



THE
Maharaja's College Magazine,
ERNAKULAM.

Editor:—P. S. RAMAKRISHNA AYYAR, M. A., L. T.

Vol. VIII.]

March 1926.

[No. 3.

On Friendship.

(An Address)

By R. E. HOLLAND, I. C. S.

Humanity takes its way like a vast army ever trekking on-wards across the plains of life. Some travel where the companies are thickest and the track formed by tread of many feet, some in jealously selected bands which brook no strangers in their ranks, some dwell on the outskirts of the mighty flood in tents of solitude. Many are the watchwords and countersigns, and diverse the authority of the captains. So long have we travelled in the wilderness, that the purpose with which we set out is forgotten; faction has split our ranks, we have torn the eagles from our standard. Yet still at times from some hid centre of authority a faint-heard bugle call thrills through the mighty host and claims obedience which none can choose but yield. Races, laws, creeds and customs change and fail, yet still we must advance and still must rule our lives by those commands.

Our reason shows us how to strip from our lives those methods and conventions which we have ourselves ordained and if our sight is clear, we can discern behind those unnamed primal needs which are our nature,

Greatest among these is the bond men call by many names in many lands, which, woven of good and evil, holds man's soul to soul. Companionship, comradeship, friendship, love and many more are words by which we call this sympathy and generally we look on it as something wholly good, which fosters and sustains the noble part. But, in truth, it is born of our imperfection and often times it seems to add to imperfection greater weakness still. Therefore some claim like stars to dwell apart, in pride surrendering good to outwit ill; yet even these, while life remains the threads invisible link with the lot of all humanity. The holiest recluse that ever tried to purge his life upon the heights of solitude, must first have striven in the forefront of the fight, and only then, grown wise through victory and defeat, can live in dreams of perfectness alone. And even so, though he despise the past, his present stands but on forgotten sympathies. Many a man has pulled his life in ruins about him in despair because he thinks that sin and sorrow must result from contact with his fellowmen.

Here, then, we are brought face to face with the problem which makes us analyse our relations to one another. What part in social order does friendship play, and may it be for evil as well as for good? There are many who will say that friendship, like knowledge, may be for good or ill, or it may be for needs of life which have barely any reference to morality. We are most familiar with it in its moral dress as companionship for noble ends, and are apt to think that true friendship must presuppose morality. The golden thread of friendship runs through the great deeds of history and morality of intention or result is made the touchstone of true fellowship. Sometimes the halo of self-sacrifice makes us acclaim as moral what is counterfeit, and if we recognise our own mistake then we are inclined to think that friendship is as strong for evil as for good.

This fact alone makes us pause when we would attempt to define friendship and we dimly realise how heterogeneous are the strands from which the cord is woven.

All forms of association of human beings of either sex, in any numbers, for whatever object or motive, will come within the category of friendship, provided there exists an element of

personal sympathy in the relation. It may be, and probably is true, that such personal sympathy must always exist where any social relations exist. But it is, at all events, certain that in many classes of cases it is so faint and unexpressed as to be practically undiscernible. Men often render joint allegiance to some great idea, and fight in the same ranks although, perhaps, they live in various lands and never once clasp hands in fellowship. And often even though they meet in daily intercourse for one joint end, their common work of ambition may seem coloured by no personal sympathy at all. In a chill semi-darkness they toil side by side, fixing their eyes upon the wealth-giving furrows lest they lose their labour's fruit. Nor can we blame them, for the hard necessity of life compels many men in striving for those who are dear to them, to shut out human sympathy from their relations towards those with whom they work.

So far, then, it is clear, that a mere community of ideas or interests, even though it involves personal associations between human beings, cannot be considered as a necessary cause of friendship in its ordinary form. It may, however, involve the existence of a subtle sympathy the nature of which we shall better understand later. If we turn to the more obvious forms of human fellowship we see that they may roughly be divided into two kinds, those which spring from the unconscious needs of man's incomplete nature and those which have their origin in his conscious recognition of his own inadequacy to face the universe alone. We cannot say that the line of division between these two is complete, for they are inter-dependent, just as instinct and reason are, but still most people will not object to the classification. Foremost in the first class comes the strange bond of blood kinship which we call instinct, as it is common not only to the reasoning animal but to the most lowly forms of life. The affection of parent for child and child for parent is strong as death and one of the first principles not only of society but of life. It stands in mysterious connection with the world's destiny and is one of the clearest evidences of a controlling Providence. But this very fact separates it in a measure from the category of friendship. Its obvious relation to physical causes compels us to regard it from a teleological point of view

and hence we generally do not consider it an exemplary type for the purpose of analysis.

It is quite possible that we may be wrong and that as, a matter of fact, the true key to the secret of human sympathy may be found in its function of perpetuating and extending life under various forms. But we will leave this for the present and grant that family affection is not ordinarily included in what we mean by friendship. There are, however, other spontaneous forms of friendship which do not seem related in their function to the general problem of existence. If we recollect the friendships of our boyhood they seem to us to be in some way different from those we have formed in later life. In the morning of our lives as at creation's dawn, comradeship is morality and human nature's simplest want fulfils itself in purest ways. Through the clear eyes of boyhood, soul looks forth and claims imperious fellowship with kindred soul. Then, if ever, did we lead unselfish lives, each happy only in the other's happiness, and counting lost the hours we spent apart. Such friends in later days are sacred in our minds and for their sake we can at times forget our own most selfish aims.

As we go on many other friends enter our daily lives with whom we share our pleasure, work or sorrow, but rarely does the bond of acquaintance between men strengthen into perfect friendship when once the magic time of youth is passed. David and Jonathan, Orestes and Pylades, Damon and Pythias and many another *par nobile* of history found in their boyhood the friendship which passeth the love of woman, the friendship which life alone, and not death, has power to divide. For, its greatest foe is knowledge not necessarily of the world but of ourselves which comes with growing years and poisons the clear springs of thought. One of the greatest of the truths shadowed forth by the ancient parable of the Garden of Eden is that when we first taste of the fruit of self-knowledge we may no longer dwell in the paradise of friendship.

What golden age of friendship can be imagined more perfect than the dream of Adam and Eve among the flowers before the fall? Although to modern minds it may seem that sympathy between two beings of primeval innocence must lack those subtle

qualities which we deem necessary to affinity, yet this only means that for the most part it is by devious paths alone that soul can now draw near to soul. Desire to know ourselves leads each of us far from the garden of friendship into stony places of doubt and mistrust whence it is difficult to return unless we meet one to show us, as in a mirror, the truth which we have sought in vain alone.

I would ask you, then, in the first place to agree with me in this, that excluding family affection, a most perfect form of friendship is that which grows only in the soil of boyhood's innocence and lives in its fairest form only so long as we are unconscious of ourselves. Then, on a lower level come the acquaintances which we have mentioned above as formed unconsciously in later days through community of work, pleasure or sorrow. Far be it from me to disparage these, for they light our path in life like steady burning lamps and there are but very few whose sight is strong enough to spurn their aid. But we are so accustomed to their helping light, that only on rare occasions when we look back on some yawning pitfall safely passed or catch a glimpse of the cold deserts of solitude, do we realise what we owe to our acquaintances in life. Then is it borne in upon us that we are bound by unseen bonds to those about us and that by some mysterious means apart from our volition the bonds are closest where our nature's needs are greatest. Further our very selves are part of them, for we are ourselves only in relation to those around us. Deprive man of the society of his fellow creatures and unless he be more than mortal, his reasoning faculty which is his badge of humanity and guarantee of immortality is turned to humblest uses, stunted and destroyed. It has been said that to live alone a man must be either a God or a beast and we can feel that the saying is true, if our imagination is strong to picture our life as it would be, cut off from those who share our daily thoughts. We live in them not only by the effect their actions have on us, but because it is by the effect upon ourselves of our conduct towards them that our own natures are formed and developed for evil or good.

Acquaintance is kindled into friendship by the smallest act of spontaneous self-sacrifice. But yet self-sacrifice, so far as it

is not spontaneous and so far as it is for some personal end is spurious and has no power to create sympathy. Self-sacrifice may manifest itself in the most trivial acts of unselfishness and, indeed, is a necessary accompaniment and true touchstone of all friendships. But it is especially important with regard to acquaintances as the argument which I wish to put forward is that many acquaintances are not friends at all and we can only sift the grain from the chaff by applying this test. As I have said before, similarity of tastes and community of ideas or work does not alone constitute friendship.

Last in the list of unconscious friendships must be placed the magnetic attraction which exists between individuals of different sexes. It is possible to exclude this from the category of friendship, for the same reason that was suggested in the case of family affection. It appears to be traceable to physical causes and in its function has direct reference to the general problem of human existence. But if we apply the test of unselfishness we see that true love will sacrifice even its own existence in life for the sake of another's happiness, demanding and receiving no reward save that which virtue gets. We equally deny the name of true lover and true friend to those who only seek to satisfy their own desires at the expense of those whom they pretend to love.

To recapitulate our conclusions, so far I have endeavoured to show that human sympathy is first based upon the unconscious needs of our imperfect nature, both physical and mental and moral, human fellowship is a necessary condition both of creation and of development and it is elevated into the true sympathy which is friendship only through unselfishness. Although we may feel inclined to agree with the last point, it requires proof. It is proved in the first place by our conscience which bids us love our friends not only as ourselves but instead of ourselves, and which, if we listen to it perpetually, bids us look only upon that which it affirms to be good. Greater love hath no man than this that he lay down his life for his friend and we may go further and say no man will lay down his life for the sake of another unless he respect him. For the respect which we have to others we depend upon our conscience and therefore, if a man is a believer in the doctrine of moral sense, he will admit that self-sacrifice

where it occurs for the sake of friendship is always moral. It must be admitted that the noblest love sometimes appears to be wasted on unworthy objects whose latent good appears to be entirely overlaid with imperfections. But it is the privilege of true affection to discern with clear-seeing eyes truth at the bottom of the deepest well, just as it is its privilege, and its reward, to give far more than it receives. Conscience, then, tells us that where unselfishness does not exist, friendship does. An exhaustive study of social history, for which we have not time here, would tell us the same thing, that no society of men can endure by studying its own welfare as opposed to the interests of humanity, which are identical with obedience to the moral law.

Having thus arrived at some idea of the nature of friendship as it appears in its unconscious form, we may proceed to the second class of friendships which own their origin to man's conscious recognition of his own incompleteness. Last in the previous class I spoke of love in its simple form, which exists, as it were in darkness and I kept it till the end because it serves to illustrate the change which occurs when the light of conscious knowledge breaks in. Love is pure till knowledge wakes and brings desire for selfish pleasure, before which love must wane. But yet although unconscious innocence must die, love does not die, but rises clad in faith new-born from human imperfections. It is not my intention in this brief analysis of the nature of friendship to attempt even with the lightest touch to draw the veil which hides the sacred face of love. It is in its ideal form the nearest approach to perfect unity which humanity can know, the highest and purest form of sympathy between imperfect beings and the surest promise of perfection in another life.

To other forms of unconscious friendship the vice which knowledge brings is also selfishness. When needs of life come fast upon us we seek to gain advantage for ourselves by feigning friendship towards those from whom we look for gain. Commercial instinct makes us likewise doubt a would-be-friend, for all have needs in life and what one gains in earthly goods another one must lose. Self-interest poisons all the springs of friendship and hence it is rare that deep friendships are formed in later years. Besides, with knowledge of the baser motives of humanity,



we criticise too freely the weak spots in those we meet and will not admit them to our hearts without severe trial. Again, when boyhood's confidence is gone, we doubt ourselves worthy to be friends of those whom we admire. We know how far our own characters fall short of what we would that they should be and that we have tried in shame to make those round us think us better than we are. So that we fear even for friendship's absolution to confess our imperfection. Yet, even so, sometimes there will arise a sympathy from without which strikes down the buckler on which we have engraved with so much care the device by which we would that the world should know us. Our soul stands bare and in a radiance which shows us to our wonder fair outlines where the world's stage lights cast black shadows. Perhaps, in weariness of shams we yield our inmost friendship to some one who has shared our toils and thoughts for many a year and knows us better than we know ourselves. Sometimes a stranger from another social world who meets us as a ship that passes in the night, shows and receives from us the signals of friendship's freemasonry. To one who knows us not and whom we know not save as bound to us in subtle sympathy we sometimes tell the inmost thoughts we hide from those who walk beside us in our lives. Then parting perhaps for ever, each remembers in the future the bright moment of communion in true sympathy and walks with renewed trust in his own ideas and in his fellowmen.

The spirit of friendship is not dead but sleeps, over-burdened with the cares of life and silenced by our mistrust of ourselves and of our fellowmen. It wakes in those who are endowed by nature with fair souls or who have cleansed their lives through pain and thought so that they reach that love for all mankind which is the highest form of love. To dedicate one's life in service to mankind and yield up life a pioneer on the path-way of divine ideals, is the great crown of friendship in this world. Few may be strong enough to raise the standard, but it stands for all to see and ever, when the battle cry resounds, a larger multitude respond.

Many who stand and wait can also serve "for not by eastern windows only when day light comes, comes in the light.

Eastward the sun climbs slow, how slowly, but westward, look the land is bright ". Through hosts of many creeds and races one heart beats and yields obedience to the word "Advance".

Reminiscences of the Ernakulam College.

By H. H. RAVI VARMA (*Third Prince of Cochin*).

[*Note.*—This is the concluding portion of the Prince's article under the above heading which had appeared in the Jubilee Number of our college Magazine. For want of space in that number, this portion had been held over and is now published with the permission of the author.

Editor.]

Before concluding my paper, I am tempted to pass a few remarks on the outstanding features of the times.

The relations between the teachers and the taught in my days were much more intimate and cordial than is the case now. The teachers loved their pupils as their own children and kept themselves informed of all about them. The students in their turn, had filial regard for their teachers and behaved towards them with great respect and love.

Secondly, the habits of the students were cleaner than they are now. This deterioration is due to their being required to go to school in shirts and coats. In temperate climates the exudation from the body being practically nil, no great harm is done by wearing shirts and coats. In the tropics shirts and coats get dirtied within the course of a few hours. But these go to the dhoby only once in a week, often in a fortnight.

In my days the boys went to school with only two *mundus*—a loin cloth and another to cover the chest. Soon after the boys left the school or play-ground, they went to the tank where these two pieces of cloth daily underwent a thorough washing when the boys had their plunge bath. So their clothes always remained neat and clean.

Another remark I have to offer is about the age at which boys are now sent to public schools. In the old days boys were rarely sent to schools before they were 12 or 13 years old. So in their early impressionable age they had all the benefit of the

healthy home influence which went a great way to mould their character in the right direction. Though they were then sent to public schools comparatively late, they had every opportunity of making up lost time by being given promotion in the middle of the year or double promotion at the end of the year. Many a student, I knew, have performed this double somersault, to put it in school boys' parlance.

In my days the curriculum of studies was comparatively light. This enabled the teachers to do their work well and thoroughly. And the students had enough spare time at home to improve their general knowledge by reading books other than their texts.

Now, boys are sent to school at the tender age of six or seven. They are, therefore, deprived of the healthy home influence at a time when they require it most. As the teachers have barely time enough to hurry through the heavy curriculum of these days, they are not able to exercise over their pupils any influence worth the name to help the boys to form their character on right lines and in the proper direction.

The origin of Scientific Medicine in Europe.

By N. P. VENKATESWARA AYYAR, M. B. & B. S. (*Old Boy*).

The practical problems of life, disease, and death have ever engaged the attention of man. Man's life is a veritable struggle, amongst other things, to attain happiness in this world. Disease is a serious handicap to man in the struggle; in a great many cases, it is followed by sufferings and even death. Medicine owes its origin to an inner necessity on the part of man to find a means of escape from the sufferings caused by disease and the gloom produced by death. The primitive people of Europe did not understand nature as we now do with the aid of modern science. In their wild attempts to explain the incidents of disease and the features of death, their fancies played the most dominant part. They peopled heaven and earth with supernatural powers, and they interpreted disease in terms of the evil

eye, demoniacal possession, etc.; the murrain on the cattle, the sickness that destroys in the noon day, and all else they considered as the manifestation of supernatural powers. As a result medicine was practised by "the haggard old witch or the grey bearded magician who lived in surroundings calculated to inspire awe in the heart of their clients." The remedies in vogue were drugs, amulets, mystic words, charms, etc., which were supposed to conjure away disease.

