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Pink Pages

Indian Institute of Technology MADRAS



THIRD ANNUAL
NUMBER

GENERAL
SECTION

PHALGUNA 18, 1883
MARCH 9, 1962

It is with feelings of pleasurable pride that we bring out the Third Annual Number of the Institute Magazine. Three years have gone by since the Institute came into existence. All these three years were years of trials and hardships for the bold pioneers. Today we have comfortably settled ourselves in this sylvan campus. What was once an impenetrable forest has now become a temple of learning.

The beginning of this academic year witnessed many happy changes. The administrative staff moved into the campus. Today the academic and the administrative staff work together in a spirit of harmony. Like Juno's Swans they have become inseparable.

The second change was the shifting of the library to the campus. There was a time when, like Ulysses, we used to follow knowledge like a sinking star beyond the utmost limits of the desolate campus. But today the world's masterminds are above us on the second floor.

The campus today wears a new and lively look. We have more departments, more students and better roads. Progress in diverse fields is conspicuously evident. Wherever we look, we find countless hands building and shaping things. It bids fair to become soon the hub of the technological world in the south.

We are proud of our staff and the students. We form a world of our own. Our campus, if we may venture to call it, is an emotionally integrated India in miniature. We have students from all over the land - from the

East and the West, from the North and the South and from the central heart of India. It is this polyglot composition that has lent a richness and variety to the corporate life in the hostels.

It has almost become an epigram to say that this is the age of technology. Many have expressed the fear that our aesthetic emotions are in danger of getting dried up before the gaint strides that Technology is making today. We do not apprehend such danger at all. Our students and the staff have not lost their sense of wonder. They still have time to stand and stare. Their rich and lively fancy, their sense of humour, their virile minds - all these can be seen in the various articles published here.

We can confidently say that in the pursuit of prosperity through technology, we shall not lose sight of the higher values of life. 'Life has a meaning', we feel with Browning - "to find its meaning is my meat and drink".

Editor

PROF. B. SENGUPTO,
Director.

Indian Institute of Technology,
Madras,
1st March, 1962.

Yet another academic year will shortly be taking a lingering leave of us but not before witnessing progress allround. The Institute has its own roof at last. All our departments and workshops have gone into gear in our own campus. The campus, inspite of its silent, peaceful and sylvan 'mansions' looks a battle-field whereon a war against Time is being waged. New structures for learning and living are going up. Victory appears to be in sight, at last !

The Institute has had a bright beginning. Our students were successful at inter-collegiate contests and All-India Radio debates. The Institute Gymkhana has had a flying start and many competitions have successfully been seen through in sports and cultural activities. Our Institute science magazine 'Science and Engineering', published during 1961 has warmly been welcomed both in India and abroad.

On the academic side, the path has been laid for post-graduate studies in the academic year to follow. We have eight German staff members with us and more are to follow. We have already received about Rs. 50 lakhs worth of German equipment. Our academic staff members will be moving to their residential quarters in the campus in July, thus making the campus truly residential.

We deeply realise that all this silent but palpable progress could not have been achieved but for the encouragement of all our well-wishers. We shall continue to be fortified by their hail and cheer in the adventure ahead and beckoning experience 'where through gleams that untravell'd world' of a great project fulfilled.'



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An extract from the address delivered to students by the late Dr. Sir Sydney Smith, President of the University of Toronto in 1955—Contributed by Shree M. C. Gupta.

“ You have freedom of choice, and by inescapable equations your choices will bring you profit or loss. If you choose to work, you will pass ; if you don't, you will fail. If you neglect your work, you will dislike it : if you do it well, you will enjoy it. If you join little cliques, you will be self-satisfied; if you make friends widely, you will be interesting. If you act like a boor, you will be despised; if you act like a human being, you will be respected. If you spurn wisdom, wise people will spurn you; if you seek wisdom, they will seek you. If you adopt a pose of boredom, you will be a bore : if you show vitality you will be alive. If you spend your free time playing bridge, you will be a good bridge player : if you spend it reading, discussing and thinking of things that matter, you will be an educated person.

“ If you have come here for social prestige, you can get what you are after, but you may not like it much when you have got it ; you would really have done better to concentrate on debutante's parties. If you have come here to learn to make money, you can get what you are after. but you run the risk of finding yourself unhappy in your goal ; you would really have done better to get into the building trades or the stock market. If you have come here to be a personality kid and win friends and influence people, you might get what you are after, but it would have been quicker and cheaper to take a course in salesmanship.

