

THE  
JAFFNA COLLEGE  
MISCELLANY

NEW SERIES.

VOL. 14. JANUARY, 1904. NO. 2.



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# JAFFNA COLLEGE MISCELLANY.

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The third and final term of the College opened on the 4th inst. and we have a larger number of students than for the corresponding period the past three years. This is due partly to the fact that seven boys were admitted to the Pre-entrance class by examination, and partly perhaps to the formation of a Junior Local class.

During the holidays we were surprised by a visit from the Madras University Deputation. Rev. J. M. Russel and the Registrar of the University, Mr. Paterson, landed in Jaffna on Christmas morning and went to the Rest House. They inspected the buildings of Central College that day and the next morning went to Victoria College. From there they came to Vaddukoddai a little before one o'clock and spent rather less than an hour in looking over the buildings and asking questions. Our teachers were on hand and were presented, but none of the boys.

The Deputation were guarded in their remarks, but it was evident that they were very unfavourably impressed with the lack of unity in Jaffna. They saw no reason why there should not be but one Christian and one Hindu College. They seemed to think that Madras would not care to affiliate any Institution in Ceylon, but that Ceylon ought to have its own University. This is what we have always advocated—a University of our own—but the “powers that be” have not hitherto favored the scheme. This is as far as we can report progress. What the ultimate result will be remains to be seen.

## THE BELIEF IN EVIL SPIRITS.

In recent years scholars have become deeply interested in studying the development of civilization. It is now pretty generally admitted that every inhabited country was once peopled with savages. Remains of human bones and rude stone implements are found together in caves, or covered by the accumulated soil of many centuries. These discoveries show the meagre equipment with which man began his age-long fight for mastery over the animal world about him and the severe struggle for control of the forces of nature. The history of this struggle by which man has reached the high position of 20th century civilization, belongs to the work of the anthropologist. It is sufficient for the present purpose to remember that civilization is the result of a long, gradual development. This view will account for the fact that in every civilized country we find practices, beliefs, and stories which are far below the intellectual and moral attainments of the time. Evidently they are relics of former beliefs and practices which civilization has not yet succeeded in obliterating. Thus we find in many civilized countries the belief in demons or evil spirits still clinging to the people or even dominating the thought life of a race.

In order to understand how man came to believe in evil spirits, it is necessary to notice how primitive man thought of himself and of his relation to the world about him. It is very difficult for us to understand the working of the primitive mind or even of the mind of the lowest races now living. The best way to get some idea of his mental life is to think of him as a child who has not yet learned to think correctly or to know things as they really are. So the savage does not know the difference between one thing and another, between himself and the lower animals, or between an animal and a rain-drop. He does not know what the wind is, nor lightning and thunder. Neither does he know what sun, moon, and stars are, nor why they seem to move across the sky. Though not so inquisitive as a child, yet the savage tries to un-

derstand some of the things he sees about him. But since he has not yet learned to reason accurately he is content with any sort of explanation. It is interesting to notice the almost universal habit of the untrained mind which leads to the belief that certain events are the causes of those which immediately follow. "Post hac, propter hac." A single instance is sufficient to establish a universal principle to the satisfaction of an ignorant man and it is wonderful to see how the savage will cling to an idea of this kind although he has the clearest evidence before his eyes every day that his belief is utterly wrong. This is because he has no real knowledge of any laws by which events are governed, so that one explanation is quite as satisfactory to him as another. He has no idea of what is possible or impossible, just as a child can be made to believe that Santa Claus with his capacious stomach and pack of toys can come down a chimney one foot square.

Starting with such a conception of the meagre mental equipment of the "untutored savage", we may be able in some measure to comprehend how it is that a human being can regard the most absurd and grotesque ideas as entirely reasonable. From this stand-point we may enter into some sort of sympathy with our less-favored fellow beings in their efforts to solve the mysteries of the universe and especially of human existence.

The belief in disembodied spirits arose from man's own life experiences. The savage hunter in Africa stoops to quench his thirst at pool or stream and sees there the reflection of his own face and form. Now he knows nothing about the transmission or reflection of light, so the only conclusion he can draw is that this image he sees is really an immaterial part of himself. Then as he goes on his way he notices that a shadowy form keeps close to him, walking when he walks and pausing when he pauses. This must be the same part of himself as he saw in the water. But more definite still is the idea derived from dreams. The savage dreams that he has gone fishing or hunting or has made a long journey, but on waking finds himself at the spot where

he went to sleep. So he concludes that there is a part of himself which goes off from the body during sleep and returns again at waking. So sleep is the absence of the spirit or soul from the body and death is a sleep in which the spirit somehow failed to return to the body. This spirit is thought of as roaming about in the neighbourhood of the place where the man had lived. Hence the custom among some African tribes of burning the house after a death so that the spirit will not return to trouble the family; or the custom of digging a hole in the wall of the house and then filling it up after the dead body has been carried through, so that the spirit may not find its way back into the house. The same reason also accounts for the drumming and loud wailing almost universally practiced in Africa to-day. Wailing for the dead is still a prevailing custom in all oriental countries, but in many places it is done as a token of sorrow and affection for the dead rather than with the superstitious notion of driving away the spirit or appeasing it with a pretentious display of grief. It is surprising to find that fear of "ghosts" or spirits of the departed is spread all over the globe. Even in America, in remote districts, one may find people who claim to have seen ghosts and certain houses are believed to be "haunted" by the spirit of some one who has died there.