Coming to the next period in the history of medicine, we find that it was in the hands of priests who propitiated Gods by chanting hymns, and performing sacrifices. These priests were believed to get inspiration from the Gods, as regards the cure of the sick. They carried on a trade by advising medical remedies and selling amulets. This faith in divine healing through the medium of priests took a very practical shape in Greece, where magnificent temples, superb structures of Greek art, were raised to Sesculapius, the son of Apollo, and the God of Healing. These temples were really "sacred sanatoria built in situations of exceptional healthfulness, fine air, and beautiful scenery, by the sea, amid mountains, and in the neighbourhood of medicinal springs." The system of treatment carried out included gymnastics, dieting, baths, fasting, purgation, bleeding, mineral waters, massage, drugs, sunlight, fresh air, games, and in certain cases attending a drama. Priestly rites and offerings also formed a part of the treatment. The most surprising course for a cure was however the 'temple sleep' by which the patient was advised to sleep in the temple precincts in the belief that the cure of his disease would be revealed to him through his dreams, by the God of Medicine. These dreams, when not plain enough, were interpreted by skilled priests. The inscriptions on the temples tell us that real cures were effected, which, no doubt, were, in a large measure, due to the simple faith of the people who resorted to those institutions. In course of time, however, these temples became the "hot beds of jugglery and deception."

The development of medicine as a rational science and art based on careful observation of nature began in Greece in the 6th and 5th centuries before Christ. A number of things contributed to this event. "There was the teeming wealth of

constructive imagination united with the sleepless, critical spirit which shrank from no test of authority; there was the most powerful impulse to generalisation coupled with the sharpest faculty for descrying and distinguishing the finest shades of phenomenal peculiarity; there was the religion of Hellas, which afforded complete satisfaction to the requirements of sentiment, and yet left the intelligence free to perform its destructive work; there were the political conditions of a number of rival centres of intellect, of a friction of forces excluding the possibility of stagnation, and, finally, of an order of state and society strict enough to curb the excesses of 'children crying for the moon' and elastic enough not to hamper the soaring flight of superior minds. We have already made acquaintance with two of the sources from which the spirit of criticism derived its nourishment, the metaphysical and dialectical discussions practised by the Eleatic philosophers and the semi-historical method which was applied to the myths of Hecataeus and Herodotus. A third source is to be traced to the schools of the physicians. These aimed at eliminating the arbitrary element from the view and knowledge of nature, the beginnings of which were bound up with it in a greater or less degree, though practically without exception and by the force of an inner necessity. A knowledge of medicine was destined to correct that defect, and we shall mark the growth of its most precious fruits in the increased power of observation and the counterpoise it offered to hasty generalisations, as well in the confidence which learnt to reject untenable fictions, whether produced by luxurious imagination or by *a priori* speculations, on the similar ground of self-reliant sense perception."*

The earliest attempt to develop medicine along scientific lines may be traced to Pythagoras, the philosopher of Samos, who lived about 540-510 B. C. He is known to have visited India. The Humoral Theory of disease—that health consisted of a harmonious admixture of blood, mucus, yellow bile, and black bile, and disease, the reverse—very probably dates from his period. It may be that this theory is a transplantation into Greece of the original one from India—the theory of *Vatha*, *Pitha*, *Kapa*, and *Vayu*. The Humoral theory of disease con-

* Gompez, *Great Thinkers*, Vol. I.

tinued for nearly 2,000 years in Europe. Pythagoras investigated the structure of the body, reproduction and development, the functions of the senses and mental activity as well as treatment of the sick.

The attempt begun by Pythagoras was continued by his disciples and followers. Alcmeon of Crotona, the first Greek writer on medicine, was the first to dissect brutes in order to discover the internal structure of animals. Empedocles was a distinguished successor of Pythagoras. He was a physician, seer, and poet in one, being honoured as a god by his contemporaries. His brilliant practice attracted people in thousands for the reading of their future and for the healing of their diseases. It is said that his curiosity to inspect the crater of Aetna proved fatal to him.

Though Hippocrates has been styled the "Father of Medicine", medicine did not originate from him. He may be said to be 'the pioneer of modern clinical investigation'. He was the most striking figure of his period. "He introduced into medicine the art of observation, the critical judgment of observed facts, and a rational induction freed from speculation and theory". What Socrates was to philosophy, that Hippocrates was to medicine.

Hippocrates was born in the island of Cos in the year 460 or 459 B. C. He had the advantage of receiving education at the hands of his father, who was himself a physician. He travelled in various Hellenic cities and made acquaintance with Plato and other famous Greeks.

Modern scientific medicine is indebted to Hippocrates in a variety of ways:—

(1) He introduced first the art of bed-side observation. As an acute observer, he made it a practice to note the patient's state by the facial appearance, posture, voice, and excretions. It was his practice to examine the pulse, the temperature, and the respiration of the patient.

(2) He was the first to describe diseases and classify them into different types, after due study and experience. Thus he has given accounts of the fevers of Thessaly and Greece,

consumption, epilepsy, malarial fever and other diseases with their signs and symptoms.

(3) Eschewing the ridiculous medicamental mixtures used by his contemporaries, he was the first to apply to his patients carefully reasoned remedies. Regulation of diet, baths, change of climate, poultices, purgatives, venesection, and diuretics formed his important medical measures. He laid down "that no disease came from the gods, one more than the other, each acknowledging its own manifest and natural cause".

(4) He was the first who began the experimental study of physiological processes. The earliest known record of the investigation of the digestibility of foods belongs to him. He held the theory that "all parts of the body which are designed for a definite use, are kept in health, in the enjoyment of fair growth, and of long youth, by the fulfilment of that use and by the appropriate exercise and employment to which they are accustomed".

(5) Last, but not least, Hippocrates gave to medicine its ethical ideals, so noble and inspiring, and so well-expressed in the famous Hippocratic oath, which may be taken as "one of the most memorable of human documents". This oath bound every disciple of his "to maintain the dignity of the art, to preserve a high morality in the practice of their calling, to show gratitude towards their teachers, fraternal feeling towards the offspring of these teachers, and to guard against profanation of the secrets of their profession".

Out-Witted.

By M. KESAVAN NAYAR (I class.)

I.

It was a deliciously cool night. The gentle wind passing through the trees produced a soft murmur among the leaves. The full moon swam in the heavens like a "ball of liquid fire", sending forth her cool silvery beams which had a refreshing

effect on me. It was about 12 o'clock. There was still a distance of about two miles between me and my house. Therefore, I increased my pace and began to walk more quickly.

I reached my house at about 12-30. All lights were out for I had told my wife that I would return only the next day. I went to the gate and was about to knock at it when the dead silence was broken by a sharp pistol shot followed by a piercing shriek. Up over the wall and down into the garden, I plunged. No one was to be seen. I looked up. For a moment, I saw a human form darken the path of a moon beam that struggled down through the leaves of a gigantic mango tree near the house. A pattering sound among the branches and down jumped a man and began to run. I tried to pursue him but in vain—he was so quick-footed. As a last resort, I threw my stout walking stick at him. It only struck his hand and something white flashed in the moon-light. The man did not stop but fled. I hastened to the place and there found a pistol recently blackened by an explosion.

II.

Two days were over. Two days—the most miserable I had spent in my life time. Two days! each seemed an age to me! Oh my beloved! my darling! my life! How could I think of her as separated from me for ever by an insurmountable gulf! And yet, and yet, the terrible truth! Oh! what sweet elysian joy did I not picture in my mind with her at my side! So beautiful, so young, so good-tempered! The villain! he had struck at the very root! She had chosen me in preference to him. Who could ever dream of him as ever watching for such a dire vengeance! That sight—that sight which met my eyes when I entered my bed room on that night! The bed was all covered with blood; she was pressing her right hand against her left shoulder. The bullet had entered there and the blood was still flowing profusely. As I entered, she turned her pale but beautiful face towards me. A heavenly smile spread over her whole countenance.

“I feared I could not see you in my last hour. But thank God, you are come in time. Now I depart in peace. Come here and kiss me,”

I pressed my lips against her cold fore-head. I looked at her face and—started back. It had attained the everlasting calm.

* * * * *

Inspector Raman Menon was an able man. But with all his skill and experience, he could not arrest the murderer though we all knew who the man was, from the pistol that I had got in the garden.

III.

Two months were over. During this time no notable incident occurred; no news of the murderer.

I was now living at P——, a village about fifteen miles from my house. During the whole day I was at the office of an eminent lawyer in a town near by, consulting him on some family affairs. It was about 7 when I left the office. On the way to the hotel where I was temporarily lodged, I had to pass through a forest notorious in the neighbourhood for the robbers who infested it. By the time I had reached the forest, darkness had set in. No human form was visible anywhere; no human sound to be heard. Two owls from opposite trees conversed with each other in their awful dissonant voice. At times a fox set up a howl followed by the cries of his friends; the sounds reverberated for some minutes and at last melted away into dead silence.

I gathered my courage and walked straight into the forest. I had not advanced far when I was startled by a rustling noise in the bush near me. I tried to take the pistol from my pocket. Before I could do so both my palms were gripped by a rough hand and a sword gleamed over my head. I looked up and—shuddered. The murderer of my wife was standing before me.

“Ah! now I have you in my clutches. Did you think that my vengeance would stop with detaching her from this world? — She who spurned *me* and chose *you*”; and he gnashed his teeth with rage; “you wretch! you dared to become my rival in her affections! Then have your punishment for it.” And the villain raised his sword above my head. A whizzing sound in the air, the sword flew from his hand and the next instant the villain

had disappeared and I was standing by the side of Inspector Raman Menon.

Mr. Menon had come to see me at the hotel and being informed by the manager that I had gone to the office, he had started towards the town hoping to meet me on the way. Entering the forest, he heard two persons talking at a distance and he crept along through the bushes and arrived at the spot just in the nick of time and by the dexterous use of his walking stick, he was able to save my life. He had gained information that the robber was hiding in the forest near the town and he had come *incognito* to find out his whereabouts. That he was in the forest we were now assured. But a fine opportunity was lost; for the murderer (I was assured from my previous knowledge of him) would not make his appearance in that locality for some time.

Mr. Menon accompanied me to the hotel and there took leave in spite of my repeated invitations to him to spend the night with me at the hotel.

IV.

Two days after the incidents related above, I was seated in my private room looking over some papers when the manager came in and informed me that a man was waiting outside with a letter for me. With my permission, an old man with a long moustach and beard and clad in a rough upcountry dress was ushered into the room. He handed over to me a letter which, on being opened, read as follows:—

“ Sir,

As I have been detained by some business on my way, I here send my servant with my box which I entrust to your safe-keeping, for it contains certain valuable papers and other articles. Keep it in your own room.

Yours sincerely,
(Sd.) Inspector ”.

I asked the man to bring the box in. It was a comparatively big one, made of wood, and very old. I wondered how the Inspector could trust to keep his valuable papers in such a rotten box.

At about 9 o'clock in the night, the old man came and told me that he could find no suitable place in the hotel where he might shelter his old limbs from the bitter cold of the night. Poor fellow! I felt pity towards him. Well, I had to guard the Inspector's box. Why not let the man sleep near it in the corner? I shall only be taking the burden off my shoulders. Accordingly, I told him he could sleep in a corner of the room; and within a few minutes, the poor man was snoring on the mat near the box.

Exactly at ten I went to bed. But sleep did not visit me for a long time. I turned this side and that on the bed but could find no comfortable posture in which to compose myself to sleep. I opened my eyes. The light as usual was burning on the table. No sound broke the stillness of the night except the snoring of the old man. Again I closed my eyes. The incidents of my former life passed through my mind in quick succession—my first love, my marriage, the death of my wife, the incident in the forest and—when I thought of my bygone days, I could enumerate only a few that were associated with happy thoughts and incidents. All others were dim with sorrow. Why was I born in this world to be such a puppet in the hands of a pitiless fate? Oh! this worldly existence! I was tired of my life. Why did not the merciful Almighty put an end to it?—These and many other such thoughts coursed through my mind for a long time. At last I fell asleep.

I do not know how long I slept, but I was suddenly awakened by a sharp metallic sound. By the light on the table, I could have a dim vision of my surroundings. I looked in front of me. Oh God! the terrible sight that met my eyes! My blood curdled in my veins! My heart almost stopped beating! Was it a human form or a supernatural being that loomed so terribly before me in the dim twilight? With matted hairlocks that fell over the shoulders, a dark face made still more frightful by the white ash marks all over it, long red moustaches and a grisly beard—I was so paralysed with fear that I could neither move nor shout. Good heavens! It is advancing towards me! It came close up to the bed and gnashed its teeth with rage. It raised its hand and a dagger gleamed before my eyes. A shrill

whistle, the dagger 'whizzed' past from the upraised hand, and the next Instant the old man (the inspector's servant) was seated on the breast of the figure with a pistol pointed at its throat. "Utter one word and you are a dead man" thundered forth the voice of the Inspector. At the same time the door burst open and some ten or twelve constables armed with batons rushed in. They handcuffed the ruffian and fetched him near the table. During the scuffle, the grisly beard and the moustaches had dropped and, merciful God! it was the murderer of my wife!

I, now, turned to my friend, the old man. To my astonishment, he just pulled off his beard and moustaches and Inspector Raman Menon stood before me, wiping his face with a towel.

"At last the old chap is trapped", he exclaimed; I could not be sure at first that my stratagem could be so effective. How true the saying that adversity clouds one's intelligence! The fellow with all his cunning was at last outwitted by me. I wandered in the forest in my disguise and fell (intentionally) into his hands. Within a short time, I managed to convince him that I was an out-law like himself. I offered my hearty co-operation in this plot of his and increased his confidence in me to a great extent, by presenting him with my own seal which (I told him) 'had been stolen from the Inspector a long time ago'. Then his hiding inside the box and myself acting as a guide to his comrades carrying the box to the hotel, and the supposed letter from the Inspector—all how nice, how funny! The tiger came to carry off the lamb and suddenly fell into the trap!

"But why couldn't you arrest him when he was in my room in the trunk?" I asked.

"Well, there is reason for that. From the conversations of his comrades, I was able to gather that they would not leave the vicinity of the hotel but with their companion in the trunk. Had I attempted to arrest him then, he might perhaps have given some signal to his friends; and they are such dare-devil ruffians. And I further took the precaution to appoint these constables from town to steal silently after night fall into the hotel precincts, there, to be ready in waiting to hear the signal

when they were to rush into this room. For, although I was too confident of my strength to despair of success in a scuffle with my adversary, yet a desperate man is always dangerous to meet single-handed."

The next day the murderer was removed to the police station where he was put in the lock-up. I stayed in the village to give my evidence to the police authorities, and soon after that left for my country seat.

* * * * *

A few months ago, I came upon a column in the "Hindu" with the heading "Murderer sentenced to death". Before I had read some four lines, I threw away the paper from me in disgust. I knew the "murderer" so well.

The King of the Dark Chamber.

(*An appreciation*)

By V. S. KRISHNA AYYAR, B. A.,

Editor, *Our Little Friend*, Ernakulam.

This is a beautiful drama by Rabindranath Tagore, which depicts the experiences of the human soul and its final triumph. The life of the individual soul is given in an allegory. Queen Sudarsana represents the individual soul and her experiences and final triumph make this drama of the soul famous for its peerless beauty and depth of vision. The triumph of the individual soul and the state of exaltation attained by the mind and soul are depicted with great emphasis and lasting beauty and may be described in the following glowing terms: "My faculty of discrimination has attained the fulness of its power, by all its manifold enemies being laid low and I have been dowered with the state of endless rapture, free from all taint of pride and sin".

Who is the King of the Dark Chamber? He is God, for is he not felt and seen and realised and adored in the chamber of the heart—the *Daharakasa*? The play begins with the grand-

father who represents the *guru* or the spiritual preceptor. He comes with boys, for, as Jesus puts it "of such is the kingdom of God". The appearance of the preceptor is the first step in the ladder of spiritual progress. According to the Hindu religion, the *guru* comes at the right moment when the soul is sincere in its yearning to see God. The *guru* is one who knows the real king, *i. e.*, God.

