter.

It should also be noted that Venkataramanayya has kept in the background altogether the fact of the independent existence of Mūrugaṇ so often appearing in Tamil literature.

Murugan in Tamil Literature

Murugan or Mūrugan is a very popular deity amongst the Tamils since ancient times. He is very often referred to in the Śangam literature. The Tolkāppiyam mentions the following gods, namely, "Māyan, or Kṛṣṇa, Seyon or the Red God Subrahmaṇya, "Vendan" or Indra and Varuṇa (2). Further it is described that, "the forest region which is dear to the ocean-coloured, the mountain region to the red Mūrugaṇ, the well-watered river region dear to Varuṇa, are respectively known as Mullai, Marudam and Neydal" (3). Mūruga was considered by the Tamils as a god of the Northern region, the commentator of the Tolkāppiyam, Naccinar-kiniyar—refers to the worship of Mūruga. He observes that, "in the Kuruñjī region the Kuravas (or the dwellers of the forest region), and others are found to offer several oblations to the sacrifice to the Red god" (4). It is further stated that "she (the worshipper) will recover if the powerful and famous Mūrugan who destroyed the people of the earth, is worshipped".

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1 Venkataramanayya, *op. cit.*, p. 74 ff.
2 *Tolkappiyam* Por. 5.
3 *Nach. Com.*, p. 131.
4 *Aham.* 22.

Further the two trees, Vengai (*Pterocarpus bilorbus*) and Kadampu (*Eugenia racemosa*) are sacred to him (1). Mūrugaṇ is described as dwelling on high hills covered with Vengai trees. He inhabits amidst Kadampu trees. He performs the Kuravai dance with Kurava maids, dwellers of mountain homes". He rides now an elephant, now a goat, or again a peacock. His banner has a wild fowl for its device.

The chief scene of his activities is the battle-field where he figures by the side of the Great Demoness putting her in the shade by his powers and military skill. He marches at the head of imps and gives victory to the fanciful Maravar, who never fails to propitiate him by sacrifices and drunken revels before and after battles. (2)

A graphic description of the orgies in honour of Mūrugaṇ is found in Paṭṭu-paddu (3) A shed is put up and is adorned with garlands and flowers. High above it is hoisted Mūrugaṇ's flag bearing the wild fowl's device, to scare away, as the commentator suggests, blood-thirsty goblins from the feast. His priest who bears his favourite weapon *Vēl* or javelin and who is therefore known as Velan (the name of god also) has a red thread round his wrist probably as a sign of consecration to the deity. He worships at the altar and uttering spells and incantations scatters flowers and fried paddy on all sides. He then slaughters a fat bull and in its warm blood mixes boiled rice and offers it to the god amidst blare of horns, bells and drums, while the perfumes of incense and flowers fill the place. Toddy, of course, forms an integral part of the service whose characteristic name is *verri-addu,* drunken revelry. The Velan, as well as the men present, begin to dance to the frantic songs of the assistants. And some one in the company—it is usually the Velan—becomes possessed by the deity and jumps and snorts, giving out at the same time oracles as regards the fortunes of the by-standers. These sacrifices to Mūrugan seem to have been very prevalent in the South of India in ancient times; so much so that all sacrifices have come to be known by the name *Muruga.* The modern devil dance of the villager is but a repetition of the *verri-addu* of the ancient days. (4)

Mūrugaṇ was believed to enter into ordinary passers-by and afflict them with all the effects of demoniacal possession. (5) In the *Skanda-purānam* it is said, that "when Valli showed signs of possession a "drunken revelry" was held by the Kuravans, the kinsmen of the valley. An old priestess officiated. While she was indulging in expressions of