Belief in the existence of the spirit after death has taken two distinct lines of development. In the one case, the spirits of the dead are regarded as kindly disposed toward the living, so the attitude of the living toward the departed spirits is one of reverence and affection. This has led to ancestor worship as exemplified by the Lares and Penates, household Gods of the Romans, by the national religion of China's millions, and probably a remnant of it may be seen in the ceremony for the repose of the soul of the dead in the Roman Catholic ritual. The development which came about through fear of the spirits, is the subject of this sketch. Fear of the spirits of departed persons undoubtedly was the basis for the belief so prevalent all through the centuries down to the present time, viz., that all about us there are spirits which are trying to harm mankind, and which must be propitiated by offerings or by some magical pro-

cess must be compelled to desist from their evil works. In many parts of the earth today, thousands and millions of human beings are living in perpetual fear of the evil which they think will come upon them through the agency of malignant spirits.

It would be interesting at this point to trace the development of demonology from the earliest times down to the conception of a supreme ruler over the hosts of evil, as found in Ahriman of Zoroastrianism, and Satan of Judaism; but present space will not permit this digression.

It is almost inconceivable the amount of effort and thought which have been expended upon the attempt to avoid the ills supposed to have been brought upon mankind by evil spirits. The absorbing business of life for an African is to ward off the baneful influences with which he believes himself surrounded, and some oriental countries with ancient civilizations are still more or less bound by the same superstition.

Among all the less highly cultured races we find that all sickness or deformity is believed to be the work of a demon, instead of being due to physical causes. Thus the African sets about healing disease not by taking suitable medicine, but by appeasing the evil spirit with presents of food or by driving it out by use of magic, incantations, or loud noises such as drumming and exploding large quantities of powder. From his diagnosis of the cause of bodily ills, this treatment seems to him just as reasonable as our taking quinine for fever seems reasonable to us.

However, since the world is thronged with such a host of evil spirits, it is manifest that unaided mortals could not long hold out against their machinations. Gradually a class of men was formed whose only business in life was to study the evil spirits and devise methods for overcoming their evil designs upon men and women. In Babylon more than 2000 B. C. we find the whole question of demonology well thought out and a throng of magicians who were supposed to be able to control the demons. In every African village we find today a witch-doctor or "medicine man". In the tribes of Northern Asia he is called a *shaman*. His direct lineal descend-

ant in well civilized countries is the local physician, who treats disease according to scientific principles, or at least is supposed to do so.

Among primitive peoples the functions of priest and witch-doctor were combined in the same man. This is regularly the case in Africa now. A survival of this primitive combination is to be found among the priests of many religious sects in Asia today. There is reason to believe that this interesting phenomenon is still to be found in Ceylon. The legitimate function of a priest is to assist men and women to enter into proper relations to a Higher Power. But when he goes about trying to cast out supposed demons, he is mixing magic with religion.

As far back as history goes we find regularly established methods of dealing with the forces of evil. In the oldest records of Babylonia and Egypt such practices as sorcery, incantation, magic, and witchcraft were well established. A few concrete examples of these practices will give some idea of the effect which has come upon human life from a belief in demons.

In Africa we find the witch-doctor in all his glory. The people believe that he can cause severe storms, blast the paddy fields, kill or cure men present or absent. To accomplish these things he uses "big medicine," that is magical incantations, or a preparation made from the different herbs of his district, mixed with charred bones of animals, serpent skins, the heart of a lion or claws of a leopard. In order to be safe from disease, accident or enemies everyone in Africa must wear a charm of some kind. The common form is simply a verse from the Koran written on a piece of paper and enclosed in a leather case and worn about the neck. If a man wishes to harm another man, he goes to the witch-doctor and bribes him to prepare a "medicine" which is supposed to have great efficacy. It often is only an old bottle with some foul smelling grease inside and daubed over the outside with paint. With this medicine, a man can bewitch any one he chooses. Here is one form of incantation used in connection with such a "medicine."

"Oh thou medicine, the person who stole my rice, I give this person into your hands. I wear the person's lungs,



heart and liver. If the person goes to work, let him eat himself, and if he goes to war let him be killed; everything he does, let evil come upon him." Incantation, as a means of protection from evil spirits has been practiced since remote ages. We come upon hundreds of them in the old Babylonian records. The following is a fair sample "The plague, the sickness which will trouble mankind, the evil eye, the evil man, the evil mouth, the evil tongue—against my body may they never come, O spirit of heaven conjure, O spirit of earth conjure."

In almost the whole of Jewish history the belief in demons was prevalent, accompanied, as elsewhere, by magical practices and incantations to overcome the power of the evil ones. The followers of Christ although for a few centuries believing in the existence of demons, yet were unalterably opposed to magical practices. They believed that any one who became a follower of Christ and lived a righteous life, would be free from the power of evil spirits even of Satan himself. It was thought to be desperately wicked to have any dealings with the demons so that finally those who were convicted of magical practices were persecuted and even killed. This leads to the consideration of that remarkable mania known as witchcraft, which spread over Europe during the middle ages.