A convincing solution of the problem of free will and predestination is given in this work. "We are all kings in the Kingdom of our king." This statement gives the spiritual value of man. We are all spirits or else how could divine communion or union be possible? The unquenchable radiance of God's mercy and love is ever illuminating whether we give it the homage of our hearts or revile it in our blindness of vision. "With a mere breath, you can blow out the flame which a lamp inherits from the sun, but if all the world blow upon the sun itself, its effulgence remains undimmed and unimpaired as before." God is near to those who seek him within themselves through love and meditation. Every one fashions his king after the image of himself he sees in the mirror. "My beloved is ever in my heart, that is why I see him everywhere".

The episode of the false king, a mere counterfeit, is brought in to bring out a contrast between the real faith and false faith. "He looks as if he were moulded and carved for kingship, a figure too exquisite and delicate for the common light of day." The grandfather's king is the real king, cherishes no weather-cock fancy, no fantastic vein. The real king, in his infinite compassion, comes amongst the sons of men to lead them to His love. Tennyson says, "closer is He than breathing and nearer than hands and feet." The real king is one of the people and he mingles with the common populace. The false king has only momentary glitter: such is the nature of all false faiths.

God is all-powerful and all-loving. He is the perfection of law. The grandfather's king, *i. e.*, God, is described as possessing a thunderbolt within and a lotus painted on his flag. The thunderbolt stands for law and the lotus for love and beauty. He is black and awful as he is the law by which the whole universe is controlled and guided.

Those who get a glimpse of God beg for no earthly blessings. "No begger will ever know the king" They live in the heaven of His love and want nothing else. Sree Ramakrishna once said : "This world is a huge lunatic asylum where all men are mad, some after money, some after women, some after name and fame and a few after God." The individual soul is mad after God.

Queen Sudarsana represents the *Jiva*—the individual soul. The king meets and loves Sudarsana only in the Dark Chamber of the palace. The first glimpse of God comes from the heart. Sudarsana longs to see him in the universe in open day-light, and when the wish is not granted, she rebels. She says, "I am restless in the stifling dark". The soul wants to break the divine law that the first sight of God shall be only through love and faith and humility and reverent yearning. The process of Sudarsana's conversion from a state of rebellion to one of peace is very well marked. She says in the end, "I saw that he was as matchless in beauty as in a mirror. Oh, I was saved, I was rescued." Here is the triumph of Sudarsana—the individual soul. The power to recognise God's beauty and the heart to love it come out of humility and reverence and self surrender.

The human soul is perfect in its beauty, being the flower of the entire comic life. But in the mirror of mind, this beauty is not seen in fulness. The soul gathers experiences through ages and only after it realises its nature fully, can its first glimpse of God become a steady realisation of him everywhere.

The pleasure garden and the kings of Avanti, Kosala, Kanchi and others typify the mind and the senses of man. The grandfather has lost all his five children one after another—the five senses which have ceased to be worldly and are hence dead. The companion of Sudarsana, Rohini, represents the soul's lower nature and its love of pleasure.

God does not make any distinction between man and man. The singers say "Oh grand! Everything was red, red! Only the moon in the sky gave us the slip—it remained white". This is indicative of the washing away of ancient hatreds of the earth.

colour bars, race hatreds etc., by one deluge of red—the red of love, of peace, of universal brotherhood. This beautiful drama of oriental beauty ends with a note of optimism. None can be alien to God's love or banished from His grace for ever. No one is utterly destroyed but each is allowed to work up his way to His love.

Through College Corridors.

(By G. F. P.)

The question has been asked, not wholly without reason, why I have confined my ramblings to the comparatively unimportant corridors, in an Institution of beautiful halls and well-lit rooms. "The corridors", the objectors add, "are the birth-right of peons, pedestrians and attenders, and the rest of them—not at all fit for honourable people."

* * * * *

May be. But I must confess myself guilty of being enamoured of the capacious corridors of this College, which to me offer attractions of a very personal nature. For I believe that it is given only to a chosen few of mankind to appreciate the subtle pleasures of furtive glances, and to have made of eaves-dropping a fine art. The corridors, to my thinking, are the safest and the most strategic vantage-points whence to take cognisance of the affairs of the College, not, of course, from the academic or professional angle, but from the point of view of the prosaic looker-on.

Besides, I hope, anybody will concede to me the philosophy of the time-honoured saying: "Distance lends enchantment to the view". Observation of real worthies and their ways at close quarters is seldom discreet and often objectionable; but no one in the world, I am sure, can object to impressions being recorded and portraits painted from a distance.

* * * * *

This reminds me of a snapshot said to have been taken of Lord Goschen by the College photographer, who succeeded so

well in his exposure that, in the final print, His Excellency appeared quite alright, without the somewhat unimportant detail of his head! An obvious snap!

* * * * *

And as for the gubernatorial visit, it was memorable for other reasons as well. His Excellency did outbeat in height many a stately figure known hereabout, and reduced to Liliputian proportions some of our rotund worthies.

The Governor did us a service in the shape of the white-wash and paint our buildings received, in anticipation of the Honoured Guest.

We are also thankful to the Governor for the speech he did not deliver.—not that His Excellency is a poor speaker, (He is excellent) but that we have had a surfeit of inflictions at the hands of fleeting politicians, pilgrims, faddists and propagandists, over and above the unusual number of "lectures" for which we have ourselves to blame.

* * * * *

But I should not stray. The real secret of my predilection for the corridor is to be sought in the fact that I often find myself fixed between two corridors, and, consciously or unconsciously, transported to the western corridor. Not that the wind has blown me thither, for, to speak the truth, it blows in the opposite direction; (and *that* must be a jolly good breeze that can blow *me* about so freely!), but it is the only corridor that is not reclaimed for purposes other than pure peregrinations. And it is a real delight to me to take a stand in that free region, the sole "monarch of all I survey" with the glorious prospect of the deep blue waters before me and vistas of a bright future, of merchantmen and merchandise rising in my mind, and to sing with Lucretius:

When raging winds the ruffled deep deform,
We look at distance, and enjoy the storm;
Toss'd on the waves with pleasure others see,
Nor heed their dangers, while ourselves are free."

* * * * *

Most of the corridors upstairs are grounds under monopoly. The Principal naturally shuts himself up in the most central of

all corridors. — (And he must be a brave chap that can poke his nose, "except on business," into that sanctuary !

To the Principal's back is what used to be a corridor, but now fenced up as a "segregation camp", under the immediate supervision of a light Royal personality of Kerala fame. This magnetic figure enjoys "home rule" in an isolated cell whither neither the wind nor visitors can easily penetrate, but where these two things are ever welcome. He once waxed eloquent on his favourite hobby, viz., "Laughter." I am one with him in his tastes, and we disagree but slightly. While his chief occupation is "to laugh", I consider mine, to be "to laugh at" and luckily, his laughter is not Swiftian; he is absolutely poison-proof. I often doubt if the old adage: "Laugh and grow fat" is applicable to all modern laughers, eh?

* * * * *

Whatever be my claims to the western corridor, I must needs pay obeisance to the real lord and master of it all. This is a unique personality who might be seen enthroned in oracular fashion, on a tripod six inches high, at any odd hour of the day, during office time. Except when he is on his daily trip to the Railway station to note the correct time for "taking meals"—the only duty punctually discharged—and on his frequent short excursions to the land of Nod, this guardian angel of the assistant Professors and Tutors is a very serviceable being. Only, he has the knack of being away from his place, when required, of mistaking orders and fumbling in their execution. But withal, "Chankaran" is no joke. He is the very life of the College, the most agile in the field of sports and a first prize-winner !

* * * * *

And Sankaran is conscious of his great name. He is sure that he is as indispensable for the prosperity of the College as any other. "Remove all Sankarans from here," he seems to say with an air of self-complaisance, "and watch the effect". Oh! it is something unthinkable—the consequences !

The hero of the western corridor is proud of his namesakes and there is no service he would not do for them. Only, the oracle starts, shivers and stammers before the trimmed mous-

tache, grim features and gruff voice, that thunders out an emphatic "p-e-o-n" from a room in a remote corner, echoes of which roll reverberating through Sankaran's realm, and threaten to bring the building down on his poor pate!

The Friend.

By U. VELAYUDHA MENON (II u. c.)

I

Green robed herbs and shrubs, laughing flowers, blithe birds of bright plumage warbling their pleasing tunes, gentle breezes fanning their odoriferous wings—these enhance the charm of the rosy Morn blushingly awaiting the arrival of her dear lord.

Kamala greeted the lord of her heart with a blooming smile and entertained him with all her purity and charm and love.

They were seated on opposite sides of a happy table, each loving and inducing love in the heart of the other. They talked of the coming College Day, while their eyes conveyed the tender feelings which overflowed their hearts. Damodar spoke to her of his hopes of winning prizes in the coming sports and tournaments. She promised him a flower garland, if he would come out as the winner in the tennis tournament, in which indeed she was sure of his success.

They talked on and on, till they were interrupted by little Radha who came laughing into the room. Each wanted to caress the child first. They called Radha in turn. Radha went to her dear sister. She kissed her and sent her to her lover. He indeed kissed her with overflowing tenderness. In the meanwhile Radha remembered her errand and announced that it was time to go to College. They began to recollect the business-world and they departed in love to live in each other's hearts.

II.

A week passed by. Many interviews took place between the lovers. The last one was neither very happy nor very hopeful. It had aroused many suspicions in Damodar's mind. Kamala had told him that their interviews must be somewhat restricted,

since her father desired so. But she did not tell him why her father restricted their interviews. It was, perhaps to check the progress of love beyond its proper bounds. Damodar was sitting in the verandah upstairs in a friend's house, very near Kamala's. He was musing upon his late interview with her.

"Why did her father restrict our interviews? Yes! I see! because he does not like me as much as he does her cousin Govind. Govind may have fallen in love with her. She might have been seduced by him; indeed I have many times heard her speak of Govind in warm glowing terms! Am I not worthy of her? I think I am. Govind, no doubt, is a wiser lad than myself and can carry out his plans more successfully. Besides, he is too good for her to reject. The only defect about him is that he is too tall though he is proportionately stout. Who deserves her more? Govind or I?" — And he thought and thought over it.

In his reverie his eyes wandered here and there. It was about seven in the night. He was about to start up from his chair to depart, when, to his intense astonishment, he saw the window of Kamala's reading room open and a female face peeping out. He seemed to recognise the face. The face instantly disappeared. He looked and listened. Yes! he heard Govind's voice pouring forth like a lover's. And soon he saw Govind and a damsel, whom he recognised with, anguish, pass by the window with their arms round each others necks.

Damodar could not see. Grief choked him and it gushed forth from his eyes in the form of heavy tears.

III

The Earth has covered her face with the veil of darkness in token of her grief over the departure of her lord, the sun. Nature has become hazy and nothing is seen in the blurred vision.

It was eight o'clock. A bright light illumined Kamala's reading room. The big mirror which had been presented to her father by an English friend, stood on its stand on one side of the room. It was placed in its erect position just in the middle of the space between the northern and southern walls. It faced the

southern window. Govind had placed himself in a chair near the wall by the side of the window. Gopal, the younger brother of Kamala, in the proud charming disguise of a young woman had begun a long pathetic speech in his attractive female voice. It was nearing its close. Then Govind stood up to his full height and was about to advance when hark ! a bullet struck the mirror with a loud clash and broke it to pieces.

Just then the window of Gopal's reading room opened, and an electric hand-light flashed forth its light in full upon a mango tree. A face appeared at the window and it saw the sight. The face fell, the light fell and the person fell down in an instant when lo ! something massive fell from the top of the tree upon the branches and dropped down to the earth.

* * * * *

After an hour it was dead silence. The moon peeped forth into the world through her cloudy veil.

IV.

Damodar was in his sick-bed. Govind was near him. With a kindness and tenderness which pure hearts alone possess Govind consoled his friend. He took hold of Damodar's hand and washed it with his tears.

The other was calm and he said, 'O Govind ! I am unfit to be your friend. I will reveal the dark to you. You know I fell in love with Kamala and I hoped to see her as my beloved. But once she told me that her father wanted to restrict our interviews and one day I saw you in her reading room upstairs at seven o'clock. I also saw you conversing in the most loving manner with a damsel whom I thought to be Kamala and walking with your arms on each other's shoulders. I thought that you deceived me and I grew desperate. But now all is clear to me. It was not she. It was her brother Gopal in the disguise of a beautiful girl. And you will admit that his voice greatly resembles hers and though he is a little taller than she, yet he is exactly like her in his disguise.'

"O ! I admit the fact. But I paid more attention to his action and speech than to his vanity in dressing like a girl. We

were conducting there the rehearsal of our parts in the Drama to be enacted on the College Day. It was Gopal's intense desire that we should conduct the rehearsal there. The brother and the sister changed rooms for the time being, for Kamala's reading room was very secluded and it suited our purpose most. But please explain why you shot at the big mirror which Gopal transported from his father's room to that room in order to enjoy in full his own disguise. I will construe it thus :— that you tried to kill yourself being desperate through the fear that Kamala (and so, your whole happiness) is lost to you. And you tried to send a shot through yourself which accidentally destroyed the mirror instead of your life. Is it not so, dear Damodar ?”

“ Oh ! God ! Forgive me ! O ! Govind, it is not so. I then hoped to be your murderer and at the next instant mine own. But the mirror cheated me. I took your image in the mirror to be the actual and the next— O ! merciful God ! * * *

“ And then —”

“ In the same instant in which my shot had shattered the mirror, a flash of light fell upon my face from the window of Gopal's reading room. I saw the anxious face of Kamala peeping through the window. Then it was that I realised that Kamala and yourself were quite innocent. Kamala saw me aiming the revolver at my own heart. Both of us were so overpowered with feelings that we both fell down senseless. Had it not been for the mirror and Kamala, our lives would have been lost ”.

“ Thank God that we escaped ! ” * * *

V.

Two weeks were over. Damodar grew well. Govind had readily forgiven him. He had given him many a kind advice, had done him many a kind service and had forgiven him many a time. And such indeed is true Friendship.

Damodar had grown very quiet and calm. One evening he went to Kamala's house, where he was joyfully welcomed. After sometime, when he was alone with Kamala, he disclosed

his guilt to her. A gloom passed over her countenance. He wept and she wept. At last, he said, "Kamala! can you forgive me?"

"Yes".

Relativity. *

By G. R. NARAYANA AYYAR, M. A., L. T.

The subject of the lecture—the Theory of Relativity as expounded by Einstein—is generally considered to be a very tough one and rightly so. When I pitched upon this subject, in one of my weak moments, my aim was to treat it in a semi-mathematical manner. But I have since found that the sort of analysis required for such a treatment is unfamiliar even to those who have passed out of the portals of our Universities with distinction. It is not because the mathematical analysis required is intrinsically difficult, but the particular line of argument has not been taught in the past, whatever may happen in the future. In addressing such a mixed audience, to-day, I have, therefore, to confine myself to as popular a treatment of the subject, as is consistent with its scientific aspect.

How is it that the Theory of Relativity has acquired such a wide-spread reputation for unintelligibility? Is it because of the startling and revolutionary character of its implications? Perhaps, partly so. But it is mainly because, contrary to all expectations, the phenomena which give rise to it are not directly connected with common experience. They are observed in certain intricate and difficult experiments, started with specific objects by eminent scientists.

Astronomers have shown that the earth we inhabit has two important movements, one of rotation about its axis, and the other, of revolution in an orbit round the sun. The diurnal motion of the stars can be explained by supposing either that the whole celestial sphere rotates upon its axis, or that the earth itself rotates, while the

* The above is the substance of a lecture delivered under the auspices of the Science Association, Maharaja's College Ernakulam.

celestial sphere remains fixed. Here is a case of Relative motion. How is one to decide which really moves?