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1 Of Jnana Prakasar, *Siddhanta Saivism,* pp. 117 ff.
2 *Puram.* IV. 19; P. P. V. 1, 21; XII. 10.
3 *Pattu-paddu,* 1. 220-249.
4 *Of Jnana,* Prakasar, *of. cit.,* p. 118.
5 *Ibid.*

religious frenzy, Mūrugaṇ entered her frame and told the expectant crowd that it was himself who had laid his hand on the damsel when she was alone in a jungle sojourn. (1)

Skanda in other provinces

It is very interesting to note that Kautīlya in his chapter on *Durganivāsa* states that, "in the centre of the city, the apartments of Gods such as Aparājita, Apratihata, Jayanta, Vaijayanta, Siva, Vaiśravaṇa, Aśvin, and the abode of the Goddess Madirā, shall be made. In the corners the guardian deities of the ground shall be appropriately set up (2). Patañjalī refers to the images of Śiva, Skanda and Viśakha (3). The reverse of the coins of the Kushāna Prince, Kanishka, contains the figures with their names in Greek letters of Skanda, Mahāsenā, Komāro and Bizago (or Viśākha) (4) Banerjee has given some other important details (5). On the coins of the Kushāna Emperor, Havishka, is represented Skanda Kārthikeya. Further, on the reverse of a circular copper coin of Devamitra, a local king of Ayodhyā, of an early date (c. Ist Cen. A. D.) we find a symbol which has been described by V. A. Smith as "cock on top of post" PI II fig. 5). The same device is to be found on some coins of Vijayamitra (Nos. 31 and 32). Banerjee argues that probably it was based on a cock-crested column special to Kārthikeya (6). Kārthikeya appears in human form sometimes in a poly-caphalous (six-headed) manner on the unique silver and certain copper coins of the Yaudheyas, belonging to the second century A. D. The obverse of one class of these coins bears the six-headed but two-armed Kārthikeya (Ṣaḍānana), holding a large spear (Śakti the special emblem of Kārthikeya) in his right hand, the left hand resting on hip; the reverse bears the goddess, presumably Lakṣmī with an aureola round her head, and not a six-headed goddess as Cunningham describes it: the legend on the silver coin has been reconstructed by Allan as "Yaudheya—Bhāgavata—Swāmino Brahmaṇya (so or sya)", and on the copper coins as "Bhāgavata Svāmino Brahmaṇya devasya (or sa) Kumārasya (or sa)" (7). Marshall, while referring to a well-executed seal (3rd or 4th Cen. A.D.) found by him in course of excavations at Bhita, says, that, the inscription reads "of the illustrious Mahārāja Gautamīputra Vṛṣadhvaja, the penetrator of the

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1 *Ibid*, p. 118.
2 *Arthasastra,* (Trans. by R. Shama Sastri), p. 59.
3 *Patanjanal,* on Pān V. 3. 99.
4 Banerjee, *The Development of Hindu Monography,* pp. 155 ff.
5 *Ibid.*, p. 155.
6 Allan, *C. A.*, p. oxlix, Banerjea; *op. cit* v. p. *ibid.*
7 *Of Jnana,* Prakasar, *of. cit.*, p. 118.

Vindhyas, who had made over his kingdom to the great Lord Kārthikeya". The appellation "Mahēṣvara—Mahāseneti—rāshtrasya" is significant. Marshall remarks on this, "it seems to indicate that in ancient times there may have existed a pious custom according to which rulers on the occasion of their accession entrusted their kingdom to their Iṣṭadevata and considered themselves as their mere agents (1). The Yaudheyas, who are also known as Mattamāyūrakas, had occupied the country of Rohitaka, which was styled in the Mahābhārata as one being specially favoured by Kārthīkeya" (2). The Bilsad stone-pillar inscription (415—16 A. D.) of Kumāragupta I records the grant by one Dharmaśarman to the temple of Svāmi Mahāsena (3). It also mentions the word Brahmaṇyadeva. The Guptas were evidently keen devotees of Kārthikeya as their names Kumāra and Skanda indicate. An elaborate iconographic type occurs on the reverse of the "peacock" type gold coins of Kumāragupta I. "It shows the God Kārthikeya riding on the peacock (Paravani) holding spear in left hand over shoulder, his right hand being in the Varada pose; his figure is placed on an elaborate *pañcaratha* pedestal(4), we need not enter into the other details. The famous work Kumāra-sambhava deals with the birth of this great god.