The witch was one who obtained magical powers by joining himself with the powers of evil—in the language of the time, "selling himself to the devil." "Throughout the middle ages, it is doubtful if one person could have been found in Europe who doubted the reality of witchcraft," and it was not until the middle of the 16th century that any one had courage to raise his voice against the horrible torturing and burning of innocent people who were supposed to be witches. In England, during the sitting of the Long Parliament, three thousand persons were executed by officers of the law on a charge of witchcraft, aside from an unknown number who suffered death at the hands of mobs. An eminent authority estimates that the number of persons in civilized countries who have been burned as witches during the Christian era amounts to *nine millions*.

We have reason to thank God that a better day is dawning upon the world. In England and America and most of Europe, the belief in diabolical agency is practically gone. But the belief in evil spirits, with its accompanying practice of magic, sorcery, witchcraft, etc., continues to be the most energetic belief of the ignorant and superstitious over a large portion of the earth, no matter what their religion is. The very religion of the Dark Continent is, in most of its features, simply demon worship. "And to the mass of adherents of Buddhism in Central Asia, the lama or priest is merely a wizard who knows how to protect them from the malignity of evil spirits."

Upon what, then, do I base the hope for a betterment of present conditions? Upon the fact that education, especially Christian education is penetrating to every corner of the world and is breaking down gross forms of superstition wherever it goes. The witch doctor is being transformed into the physician. The priest of the myriad cults of the great east, is slowly learning that the study and teaching of religion instead of magic is the true work of a priest. And God said, "Let there be light." For overcoming superstition, "light,"— for perfecting character "love"

A. A. W.

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## THE POETS OF JAFFNA.

Jaffna, or Yalppanam, is, as its name indicates, the land of the minstrel. That it was donated by the king of Ceylon to Veeravakavan, or Yalppana Naynar, the blind minstrel of India, about the close of the first century of the Christian era is well known to history. The sandy peninsula which, prior to the royal gift, was called and known as "Manattidal" assumed a new aspect immediately, being populated by Tamils from South India at the instance of the blind poet, whose impromptu songs so pleased the monarch of Ceylon that the pauper poet was given the opportunity, if he so desired, to become a monarch himself. Poetry, then is at the basis of the history of Jaffna, and to consider the history of the poets,

that succeeded the illustrious first poet, who magnanimously handed over the sovereignty of the country to a Chola prince, brought down from India, is indeed appropriate.

The installation of the first king of Jaffna is said to have taken place in the year 101 A. D. It may be of interest to note, if this chronology is true, that about this time Emperor Trajan was holding the reins of the Roman Empire, and that England had no ruler worthy of the name. Alfred the Great, had to be born about seven centuries later. At the coronation must indeed have been present the poet proprietor himself, and he must have then chanted songs of blessing upon King Koelankai Sinkai Ariyan, nobler than those chanted by him on the king of Ceylon. But, unfortunately, no specimen of his songs sung on the occasion has been handed down to posterity. The 2nd Jaffna poet of importance was Puvane kavaku, Prime minister of the first king, whose impromptu stanza sung at the dinner given to himself and to the king at Maviddapuram, by Sinna Manattullar, is well known to the Jaffna Tamil scholar.

Thus the history of Jaffna began very auspiciously, as far as poets and poetry were concerned. But alas! although there is a history of 19 centuries to record, and although an unbroken line of Tamil kings exercised their benign influence over Tamil literature till the time of the Portugese conquest, yet out of about 75 poets of Jaffna, whose names are recorded in the "Galaxy of Tamil Poets," not even half a dozen can be assigned to the period intervening between the time of the first king and that of the last two centuries, so that we must conclude either that there was a sad deficiency in the number of poets worthy of the name in the land of Jaffna for sixteen centuries together, or that time has swept away all reminiscences of the Tamil literature of this long period.

The names of Sekarajasekaram and Arasakesari are the bright lights shining during this long, dark interval. These poets were both of royal blood, and lived towards the close of the Tamil dynasty. The former was the 2nd son of King Kanagasuriya Singai Ariyan and is well known as the author of a poetical treatise on Hindu Medicine, called Sekarajasekaram, consisting of 1500 stanzas. The latter was the son-in-law of King Pararaja-

sekaran and his epic poem called *Raguvamsam* narrates the history of King Ragu of Oude, an ancestor of the hero of the *Ramayana*. It contains 2404 stanzas and is highly prized.

After these eminent poets, we have to come to what we may call modern times to search for Tamil poets who adorned the "land of the lyre." Among these, we find a lawyer, who practised in the Courts of Jaffna, by the name of Senathiraya Mudaliyar, who composed two poems called *Nallai Venba* and *Nallaikkuravanchi*, a Roman Catholic called Don Philip who was the author of *Gnananantha Puranam*, an epitome of Bible history, consisting of 1104 stanzas, and *Mailvaganam* of Pandarterippu, author of *Yalppana Vaipava Malai*, and of Puliyur Anthathy, who died about 175 years ago.

Most of the other poets are of the 19th century, and it is noteworthy that most of their productions are dramas. Among these may be mentioned the following:—

Ally Nadakam, narrating the history of Prince Arjuna's wife, by Ramasamy Ayyar of Vaddukkodai.