From the time of the ancient Hindu astronomers up to the sixteenth century A. D., it was the celestial sphere which was supposed to be moving; and this supposition did not in any way make astronomical predictions made on that basis incorrect. It is from the 16th century only, thanks to the researches of Copernicus and Galileo, the latter supposition that the earth is rotating began to be believed in. It was Newton who put forward cogent reasons in support of this belief. He said that when a body is in *absolute* rotation, centrifugal forces set in, which produce a tendency of recession from the axis, the bulging at the centre and the flattening at the poles. If the motion were a relative one merely, these phenomena would not be present. That these were present in the earth was detected experimentally, in 1851, by the famous French Scientist, Foucault.

Thus the rotatory motion of the earth was detected experimentally. But what about its orbital motion? It is a translatory motion in space. Here there is greater difficulty in distinguishing between relative and absolute motion. There are no such distinctive features as in the case of rotatory motion. When one of two trains at rest in a station begins to move, a person in the moving train very often thinks, for some time at least, that it is the other train that is moving. If there is no rattling sound made by his train while moving and if he does not look through his window at other objects, the person has no means of finding who is really moving.

It was this difficulty which had to be faced by scientists who wanted to show experimentally that the earth was really moving in space. When the existence of the ether was postulated, scientists took up the question—whether the ether in and near the earth was carried along by the earth in its motion or whether it was stagnant. The first delicate experiment to detect the motion of the ether and therefore of that of the earth was performed by the American Physicist, Michelson, in 1881. It is this experiment which has furnished the basis for Einstein's Theory and so deserves detailed consideration at our hands. The

underlying object and principle of this experiment can be easily seen by taking the example from common experience given by Professor Eddington.

Will it take longer to swim to a point 100 yards up-stream and back or to a point 100 yards across stream and back? No swimmer and no non-swimmer as well will hesitate to say that the resistance of the current is greater in the first case. This is a simple problem to students of elementary Dynamics who can easily show that the journey up-stream and back will take a longer time.

In the experiment under consideration, the swimmer is a wave of light which is to swim through the ether river with a speed of 186,330 miles a second. The current of the river is the velocity of the earth in space. The object of the experiment was to determine this velocity in its purely relative aspect. The light wave was divided into parts by partial reflection. One of these was sent to do the up-stream journey and the other the across-stream, the distance being the same in each case. When they reached their furthest destinations, they were sent back to the starting point by mirrors properly adjusted for the purpose. Naturally, it was expected that the up-down wave would take a longer time to return to the starting point. But to the great surprise of the experimenter, the result was a dead heat. This result, however, was at first attributed to defects in the apparatus.

The apparatus was made on a highly improved pattern and the experiment was tried again by Michelson and Morley in 1887. To make the result much more marked, the experiment was tried twice at times separated by an interval of six months. During this interval, it was known that the earth would have reversed the direction of its motion; whatever might be its velocities in space at those instants, they should differ by $2 \times 18\frac{1}{2}$ or 37 miles per second. (The rotation of the earth is known to be at $18\frac{1}{2}$ miles a second.) But the result again was a dead heat.

The natural inference made was that the ether was at rest or it was uniformly connected by the motion of the earth. In either case, the orbital motion of the earth has not been detected.

The scientists began to concentrate attention on the ether, whether it was stagnant or connected. The results of astronomical aberration pointed to a stagnant ether. Sir Oliver Lodge also showed that the ether between two whirling discs was undisturbed. But no progress was made to show that the earth really moved.

It was in 1892 that Fitz-gerald, an eminent scientist, put forward a brilliant suggestion that, in the experiment conducted by Michelson and Morley, the whole apparatus and with it the updown course had become contracted in the direction of motion. This suggestion explained the result wonderfully. The contraction in the direction of motion was to be measured by the quantity $(1 - u^2/c^2)^{-\frac{1}{2}}$, where u is the velocity of the person or apparatus, and c the velocity of light. The full explanation of the result is that the updown journey gets contracted just to such an extent as to make the return of the light wave in that course simultaneous with the return of the other light wave.

This suggestion was taken up by Professor H. A. Lorentz who discussed it from the point of view of the electrical theory of matter just then enunciated by Maxwell.

Under ordinary circumstances, we know that the form and size of a solid body are maintained by the forces of cohesion between its particles. But what is this cohesive force but only a resultant of the electric forces between its molecules? Also the ether is admitted to be the medium in which the electric force has its seat. It follows naturally that when this medium has any change of motion, the cohesive forces of any body in it will readjust themselves, resulting in a changed size and shape of the body.

Thus Lorentz argued and went one step further than Fitz-gerald who proposed a contraction only in bulk. Lorentz, on the other hand, declared that the contraction is not only of bulk

but an effect experienced by the minutest portions of matter, electrons and atomic nuclei.

The startling character of the consequences of this hypothesis is best explained by taking an interesting example: Suppose a person flies past us at the rate of 161,000 miles per second. Let us suppose that he is in a comfortable carriage and that his length is in the direction of motion. The contraction for this motion is just *half*. If we could catch a glimpse of the person as he passed, we would see a figure 3 feet high, but with the breadth and girth of a normal human being. But the strange thing is that the aviator will be sublimely unconscious of his undignified appearance. If he looks in his mirror, he would not notice anything unusual, because he will see himself proportionately reduced. Even his yard-measure will, when placed in the direction of motion, become half. Because everything is altered in the same manner, nothing appears to be altered at all to him.

But when this gentleman looks down on us through one of his carriage windows, he will be astonished to see a strange race of beings who have apparently gone through some flattening out process; as they turn about, they change appearances to him.

This is the nature of the hypothesis put forward by Fitzgerald and Lorentz as an explanation of the dead-heat result in the race between the light-waves. It did not, however, find great favour in the scientific world. It was because it stood all by itself unconnected with a strong basic principle. Its truth had to be experimentally verified from other phenomena.

It was at this time, at the beginning of this century that Einstein came into the field with his striking rival explanation. He simply took the result of the Michelson experiment at its face-value. He postulated that *it is impossible by any experiment to detect uniform motion relative to the ether*. This is his hypothesis later called by him the restricted principle of relativity.

What Einstein states is that, if a man on the earth chooses to say that he is travelling through space at one hundred thou-

An illustration of the
Contraction Hypothesis.

sand miles a second, it will never be possible to contradict him by any means at our disposal. The object of Michelson and Morley's experiment was to detect the motion of the earth relative to the ether. According to Einstein, such experiments are bound to fail in their object.

Starting with such an apparently simple hypothesis, Einstein showed that the contraction proposed and justified by Fitzgerald and Lorentz was not any arbitrary assumption but a logical sequence of his principle enunciated above. It is obvious then that Einsteins hypothesis is superior to that of Fitzgerald and Lorentz in that the former does not depend on any theory of matter, while the latter was made possible only with the help of Maxwell's electrical Theory of matter.

To understand the consequences of Einstein's principle in greater detail, we should be in a position to grasp his conception of the world. His conception of it is not what we suppose it to be—a three dimensional body. His is not a conception involving space alone, but an intimate amalgum of space and *time*.

To grasp this new idea of the world let us face a simple question seriously. Has the external world which we apprehend by means of our five senses an independent existence or is it fashioned out of the substance of our own minds? Is it an objective reality or a subjective illusion?

One may suspect that I am treading in the region of speculative philosophy, but it is really not so. It is by answering the above question, considered in all its aspects, that we can in a way grasp the new idea of the world presented to us by Einstein. It is evident that, in giving a final answer to this question, the observer's share in the answer should be completely isolated. The answer should be one which should be agreed to by all observers irrespective of their positions and motion in space.

We are all familiar with what is meant by 'a chair'. But if we are asked to describe it, we would be giving slightly different descriptions depending on the points of view from which it was

observed. But there is a definition of 'a chair' to which all observers will agree; and as such it would not necessitate any particular position of the observer. The position of the observer, in forming the concept of 'a chair', has thus been eliminated, though, evidently, the general conception is greatly assisted by the perception of solid relief with our two eyes.

But can the motion of the observer also be eliminated so simply? We had thought this was also accomplished. It is a familiar fact that the events of the world present different aspects to observers in relative motion. I need only call to mind the difference we notice when we observe some objects from a moving train and when we observe the same objects from a stationary place. But before Einstein postulated his conception of the world no one suspected that there was any real difference in the observed phenomena. We all thought that "the world is spread out in a single space and moves down the ages in a single corridor of time". We are now called upon to surrender that view. We are asked to believe instead that observers in relative motion have different conceptions of the same phenomena on account of their having different times.

We all know that the phrase "at the same place" has no physical meaning except with reference to some specified frame. A person sitting in a train will say that he is in the same place if he is thinking only of the train; he is not in the same place if he is thinking of the rail road. It is an important feature of Einstein's contribution that he was the first to point out a similar lack of precision in the phrase "at the same time", when used at random. There is no such thing as absolute simultaneity in this world. An event may be considered to have happened at the same time by two observers; but it would appear as having taken place at different times by a set of two other observers in motion relative to the first two.

The idea of putting together space and time so that time is regarded as the fourth dimension is not new. But until recently it was regarded as merely a picturesque way of looking at things without any deep significance, as in the case of a thermometer.

chart, showing the relation between time and temperature. But our conception is much deeper. The objects we see around us are all three dimensional sections by our respective time planes of the real four-dimensional world. Just as we resolve a three dimensional structure into plan and elevation, so we resolve an event in the four dimensional world into structure and duration. It is the structure part of an event, we observe at any instant.

Our conception of the four dimensional nature of this world may perhaps be made easier if we consider an illustration. Let us build up a three-dimensional surface by laying two-dimensional surfaces such as sheets of paper one over the other. Is there not a difference between the resulting block which is a pile of sheets and solid block of paper? Decidedly, yes. Perhaps in course of time the former will coalesce into the form of the latter. The solid block is the true analogy of the four-dimensional, combination of space-time.

Thus according to Einstein, the conception of what we see around us is dependent on our position, on our motion, and consequently on our time. In other words, all things in this world are *relative*. There are no such things as absolute mass, absolute space and absolute time. Time does not flow in the same manner for all. Each observer sees

Contraction in time as well. the world in a spatial setting which corresponds with his special kind of time-flow.

Fitz-gerald and Lorentz postulated a contraction in the length of objects in the direction of motion. Einstein not only proposes this contraction but a contraction in the time as well as observers in relative motion. An observer at rest in a locality where two events occur will find an interval of time different from that observed by a person who is in motion relative to the locality. If we had been able to watch the movements of our aviator who flew past us at the rate of 161,000 miles a second, we would have found them very slow. In fact his day would be equivalent to two days of ours; conversely, if he were observing us, he would feel the same about us.

But it should be noticed that there is one thing which is considered absolute by Einstein and that is the *Velocity of Light*. The motion of the source of light does not affect its speed. Whatever be the frame from which this velocity is observed, we should get the same value for it. Einstein rightly calls the velocity of light, the one Invariant of Nature.

The Velocity of light=
an Invariant of Nature.

The velocity of light plays a very conspicuous part in Einstein's Theory of Relativity. Why is this so? It is not only because of its invariant nature, but mainly because no material body can acquire velocity greater than the velocity of light. To make this point clear, let us advert to our aviator. We saw that when he was flying past us at the rate of 161,000 miles a second he looked just half his height. Suppose he increases his speed, then, apart from the effect of greater distance dividing him and us, we would find him contracting in size progressively. Ultimately when he moves with the speed of light, he would have contracted to such a small size that he would not be visible at all. If we had been watching his movements also all along, we would have found him unusually slow, and when he moved with the velocity of light, there would be seen a complete slowing down of all natural processes as though time were retarded. We may consider him now as an immortal being, since there is no passage of time at all in his frame relative to us.

Let us, however, go one step further. Let the aviator develop a speed greater than that of light. Then it would be obvious that he would have the uncanny power of being present in more than one place at a time; but then, I suppose he would have metamorphosed himself into a spiritual being. Hence the statement that the velocity of light is the maximum possible velocity attainable by a material body.

Here, I am tempted to suggest we have a possible explanation for the Hindu beliefs, regarding the Devas and Gods. We are told that they have the power to descend to this earth and vanish out of sight all on a sudden.

Traditional beliefs
explained by this
Theory.

This may be accounted for, perhaps, by stating that they have the power of acquiring a velocity greater than that of light at an instant's notice. Such a power would also enable them to be present at more than one place at a time. Again we believe that an instant of the Gods is equivalent of thousands of years of us, poor mortals. This again may be explained if we suppose them moving relatively to us with a velocity very much greater than that of light. Many other beliefs considered now as rank superstition could similarly be justified with the help of our new conception of the world.

(To be concluded.)

Reviews and Notices of Books.

Economic life in a Malabar Village—a study in Indian rural economic organisation—by S. Subbarama Ayyar, M. A., Dip. Econ., Senior Lecturer, Madras Christian College, University Economic Series No. II—Price 1 Re.

We welcome this book as the first of its kind in the study of economic life in Malabar. Mr. Subbarama Ayyar is well known to the readers of newspapers and periodicals for the very instructive articles he contributes to them from time to time on current economic topics. He has already earned distinction as a Gokhale Prizeman and a University research scholar. The present work is an important contribution to Indian Economics and is in the nature of a careful study into the rural economic organisation of a typical village in the Cochin State, viz., Nelluvaya.

The book follows the lines of the well-known work "Land and Labour in a Deccan Village" by Dr. Harold Mann. Throughout the author has followed the inductive method of treatment that is, from particular to general. He examines the existing conditions and draws conclusions from them. Very great pains have been taken to collect facts and figures at first hand. In the chapter on "Workmen and wages" he has given the schedules of income and expenditure of the various members of the middle and working classes showing what a hand to mouth living the rural population is having in Malabar. In this small book the author has examined the whole agricultural problem of Malabar, bringing out in a striking manner the existing defects and suggesting remedies for the same. Written as it is in a graceful and attractive style, the book keeps the interest of readers sustained throughout. It is interesting to note that the Geography of Malabar and its economic bearing has also been clearly brought out and dwelt upon at great length as its

importance richly deserves. On the whole the book bears evidence of much originality and a well-balanced judgment.

We are however of opinion that the presentation of the matter is capable of improvement. It may perhaps be felt that some of the facts were looked for and certain conclusions were drawn on insufficient data. The author's conclusions under Chapter VIII—Wealth and Welfare—are subject to controversy. It is doubtful whether immigration and fostering of minor industries can bring about greater prosperity for Kerala. Nor do we think that the agricultural problem here is saved by plentiful water supply. Rural stagnation is a question of indebtedness and hide-bound caste rules. Fortunately the question of crushing debt is not a live issue in Nelluvaya; from his consolidated statement, he shows that 90 per cent of the debt is given on personal security and that at an interest below 12 per cent. If so, one fails to see how the co-operative credit movement can be of help because in Cochin almost every society is charging 12 per cent for its loans. We can only take the writer's explanation that money income is proportionately large and that there are more people wishing to invest than there are borrowers, at Nelluvaya.

We are inclined to think that the title of the book is too modest. Instead of calling it "Life in Malabar Vlliage" it would have been more fitting to adopt a more ambitious title, to wit "Economic Organisation of Kerala" or something else approaching it.

But these are some of the minor blemishes in a book which otherwise deserves warm praise and appreciation. The book has a Foreword by Dr. G. Slater, the quondam Professor of Economics of the Madras University. Dr. Slater has prepared the ground by explaining the diversity of conditions to be met with in Kerala and shows how in many ways Malabar is a veritable museum of castes, creeds and institutions. Mr. I. Raman Menon, Superintendent of Agriculture and Panchayats, Cochin State, must also be given his share of praise for the very valuable appendices that he has furnished for the book. He has given a most elaborate classification of the different kinds of paddy and the kind of manures best suited for cultivators in Malabar and the kind of insect pests most commonly met with in Cochin.

The printing and get-up of the book are very satisfactory which reflects no little credit on the Bangalore Printing and Publishing Company and it is priced sufficiently low in view of the quality and quantity of the matter it contains. We consider this little book as a very useful and instructive publication for students of Malabar Economics.

P. P. KALLUKAREN.

ഭാരതം കണ്ടു ഇന്നു. (ചന്ദ്രശേഖരം) :—Translation of a number of Rabindranath Tagore's essays:—By Puthezhath Rama Menon, B. A., B. L., Chief Court Vakil, Trichur. Published by the author.—Price Rupee one.