“ If you have come here to serve your fellowmen as a member of one of the learned professions, you are in the right place. If you have come to study the most important ideas that mankind has evolved, you are in the right place. If you have come to penetrate the fascinating mysteries and powers of nature, you are in the right place. If you have come to learn of the cultural and intellectual heritage of the past, so as to stand on the giant's shoulders and see farther, 'to follow knowledge, like a sinking star, beyond the utmost bound of human thought' you are in the right place. You may never get what you are after, but in the trying you will become what you could never otherwise have been, and these next few years that you spend here will be the key stone of the arch of your experience.”

.

AT THE "CIRCUS"

Dr. Th. RAMACHANDRAN

When colleague M and I decided to see the Cricket Test Match we little realised what we were in for.

We knew, of course, that we would have to fight hard for the tickets. The season tickets were sold out months ago, only a M.P. or a Cabinet Minister could still have got one of those. Not belonging even to the M.L.A. class, we dared not aspire for such distinctions. But the possibility occurred to me of tapping a cricketing acquaintance of mine, to whom I had once bowled rather ineffective googlies, which he used to take relish in clouting far and wide. Being perhaps the only bowler with whom he could take such liberties, he had a special regard for me, or rather for my bowling. He was in the privileged position of being the cousin of a Test Probable and was known to wield, even otherwise, great power in the circles that matter. He kindly remembered his hits off my feeble bowling and offered to help me in getting a couple of tickets. Accordingly the first of my cricket pilgrimages started. I took French leave from the office and turned up at the booking office well ahead of the appointed time, full of expectations and bank notes. Within five minutes I was out of the booking office, the expectations having vanished and the bank notes still intact. To my misfortune, and probably to his, the Test Probable had failed to advance beyond the "probability" stage and ephemeral as the fame and influence of star performers are, his influence had suffered as a consequence.

Undeterred by this initial set-back I consulted M about the next course of action and he suggested trying our luck with the daily tickets. We found out that the term "daily" was not to be taken too literally, the tickets for a particular day being sold on the preceding day. Naturally you cannot expect tickets for a test-match to be sold on the same day! What would the outside world think of us and our lack of seriousness about Cricket?

One afternoon was, therefore, spent on acquiring the coveted (and costly) pieces of paper. When we arrived at the booking office a few hours before the sale of tickets was due to commence, only a score or so of similar-minded persons had already lined up at the counter. We soon found out that there was no room for complacency, as almost every one of them represented at least a dozen absentee enthusiasts, or possibly the same number of would-be black-market purchasers. All the same we managed to

obtain for the small consideration of six rupees a piece, our marks of distinction which elevated us above the commoners, who neither read nor spoke of cricket, and what is more, had not been to the test-match. We did not even mind the patronising airs of the man at the counter, resembling rather those of a head-master supervising the distribution of sweets to school-children on Republic Day, and we were delighted at our "sweets".

Alarm clocks have a disgusting tendency of not going off when most needed and mine is no exception. Generally this does not affect me as I sleep very little on occasions such as this, when something, so exciting and important as a cricket Test, is in the offing. This time, however, I went into a deep sleep just before I was due to get up. I dreamt I was a Test Player just completing the fastest century in history, in a matter of some ten hours. A deafening roar went up in the Stadium around me...and I woke up. The deafening noise was still there—the buffaloes were already on the street.

To my horror I saw that it was already five-thirty in the morning and only five hours remained before the commencement of play. Allowing half an hour for getting ready and the usual hour necessary in Madras to get anywhere by bus (in Madras, of course, the time for a journey is almost independent of the distance covered, as about three-quarters of an hour is taken up in issuing tickets after travelling about 200 yards!), I could be at the ground only at about seven. M and I had been told that we had better be on the ground before sunrise, if we were keen on watching the game sitting down.

I nearly scalded my tongue trying to gulp down the steaming-hot coffee. My wife remarked acidly that I would have got the Nobel Prize or even a triple increment of salary if I had been half as serious about my work as I was about Cricket. Being one of those husbands who believe in discretion being the better part of valour when confronting their wives, I kept quiet. Finding no response my wife did the same, but not before mumbling something about no sarees and all cricket matches, which I feigned not to understand.