It is also interesting to note that "Śūdraka, the author of the famous play *Mrccha-katika*, introducing a thief as one of the characters in his drama, makes him, before starting on his profession, invoke the blessings of Skanda". The Skānda Purāṇa gives a graphic description of the Stambeśvara-tīrtha.

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1 Banerjea, *op. cit.*, p 156.
2 *Mahabharata*, III, 32, 45.
3 Fleet, C. II., III, pp. 45—6.
4 Banerjea, *op. cit.*, pp. 155 ff.

ARCHAEOLOGY

Part I

(Mr. T. K. Krishna Menon)

The word Archaeology has a Greek origin. The Greek word *archaiologia* may mean tales of the past, knowledge of the past, or ancient history. One scholar has defined archaeology as the science of ancient things. Here, one may well ask, can it afford to be a separate science in itself? If at all, it can only be a combination of several sciences that help to unravel the past. To name only a few of these, I have to refer at least to Geology, the science of the earth's crust and their relations and changes; to palaeontology, the study of extinct organised beings; to architecture, the science of building; and to palaeography, the study of ancient writings, and inscriptions, which again takes in the writings on clay seals, stone, copper, papyrus and palmyra leaves. Again, however much an archaeologist may be preoccupied with things, he has to really interest himself in peoples as well. Archaeology and anthropology reach on each other. An archaeologist has to rely on anthropology for a correct knowledge of the culture of various races, while an anthropologist must know archaeology "if he is to know anything of the origins and reasons of what he is observing." Closely allied with anthropology are ethnology, the science of races, their characteristics, and their relations to one another, and ethnography, the scientific description of races of men. To these too, archaeology has to look for help, while they, in their turn have to gather help from archaeology.

The study of the material objects of the human past is another definition of the word; and this one adds that those who devote their time and capacities to this study are archaeologists. Yet to another I wish to invite your attention. There the writer defines it as a study of the past in the light of all objects that belong to that period. He also says that an archaeologist employs scientific methods of enquiry to reconstitute a complete history of the period. To this end he will investigate other possible points of contact as well. The latest definition of archaeology that I have come across regards it, and rightly too, at the same time, as a science as well as an art. It is worded thus. "The task of an archaeologist may broadly be defined as: The scientific exertion, based on the understanding of the remote past, with the material remains of this past, *i. e.*, the antiquities." It then amplifies the word exertion—a key word—in these terms: "I use the term exertion deliberately and not science, pure and simple. This exertion is fourfold; recovering, describing, interpreting and dating as well as further studying."

This aspect of the subject is very important and so, I shall briefly deal with it before I leave it.

An archaeologist has to look for antiquities, and, then to bring them to light, and restore them, if possible, to their original form. As we know, usually, he has to reach for his materials beneath the surface of the earth. Let me recall to you the treasures that were recovered from the grave of Tukakkhamon. I invite you to the fascinating works of research scholars on the remains of the ancient Universities of Takṣhaśila and Naḷanda. The glory of the forgotten empire of Vijayanagar lives in the pages of Dr. Sawell, Fr. Herras and others. The classic report of Sir John Marshall details the discoveries at Harappa and Mohenjo-Daro. Have not these last easily flung back the date of the Indian Culture—may I say Dravidian Culture—by several centuries? Archaeology, it is rightly said "has lengthened the history of mankind by tens of centuries, and prehistoric archaeology by hundreds of centuries."

Everything that we can get out of excavations, all the surviving fragments, are extremely valuable. That is why it is said that the site should not be spoiled, and the methods employed should not be hasty and unscientific. The actual process of excavation can be done only by one who has acquired an equipment and experience which are the outcome of time and training.