Thamayanthi Vilasam, narrating the history of Queen Thamayanthi, by Ramalingam of Anaikkodai.

Valapiman Nadakam, narrating the history of Prince Apinamin of the Mahabharata by Canapathy Ayyar of Vaddukkodai.

Kandy Nadakam, by Kanthapillai of Nallur, father of the well-known Arumuga Navalar.

Pathivirathai Vilasam, by Barr Kumarakulasingha Mudaliyar of Tellippalai.

Indra Kumaran Nadakam, by Kumaraswamy Mudaliyar, father of Mr. C. W. Cathicavetpillai.

Rama Nadakam and Dharmaputra Nadam, by Swaminather of Manippay, and

Esther Vilasam, by Martyn Appukkuddy of Jaffna Town.

Besides the above and numerous other dramas, Jaffna has produced several *Puranams* or historical poems, such as *Soothu Puranam* by Appukkuddy Ayyar of Nallur, *Kodduppuranam* (on the evils of litigation) by Ramalingam of Kopay, and *Tiruvakkup Puranam* (Bible History) by Everts Kanagasabapillai of Alaveddy.

Among those who lately died must be mentioned the names of William Nevins, alias Sithamparappilai, author

of a poetical treatise on logic; Stansbury Kasinather, author of an epitome of the Ramayana; and J. R. Arnold alias Sathasivampillai, author of the "Galaxy of Tamil poets," who wrote several poems such as Meyvethasaram (Essence of the true Veda), Nannerikkottu (a moral poem), Tivuchatakam (a poem on Christ), Gnana Venba (a poem on wisdom) &c, besides numerous Christian lyrics. The names of Arumuga Navalar, D. C. Visvanathapillai, and C. W. Tamotharampillai readily suggest themselves in this connection, although they must be classed among Tamil scholars rather than among poets, because though possessed of poetical talents, they did not very much contribute to poetic literature. Of living poets, we shall not now speak, however celebrated they may be.

We have thus seen that Jaffna can lay claim to quite a number of Tamil poets and that she has a Tamil literature of her own. But is this literature accessible to the ordinary Tamil reader? Where are copies to be found of these various Nalākams, Vilasams and Puranams? It is indeed a regrettable fact that many a worthy Tamil poem has not found its way to the printing press, and that many have probably been lost altogether. True it may be that we have had no Shakespeare or Milton, true it may be that Kampan and Kachchiappan are of India, not of Jaffna. But admittedly we have had poets of eminence and sufficient celebrity. A plea for the revival of Tamil literature cannot therefore be out of place in the pages of the *Jaffna College Miscellany*, and we'll may the young student of Jaffna be awakened to a sense of interest in the long forgotten poets and poems of Jaffna. It is the duty of the present generation to see that the works of Jaffna poets are not lost to posterity. At a time when the press is so easily accessible, and when so called Tamil scholars are writing so much trash, why not print and publish works of real merit which are already in existence?

S. T. Arnold.

## SEISMIC AND VOLCANIC DISTURBANCES.

### CAN THEY BE FORETOLD?

Earthquakes and volcanic eruptions have in all ages been among nature's most destructive and calamitous events and have always played a prominent role in human thought. In the year 79 A. D. the two Italian cities, Herculaneum and Pompeii, were buried beneath the earth, by the outbursts of the volcano Vesuvius, and 50,000 people perished. In 1667, about 80,000 souls were lost by the explosions of Shemacca in the Caucasian Province. In 1693, about 54 towns and 300 villages were submerged and over 100,000 people perished by the explosions of Etna in Sicily. In 1703, about 210,000 people died in Japan by the Yeddo earthquake. In 1731, about 120,000 people perished in the Pekin earthquake. In 1895, a submarine explosion near Japan, caused a tidal wave which destroyed 51,000 people.

Measured by the destruction caused, consternation created and sympathy aroused all over the world, the Martinique eruptions of May 1902, rank among the most appalling catastrophes of history. The circumstances under which the Martinique disaster took place are very pitiable. This outburst was one of a series of eruptions that commenced during the latter part of the year 1901. It began with outbursts from the long quiescent crater of Colima in Western Mexico. The shocks and earthquakes in Central America continued and some cities were destroyed on the 18th of April 1902. Then the volcanoes of the Martinique group of the West Indian Islands, which had been quiet since 1851, showed signs of activity. Steam jets were seen from the crater of Mount Pelee which is the highest point of the Martinique Mountains, and from La Soufriere which is the commanding crater of the island of St. Vincent. The steam puffs grew in magnitude and were accompanied by rumblings and tremblings of the earth and in the beginning of May, Professor Landes detected gases of subterranean origin in the atmosphere and sent a note of warning to the French Colonial Governor of Martinique. But the Governor enjoined secrecy and appointed a commission of inquiry which pro-

nounced against the idea of danger and thereby impeded the exodus of the people. There was a destructive eruption from Mount Pelee on May 5, yet the Governor forbade the evacuation of St. Pierre, the capital of the Martinique islands. On May 7, La Soufriere exploded with great violence and on the morning of May 8, Mount Pelee burst at the top and side with a terrific detonation, and the whole town of St. Pierre with 30,000 inhabitants perished in fire or ten minutes, Professor Landes the prophetic scientist and the misguided Governor who prevented the people from fleeing for life were among those that perished. The detonations were heard 200 miles away and the discharged matter was calculated to have reached a height of 3 miles. The sea withdrew for a distance of 100 feet coming back steaming forth with fury. Showers of rocks lasted a quarter of an hour and the town continued to burn all day and night.