When I bolted out of my flat into the darkness outside the very atmosphere reeked of cricket, though it did even more of buffaloes and cows. The whole world seemed to be moving towards the bus terminus; who could rely on a mere bus-stop on such a day?

Fortunately for me, M had already arrived and was well up in the queue. And as a clean shirt in India is even today an effective substitute for good manners, I squeezed myself into the queue behind M and got away with it, save perhaps for some dark looks from those behind me, which I

could not see anyway! We might as well have not queued up, for when the bus did arrive a quarter of an hour late, there was a free-for-all struggle to get into it. The bus was of the type that prohibited standing passengers and, therefore, there were only some twenty or so of this category, everyone standing on another's toes. Some carried drums and some cymbals, and for these, standing was an ordeal, even dangerous. But they bore it all with equanimity, even as the hundreds of thousands of pilgrims to Sabari Malai must have done all these years, braving tigers and elephants and shouting "Ayyappa"! The atmosphere was the same, only the religion and the Gods were different and the venue of it all. And these "Gods" are almost as much venerated in certain circles as those other "Gods" of the cine-world are by their fans.

The bus disgorged us at the Central Station and we soon found out that we did not have to walk far, for a half of the population of India was already there and the rows of people wanting to get in extended almost upto the Moore Market. Here was national integration at its best and you could hear there all the languages mentioned in the Constitution and a few more. A turbaned Sikh prince in silk shirt and white flannels was bemoaning the sad state of royalty in India to a prince of Cochin, who would have become the Maharaja in A.D. 2020, but for the cruel machinations of Patel. Rajkumars of Rajasthan were jostling with those of his kind from Orissa and Tamil separationists were fraternising with cow-protecting Hinduists from Bihar and Uttar Pradesh. And all this in the cause of Cricket, our national (!) game!

This was the day for colas and creams. Business was brisk, and as we advanced in the queue, the prices of commodities increased. The cost of living index increased from the Central Station to the Stadium in about the same proportion as it has done generally in India from 1948 to 1961. But fortunately for all of us, there has been no parallel to the sudden and steep shooting up of the index when you actually crossed the threshold into the stands. Here you could part with a small fortune for wanting to quench your thirst with vividly coloured potions looking like poison and tasting worse. Souvenir cartons with cheap Cricket motifs outside and junk inside changed hands like election money between rival candidates.

When we finally did get into the stadium we found that for a mere six rupees a day one could not expect either a reserved seat or shelter from the sun. To avoid the fierce sun for the two hours or so left before the start of the game we wanted to take a stroll outside by turns. But no! Once inside always inside, said the smart Auxilliary Air Force men guarding the entrance. And inside there was hardly room to breathe; we were forced back to our seats and the sun.

To add insult to injury Bedlam was let loose on us in the shape of vendors of everything under the sun. Obnoxious colas and sweets at inflated prices kept on coming. Sun-shades, distributed free of cost outside, proclaiming the virtues of a particular brand of cigarettes or of creams for the addition and removal of hair, were being sold at unashamedly high prices. These vendors came along one after another in rapid succession and on each such occasion there was an exhibition of concerted knee-raising on the part of the spectators. The spacing between rows of chairs conformed to the most exacting austerity specifications and any unconscious movement of legs was not conducive to healthy knees.

One bore all this with philosophic unconcern in the hope that the situation would improve once the game started. But the hope soon proved to be devoid of substance. The hawkers actually stepped up their activity and any protest was met with such vituperative retorts that we soon learned to endure all uncomplainingly.

What I saw of the game in between vendors was nothing to write home about. Somehow things that matter happened only when there was a hawker between me and the pitch. But, of course, we were kept "well" informed ("Polly Umrigar bowling to Polly Umrigar") of the state of the game by a hundred smuggled transistor radios screaming out the running commentary, all around us. When the hawkers did let us see the game undisturbed for a whole minute or even two (and they did this occasionally, it must be said to their credit) we could even compare notes with the experts" of AIR. (we seem to do nothing nowadays without "experts", but these were *only* Indian "experts"). It is a surprising fact that all "experts", even the Indian ones, have a lot of language trouble. We found that the running commentary was almost always two or three balls slow. Cricket, of course, is a difficult game to cover. It has its own language with a rich and varied vocabulary, consisting of a dozen expressions and half that number of special epithets, and one has to master all these to be an able commentator. It is even advantageous to know something about the game, but it is not thought to be essential. The greatest difficulty is, no doubt, the terrific tempo at which the game is played. So much happens every moment of the five or more days of a Test match that the commentators have to pay extra premium on their insurance policies, as the excitement could at any moment prove fatal! It is not like covering some slow game like football or hockey!