The next step is to describe the materials discovered, so as to be made available, to a wider circle of scholars. The description should be complete, of the materials and of the spot from which they were got. No data that will be wanted for further study should be omitted. It stands recorded that "it is an unpardonable crime in archaeology to destroy evidence which can never be recovered; and every discovery does destroy evidence unless it is intelligently recorded."

Interpretation takes me to the third stage in an archaeologist's work. For this and for further work, his knowledge has to be many-sided, and has to be guided by a well-disciplined imagination. Then alone the needed benefits will result from the exertion, and art, history and literature will be benefitted by it.

To illustrate my point, let me for a moment go back to an excavation. It may disclose the damaged foundations of some structure; and, from among the debris, it may be a cracked pot, a broken figure, a knife or a clay seal that we get. We shall examine these, at least, in a cursory way.

Do the foundations indicate a place of worship or a human habitation? Is it made of wood, stone or brick? If a house, is it provided with a bath and drainage? Indian temples formed centres of learning.

They patronised arts and culture. In fact, spiritual content is the most vitalising feature of India's civilization. Again, it is correctly remarked that "the rules of *silpasastras* are the rails of freedom on which art travels to its goal of Truth and Beauty." So that, if the remnants disclose something of the method of construction, that will throw much light on the state of society of that period.

What is the knife made of—stone or metal? If of stone, is it only clipped or is it ground and polished? Pottery was a new comfort that came later. From simple patterns, geometrical ones were evolved. Is the pot one that is baked? Does it contain any paintings on it? In many instances, it will have animals painted or incised on it, so true to nature, that they evidence not tentative treatment but a mastery of technical skill, which implies no small amount of training. Similarly, the supple beauty of the figurine, with its sense of form and power of expression, may bespeak of patience and practice and of a cultural background. The writing on the seal, if it could be deciphered, will open up a vista of the past that will be remarkable from many points of view.

Now I shall sum up what all these would mean, and try to show the benefits to be derived by conducting explorations and excavations of ancient sites. Archaeology starts with the appearance of man on earth. Its very definition will show that to be the ultimate limit. Geologists will bring it into the Palaezoic age. Before it, is the azoic age, when life was not. The middle life and the recent life are covered, respectively, by the mesozoic and camozoic periods.

It may profit us to glance at another division of the age of the world. We call the stone age and the metal age. In Europe, stone age gave place to bronze age, while in India, it passed into copper and iron ages. The difference is of course due to the metals available in the two countries. Stone age is divided into four periods; but I shall trouble you only with palaeolithic, the old stone age, when tools were shaped by clipping hard flints, and neolithic, the new stone age, where they were made by grinding and polishing flint.

The ceramic history of old cultural centres has been studied and their ages and points of comparison noted with great care by archaeologists. It is possible, therefore, to know in which group new finds should be placed, and to ascertain, more or less, their age.

Materials like these serve as becaon-lights in the dark path of Indian pre-historic days. They have helped to reconstruct the ancient history of India, to correct the errors of those who want to modernise everything Indian, and also to raise the Indian nation in the estimation of the world.

According to the geologists, India was part of a continent called Gondwana, which extended from South Africa through Australia as far as South America. The Western Ghats, our Malyāchala, formed the watershed separating the eastern from the western part of Gondwana. Once, the late Chattambi Swami quoted from memory the boundaries of a continent, as given in a geography, ascribed to Saint Agasthya, which exactly tallied with those of this continent, parts of which now lie submerged in sea. This cannot after all be called a myth.

The historicity of Gautama Buddha was at one time doubted. It was then that the Department of Archaeology discovered the Asoka Pillar at Lumbini. The Brahmi and Pali inscriptions on it clearly stated that it was put up in the place where that great saint was born. Asoka was accompanied to the spot by Upagupta, his *guru*, a very old man who was practically an eye-witness of the event.