Perhaps the greatest of all volcanic eruptions known, occurred on the 26th and 27th of Aug. 1883, when the Mountains of Karakatoa in Java, which had been silent for about two hundred years burst into activity and destroyed 100,000 people. The discharges rose to a height of 17 miles, the sun was clouded and tinged for several days, the detonations were heard at a distance of 3000 miles. The tidal wave rose to a height of 100 ft. on the coast of Java and Sumatra, stranded a battleship cruising in those waters, two miles inland and travelled six times round the earth. The atmospheric waves were projected three times round the earth. Three towns on the coast of Java were destroyed. An island 3000 feet high was submerged under the sea.

The occurrence of such calamities has aroused a spirit of research and any attempt towards explaining the causes and forecasting such calamities must be most heartily welcomed. Before trying to find out how far it is possible to foretell earthquakes and volcanic eruptions, let us consider the different types, the geographical distribution and the primary conditions of these natural disturbances.

There are two types of volcanoes; one type belches forth molten lava which flows quietly over the sides, and the other throws out cinders and mud and becomes.

suddenly explosive. Mount Stromboli in the Lipari islands near Italy, and the volcanoes of Hawaii are of the first type. These usually give many days' warning by rumblings and earthquakes before the overflow commences because the viscous or fluent molten lava takes sometime in rising slowly to the crater. Karakatoa of Java and the volcanoes of Central America and the West Indies are of the second type. They are more dangerous because they eject cinders and mud and become very violent all of a sudden. Vesuvius and other volcanoes whose sudden explosive eruptions are followed by quieter flows of lava may be placed between the two as a middle type.

The longest belt of volcanoes begins in the Aleutian Islands and passing by the western coast of North America and traversing Central America and the West Indies, stretches along the western coast of South America and Terra del Fuego and then crosses over to Antarctica ending with Mount Erebus and Terror. As there are some very active volcanoes in the East Indies and in the Japanese islands, we may say that most of the volcanoes of the earth lie round the Pacific ocean.

The primary cause of earthquakes and volcanic eruptions is the internal heat of the earth. The surface of the moon is covered with huge dish-like craters of volcanoes which were once active. They are now extinct because the moon has lost all her internal heat and has become a dead cold mass. But the interior of the earth is intensely hot. From the surface of the earth downwards the temperature increases at the rate of one degree for every 50 or 60 ft. At this rate at a depth of 2 miles water will boil; at a depth of  $7\frac{1}{2}$  miles iron will become red hot; at a depth of 18 miles glass will melt; at a depth of 28 miles every known substance will be melted. "If this be so, then the earth's crust cannot exceed 28 miles in thickness—that is to say  $\frac{1}{111}$  th part of the radius, so that it is comparable to the shell of an egg" or to the skin of an orange. Therefore geologists suppose that the interior of the earth consists of a molten mass and is surrounded by a very thin crust on which we live, and that earthquakes and volcanic eruptions are caused by the upwelling of this fluid which shakes and pierces the crust of the earth. They say that as



the rind of the earth is very thin and the interior is fluid, any very serious alteration in the weight which rests upon this thin surface is liable to cause a pressure which will make that part of the surface sink and then cause a crack on the crust which would result in earthquakes and volcanic eruptions. "Every region whether of land or water that lies at the foot of a long sloping territory and thus at the mouth of great rivers, is in danger of such sudden disasters as have befallen at Lisbon, Charleston, Peking, Mts. Pelee and Soufreire."

But mathematicians cannot accept this explanation. The average density of the earth is about six times that of water. But the average density of the earth's crust does not exceed three times the density of water. Therefore it is obvious that the density of the interior must be much greater than that of the crust and equal to the density of the heavier metals. This would naturally be the case if we admit that the whole earth was once in a fluid state, because the densest metals would have naturally settled towards the centre, and consequently the interior of the earth can not be liquid but solid. Lord Kelvin who may be said to be the head of the present day scientists, says that if the interior of the earth were liquid as commonly supposed, an outer cover or rind of steel 500 miles in thickness would be as easily moulded by the gravitational forces acting on the earth from outside, as a hollow india rubber ball is modelled in the hand and that at least a solid rind of 1500 miles in thickness is necessary. What Sir Robert Ball says as to the causes of seismic disturbances is perhaps more in accordance with the views of the present day scientists. "There is no longer any reason to believe that the earth is fluid in its interior. Evidence proves that under the extraordinary pressure which prevails in the earth the materials in the central portions of our globe behave with the characteristics of solids rather than of liquids. But though this applies to the deep seated region of our globe, it need not universally apply at the surface or within a moderate depth from the surface. When the circumstances are such that pressure is relaxed then the heat is permitted to exercise its property of transforming the solids into liquids. Masses of matter near the earth's crust are, thus in certain circumstances

and in certain locations transformed into the fluid or viscid form. In that state they may issue from a volcano and flow in sluggish currents as lava."