A few opinions, expressed by Rabindranath Tagore through the Press in the course of the past few years, regarding certain aspects of the great national movement initiated by Mahatmaji, have divided the *intelligentsia* of India into two warring camps. Till recently, the Pro-Gandhians had outnumbered the Pro-Tagoreians and shouted them down; but of late the latter have raised their heads and shown themselves capable of equally effective clamour and vilification. We see no reason for all this wrangling and polemics which, assuredly, would not be countenanced by the leaders themselves. Neither in respect of the goal of our national ambition nor in the methods suggested for national redemption, does there exist any fundamental conflict between the two ideals. "Look into thy heart and cleanse it of all evil self-love!" proclaims the Saint of Sabarmati. "Lose not thy immortal heritage of Art and Religion, treasure it up and raise thyself!" counsels the sage of Shantiniketan. Wherein lies the contradiction here? Like two wheels of a carriage bearing the same load, the two doctrines work in parallel directions, each supplementing the other. It is nothing short of perversion to suppose that Mahatmaji ignores or belittles the elevating influence of Art and Culture; it is equally erroneous to think that Gurudevji is an exclusive votary of Art. India has need of both. The clarion-voice of the Sabarmati Saint sounds in perfect harmony with the dulcimer notes of the Bengali bard.

If there be any who feels sceptical, let him read through the small volume of the poet's essays, translated for the Malayalam-knowing public by Mr. P. Rama Menon. Here we get a glimpse into the great poet's views on such varied topics as Hindu Religion and Culture, the precious literary inheritance of India, the evils of Hindu society, the crying necessity for the purification of our Ego, the essential difference between the genius of Indian history and that of English history, the position of women in Hindu society, the defects of our modern system of education and the real conception of Freedom.

The Malayalam-knowing public owe a debt of deep gratitude to Mr. Rama Menon, the eminent Malayalam scholar, for his Tagore-translations. Few people who have not read Tagore's prose works in English or in the original can realise how extremely difficult it is to render the poet's thoughts into another language because of their high symbolism and poetic colouring. Mr. Rama Menon has risen superior to these difficulties. In our opinion the secret of Mr. Menon's success lies in two facts. In the first place, he has the power to steer clear of the two extremes of paraphrastic diffuseness and literal exactness. Secondly Mr. Menon's lyric instinct has stood him in

good stead for comprehending the *entire* thought of the poet. We have heard of Mr. Rama Menon as a poet of some mark in his earlier days. We are glad that the inexorable demands of his profession have not snuffed out the lyric instinct in him.

We mean no disparagement to the book under review when we have to dissent from the opinion of certain critics, quoted by Mr. Menon in the preface to his work, that the translation of the *Essays* of Tagore would prove more valuable to Malayalam literature than the translation of the poets' *Short Stories*. We know that Mr. Menon is too keen and enthusiastic a student of Tagore to endorse, or act up to, this view which rests on an imperfect appreciation of Rabindranath's genius. The poet's short stories—both the longer ones called *Galpas* and the shorter storiettes known as *Kothikas*—have an aroma of their own, which exists nowhere else in the literature of fiction. It is one of the chief merits of these stories that this aroma is neither stiflingly heavy nor fleetingly thin. They have the redolence of the tiny *chrysanthemum* rather than the heavy fragrance of *jasmine*. The poet's stories are little lyric notes which haunt us with their inexplicable charm. The teacher and the artist speak to us through these little vignettes of life. The effect on us is not merely sensorial but restorative too! While thanking Mr. Menon for this volume, we would request him not to ignore the short stories in his future work of Tagore-translation and Tagore interpretation.

L. V. RAMASWAMY AYYAR.

Ruskin's "Sesame and Lilies"—A Study—By G. F. Papali, M.A.
(pp. 117—Price As. 12—Phoenix Publishing House, Mylapore).

Students appearing for the Intermediate Examination of 1927 will find Mr. Papali's book eminently useful to them as a practical guide in their study of the prescribed work of Ruskin. In addition to the conventional "biographical details" and "critical excerpts" followed by the usual "explanation of difficult words and phrases", the present volume also contains clear analytical summaries of the chapters, given paragraph by paragraph, as well as Questions and Answers of a more or less comprehensive character. The Outlines and Recapitulations and the Model Essays and Annotations so unstintedly interspersed in the body of the Notes must enhance, in no small measure, the practical utility of the volume in the estimate of those for whom it is obviously intended. We cannot, however, help wishing that the book will ere long be carefully revised so that slips like "*Ophelia—Hamlet's mother whose illicit love with her brother-in-law &c.*" (P. 106) may be corrected in time.

P. SANKARAN NAMBYAR.

The College Literary Unions.

(Notes of Meetings).

It is a matter of great rejoicing that we, the members of the 3rd class, were able to hold a debate on parliamentary lines on 20th October 1925. This is the first time that our College witnessed such a function.

Mr. E. P. Isac was the Speaker. The motion before the house was "That this House is of opinion that early marriages are detrimental to the progress of Society".

Mr. T. R. Venkitaram opened the debate.

Mr. G. Satagopalachari led the opposition.

Messrs. A. Karunakara Menon and E. P. Bhas *alias* Bhaskara Menon supported the motion.

Messrs. M. P. George and G. K. Sundara Sastri opposed the motion.

The opener having exercised his right of reply, the speaker then called for a 'Division'. The House divided itself as follows:—

30 Ayes and 28 Noes. The motion being carried by two votes, the House dispersed.

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Subsequent to our Parliamentary meeting evidently conducted on the 'Cambridge model' we convened 5 meetings—of these one was a special meeting, two were ordinary meetings conducted in English and two ordinary meetings in Malayalam.

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It may not be out of place here to say a few words about the shining lights of our 'Literary Union'. First and foremost comes our E. P. Bhas. He has few or no equals in oratory. For, who can equal him in his *extempore* orations? Cheers be to the 'Demosthenes' of our class.

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Then comes our M. K. K. Nayar. He is the philosopher of our Union. Though his lectures are long and slow, he has a singular knack to keep the audience spell-bound by many apt quotations from holy scriptures.

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Mr. Symons is the 'Orpheus' of our class. We are very profuse in expressing our gratitude and thanks to him by the clapping of our hands. Mr. A. R. A. S. Ayyar is no doubt a good and impressive speaker but he gets a little too vehement when he warms himself into a subject. Mr. A. K. Menon and Mr. T. R. V. are cool and moderate speakers. Lastly comes 'the Vallathol of our class', none other than Mr. Kunhappa Nambiyar. He is

thorough in almost all the works in Malayalam literature. No wonder then that he snatched away the first prize in our recent Malayalam elocution competition. Let him be crowned with more laurels in the future.

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Lastly like Prospero in the Epilogue the Secretary craves for the indulgence of the members and the authorities concerned—for the short comings and mistakes in the conduct of the meetings.

G. K. SUNDARA SASTRI,

Secretary.

The Girls' Literary Union.

Started rather late in the year and with frequent interruptions due to periodical examinations, the meetings conducted did not come up to our expectations. Only five meetings more were conducted, two English and three Malayalam.

The subjects discussed at the English Meetings were "India and her developing Industries", "Nature and her influences on Man." The Presidents were Messrs. K. Narasimha Pai, B. A., L. T., our Chemistry Professor, and P. S. Ramakrishna Ayyar, M. A., L. T., our History Professor. The essayists were V. Rugmini Amma and N. Lakshmikkutti Amma.

The Subjects discussed at the Malayalam Meetings were "സൂര്യൻ നമ്മുടെ ജീവനും" "കൃത്യനിഷ്ഠ," "പൗരസ്ത്യ വനിതകളും പാശ്ചാത്യ വനിതകളും." Mr. K. Kesavan Nayar, our Malayalam Pandit, Mr. K. R. Subrahmanya Sastri, our Sanskrit Pandit and V. Rugmini Amma of the S. I. C., presided. The essays were read by P. Minakshi Amma, M. Kunhikkavu Amma and M. Kalyanikkutti Amma.

In addition, three extraordinary meetings also were conducted. Mr. V. Ramanata Ayyar, M. A. (Hons.) L. T., our History Tutor, gave us an instructive lecture on "The Needs of Young India", Miss Alie Chandy, B. A. (Hons.) on "the Pleasures of Literature" and Mrs. T. K. Sankara Menon B. A., on "The Parting of the Ways."

With the hearty co-operation of our well-wishers all these meetings were quite successful. Attendance was fairly satisfactory and many members used to speak on these occasions.

In conclusion, we make bold to express our great satisfaction that we have been able to do at least so much during such a short period and we take this opportunity to express our sincere thanks to all those who have been responsible for the organisation and conduct of the association. May God Almighty shower His choicest blessings on this infant association and give it a long and useful life for ever and for ever.

M. LAKSHMIKUTTI AMMA (III U. C.)

Secretary.

The Anniversary of the College Literary Unions.

Under the distinguished presidency of Mrs. Holland, B Sc. (London), of the Union College, Alwaye, the anniversary of the College Literary Unions was celebrated with great *clat* on Friday, the 26th February, 1926. Neatly decorated with flags and festoons, the premises of the college presented a *gala* appearance on the occasion. At 5 p. m., the anniversary meeting was held in the premises of the college (the Jubilee Square) which was very largely attended by the *elite* of the Ernakulam public. There was a fair sprinkling of princes of our Royal family and of ladies on the occasion.

After a prayer in Malayalam by M. Natesan (II class) and mangala slokas in Sanskrit by C. S. Narayanan Namburipad (I class), Srimati Rugmani Ammal (II class) delivered a short welcome address as follows :—

Welcome Address.

Your Highnesses, Ladies and Gentlemen,

On behalf of the Literary Unions of the Maharaja's College, Ernakulam, I have much pleasure in offering a cordial welcome to you all on this august occasion of our anniversary meeting.

It is, perhaps, only in the fitness of things that one of the girl-students of the College should come forward to tender our greetings to the gracious and enlightened lady who has condescended to preside over the day's functions. For, with pardonable vanity, I may be allowed to state that one of the prime considerations that must have moved her to grace the chair this evening, is the fact that the College is highly representative of her sex in the ranks of its students. It is, therefore, my proud privilege to extend a most hearty welcome to you, gracious Madam, on behalf of us all, and to express our sincere thanks to you for your kindness.

To the Speaker of the evening who is an orator of international reputation and who, therefore, stands in no need of an introduction, we extend an equally hearty welcome. • It is our singular good fortune that we have been able to secure such a very distinguished lecturer for the occasion, and I feel my helplessness in giving adequate expression to our feelings of joy and gratitude on his kind acceptance of our invitation.

Lastly we extend our sincere greetings to all our guests of the evening who have so kindly responded to our invitation and graced the occasion with their presence; and we invite them to a hearty participation in the rich intellectual repast that is before us,

The following report was then presented by the Secretary, G. K. Sundara Sastri on the work of the Union for the year.

The Secretary's Report.

President, Your Highnesses, Ladies and Gentlemen,

The Secretaries of the various sections of the Maharaja's College Literary Association beg leave to lay before you the following annual report of the work of the current academic year.

In the past years there were only two Literary sections, one for the 1st class and the other for the 2nd class. With the starting of the 3rd class in the beginning of this year, a new 'Literary Section' exclusively intended for the 3rd class was constituted with Messrs. V. R. Venkiteswara Ayyar, the Principal, and T. K. Sankara Menon and V. Ramanatha Ayyar—as President and Vice-Presidents respectively

Besides, a Girls' "Literary Section", the necessity for which had been keenly felt during the past years owing to the large increase in the number of girl-students, was also formed with the object of developing a spirit of union amongst the girls and also of increasing their powers of speech.

It is a matter of great pride to the Secretaries that they were able to secure the service of that great statesman and scholar—the Honourable Sir C. P. Ramaswami Ayyar—to deliver the inaugural address of our 'Literary Association'. Further, four public lectures were also arranged under the auspices of our College Literary Association—the first one being in Malayalam and the others, in English. Our respectful thanks are due to all the eminent lecturers who so kindly obliged us. We also express our sincere thanks to those learned gentlemen who readily responded to our request to preside over our respective meetings.

Eight ordinary meetings were held by the 3rd class. Of them five were in English and three in Malayalam. Amongst the subjects dealt with were "Success in Life", "Vedanta Philosophy", "Students and Politics", "വളർച്ചയും കവിത" "അഹിംസ" "യൗത്വം" and "Early Marriage". The last mentioned subject was debated on "Parliamentary lines"

The 2nd class held seven ordinary meetings—four being in English and three in Malayalam. Amongst the subjects treated, were "Benefits of Technical Education", "പ്രാചീന ആയുർവ്വേദത്തിന്റെ വിദ്യാലയങ്ങൾ" "ഇന്ത്യയിലെ ചരിത്രപഠനം" and "Advantages of Historical Study."

The 1st class was able to meet together six times and the subjects discussed were "യൗത്വം" "ആധുനിക വാണിജ്യ യന്ത്രത്തിന്റെ ചില വർദ്ധകൾ" "The Advantages of Studying Foreign Languages" "Antiquity of the Tamilians" and "The Scout Movement in our State".

The Girls' Section, though started rather late in the year, was able to hold six ordinary meetings and three special meetings. Of the six ordinary

meetings three were in English and three in Malayalam. The subjects treated were, "Indian Folk-lore" "India and her developing Industries" "Nature and her influences on Man" "ശ്രീകൃഷ്ണ ഗുഹഭരണവും" "കൃതനിഷ്ഠ" and "പാശ്ചാത്യവനിതകളും പാശ്ചാത്യ വിദ്യാഭ്യാസവും". The three special meetings were also very successfully conducted.

The Secretaries of the various sections take this opportunity of thanking their President and Vice-Presidents for their encouragement and support and also the eminent lecturers of our several meetings for their extreme kindness in extending a warm response to our humble requests.

Elocution Prizes.

In connection with our College Literary Unions, an Elocution contest was recently held at which P. Ganapati (class I) and A. Kunhappan Nambiar (class III) were adjudged as first in English and Malayalam respectively. Prizes were now awarded to them by the President.

Mr. Satyamurti, B. A., B. L., M. L. C., was then requested by the President to deliver his valedictory address.

Mr. Satyamurti's Address.

Mr. Satyamurti, who on rising, was given an ovation, then delivered an interesting and eloquent address on Indian Education, which lasted for about an hour and was listened to with rapt attention.

Mr. Satyamurti began his address by congratulating the Government of Cochin on the well-deserved elevation of the college to the status of a First Grade College and the College Literary Unions on their excellent record of work for the year. 'Indian Education' was a subject on which, he was never tired of speaking and next to 'Indian Swaraj', it was the subject nearest to his heart. The views that he was going to give expression to were the outcome of earnest thought. The subject of education was in fact bound up with that of Swaraj, seeing that a cultured and enlightened people was essential to administer Swaraj in this country.

India was at present the least educated country in the world, the percentage of literates not being more than 7 or 8. It must not however be forgotten that India was the longest educated country in the world and that at a time when the ancestors of western nations were little better than savages, our ancestors had evolved and perfected a civilisation which was even to-day the admiration of mankind. Our ancestors had certainly developed an excellent system of education in this country which unfortunately was covered over with the dust of ages. This educational heritage of ours had to be realised and revived in modern times with a view to the educational advancement of our country.

Dwelling on the objects of education, the lecturer observed that they were threefold—firstly, to make its products better social and political units

and enable them to play an active and useful part in the social and political life of the country, secondly, to make them better wage earners and thirdly, to impart emotional culture to our young men and make them missionaries in the cause of learning and social service.

The lecturer then proceeded to consider some of the outstanding features of ancient Indian education and dwelt upon them at length. Education was free in all stages in ancient India, only voluntary payments being made, if at all, by students. Schools and Colleges were maintained by the munificence of princes and *Grihasthas*. All were given free admission, irrespective of sex or rank and all classes of students, rich and poor, high and low, mixed freely with one another and led the same kind of lives. The system of education was residential and teachers and students, all lived as members of one joint family. Celibacy was insisted upon as a condition of admission and the ideal strictly kept in view was that of plain living and high thinking. There was not the same desolating dominance of examinations as we have now and the pursuit of knowledge for its own sake was the supreme aim. In this connection, the lecturer cited the case of Naciketas from the Upanishads. Ancient Indian education has often been criticised as impractical and one-sided. This is however a gross misconception, born of ignorance or prejudice and the lecturer made a reference to Sri Krishna's exhortation to Arjuna, as embodied in the *Bhagavat Gita*, as a fitting reply to this charge. It was not a dreamy kind of education that was imparted in ancient India but one that was highly practical and paid equal attention to material and moral interests.