The excavations at Mohenjo-Daro have revealed the state of things of a date long anterior to that of the birth of Buddha. In the words of Dr. Hirananda Sastri, the late Epigraphist of the Government of India, "There is no known structure in pre-historic Egypt or Mesopatomia or elsewhere to compare with the wellbuilt, commodious houses of the citizens of Mohenjo-Daro. Their sanitary baths and the elaborate system of drainage show that even the ordinary townsfolk there enjoyed a degree of comfort and luxury unknown in other parts of the then civilised world." That was somewhere about 5,000 B.C.

To one another important monument also let me invite your kind attention. It is the Garudadhwaja at Besnagor, a memorial pillar in honour of Vāsudeva, Sri Krishna, the central figure in the epics of Mahabharata and Bhagavata. It is set up by Heliordoros, son of Dion, an ambassador (*yavana-duta,* the inscription says) from the Indo-Bactrian King Antialkedas, who lived in the 2nd century B. C. to King Bhagabhadra. Heliodoros called himself Bhagavata, a devotee par excellence. He had embraced Vaishnavism, and did not hesitate to proclaim his new faith.

In spite of the outstanding contributions of archaeology to historical knowledge, there are those who say that "there is no use of digging graves. (Mohenjo-Daro means the mound of graves). There is no hurry anyway. (There is solace in that modified verdict). Let us get swarajya first; other things will come in its train". According to them, sites and the invaluable relics they contain which have raised India in the estimation of the world, and made the antiquity of India more ancient by several milleniums, may be left to themselves to be irretrievably lost or at any rate damaged. These persons may well be left to the companionship of the old lady who, when advised to read

great lives, said "Let bygones be bygones. Let the dead bury the dead. I like to live in terms of the present".

Are there any sites in our State or near about it which we can excavate with profit? With the answer to this relevant question I shall close this part of my paper. Thiruvanjikuḷam, the far famed Vanji, was, in spite of two Tamil Pandits, the capital of the Cheraman Perumals. There is the illuminating work of Justice Sesha Ayyar on the subject. Several Tamil and some Sanskrit works have ample references to it. Sites there, particulary the Cheraman Parambu, will afford confirmatory evidence of the facts recorded in those works. There is Matilakam, four miles north of Vanji, which requires treatment. It was the seat of an ancient University from where Chilappadhikaram, one of the five Tamil Classics, was published. The author Ilanco Adigal, was also, so to say, the director of that seat of learning. Matilakam became famous as the site of a famous Siva temple, where the Nambudiris and the Nayars met to decide all questions connected with the development and administration of Kerala. In fact, the land between Kottamukku and Chetwaya will be fit field for conducting excavations.

Some of the western parts adjacent to the hills that skirt on the east of our State will be worth a trial. Once I was standing on the top of the well known Malayattur hill with a forest officer, and enjoying the enchanting prospect on the eastern side. He then told me that, within three miles from the foot of the hill, on the east, he had seen well-made wells and remains of houses. An old man of the locality then remarked that the tradition there was that the village of Ĕkachakra was situated in that part, and Bakasura had his *tapas* on the hill on which we stood, and the Sivalinga he used for worship can still be seen in a receptacle close by. The giant was such a good eater that I am afraid he would not have left any skeletal remains after his necessarily light lunches. But I am sure our search on and under the eastern hills will surely be rewarded with the discovery of the wreckage of human habitations and of temples dedicated to Durga and Ṣāsṭha.

Notes and Comments

Explanation:—Owing to the change in the constitution of the Committee, that of the Press and the unavoidable delay in the Press and other causes beyond our control, the publication of the Journal has been delayed for which we express our regret. We also regret to have to reduce the size of the Journal on account of the scarcity of paper and the cost of printing. At the suggestion of the Managing Committee, we have adopted the title "Journal" instead of "Bulletin" from this issue.