There are others who think that high tension electricity is the cause of earthquakes and volcanic eruptions. It is observed that during seismic and volcanic disturbances there is a great display of electrical phenomena. Captains of vessels reported that during the time of the Martinique eruptions, the compass needles whirled round in an inexplicable manner. It is said that seventy six per cent of the debris or matter thrown out was magnetic including five per cent of the most magnetic mineral known.

ALLEN ABRAHAM.

(to be continued)

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### Y. M. C. A. NOTES.

The work of the Y. M. C. A. for the second term of this year has not been a work that has caused the Kingdom to come by observation but there are signs that the heaven is at work. One Sunday evening thirty one students renewed their pledges to keep the morning watch. The Bible classes for Sunday noon have kept up well. Many plantains growing in the garden give evidence of the development of muscular Christianity. On two Sunday afternoons a dozen or more students have been out for out-door meetings with an accordion to attract the people and found good audiences to listen to them.

The week of prayer was observed in November but was not we fear so effective as usual because the subjects did not arrive and speakers were notified late. It was observed however with two meetings each day—one in the morning and the other in the evening. Mr. Eliatamby, Mr. Curtis and Mr. Wilkes were the speakers in addition to the college teachers.

The association has had its interest increased in the Tondi Mission by the visit of Mr. Paul and the reports which Mr. Sinnatamby has given of the work. One evening the association was visited by a delegation of three from Central College Y. M. C. A. which came by invitation. The reports of work done by their

sociation and comparison with ours brought out some points that may be of use in suggesting methods of work. The plan is to have delegates visit different associations and to invite others here occasionally. In this way the work of the Union may be kept up to a small extent.

Rev. Jas Lyall the evangelist held one meeting in Otley Hall and talked with some of the students after the meeting.

### LOCAL ENDOWMENT.

We wish we could report a longer list of subscriptions paid, though we are thankful for what we have received. Dr. Barton has written several times during the past year asking what progress had been made in collecting funds, and the Treasurer has been compelled either to keep silent or to write discouragingly of what has actually been accomplished. If those who have subscribed would only pay up their subscriptions, it would encourage those who are working to raise the required amount here, as well as gratify our friends in the home land. Is it any wonder that some are surprised that the old boys do not respond more readily, when for years money has flowed in from America for the benefit of the people of Jaffna? The raising of this fund should be the work of the Alumni and not of the foreigners. Before another number of the Miscellany is issued the Principal and his wife expect to have started for home on furlough. Will our friends bear this in mind and send in their subscriptions *at once* so that a good report may be taken to America of the amount raised for the College? Especially would we urge the 'old boys' in the Straits Settlements, some of whom have subscribed, to forward the money as soon as possible.

The following amounts are gratefully acknowledged.—

Mr. N. S. Subramen	-	-	Rs. 25.00
" A. Abraham, B. A.	-	-	" 5.00
" C. Cooke	-	-	" 3.00
" Sam. Somasundram B.A.	-	-	" 10.00
" Samuel	-	-	" 10.00
" M. Ponniah	-	-	" 10.00
" T. Theagarajah	-	-	" 15.00
" K. Thambapillai	-	-	" 10.00
Dy. S. H. Gnanamuttn	-	-	" 8.00
Proctor T. S. Cooke	-	-	" 25.00

## FROM PROFESSOR JAMES' PSYCHOLOGY.

"In a system, every fact is connected with every other by some thought-relation. The consequence is that every fact is retained by the combined suggestive power of all the other facts in the system, and forgetfulness is well nigh impossible. The reason why cramming is such a bad mode of study is now made clear. I mean by cramming that way of preparing for examinations by committing points to memory during a few hours or days of intense application immediately preceding the final ordeal, little or no work having been performed during the previous course of the term. Things learned thus in a few hours, on one occasion, for one purpose cannot possibly have found many associations with other things in the mind. Their brain-processes are led into by few paths, and are relatively little liable to be awakened again. Speedy oblivion is the almost inevitable fate of all that is committed to memory in this simple way. Whereas, on the contrary, the same materials taken in gradually day after day, recurring in different contexts, considered in various relations, associated with other external incidents, and repeatedly reflected on, grow into such a system, form such connections with the rest of the mind's fabric, lie open to so many paths of approach, that they remain permanent possessions. This is the intellectual reason why habits of continuous application should be enforced in educational establishments. Of course there is no moral turpitude in cramming. Did it lead to the desired end of secure learning, it were infinitely the best method of study. But it does not; and students themselves should understand the reason why."

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### RADIUM.

[The following extracts are taken from a Magazine article by Mme. S. Curie, the discoverer of Radium.]

"The discovery of the phenomena of radioactivity adds a new group to the great number of invisible radiations now known, and once more we are forced to recognize how limited is our direct preception of the world which surrounds us, and how numerous and varied may be the phenomena which we pass without a suspicion of their existence until the day when a fortunate hazard reveals them....."