Our modern English education was the result of Macaulay's Minute. Although the object of the Government was only to manufacture clerks, Macaulay foresaw that the Indians brought up in this education would, in the long run, rise to the full height of their stature and begin to clamour for western institutions and according to him, this would be the proudest day in the history of the English in India. The Lecturer then sarcastically asked if there were any Englishmen *now* who were inclined to take such a view.

Mr. Satyamurti then proceeded to consider the defects of modern education and make suggestions for its improvement.

As regards elementary education, instead of discarding the features and the ideals of the old system, we must revert to them as far as possible, with necessary modifications. We must try to revive the system of *pial* schools where education was cheap and accommodation free and comfortable. Classes must be held, not in the hottest part of the day as now, but in the coolest hours as in olden days, that is, 7.30—10 in the morning and after 4 p. m. More attention must be paid to the cultivation of memory in the plastic period of life. The status of the Primary teacher now so deplorable, must be materially improved. Formerly, the school master was a very important and respected member of every village-community. There was no elaborate

inspectorate in olden days, no vexatious restrictions and regulations, no dead uniformity in the matter of syllabuses, methods of teaching, etc. These are some of the features that need to be revived.

As regards secondary education, the lecturer observed that its object must be to impart an all-round education to our youths as a preparation for life. Our secondary schools are, however, unsatisfactory as preparation grounds. Vocational and manual training must be introduced. The Lecturer strongly criticised the S. S. L. C. system and the craze for specialisation that is so much in vogue now. Indian subjects must be given a more prominent place in the curriculum of studies.

Passing on to University education, the lecturer pointed out that our Universities are more or less exotic plants. It was impossible to transplant the atmosphere of Oxford or Cambridge in India. Our Universities must be made the cultural centres of the nation. They must be made to focus the life and culture of the nation in all their aspects. They should be societies of learners and teachers and pay adequate attention to the cultivation of higher sciences and research. The lecturer strongly criticised the Madras University Act of 1923 which was full of defects.

The lecturer wound up his lengthy address with the following suggestions:—(a) all education must be given through the vernacular medium, (b) the study of Sanskrit must be made compulsory in schools and colleges, (c) our education must be given a distinct Indian orientation and (d) the tyranny of examinations must be lessened.

The President then made a few remarks complimenting the lecturer on his excellent address from which she had learned a great deal about Indian education. She observed that she fully concurred in the lecturer's views as regards the vernacular medium.

The lecturer and the President were then thanked by the Principal of the College. With the garlanding of the President and the lecturer and the proposing of the usual cheers, the function came to a close.

The Hindu Hostel Notes.

By V. K. M. (S. I. C.)

Our Hindu Hostel was infested with a fever of lethargic inactivity for a long period. No "Hostel Notes" has as yet appeared in either of the issues of this magazine this year.

With the raising of the College to the status of the First Grade, some slight alterations were made in the Hostel buildings, now affording accommodation for 104 boarders in all. It was, to begin with, 97 strong at the

commencement of this academic year. The strength of the Hostel is now at an ebb. After the Onam vacation some six of our Tellicherry brethren left the Hostel and then again, after Christmas, another batch of eight followed them.

We were having our 'Literary Association' meetings for the first term of this year, with Mr. E. P. B. Menon as our Secretary. He proved to be a fit occupant of that post, and, thanks to his assiduity, the meetings were all very regularly and well conducted. Latterly, however, our Literary Association has somewhat drifted into a condition of lethargy.

To foster our natural interest in what concerns our fellow-beings abroad we get down various useful newspapers and magazines. There is also a small library attached to our Hostel which has, of course, still to be improved.

Nor do we lag behind in Sports. The Hostel provides both Badminton and Volley Ball. Mr. Kant's 'twist's and Kuts' cuts', plan's 'flacings' and captains 'stroke's are sometimes the topics of our gossip. Some of us are Tennis players, among whom may be mentioned the name of at least one—R. Mani—who excites our admiration for the gracefulness of his play.

Proud are we to state that we have a fine flutist in the person of Mr. Raja. Now and then, to relieve our monotony, Messrs. C. S. V., H. K. N., V. K. P. and A. S. M. entertain us with their melodious music. To crown all, our 'Amman', with his wit and humour and his marvellous talents of mimicry and caricature, is certainly the most invigorating trump card in our company.

A *Persona Grata* with the boarders, Mr. K. R.—is to us, as it were, a miniature 'Highness' who with his 'Diwan', Mr. P.—administers to us our own laws. We have again certain other old veterans known for their bombarding and thundering voice. The small coteries of satellites that group themselves round each of these during their processions are things of endless gaze and curiosity.

Nor are we wanting in Poets and Actors. Our Poet Laureate with his complacent smile could often be found among us giving us touches of pleasant wit and enlivening us with 'quadrupeds' of his own production. Yet only very few of us could appreciate his 'book-learned skill' but many stood aghast and wondered 'how one small head could carry all he knew'. Our local Garrick is free from nervousness and bashfulness and he is very eager to appear before us at all dramatic entertainments.

Although we are immensely happy in our surroundings there are certain blood suckers that haunt us every night. Thus being not allowed to comfortably lie down on our cots we are forced to lie on our tables—'cots by night and tables all the day'.

Thanks to the untiring energy of our beloved Superintendent, a fine garden of diverse botanical specimens is now in the initial stage of its growth. May we hope that, as in the past, it will not turn out to be a 'caput mortuum',

The Maharaja's College Jubilee Memorial Fund.

1. The administration of the fund shall be vested in a Committee of seven members constituted as follows :—

The Director of Public Instruction—Ex-Officio President,

The Principal of the Maharaja's College—Ex-Officio Secretary.

Two other representatives of the Maharaja's College staff.

Three representatives of the Old Boys' Association of the Maharaja's College.

2. The Fund shall be invested in the name of the Principal, Maharaja's College, for the purpose of establishing a lectureship to be known as "The Maharaja's College Jubilee Memorial Lectureship" or for the purpose of founding a prize to be known as "The Maharaja's College Jubilee Memorial Prize", in alternate years, which shall be governed by the following terms and conditions :—

Condition of the Lectureship.

(a) The lecture shall be on any topic connected with art, literature, sciences, history or archaeology, preferably connected with Kerala.

(b) The lecturer shall be selected every year not less than three months before the date of the lecture by the Committee administering the endowment.

(c) The lecture shall ordinarily be delivered in February of each year at the Maharaja's College and shall be open to the students of the College and the general public.

(d) The Committee has the right to print and publish the lecture, and in case it does not choose to do so, shall give the lecturer full liberty to publish it.

Conditions of the Prize.

(a) The Prize shall be awarded in alternate years by the Committee for the best thesis on any topic connected with Kerala, preferably Cochin.

(b) The Committee shall arrange in February of each year to invite theses on suitable topics, for the ensuing year.

(c) The Essay or thesis should be an original work done by the candidate. The candidate shall indicate, by means of foot-notes, the sources from which his information is taken, the extent to which he has availed himself of the work of others, the data or bases of his inference or theories, and portion of his thesis which he claims as his original. He shall further state whether the research has been conducted independently, under any advice or in co-operation with others, and in what respects his investigations appear to him to advance the study and knowledge of the topic of the thesis.

(d) The Committee shall appoint three Judges to decide as to who the best essayist for each year is, and whether he is to be given the whole or only a part of the amount.

(e) The committee may grant a part of the prize to a thesis not deemed worthy by the Examiners of receiving the whole prize; and the Committee may decline to award the prize on the ground of insufficient merit in the thesis submitted.

(f) When two or more essays or theses are considered to be of equal merit, the prize shall be divided among the authors.

(g) The successful thesis shall be published by the Committee.

(h) The thesis for the prize shall be submitted to the Committee in the month of February.

(i) If no award be made in any year, the amount of the prize shall be added to the corpus of the fund.

(j) The Committee shall have power to make changes in the above rules not inconsistent with the original object of the endowment.

The Old Boys' Association.

The Annual Meeting of the Old Boys' Association was held on 19th December 1925 when the constitution and Rules of the Association drafted by the Committee were discussed and approved, with slight changes. A report of the work done by the Association was also read at the meeting. The Council for the next year was elected. A committee consisting of Messrs. R. A. Gayatrinata Ayyar Avl., Panthiyil Govinda Menon Avl., R. Deva-
raja Ayyar Avl., and T. K. Krishna Menon Avl., with the Principal as the Convener was appointed for compiling a register of all the past students of the College; and the meeting dispersed with a vote of thanks to the Chair,

Council of the Old Boys' Association, Maharaja's College, Ernakulam.

President.

His Highness Kerala Varma, 13th Prince of Cochin.

Vice Presidents.

- M. R. Ry. K. Chandy Avl., B. A., Second Councilor, Mysore State.
 „ C. Achyuta Menon Avl., B. A., late Secretary to the Diwan.
 „ T. K. Krishna Menon Avl., B. A.
 „ K. Rmunni Menon Avl., M. A. (Cantab) Professor, Presidency College.

Secretaries.

- „ N. R. Ramachandra Ayyar Avl., M. A., Maharaja's College, Ernakulam,

- M. R. Ry. N. S. Lakshminarayana Sarma Avl., B. A., B. L.
 „ S. Govinda Menon Avl., B. A., B. L.
 „ T. K. Sankara Menon Avl., Maharaja's College, Ernakulam.
 „ V. T. Sridhara Menon Avl., Do.
 „ E. Sankunni Menon Avl., B. A., B. L.

Treasurer.

- „ K. Narasimha Pai Avl., Maharaja's College, Ernakulam.

Members.

- „ Diwan Bahadur V. Verghese Avl., Chief Medical and Sanitary Officer, Cochin.
 „ V. K. Kochunni Menon Avl., B. A., B. L.
 „ A. Sankara Menon Avl., B. A., B. L.
 „ C. M. Venkitachala Ayyar Avl., B. A., B. L.
 „ C. J. Mathew Avl., B. A., B. L.
 „ V. B. Vaidyanatha Ayyar Avl., B. A., B. L.
 „ Parakkal Krishna Menon Avl., B. A.
 „ K. Rama Pisharoti Avl., M. A., Sanskrit College.
 „ C. S. Gopala Panickar Avl., B. A.
 Miss. H. Cruickshank, B. A., L. T.
 Miss. A. Subhadra Amma.
 Sreemati M. Madhavi Amma Avl.,

The Constitution and Rules of the Old Boys' Association as approved at the annual meeting of the Association held on 19th December 1925

1. **Name.**—The name of the Association shall be “The Old Boys' Association, Maharaja's College, Ernakulam.”

Note.—The term “Old Boys” will connote, unless there is anything to the contrary, ladies too.

2. **Objects.**—The objects of the Association shall be amongst others—

(i) To devise means to help the poor students of the College and to do other acts of social service.

(ii) To secure endowments for the College.

(iii) To promote *esprit de corps* amongst the past students of the College, and between them and the College and to induce them to take an abiding interest in all matters connected with education in the State in general and the College in particular; and

(iv) To celebrate the College Day in co-operation with the staff and students of the College.

3 **Membership.**—(i) The membership of the Association shall be of two kinds—Life membership and Ordinary membership. A life member shall pay a subscription of Rs. 6 in advance and an ordinary member, an annual

subscription of eight annas, payable not later than the first of the English month in which the College Day is celebrated.

Note.—The Committee may realise a life-member's subscription in instalments if paid within one year, from the date of his admission. If the full amount is not paid within the year, then the amount paid will be commuted as his subscription as an ordinary member.

(ii) All old students of the College shall be eligible for membership on payment of the subscription fixed above.

(iii) The members of the College staff will be members of the Association on payment of the required subscription even though they are not old students of the College.

(iv) A life-member who does not pay his full amount within one year and an ordinary member who becomes a defaulter for three consecutive years will automatically cease to be a life member or an ordinary member, as the case may be.

4. **Management.**—(i) The affairs of the Association shall be managed by a Working Committee of not less than seven, nor more than eleven members, under a Council of not less than twenty-seven members.

(ii) The term of a council shall be one year and the Working committee as well as the office bearers shall be elected by the council elected at the annual meeting of the Association.

(iii) The Working Committee shall have power to constitute sub-committees to carry out any specific work under its guidance and control.

5. **Departments of Activity.**—The Association shall have the following sections for carrying out its objects, each managed by a sub-committee of three members.

- (i) A Literary section.
- (ii) An Arts Section.
- (iii) A Science Section.
- (iv) A Dramatic Section.
- (v) A Social Service Section.
- (vi) A Sports Section.

6. **Meetings.**—The Working Committee shall meet once a month, or as often as necessary, for the proper discharge of its duties, and the quorum for a meeting of the committee shall be three, while that for a council meeting shall be five.

7. **Funds.**—The funds of the Association shall be deposited in the Government Servants' Co-operative Society or any Savings Bank approved by the committee; and the Treasurer shall not keep with him any amount in excess of Rs. 10.

8. **Annual Meeting of the Association.**—The College Day shall be celebrated early in January and the annual meeting of the Old Boys' Association held on that day when the annual Report of the Association and an audited statement of the accounts for the year shall be presented.

**REPORT OF THE OLD BOYS' ASSOCIATION,
MAHARAJAS' COLLEGE, ERNAKULAM,
FOR THE YEAR ENDING 1925.**

On behalf of the Working Committee of the Old Boys' Association we have the honour to submit the following brief report of its work for the year ending December 1925:—

The Working Committee met for the first time in June 1925, after the reopening of the College and drafted the constitution and rules of the Association, herewith placed before the meeting for approval or revision according to the resolution "that the rules framed by the Committee be in force till revised by the Association at its next annual meeting, or earlier if found necessary," passed at a meeting of the Old Boys' Association, held on the occasion of the celebration of the Jubilee in January 1925.

There were three subsequent meetings of the Committee for appointing Sub-Committees for the various departments of the activities of the Association, and for transacting other items of business. The Council met once for co-opting a few members to that body to strengthen the working Committee.

The activities of the Committee during this period were mostly confined to pioneer work and to the securing of members for the Association so that it might become a strong and representative body with sufficient funds at its disposal. With this object in view, an appeal was circulated and published in the papers inviting the past students of the College to enrol themselves as members of the Association. The response received so far cannot be said to be very discouraging; though only a few from among the distinguished old boys outside the station have become members of the Association. As it is, we have now about 112 life-members and about 200 ordinary members, as a result of personal appeals to the Old Boys in the locality. Our thanks are due in this connection to the Princes of our Royal family who are past students of the College; for almost all of them have enrolled themselves as life members of the Association.

The procedure adopted in connection with the College celebration may be briefly explained. The working Committee at its last meeting appointed an executive committee for the Day Celebration consisting of the members of the Working Committee, representatives of students and the Conveners of the several sub-committees. The Principal too was invited to attend the meetings of the executive committee. Our thanks are due to the Principal for his kind help and willing co-operation without which our work would have been extremely difficult.

We have received a silver cup from Mr. T. K. Krishna Menon, one of our Vice Presidents, to be used for rowing competition. The conditions of the award will be published in the College Magazine. We trust that others too will institute prizes and medals for other items of Sports to be held yearly on the occasion of our College Day Celebration.

The Committee must take this opportunity to point out that the successful working of the Association depends almost entirely on the funds at its disposal. The various sub-committees cannot function properly without being fed with funds. Hence the Association must have a large number of life-members if it is to serve any useful purpose. The committee therefore appeal once more to all Old Boys of the College to enrol themselves as life-members and thus help the Association in the fulfilment of its noble aims and ideals.

The Committee are not unaware of the fact that they have been subjected to a good deal of hostile criticism from various quarters. The annual meeting of the Association is the one occasion for such criticism and the committee would gladly welcome every useful suggestion for its future work.