* * *

Affiliation of the Institute to the Archaeological Society of South India.—We have the pleasure to announce that, with the approval of His Higness' Government, the Rama Varama Research Institute has been affiliated to the Archaeological Society of South India, Madras (G. P. R. Dis. 15039/20, dated 3rd February 1945). Below is given a brief account of the first meeting.—

"A meeting of the Members of the Rama Varma Research Institute and those others who are interested in archaeology and research was held on Friday, 12th January 1945, at "Ramanilayam", the Diwan's residence at Trichur, with Sir George T. Boag, K. C. I. E., C. S. I., I. C. S., in the Chair.

The Chairman opened the meeting with a few remarks on the need for the organisation of a society in Cochin, devoted to the study of the history and evolution of Indian culture and civilisation, with special reference to Kerala. As it was a mistake to duplicate institutions, which would naturally weaken the existing ones, the Chairman suggested that it would be advisable to ask the Madras Society if they would accept the Institute as a branch of that Society. If his suggestions were to find favour with the members present, he concluded, then the rules of the Rama Varma Research Institute might be adopted as the rules of the proposed Branch.

Professor S. F. Nunez said that the field covered by the Rama Varma Research Institute and the Archaeological Society was the same, he found no objection in identifying one with the other.

Rao Sahib K. Achutha Menon supported the idea put forth from the Chair, and the rest of the members present agreeing to it, it was resolved.—

(*i*) That the Rama Varma Research Institute of Cochin be the Cochin Branch of the Archaeological Society of South India, and that its rules be adopted as the rules of the Branch Society.

(*ii*) Resolved, further, that the Managing Committee of the Rama Varma Research Institute be the Managing Committee of the Cochin Branch of the Archaeological Society.

Messages of good wishes for the future of the Branch Society sent by Dr. Sir A. Lekshmanaswami Mudaliar, Vice-Chancellor, Madras University, Sir Thomas Austin, Adviser to H. E. the Governer of Madras, Mr. C. Sivarama Murthi, Dr. A. Ramakrishna Reddy and Dr. A. Aiyappan, President, Vice-President and Office-Bearer, respectively of the Archaeological Society, Madras, were read at the meeting by the Chairman,

Rao Sahib K. Achyutha Menon, then read a paper on "Archaeology" sent by Mr. T. K. Krishna Menon, who could not be present at the meeting on account of ill-health.

The meeting terminated with a vote of thanks to the Chair proposed by Mr. S. F. Nunez.

The Chairman and Members then witnessed the exhibition of the Taxilian coins, potteries and other objects, brought by Mr. P. Anujan Achan from that ancient city."

The question of affiliation was considered at a meeting of the Council of the Society held at Madras on January 22nd 1945, with Dr. Sir A. Lakshmanaswami Mudaliar in the Chair, when it was resolved to affiliate the Rama Varma Research Institute to the Archaeological Society of South India as its Cochin Branch.

* * *

Dr. R. E.Mortimer Wheeler's address.—When the Director-General of Archaeology in India, Dr. R. E. Mortimer Wheeler, visited the State in June 1945 to inspect the excavations at Cranganur, Rama Varma Research Institute arranged a reception for him at Trichur. Dr. Wheeler was pleased to address the members of the Institute on the 6th June 1945. The meeting was held at Ramanilayam, Sir George T. Boag, the Vice-Patron of the Institute, presiding. Dr. Wheeler, addressing the gathering, explained the meaning of term "archaeology" and pointed out how in recent years, archaeology had come to be regarded as a definite branch of science like any other science. Archaeology, he said, was the apparatus through which they could study the whole series of the unique expressions of human intelligence. He regretted that many cities in India had still no chance of carrying on researches in excavation. Progress in archaeology depended upon the co-ordination and co-operation of all various sciences like physics, chemistry, biology, botany, geography, climatalogy, etc. As the Head of the Department of Archaeology, he would very much like to break down the principle

of departmentalism in the university and ensure co-ordinated work in this department. He adverted to the opening of a temporary school of Archaeology in Taxila and explained how it had greatly helped the excavation work. He hoped that at least one of the Universities of India would soon get going a properly equipped archaeological department roping in all the fellow scientists in that great work and thus lead the way.