For the rest, my memory is a jumbled one of the cacophony of cymbals and drums, of thousands of school children and college students (all of whom seemed to have a lot of money to spend, patronising as they were the more expensive stands), of occasional bursts of the crowd on to the ground to congratulate some hero or the other, of countless politicians (to judge by

their dress!) and numerous ladies in bright dresses, of the scramble for food (and very dear food at that) at lunch-time and, of course, of the ubiquitous vendors—all of these on the rich cricket tapestry making up for the poverty of the game itself.

* * *

On returning home, one of the first things I heard on the wireless was that the next day had been declared a holiday by the Government in view of the Test Match, and obviously because of its national importance!

THE CANTEEN

G. VISWANATHAN

There it stands,

A simple corrugated shed
 That gives us our daily bread,
 A happy haven for spirits free
 Fleeing from walled monotony.
 A dusty crowded coffee house,
 That never does our hunger rouse!
 A den of truants to keep their tryst
 To puff in peace and quench their thirst;
 A tavern nice to sit and sip
 Coffee that only wets your lip.
 We pine in vain for a stimulant cup,
 But drink in truth a bilious cup.
 Tea is always flavour free,
 But brewed in sylvan secrecy.
 Breakfast sure is gastric anguish,
 But most of us pretend relish;
 Lunch is sultry noon's travail
 Which aching bellies often wail,
 Hunger is the best sauce,
 Lucky caterer knows no loss;
 Take no offence gentle feeder,
 Hungry mouths always blabber.
 Pardon this our dyspeptic thought
 We have learnt to bear our lot.

***DAMN THE CONGO!**

T. S. ANANTHU & K. M. KRIPANARAYANAN

No, I am not a Lumumbist dissatisfied with the trend of events in the Congo. But just as millions of supporters of the late Patrice Lumumba throughout the world, the overworked officials of the U. N. Secretariat, widows and orphans of U. N. soldiers butchered in the Congo, the mourners and relatives of Mr. Hammarskjöld, as well as Mr. Rajeshwar Dayal, Dr. Conor Cruise O'Brien and other "diplomatic casualties" in the Congo, say "Damn the Congo!" I too add, "Damn the Congo!" — though for entirely different reasons.

The reason is that the Congo crisis cost me the job of an Assistant Engineer in a respectable firm in Madras. You may ask, what has the job of an Assistant Engineer got to do with the Congo? That is precisely the question that I would like to put to my interviewers.

There were a number of applicants for the job, but I was easily head and shoulders above the others as far as academic qualifications were concerned. So I was called with four others for an interview, and was the first to be interviewed.

I had prepared myself on a number of subjects. I was thorough with all scientific and technological subjects, and had even learnt a few things in History and Geography, so that I could not be accused of complete lack of general knowledge. But the one subject that I had not touched was politics.

The interview began with the usual polite questions on my name and qualifications. I told them that I had stood first in class, first in my Higher Secondary Examination, topped the list of successful candidates in I.I.T., and had had a lot of practical training in Germany.

"That won't matter," remarked the Director of the firm, who was the chief interviewer. There were two others with him. "How learned you are can be seen from your answers to the questions that we shall put to you now. Tell me, now, what is the latest situation in the Congo?"

Congo—now, where had I heard of this? Certainly not in Physics, Chemistry, Mathematics or Applied Mechanics. Was it in History? No, there was nobody by name of King Congo. Then it must be in Geography. Yes, I had heard of a river Congo. Where was it—in Africa or in Antarctica? Must be in Antarctica.

* Prize winning contribution.

"It's frozen Sir," I replied. They looked obviously satisfied—and it was only later on that I knew that they thought I meant that the political situation there was frozen. The next question was, "What do you think of the conduct of the politicians there?"

For the first time I realized that it was politics on which I was being questioned. I looked from one interviewer to the other, and finally heard one of them remark to the Director that I may not like to cast aspersions on individual politicians. To my relief, the Director appreciated the point, and put the next question. "What do you think of the future of the Union Miniere?"