Among recent scientific achievements which have attracted most attention must be placed the discovery of cathode rays, and in even greater measure that of Roentgen rays. These rays are produced in vacuum-tubes when an electric discharge is passed through the rarefied gas. The prevalent opinion among physicists is that cathode rays are formed by extremely small material particles, charged with negative electricity, and thrown off with great velocity from the cathode, or negative electrodes, of the tube. When the cathode rays meet the glass wall of the tube they render it vividly fluorescent. These rays can be deflected from their straight path by the action of a magnet. Whenever they encounter a solid obstacle, the emission of Roentgen rays is the result. These latter can traverse the glass and propagate themselves through the outside air. They differ from cathode rays in that they carry no electric charge and are not deflected from their course by the action of a magnet.....

The discovery of Becquerel rays dates from a few years after that of Roentgen rays. At first they were much less noticed. It has been only gradually that the positive existence of a new radiation has been established. The merit of this discovery belongs to M. Becquerel, who succeeded in demonstrating that uranium and its compounds spontaneously emit rays that are able to traverse opaque bodies and to affect photographic plates. It was at the close of 1897 that I began to study the compounds of uranium, the properties of which had greatly attracted my interest. Here was a substance emitting spontaneously and continuously radiations similar to Roentgen rays, whereas ordinarily Roentgen rays can be produced only in a vacuum-tube with the expenditure of electrical energy. By what process can uranium furnish the same rays without expenditure of energy and without undergoing apparent modification? Is uranium the only body whose compounds emit similar rays? Such were the questions I asked myself, and it was while seeking to answer them that I entered into the researches which have led to the discovery of radium.....

The properties of radium are extremely curious. The body emits with great intensity all of the different rays that are produced in a vacuum-tube. The radiation, measured by means of an electroscope, is at least a mil-

tion times more powerful than that from an equal quantity of uranium. A charged electroscope placed at a distance of several meters can be discharged by a few centigrams of a radium salt.

The compounds of radium are *spontaneously luminous*. The chloride and bromide, freshly prepared and free from water, emit a light which resembles that of the glow worm. This light diminishes rapidly in moist air; if the salt is in a sealed tube it diminishes slowly by reason of the transformation of the white salt, which becomes colored, but the light never completely disappears. By re-dissolving the salt and drying it anew, its original luminosity is restored.

A glass vessel containing radium *spontaneously charges itself with electricity*. If the glass has a weak spot,—for example, it is scratched by a file,—an electric spark is produced at that point, the vessel crumbles like a Leyden jar when overcharged, and the electric shock of the rupture is felt by the fingers holding the glass. Radium possesses the remarkable property of *liberating heat spontaneously and continuously*. A solid salt of radium develops a quantity of heat such that for each gram of radium contained in the salt there is an emission of one hundred calories per hour. When we reflect that radium acts in this manner *continuously*, we are amazed at the amount of heat produced, for it can be explained by no known chemical reaction. The radium remains apparently unchanged. If, then, we assume that it undergoes a transformation we must therefore conclude that the change is extremely slow: in an hour it is impossible to detect the change by any known methods.

As a result of its emission of heat, radium always possesses a higher temperature than its surroundings. This fact may be established by means of a thermometer if care be taken to prevent the radium from losing heat.

Radium has the power of communicating its radio activity to surrounding bodies. This is a property possessed by solutions of radium salts even more than by the solid salts. When a solution of a radium salt is placed in a closed vessel, the radioactivity in part leaves a solution and distributes itself through the vessel, the walls of which become radioactive and luminous. A radiation is therefore in part exteriorized:.....

Radium is a body which gives out energy continuously and spontaneously. This liberation of energy is manifested in the different effects of its radiation and emanation, and especially in the development of heat....

It is seen that the study of the properties of radium is of great interest. This is true also of the other strongly radioactive substances, polonium and actinium, which are less known because their preparation is still more difficult. All are found in the ores of uranium and thorium, and this fact is certainly not the result of chance but must have some connection with the manner of formation of these elements. Polonium, when it has just been extracted from pitch blende, is as active as radium, but its radioactivity slowly disappears; actinium has a persistent activity. These two bodies differ from radium in many ways; their study should therefore be fertile in new results."

The above are only a few extracts from the article. We shall hope to have something more to say on the subject in a future issue. Radium is very expensive. Pure radium bromide costs about one thousand pounds sterling a grain. The rarity and expense of radium are serious obstacles to the study of its properties. But cheaper and simpler method will sooner or later be discovered, when we shall be able to know more about this wonderful element.

### COLLEGE NOTES.

**Roll.** The third and last term of the college year opened on the 4th inst. A few boys who applied were examined and 7 accepted. Our classes number as follows:—

Pre-entrance	-	-	-	24
Junior Locals (Camb)	.	-	-	10
Entrance (1905)	-	-	-	24
" (1904)	-	-	-	18
Senior Locals (Camb.)	-	-	-	2
Junior F. A.	-	-	-	9
Senior F. A.	-	-	-	12
Junior B. A.	-	-	-	7
Senior B. A.	-	-	-	2

This is a larger number than usual for the third term. Several who failed to pass the Entrance and Pre-entrance Test examinations have left, some to seek employment, and others to continue their studies elsewhere. Only 18 out of the 34 boys in the Entrance class passed the Test, and 24 out of 48 in the Pre-entrance.

**Calcutta Examinations.** The Entrance examination commences on Monday the 7th March, and we hope to have better success than we had last year. The F. A. and B. A. examinations will come a fortnight later. In the meantime nothing has been heard from Calcutta as to disaffiliation, so that in all probability these examinations will be held as usual in 1905.