Referring to his visit to the excavations at Cranganur, Dr. Wheeler said that he could see that the site was once a great centre of commerce having connection with the West. India, he said, stood on the highway of human civilisation; Arabs and the Jews and other western people like the Syrians and Babilonians had each of them left their marks upon India. India had conduct with the world-wide cultural currents, and the old stone monuments, they had in Cochin were part of that story. The megalithic monuments of South-India, Dr. Wheeler, went on, were identical with those in North Africa, Spain and other parts of Europe. The rock-cut tombs of Cochin State which he saw that day were quite parallel with those in other parts of South India, Western Asia and Europe. These had to be properly classified and excavated in a scientific and methodical manner.

The remarkable architecture of Cochin, Dr. Wheeler said was another thing that had struck him. They resembled the architecture in China. He suggested for an architectural survey of the State with the aid of photography. The meeting terminated with a vote of thanks to Dr. Wheeler and the President, proposed by Rao Sahib K. Achyutha Menon.

* * *

The history of ancient Cochin is unique. It provides a study in miniature of the History of Kerala, of different races and cultures, and their impress on the developments that have taken place in the course of ages. No research is easy, and least of all research in history. The field here is wide, and the materials are abundant. These have yet to be explored and collected and made available for a correct, continued narrative of our past history.

We trust that the Institute and Archaeological Association will stimulate at least a few workers to do the pioneer work and that they will create a nexus between our workers and those in other parts of India and beyond it. They will also, we hope, arouse and maintain popular interest in historical studies in general and of Cochin in particular.

* * *

P. Anujan Achan
Secretary

"In the Footsteps of Hsuan Tsang"—This is the arresting title of a recent article by the Hon'ble Mr. K. P. S. Menon, M. A., C. I. E., I. C. S., Agent General for India in China. After a spell of office-work in Chungking, Mr. Menon was in India on leave in August 1944. On the expiry of his leave, he could have crossed easily into China by plane in a few hours. Instead, he decided to go by the long and arduous route taken by the great pilgrim scholar Hsuan Tsang, when he returned from India to China in 645 A. D. Taking that route, Mr. Menon was 120 days on the road, instead of 11 hours in the air, before his destination was reached. As a constant companion on that trying journey, the new pilgrim carried a volume of Hsuan Tsang's Memories, for guidance, verification and inspiration.

The true significance of this venture was recognised and appreciated by none less than the Governor of Sinkiang, (a western Chinese province more than two and a half times as big as France). Mr. Menon writes.—

"Of all the generous compliments which kind friends showered on me during the trip which I have completed, there is none which I treasure more than a gracious remark made by Mr. Wu Chung-Hsin, the Governor of Sinkiang at a banquet, given jointly by him and General Chu Shas-Liang, Supreme Commander of the 8th War Zone at Urunichi on 20th November (1944). "Mr. Menon," His Excellency said, "has been following in the footsteps of Tang Sen (Hsuan Tsang). In doing so, India has at last repaid the compliment which China paid to India 1300 years ago".

The earlier pilgrim wrote, I traversed over vast plains of shifting sand, scaled precipitous mountain-crags clad with snow, found my way through the scarped passes of the iron gates, etc." Mr. Menon in his most interesting narrative relates remarkably similar experiences. He feels his way along 18 inch paths cut into the sides of precipitous rocks more than 10,000ft. high! He crosses treacherous glaciers; on glassy ice rides a yak royally and safely as Siva on the sacred bull; goes a gallop on "the Roof of the World;" wanders beside hot sulphur springs; sleeps in sandy deserts silent like the primeval wastes; tastes the luscious grapes of Turfan; sees the flower-like girls of Kuchar. As he traverses all this ground, he takes us through also the long corridors of time, with the camels on the Great Silk Road at one end, and aeroplanes over "the hump" at the other. He speaks of the various peoples he met, rich in human qualities, of the immensity of China, of the glory and antiquity of her civilisation. That civilisation "has strong foundations and a splendid superstructure. It cannot fall. Nor can the world afford to let it fall."