Aha! I certainly knew something about the Union Miniere I told them that the prospects of the Union Miniere would increase considerably if they adopted the 'Wet Process' of the manufacture of Copper, as electricity was available in cheaper quantities. I gave them data signifying how much profit it would mean per year—but while doing so noticed the faces of the interviewers, which showed that this was certainly not the answer they were expecting from us. Obviously, they were wanting something about the political conflict around this Mining Company, of which I knew nothing.

"Do you think Katanga ought to be granted freedom," the Director asked.

I decided to be bold, and tried to answer these questions somehow—though I had never heard of Katanga earlier. I had heard so many politicians lecture about the necessity of giving each and every person freedom and independence, and so answered, "I think that, just as everybody is entitled to independence, Mr. Katanga should also be freed from prison and.....".

I was able to get no further, for all three interviewers burst into roars of laughter. My confidence in getting this job was dwindling.

"What do you think of the Lumumbification of six nationalist leaders in Bakwanga, capital of the so-called diamond mining state of South Kasai?" asked the Director.

I had heard of esterification and saponification, but never of Lumumbification, and when I pleaded my ignorance, they explained to me that Lumumbification was a term coined by the Director to denote the murder of patriotic leaders by foreign agents. However, this did not make things any easier for me, and the Director had to pass on to the next question.

"Do you think it would be difficult to achieve an *integral* Congo?" he asked.

I had always found it difficult to answer questions on Integral Calculus, but never so much as I did to answer this one on Integral Congo.

And so the Director went to the next question, "Who according to the U.N. Commission Report, murdered Prime Minister Patrice Lumumba."

I blinked. All I knew was that the person who had murdered him also murdered my hopes of getting a job as Assistant Engineer.

"You may go," said the Director which of course meant that I may never again come. That was the end of the interview—and of all my hopes of getting the job.

I didn't have the heart to take a taxi, and so boarded a bus. I saw a man reading a newspaper, on which was printed in bold letters, "National Reconciliation in the Congo.' Congo crisis comes to an end".

Why couldn't these Congolese have reconciled a few days back, thus saving me the job as Assistant Engineer? As this thought ran into my mind, the Conductor asked, "Ticket, please."

I replied absent-mindedly, "one ticket to the Congo".

The whole bus burst into laughter.

"Must be a politician deeply interested in the Congo crisis", I heard a passenger remark.

How could I explain to him that it was due to ignorance of Congolese affairs that I had lost my job as Assistant Engineer?

And now, just as Dr. O'Brien is jobless, so am I, and all thanks to the Congo. I tell you, Damn the Congo!