There is no audited statement of accounts to be presented this year, because the enrolment of members and the collection of funds have begun but recently. A full list of the members at present on the rolls of the Association along with an audited statement of our accounts will be published in the College magazine in due course.

There is hard, strenuous work before us. There should be no wrangling on the road, for that will only retard progress. But to achieve our object, to make our Association a living, lasting force for useful activities, let us work as one man, indefatigably and whole-heartedly. So God be with us.

Our College Day Celebrations.

(Extracts from Toast Speeches.)

Toast of His Majesty the King Emperor.

Proposed from the Chair.

Toast of His Highness the Maharaja of Cochin.

Proposed by Mr. Justice T. M. Krishna Menon, B. A., B. L.

I feel very highly honoured by the call made upon me to perform the most agreeable and important function tabled for the day, viz., that of proposing the toast of His Highness, our beloved Maharaja. I know that the privilege has been accorded to me for no other merit in me than being an old

boy of this College and I may tell you that I have undertaken the task in no spirit of confidence in my powers of speech or persuasion but in the simple faith that the toast is one which carries with it its own recommendation and does not require from me any speech to make it acceptable. The manifold virtues which His Highness possesses in no small degree, the deep love which he entertains for all his subjects alike, the abiding interest which he takes in all matters relating to their progress and prosperity and the sympathy with which he views their legitimate and just aspirations are too well-known to require enumeration or comment. The inauguration of a Legislative Council giving the people a voice in the internal administration of the State, the investment from time to time of larger and more extensive powers and privileges in local self-governing bodies, such as Municipalities and Village Panchayats, and the admission of ladies as Councillors in the Legislative and Municipal Councils are, as you know, a few of the prominent instances of His Highness's sympathy for all the legitimate aspirations of the people. The position which this College holds today as a leading First Grade College is entirely due to His Highness and I venture to hope that under His Highness's kind patronage, she will, at no distant date, develop into one of the most important centres of education in the Southern Presidency. The fortunes of the College being thus closely bound up with those of His Highness nothing is more important and appropriate on an occasion like this, viz. the occasion of her annual rejoicings, than a toast to His Highness, and I firmly believe that you will all respond to it with reverence and gratitude. In that belief, I present it for your acceptance, with little or no comment.

The Toast of the University.

Proposed by Captain A. R. Poduval, L.R.C.P., M.R.C.S.

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Responded to by Mr. P. S. Ramakrishna Ayyar, M. A., L. T.

Your Highness the President, Your Highnesses, Ladies and Gentlemen—

It is my peculiar pleasure and privilege on this occasion to respond to the toast of the University which has been proposed in such a lively and racy fashion by my friend, Dr. Poduval.

It is a very short period, hardly 70 years, that the Madras University has been in existence. It has yet none of those sacred associations, those hallowed memories, those hoary traditions, which cluster round a University like Oxford or Cambridge. In the case of our University you may look in vain for those antique towers, those tall, ancestral trees, those shady walks, and quiet lawns, those studious cloisters pale, those storied windows casting a dim religious light, those sacred spots immortalised by their connection with immortals and many other things besides, which are such exquisite and inspiring features of a University like Oxford or Cambridge. But you must remember that it was under peculiar conditions and to meet some special

requirements that the University was founded in 1858. It was founded as an affiliating and examining body, which alone was possible and desirable then.

Further, how long, do you think, has this University been in existence? Hardly 70 years. And what is 70 years in the life of a University? It is nothing. Our University, in fact, has just entered on its life. Its race is just begun. It has in fact finished one chapter, a small and dull chapter perhaps, in the long, eventful, romantic story of its career.

But, even during this short period of less than 70 years, the University has rendered services which are by no means to be despised or disparaged. For one thing, it has been the means of bringing about a remarkable progress of higher education in our presidency. When the University was founded in 1858, there was no First Grade College at all and but 2 second grade colleges in our presidency. And now, what do we find? We have something like 30 first grade colleges and almost the same number of second grade colleges and more than ten professional and technical colleges. All these colleges have been founded, and have flourished, under the auspices of our University.

Ladies and Gentlemen, what has been the result of this higher education, this University education, that has made such progress in our land during these years? We are of course conscious that there are defects and short-comings in this education, as has been pointed out by the proposer. It must still be admitted that all along our University education has been a great and mighty force in our land. It has brought about an awakening in our country. (*Hear, hear*). Is there at present a new spirit in our land—a spirit of inquiry, research and criticism? Are there now movements going on in our country—political, social, economic, educational, literary or artistic? Is there anything like a renaissance in progress in our country? If we have all these, there is no doubt, that, to a large extent, it is due to the quickening impulse of western education and culture, to the impact of the dynamic culture of the west upon the placid culture of the east. (*Hear, hear*). I have no doubt about that. It may be,—it is in fact true—that as yet our Universities—or, at any rate, the Madras University—have been able to produce but few great scholars, thinkers or literati who have made any great or substantial additions to the world's knowledge or thought. But who can deny that, among the products of our University, there have been not a few who have made a mark in life, who have distinguished themselves in varied walks of life and whose names are held in great honour and esteem by one and all of us to-day? All these facts and many more we have to the credit of our University.

Passing on to the present century, the 20th century, we find that two processes have been going on in connection with our University—a process of contraction and a process of expansion. I think—and I am sure many of you will agree with me—that these processes are only in the right direction and in

the fulness of time, may be expected to transform our University which has all along been an affiliating and examining body, into a teaching and residential University, restricted to a small area.

I shall now explain myself a little. First of all, I shall speak about the process of contraction—that is, in the geographical area of the University. Thanks to the creation of new Universities that is going on, we find that the limits of our University are getting more and more reduced. As a result of this, we may hope to see the Madras University become in the fulness of time a city university, concentrating all its resources for higher teaching and research in the city of Madras or a part of the city—the University campus. This is certainly a change in the right direction so as to secure the best results of University education.

Passing on to the second process, that of expansion, what is meant is an expansion in the activities of the university, the development of the teaching side of the university.

Ladies and Gentlemen, it will take a pretty long time yet before the Madras University fully developes into a teaching and residential university. There are, however, substantial schemes in progress towards that end.

The future of the Madras University is still in the womb of time. There is, however, every reason to believe that it will, in course of time, develop into a real teaching and residential university and concentrating its resources in a small area, devote itself whole-heartedly to the best, the truest, the noblest functions of a university and not fail to send forth, from time to time, its own tributaries to enrich the ever-expanding stream of the world's culture.

Ladies and Gentlemen, with these words, I beg to respond to the toast.

The Toast of the College.

Proposed by Mr. P. Krishna Menon, B. A.

Your Highness, Ladies and Gentlemen,

About this time last year, the atmosphere not only of Ernakulam, not only of Cochin, but that of the whole of the Southern India, was so saturated and surcharged with the glories and achievements of this College, that very little seems to be left for me to say on this happy occasion. But if there are any in this assembly, not well acquainted with the glorious past of this College, I am sure that my friend Mr. Ramakrishna Ayyar, will be only too glad, to supply all the necessary information, through the medium of that handsome little 'brochure'—The Jubilee number of the College Magazine.

Valuable and interesting information being so easily accessible, I am not going to repeat it here. It is sufficient for me to say that the work of the College for the last half-a-century and more, has been much appreciated on account of the excellent products turned out year after year,

for public service, not only in this State, but outside of it as well. The work of the College has been admired for the same period, for the brilliant results secured at the University Examinations. I would add but one more fact which would crown her glories and that is the harmonious relations that have invariably existed between the teachers and the taught for so long a time without a single unhappy incident. We have not had to witness the unseemly sight of an unsympathetic teacher abusing his position, or an unruly student defying his *guru*.

With such a past, it is no surprise that, in the fulness of time, the College achieved additional status and glory, in as much as the celebrations of its golden jubilee synchronized with the raising of its status to the first grade. If we, ladies and gentlemen, have such a past that justifies the present, can we not for the same reason firmly hope for an equally, if not more, glorious future? I am sure there can be no two answers. Let me, in conclusion, to borrow the words of our late principal communicated to us in his cable, sincerely pray and loudly echo, *Floreat Collegium*.

Responded to by Mr. V. R. Venkiteswara Ayyar, M. A., L. T.

Your Highnesses, Ladies and Gentlemen,

Last time, in a brief speech, I gave a brief sketch of the past history of the College, and how the College came into existence in 1874. I also remember to have spoken to you about Mr. Sealy, the first Principal, how he and Mr. Cruickshank guarded the fortunes of the College for well-nigh 30 or 35 years and how these distinguished educationists of Southern India were succeeded by a noble band of devoted Principals and Professors and how, due to their exertions, the College had reached a stage which it was occupying last year.

Now one stage in the career of the College ended last year and the second stage began; but this second stage when it closes will be only an introduction to the third stage. On the occasion of the Golden Jubilee we all rejoiced that the formal sanction of the Government was obtained and the formal announcement of His Highness the Maharaja was made at a meeting like this. That announcement has now actually come to pass. It has now become a First Grade College actually, as was contemplated. When the B. A. classes were opened, in all the groups and subjects together, the strength was calculated to come to about 120, but what we do actually find now is that we have the B. A. class in 4 groups working and there are very nearly 120 students, and if the other groups also are to be opened, we expect to have a strength of about 200 in the B. A. class. That is our present condition. The College is going to have a brilliant and prosperous career as a First Grade College, as it has had as a second grade College in the past. Barring a few old men like myself (*cheers*) we have got enthusiastic young men on the staff of the College who do their work, not out of a sense of duty alone, but chiefly

actuated by their affection for their own old College. Thus notable and substantial results are sure to be produced by their affection, love and kindness to their students. That is why I say this College is going to have a prominent career as a First Grade College. Further, I believe the College will, in the remote future at any rate, be having a third stage, and that is, it will form a very important constituent in the contemplated Kerala University. It is only in our imagination that the University exists at present. But what is imagined to day might be translated into an actual accomplished fact, though not in the near future. When that day comes, it will be a glorious day in the annals of the Ernakulam College, and let us devoutly pray that the dawn of that day might be hastened.

The Toast of our Guests.

Proposed by Mr. C. J. Mathew, B. A., B. L. (*Old Boy*).

Your Highness, Your Highnesses, Ladies and Gentlemen,

Permit me in my own humble way, but with all the sincerity of my heart, to propose the toast of our distinguished guests.

Ladies and Gentlemen, let me assure you all, that we feel extremely grateful to you for honouring this occasion with your noble presence. I am afraid it is the mistake to address you as our "guests", for you are more like our "guardian angels", who watch the progress and guide the destinies of this College from day to day. There is none amongst you, who do not wish with us, that the future of our beloved *Alma Mater* may be bright, brilliant and glorious!!!

It is indeed very gratifying to note that our guests are taking a very keen and lively interest in the different events of this evening. There is a spirit of oneness and equality pervading the whole atmosphere. One of the prime objects of the College-Day Celebration, I dare say, is to further this free and social intermingling and I feel no little pride to state that we find this object fully realised to-day, every one feeling quite at home with every one else.

Perhaps I may be deemed failing in my duty, if I do not pay a special tribute to our honoured guest, Mr. C. Matthai, to whose noble endeavours, we credit the raising of our *Alma mater* to the status and dignity of a first grade college.

With these words, I propose the toast of our guests.

Seconded by Mr. T. S. Narayana Ayyar, B. A., B. L. in a few appropriate words.

Responded to by Mr. C. Matthai, B. A., L. T.

Your Highnesses, Ladies and Gentlemen,

This is a veritable family gathering round a venerable mother and the Maharaja's College, Ernakulam, will be proud of the fellow-feeling that has

brought to her side such a good gathering of her numerous progeny on this anniversary day.

It is a pleasure during such times of festivity to think of the stranger at the gate. This is a duty that is insistently laid down in all scriptures. I suppose the toast of the guests is a token to recommend the fulfilment of that duty towards a stranger who happens to be at your gate. No doubt, it is a beautiful custom to think of calling in the stranger, so that he may share in the general festivity and not sit deserted at the gate when the inmates are rejoicing. But that I should have been singled out as the representative stranger on this occasion arouses in me feelings of a very mixed kind. No doubt, as the Secretary himself remarked, the guest is a privileged individual, and a place of honour is assigned to him. Nevertheless, it seems to me that it is very difficult for me to reconcile myself to this position.

It appears to me that I have prior claims to be a member of the household to many of those who are sitting here as the recognized members. (*Laughter*). To take the case for instance, of the gentlemen who seconded the toast, to which I have the honour to respond, I believe I was a member of this College when he came here as a stranger. I noticed the avidity with which he pursued knowledge. It was a gratification to me to learn later on that he had chosen my own subject for his higher studies. But I must say that I did not expect that the study of Natural Science would lead him ultimately to the profession of law of which he now is a doughty exponent. (*Laughter*). I did not know that the Biology class was such a good training ground for a prospective lawyer. (*Laughter*).

I might cite another instance to support my claims. I made the acquaintance of the Doctor who proposed the toast for the university, in this College. He too was an ardent student of Natural Science but in his case his keen pursuit of the mysteries of animal life did not culminate in law. He was somehow successful in evading the charms of that noble profession. But the danger in his case was that he would be snatched away by the muse of which he had become a devotee even before he entered this College, but he resisted manfully.

When I first joined this College it was presided over by that great English scholar and humorist, the late Mr. Cruikshank, to whom this College and the earlier generations of students owe so much. But I always felt that he would have been a more successful teacher if only he had been a little less anxious to give his students all the benefit of the highest and the most up-to-date criticism and exposition of English authors.

He was so free and easy outside the class room. In conversation, he was so delightful, simple and brimful of humour. He was a true Scotsman. I have a distinct recollection of my encounter with him on the morning of my first day in the College. After the usual formalities, he put me this question: 'Now, Mr. Matthai, do you share in this belief that Shakespeare is the

greatest of English authors? I tell you that it is the work of certain German critics, I will tell you who the greatest English writer is. That is Sir Walter Scott (*Laughter*). I quite see that it was very much against his inclination that he reserved Shakespeare to himself. We thought that was the legitimate duty of the principal.

He was no lover of Science. He looked upon Science as a necessary evil of the modern day curriculum. I had not the good fortune and privilege to sit at the feet of Mr. Sealy, a pioneer of English and modern education in this State. But I had heard a great deal about him from my friends who came to Madras Colleges from Ernakulam. They spoke so enthusiastically of their *old guru* whose genuine affection had won their hearts.

Through the exertions of these pioneers, among whom our honoured President himself has reminded us of the late Mr. Subrahmanya Ayyar, the pioneer Mathematician of the College, through the exertions of these pioneers, Mr. Koshi, whose presence in our midst last year evoked such grateful enthusiasm and Mr. Davies, who worked so strenuously and for so long for the improvement of this College—the foundation of this College has been well and truly laid.

Around it, has gathered a glorious halo of traditions which it is the duty of this generation to keep untarnished. It is not enough for us to say that we had a great father in Mr. Sealy. We must show that we have inherited some of his great and noble qualities (*Hear, hear*).

The Toast of the "Old Boys".

Proposed by Srimathi P. Meenakhi (I. u. c),

Your Highness the President, Your Highnesses, Ladies and Gentlemen,

On this memorable occasion of the celebration of the Ernakulam College Day, I deem it a privilege to be asked, on behalf of the present students of this College, to propose the toast of its past *alumni*.

Thanks to the institution of the College Day, an opportunity has now been afforded for the past and present students of the College to come into closer bonds of mutual intimacy and to enrich and fructify each other, so as to accelerate its progress and augment its glory, on an unprecedentedly large scale.

Young people entering the precincts of this great institution cannot possibly fail to be brought under the enchanting influence of the rich and hoary traditions of its spacious past, which soon environ them, even as the fresh breeze from the Arabian Sea, and make them morally and intellectually healthy almost without their own knowledge.

I am sure that among our elder Brothers and Sisters "who were nursed upon the self-same hill" as ourselves, instances can by no means be rare of individuals who, long after they have bidden formal farewell to this great

institution, wistfully hearken back to the days they spent herein and exclaim with the poet:—

“Of the happiest moments which were wrought
Within the web of my existence, some
From thee, proud College ! have their colours caught”.