We hope that the article will soon grow into a book.

* * *

Prof. T. C. S. Menon

Bhatta-Vṛtti is the provision of a living for a Brahmana whose function is to teach. (1) He should not be a native of the village where he is to get this.

(2) He should be a *Samavedi*, but must also be able to teach and expand the other three Vedas as well.

(3) He ought to be able to teach *ashtadhiaye* and expound the *Paniniya Vyakarana.*

(4) He ought to be able to teach *alamkara* and the *mimamsa.*

(5) He ought to take nothing from students to be taught, and to give them one meal a day.

* * *

About the Nalanda University, there is an illuminating article, in the J. of B. R. S. (Vol. 30 Pt. II) from the pen of Prof. Radhakumud Mukkerji. It takes account of the recent excavations on the site, and also the modern researches on the subject. The object of this note is to invite the attention of the research scholars to that article and to a book about that ancient famous institution by Dr. Hirananda Sastri.

The article gives a graphic description of that great and ancient seat of learning and of its importance and working. Nalanda attracted scholars and students from all parts of India and far outside it, and formed the largest residential university of the times, run in a very efficient and methodical way. It may well be said that Nalanda was the pride of India; and Mr. Mukkerji has done well to recall the days of its glorious past and inspire research scholars to greater efforts in the unravelling of the hidden glories of that ancient university.

Sri T. Madhava Menon B. A.

* * *

Madirotsava (printed in Devanagari– Price Re. 1.—Can be had of the author).

We welcome with delight this rather free Sanskrit rendering of Umar Khayyam's Rubiyal by Sri Siromani P. V. Krishnan Nayar B. O. L. of the Maharaja's College, Ernakulam. We have seen two beautiful Malayalam translations of the same work, one by Major Sirdar K. M. Panicker, the talented and versatile Prime Minister of the Bikanir State, and the other by the well-known scholar-poet, Sri G. Sankara Kurup. Mr. Krishnan Nayar has followed the classic version of Edward Fitzgerald. To give a general finish and to make it easily understandable to all Indians, though the translator has here

and there omitted an idea, or two, yet the reader will never miss the melody and the mystic hint, the fine phrasing, the play of humour, and the veiled cynicism of the original.

In the suggestive and weighty words of that great scholar and statesman, Sir C. P. Ramaswamy Ayyar, who has written a valuable introduction to this brochure, we would say without any doubt that Mr. Krishnan Nayar has done a very difficult task in a meritorious way. To give a specimen, we will just quote this original and its translation.

''യത്രാച്ച സുച്ഛായ തരോരധസ്ഥാൽ
കാവ്യം രസാർദ്രം മധുപാത്രപൂപൌ
സംഗീതഭംഗീ മധുരാ ച കാന്താ
കാന്താരദേശോപി സ നാകലോകഃ''

'Here with a loaf of Bread
beneath the Bough,
A Flask of Wine, a Book of
Verse – and thou
Beside me, singing in the
Wilderness—
And Wilderness is Paradise enow.''

Before we close we would like to say, not as a piece of criticism, but as an appeal to the patriotic instincts of Mr. Krishnan Nayar, that Sanskrit Literature is like the Himalayas; it may not feel enriched by an offering of a rose and a lily of a Persian valley; but our literature requires all the talents of our scholars for its development.

Sreemathy T. C. Janaki Amma
M. A. (Hons.) Sanskrit.

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