**Library.** Another book case has been purchased for the Library making two this year. A few new books have been added including the complete works of some of the Poets. Lady Dawson widow of the late Prof J. Dawson of Toronto, Canada, has donated two books to the Library written by her husband, for which our sincere thanks are hereby extended.

**New Magazines.** The first number of "The Christian Review" edited by Advocate Tambyah has made its appearance and reflects great credit upon the Editors. It purports to give a consensus of current religious thought and the first number contains original articles by Rev. E. M. Weaver on the "New Conception of God," Rev. J. Thompson M. A. on a "Short Survey of Biblical Archaeology," Prof. Sathianathan M. A., L. L. D., on "Some Aspects of Present-day Religious thought in India," the editor on "The Church in the Book of Acts," and Rev. J. Bicknell B.A., B.D. on "The oldest Code of Laws known to Man." These articles are all exceedingly interesting and will well repay a careful perusal.

About 30 pages are given to quotations from leading magazines of Europe and America on a variety of subjects. If we were to offer any criticism on this first number, it would be that too much has been attempted in this department. A few quotations of sufficient length to make the thought and argument intelligible would be of more value, than so many.

The Review is a quarterly magazine. The subscription price being Rs. 3 00.



Another venture is entitled "The Students' Magazine" edited and published by S. H. T. Taylor Esq. one of our "old boys." It is a monthly journal of 12 pages devoted to educational and literary interests and is specially adapted for students in our larger English schools and Colleges. It is a bright little magazine and one that is destined to succeed. Price one rupee a year.

**Obituary.** Many will regret to hear that Mrs. S. W. Howland, the wife of our former Principal is no more. She passed away to her eternal rest on the 17th of November after months of suffering. Those who studied under Dr. Howland as well as a host of other friends will deeply sympathize with him in his bereavement.

**Mr. Hitchcock.** Mr. Hitchcock and family after visiting friends and relatives both in the East and West, went to Oberlin, Ohio, Sept. 3rd, and rented furnished rooms for ten months. Harry was put in school, and Richard commenced study at a kindergarten. Mr. Hitchcock was planning to attend some courses in College as he found time. Of the lectures in Chemistry he writes;—"There is so much more laboratory work now than when I was in College, that I do not know how much good I can get from the lectures without the practise, but I think it will help me in some parts of the subject, and part of the time I may stay out. I am also planning to attend a class in Shakespeare and if I don't go regularly to Physics, I may take some thing more in English Literature. At any rate I have the use of the Library here which is a good one. I am also going to take two hours a week in the study of the Christian religion partly under President King, and partly under Prof. Bosworth. President King's part is a philosophical study. I think too, I may attend a Bible Training class to be held by President King on Sunday mornings at the time of the Sunday school."

Mr. Hitchcock is not likely to be idle with all this study before him. We hope he will not forget to take all the rest he needs before the time comes for him to return to Jaffna. Just here it may not be out of place to ask where those subscriptions are to the Hitchcock Prize Fund. They ought to be paid in at once.

## Alumni Notes.

**Mr. C. Balasingham**, who passed the Advocates final examination, a few months ago, took his oaths of allegiance and office as an Advocate of the Supreme Court on the 2nd Nov. 1903 at the Court of Appeal before the Chief Justice. After the oaths were administered His Lordship congratulated him on his admission to the profession and hoped that he would follow in the footsteps of his father Mr. C. W. Catheravalupillai C. S. S., retired Police Magistrate.

**Messrs. G. Nathanael, T. Rajakari and A. Ponniah** came out successful in the last English Certificate Examination.

**Messrs. Ponniah and Kanagasundram** of the "Hindu College," Jaffna have proceeded to Colombo to join the "Teachers Training College" there as students, having been personally selected by the Principal when he visited Jaffna a few weeks ago.

**Mr. S. G. Lee B. A.** is still in England. He appears to have interviewed the Registrar of the London University and asked that classical Tamil be included among the subjects prescribed by the University of London for its Degree Examinations.

**Mr. J. R. Thuraisingham B. E.** has been transferred from Haputala to Dandugama.

**Mr. S. Canagasabai**, Advocate was married to Miss Parupathatchy a daughter of Mr. M. Namasivayam of Colombo on the 14th Dec. 1903.

**Mr. V. Warren** has received an appointment as teacher in the Wesleyan English school at Trincomalee.

**Mr. R. P. Asserpatham**, Post and Telegraph Master, Batticaloa has been transferred to Point Pedro.

**Mr. J. S. Ampalam** has been promoted, from the Land Office, to the Executive Engineers office, P. W. D. Taiping.

**Mr. Ellatamby Buel B. A.** has joined the Church Mission school in Bombay as a teacher.

**Mr. V. Hunt B. A.** has secured employment in the Madras Railway Department.

**Mr. C. V. Bonney** who was acting in Teluk Anson has been transferred to Parit Bantar.

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### RECEIPTS.

The following sums are hereby acknowledged with thanks:

Mr. N. S. Subramen	...	...	50
" Thevasagayam	...	...	50
" Coomarasurier	...	...	50
Rev. C. P. Anketoll	...	...	50

From the Treasurer of the Alumni Association for the "Howland Prize Fund." Rs. 34, 50.