If indeed, one is capable of “some feelings which Time cannot benumb nor Torture shake,” prominent among them certainly are the feelings of regard and esteem for an *alma mater* like the Maharaja's College, Ernakulam.

We hope that the old students of the College, wherever they be and whatever station in life they occupy, will ever retain a warm corner of their heart for the associations of this noble *alma mater* of theirs and evince an abiding practical interest in all that pertains to her still-increasing prosperity and glory.

Responded to by Mr. T. C. Sankara Menon, B. A. (Cantab).

Your Highness the President, Your Highnesses, Ladies and Gentlemen,

I come up before you on behalf the Old Boys, to respond to the toast just now proposed to us by the representative of the present students of the College.

My first duty is to thank the present students for the sentiments they expressed with regard to the Old Boys. On behalf of the Old Boys, I return those sentiments in full measure. Our hope is, that, if it be their will, we may be given the opportunity and ability to be of service to them in greater and greater measure, so that the bond of mutual help established between the Old Boys and the present students may be made stronger and closer.

My prayer is that this bond between the past and the present students may survive the most protracted strains, and give us the strength and inspiration of a united body and a united mind, to carry on our life's work and mission. Let it enable us to stifle all differences between “I” and “You” “We” and “They”, let us all be “We”,—all preferences, no exclusions. [*Hear, hear.*] Thus let party strife and jealousies find no safe asylum in our dear little land, let us all work together each for all, all for each,—the experience and judgment of the past joining hands with the vitality and enthusiasm of the present [*Hear, hear.*] Let not obstacles dishearten us, let them be only tests for our sincerity. Let not successes make us over-confident, let them be only inspirations for greater attempts. Let not indifference or sarcasm our enthusiasm destroy, [*Hear, hear*] but ever and ever, let us all together hoist our banner, high and exclaim with a united voice, “Excelsior!—Excelsior!”, for God, Crown and Country.”

The Toast of the ‘Present Students’.

Proposed by Dr. P. Kallukkaran, M. A., Ph. D.

Your Highness the President, Your Highnesses, Ladies and Gentlemen,

We are assembled here to-day, under extraordinary circumstances, for an unusual gathering of the numerous progeny of a kind old mother, the *alma-*

mater to which we are all so proud to belong. And my task is perhaps the most pleasant and agreeable, as I am asked to extend the hand of friendship and amity to the present generation of students of this College. My pleasure is all the greater when I reflect on the very great interest that the old boys have always been taking in the welfare and prosperity of the present boys. It is no exaggeration to say that this our gathering and these festivities would not have taken place but for the Old Boys' Association. We, the old boys, look up to the present students to foster and maintain the noble traditions of this College which has the unique privilege of being the nursery of much of Cochin's cultural and intellectual greatness.

A great deal has been done by this institution in the past and it has been amply reciprocated by the students, who have successfully passed through its portals. But a great deal more has to be achieved for this hoary mother and that, you, the present boys have to attend to. The students of today have the rare opportunity of witnessing the old Ernakulam College metamorphosed into a glorious first grade College with yet unbounded possibilities of extending its scope and usefulness to the people of Cochin. And it is left to you, the present students, to draw the full benefit out of such an institution, to grow in wisdom and culture, so that you might be the brightest gems of this institution and the glory of your country.

We have imbibed lofty ideals and very noble ideas from the great masters who are the builders of this great centre of learning and it behoves us all to put into real practice these great ideals and ideas imbibed from this dear *alma-mater* of ours. Wherever you are and whatever be your profession, I am sure you will always set apart a warm corner of your heart for this institution.

Responded to by S. J. Symons (III u. c.)

Your Highnesses, Ladies and Gentlemen,

It is with feelings of unique pride that I rise to respond to the toast so eloquently and charmingly proposed by Dr. Kallukaran.

We, the present students of the College, feel a debt of gratitude to the old students, for the unflagging interest they take in the affairs of the College.

We are proudly conscious of our duty to foster the tradition that has been handed down to us by you, recognising well, as we do, that, in the creation of this tradition, the old students have played a conspicuous part.

It is our resolve therefore to maintain unimpaired this tradition as far as it lies in our power to do so.

With the help and co-operation we are receiving and hope to receive from you, we feel confident that we shall not fail in our task.

The old students form a link between us and the public; will it be too much, therefore, to express the hope that through their effort the public at large will be induced to take an abiding interest in our welfare and progress?

Assuring you all that we shall never grow forgetful of our responsibilities in promoting the prestige of our *Alma-mater*, we have great pleasure in extending our heart-felt greetings and thanks to all the old students of the Maharaja's College, Ernakulam.

The Maharaja's College Science Association.

(Opening of the Exhibition.)

Since the issue of the last number of the Magazine three more lectures have been delivered under the auspices of the Association. The first of these was on "Spinning Tops and playing with them" by Mr. K. Narasimha Pai, Professor of Chemistry. The lecture was illustrated by demonstrations of various forms of spinning tops, the most interesting of which was one riding on a stretched wire to illustrate the principle of the mono-rail. The second was by Mr. C. Lakshmi Narayanan of the Christian College, Madras, on 'South Indian Bird Life'. The lecture was illustrated with nearly 50 lantern slides and was extremely instructive and interesting. The last ordinary lecture of the year was on the 'Theory of Relativity' by Mr. G. R. Narayana Ayyar, Assistant Professor of Applied Mathematics, printed elsewhere in this number. This was also illustrated with specially prepared lantern slides.

The Maharaja's College Science Exhibition.

The chief activity of the Association during this term was however concentrated on the holding of the First Science Exhibition on 9th March. The shortness of the time made the Exhibition rather limited but with the full co-operation of the various departments, of the members and students, a fairly good show was got up. The date, 9th March, was fixed so that, the Legislative Council being in session, the members thereof might have an opportunity to visit the Exhibition and we are glad to note that several did make use of the opportunity. The pressure for time was so great that the actual arrangement of exhibits had to be done overnight and at 8 a. m. on the 9th we were just ready. At 9 a. m. members and visitors assembled in the College Hall. Mr. Cotton presided and Mrs. Cotton and the Diwan were also seated on the dais. Several Princes of the Royal Family were also present. The following is an abstract of the Secretary's Report read on the occasion.

Mr. Chairman, Your Highnesses, Ladies and Gentlemen,

It is with great pleasure that I extend to you all a very hearty welcome on behalf of the members of the Maharaja's College Science Association. On the eve of the opening of the First Science Exhibition in our College I may be permitted to place before you a short report on the working of our Association.

The aims of our Association are to popularise the study of Science, to arouse a live interest in it in and outside our class rooms, and to provide a common meeting ground, for those working in the various departments, for a

mutual exchange of ideas. The study of science among us is usually understood as a study of text books and even practical laboratory work usually reduces itself to a blind repetition of text books experiments. Among our students interest in Science usually lasts only till the taking of a degree after which it automatically stops. The making of models, apparatus, etc., is a hobby practically unknown to our youths and but little encouraged by our elders. Till our young men and women can take a much more live interest in science we can hope to contribute but little to the advancement of scientific knowledge. The pursuit of science as a profession, as a life work, as an end in itself is worth cultivating. That is one of our aims.

Secondly, at the present time, the limits of demarcation of the various sciences have broken down and the Chemist, Biologist and Physicist have arrived at a place where they find their paths of progress meet. For the proper understanding and study of the higher branches of any department of science a knowledge of the fundamentals of the other branches also has become essential. We want our young people to understand this so that they may not develop any narrowness of vision. We want to have them understand that after all, all the sciences are one, that there is only one science the Science that concerns itself with the secrets of matter and of life. This is our second aim.

Our Association is still very young, only six months old, but for all that very alive and kicking. The number of members at present is 136, of whom 116 are students, 18 belong to the staff and two others, gentlemen not on the staff. Several popular lectures have been delivered during the year. One of the articles of our Association lays down that an annual exhibition should be held. This year, for want of time, our exhibition has been very hurriedly arranged. The shortness of time at our disposal will serve us as a very good excuse to temper your criticism, when you come to visit our exhibition downstairs. For those who have seen great Industrial Exhibitions ours may prove a disappointing show. We have to explain that we had to restrict ourselves to the illustration of the main principles of the various sciences, and to show on a small scale how these principles are applied in daily life. And after all, will you kindly remember that the scientist only imitates in a test tube the vast cosmic changes taking place around him. Lack of space and time have led to a certain amount of mixing up of our exhibits but we have tried our best to mitigate this apparent confusion by placards, etc.

We have to thank all the gentlemen who have kindly helped us in getting up this Exhibition. Chief among these are Mr. Reed, A. M. I., M. E., Superintendent in charge of the Harbour Works, Cochin, who kindly lent us his beautiful models of a steamship, steam engines, etc; Diwan Bahadur Dr. V. Varghese, the Chief Medical and Sanitary Officer, who lent us his magic lantern and a large stock of slides; Mr. V. K. Aravindaksha Menon, the Chief Engineer, for his help in many ways and especially, for the loan of his epidiascope and model of a water turbine; Mr. K. Govinda Menon, Conservator

of Forests, and Mr. K. Ramachandra Rao, of the Agricultural College, Coimbatore, for many interesting exhibits in Zoology and Botany.

To Mr. and Mrs. Cotton our sincere thanks are due, for their kind acceptance of our invitation to be present on this occasion. It is fitting that our first Exhibition should be opened in the presence of an Ex-Director of Industries and a member of the Council of the Indian Institute of Science, Bangalore, and one who, we understand, is regular in attendance at the meetings of the court. To Mrs. Cotton we are sincerely grateful for her kindness in agreeing to open the Exhibition.

After the report was said Mr. Cotton spoke a few words on the value of such Exhibitions remarking how a great deal of useful work could be done by supplementing them with lectures. After thanks to the chair, Mr. and Mrs. Cotton and the Diwan were garlanded and the company moved downstairs. Mrs. Cotton opened the exhibition by cutting a silk knot which closed the curtains stretched at the entrance. The visitors were then taken round the Exhibition, different portions of which were in charge of students who gave explanations wherever required. The distinguished visitors left after spending nearly an hour in going round the various rooms.

The Exhibition was thrown open to visitors all through the day. It was gratifying to note the large number of visitors among whom were 'many who came to scoff but remained to pray.' The rooms were always crowded; specially was this so in the afternoon, when we had a large influx of girls from our own College, the St. Teresa's Convent and the Girls' High School. It will be difficult to convey any idea of the scope of the Exhibition in detail. A brief list of the main items of the various Departments is appended below.

List of Exhibits.

I. Mathematics:—

Optical and astronomical instruments—The telescope, the Binocular, the Tellurian and the Celestial Globe, Sun dial, Sextant.

II. Natural Science:—

1. Botanical specimens and experiments.
2. Zoological dissections by students and staff.
3. Embryological specimens.
4. Parental care amongst animals.
5. Pond life.
6. Relationships of animals.
7. Cochin Cocoanut Pests.
8. Colouration and its meaning.
9. Krusaide collections—rare and interesting specimens.
10. Physiological Experiments and models.
11. Section cutting and drawing with Camera Lucida.

III. Physics:—

12. Working model of the Telegraph.
13. Time and its measurement.
14. Meteorological instruments and weather forecast.
15. Silvering of mirrors.
16. Electroplating—Nickel—plating.
17. Simple experiments on Polarisation Light.
18. Slide gallery.
19. The Dividing Engine—measurement of length.
20. Optical Illusions.
21. The whirling table and its uses—Persistence of impressions.
The spinning bodies and their uses—Gyroscope and mono rail.
22. Various instruments for weighing.
23. The Telephone.
24. The Optical Lantern.
25. The Cinematograph.
26. Model of Electric Railway—(Students' work).
27. Model steamship, steam-engine and Locomotive

Optics room:—

28. Projection of opaque objects on a screen—Epidioscope.
29. Lantern and Epidioscope—(Students' work).
30. The Spectroscope—Its use for the Chemist and the Astronomer.
31. Discharge through vacuum tubes—Kathode rays.
32. High Frequency currents and their use in Therapeutics.
33. Sympathetic Vibrations—Tuning in mechanics, sound and Electricity.
34. Wave motion—Electric waves.

IV. Chemistry:—

35. Hardening of oils by hydrogenation.
36. Pumps and blowers—Jet pump, automizer, Geryk pump, mercury pump, Hyvac pump and its use—Discharge of Electricity.
37. Electrolytic Refining of metals—Model illustrating modern refining of gold, copper, iron, etc.
38. The Alkali Industry—Caustic Soda from brine a modified form of Kellner Castner cell.
39. Sugar refining from Palmyra Jaggery.
40. Biochemistry—Photosynthesis—Osmotic pressure—action of enzymes.
41. Extremes of temperature and their measurement—Alumino therm.
42. Metals, alloys, amalgams and their uses.
43. Extraction of vegetable dyes—a dead industry—Pharmaceutical extraction.

44. A few ores of Indian interest.
45. Petroleum Refining and flash point.
46. Fermentation and rectification of spirit.
47. Extraction and Refining of essential oils.
48. Enfeurage—Preparation of Attar, etc.
49. The Chemistry of Volcanoes.
50. Crystal gazing

A few spots were always crowded. The palpitating heart of a tortoise was a constant source of interest in the long array of Natural Science Specimens. In the Physics section the model room was a centre of interest with its electric tramway which automatically rang a bell and lighted up the station as it passed it in the course of its continuous journey round the oval track. The electrical room with its charging stool was very popular and young men and women were ready to offer themselves to have themselves electrified, so that sparks could be drawn from any part of their body. In the Chemistry section, the extraction of scents, purification of sugar and oil were places of continuous interest. Besides all these, the box which automatically thanked the donors of coin through an illuminated signboard was a source of interest. Though it told a tale of a tidy sum of money at the end of the day, it told also a long tale of iron nails, pins, etc., which the young limbs of Satan had surreptitiously managed to introduce therein, eluding the watchful care of the lynx-eyed young men in charge.

Nearly 500 invitations had been issued and complementary tickets sent along with them. The entrance fee of 2 as. for students and 4 as. for all others, was low enough to attract all who cared to visit. Members were admitted free. The gate collections were nearly Rs. 50. On a conservative estimate, close on 1,000 persons would have visited the Exhibition in the course of the day. The workers in charge who had been continuously on duty throughout the day were so tired out by 7 p. m. that we were forced to close down at 8 p. m. in spite of the fact that belated visitors were still dropping in.

Coming to review our own work we feel that there were many defects in organisation which want of experience and time would account for. The large number of exhibits, and the closeness of the arrangement would have made it difficult for visitors to grasp its parts clearly. This could be remedied only by a more leisure survey entailing a longer time during which the Exhibition should be kept open. We have heard complaints also that the students' explanations were sometimes not clear and accurate. While admitting the possibility of this we have to point out that the students had little time to get ready and their lack of experience and the continuous strain on their nerves were also things which should be taken into account in judging of their work. With the experience gained they will certainly give a much better account of themselves next time.

The interest shown by the student members in the conduct of the Exhibition is praiseworthy. The students of the III University Class, Mathematics and Science sections, were in main charge of the various sections, and worked with enthusiasm and good will. N. J. George, and T. Sethumadhavan, of the S. I. C. who made the electric Tramway deserve special mention. The interest they took in their work, their unremitting labour of nearly two months, morning, noon and evening, whenever they could spare time; their anxiety at little failures and their gladness when these were successfully overcome were all worth watching. It was an education to them and we hope to their student-mates as well, who watched them at work, and helped them too. Many others there were, too large a number for particular mention, who helped, in one way or another, the preparation of the exhibits, charts, etc. To all these we have to offer our sincere thanks. The girl student members of our Association were of very great help in conducting large batches of girls and ladies who visited our Exhibition.

In concluding this short review, it is hoped that despite our deficiencies our Exhibition has brought home to our visitors, both students and grown-ups, that the study of science is a very interesting pursuit and not a dry-as-dust job. The interest increases as we go further into its mysteries and ever increasing vistas of pleasurable fields open out before the eyes of the earnest student of scientific truth. That was one of the lessons which our Exhibition was intended to convey and we hope, we have not failed in our expectations.

N. R. RAMACHANDRA AYYAR,

Secretary,