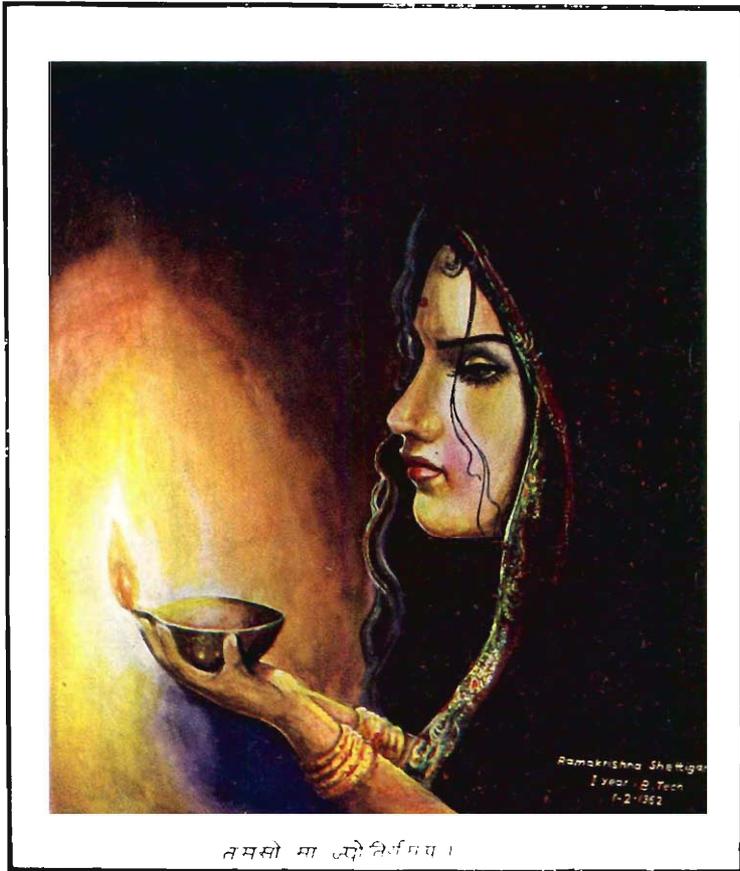
* * * *

* DEJECTIONS

Music,

Fast and slow,
Ringing and vibrating.
Notes, high and low,
O, this one of Muses Nine,
Makes my heart sad, and pine
For,
What I have not.
It reminds me,
OF past, dead and cold,
OF a voice,
That is no more,
Mine.
It scars my imagination,
With remembrances,
Sad and bitter.
Takes me,
Back to a being,
That is,
And yet is no more,
For it is not mine.
Gives me a sense,
OF finite beyond indefinite,
OR is it,
The Infinite within the finite.
To know, that,
There, far away,
In the lap of mountains,
Rises ever a VOICE
OF which all this music,
Is but a faint representation,
And yet,

* Prize winning contribution.



तमसो मा ज्योर्निर्गमय ।

Ramakrishna Shetgiri

* Prize Winning Contribution

Not be able to hear it.
Something,
That I have heard,
Often
Admired, loved and adored,
Always.
That is why
The music,
Makes me sad
And makes my heart pine,
For what is not mine.
So,
Away from this music,
And the memories it brings,
Let me look
For calmness
Solitude,
And silence.

ROCK-CLIMBING

(in one easy lesson)

C. V. SESHADRI

Rock Climbing is a pre-requisite for mountain climbing. It can also be a good week-end activity for people far removed from high mountains. It develops bodily coordination and provides enough challenges of the 'Man against Nature' type to set it apart from milder activities such as Cricket, Hockey, etc. It is neither more dangerous nor more difficult to learn than other skills such as swimming. 'Rock Acrobats' come in all sizes, sexes and ages.

Learners of rock climbing need very little by way of personal equipment. The oldest pair of thick cotton slacks that one has and a good pair of tennis shoes are essential; the nature of the beast is such that saris are taboo. Optional, but advisable are a pair of wicket-keeper's inner gloves.

Let's say then that we have the following :

- (1) A few novice climbers : A, B, C.....
- (2) A rocky area with a few simple climbs.
- (3) Someone who knows something about climbing (X)
- (4) A good climbing rope (Nylon—7/16") of about 30 metres length.

The first thing we learn is to tie the bow-line, the most commonly used knot in rock-climbing. (Figure 1) Take one free-end of the rope and pass it around the body after just making a loop in front. Then do as shown. The knot should neither be too tight nor too loose but just comfortably around the body. For those who find themselves on the rocks without figure 1, there is a memory-aid which runs as follows :

The rabbit (free-end) comes out of the hole (the loop), runs around the tree (the rest of the rope), and back into the hole (the loop).

For those with a poor memory and without figure 1, prior practice is advised ; however it is quite easy to learn.

Once the bow-line is mastered the next thing is to know how to belay (Figure 2). Belaying is the art of holding a climber on the rock face so that

he a (will feel secure while climbing and b) will not get get hurt due to an accidental slip. There are many types of belays but the most secure is the sitting-hip belay shown in the figure by the soldier from the U. S. Army Mountaineering Manual. For this two persons are required, a belayer and a climber. The climber ties himself into the rope in a bow-line and the belayer (for the present, the instructor) ascends on an easy slope to ledge at a convenient distance. There he sits down and jams his feet against a rock or out-cropping and passes the rope from the climber around his body. The figure shows a right-handed belayer, the right hand being the brake hand and the left hand, the guide hand. (For left-handers, vice versa). It can be easily demonstrated that the brake hand alone is sufficient to hold one or two climbers on the rope if the maximum amount of frictional resistance of the rope on the rocks and around the body is utilised. The guide hand is used as the name implies: to take up and give slack to the climber below.

Once the belayer and climber are at their respective stations on the rope a few practice belays are called for. The step-wise procedure is as follows:

(1) Vociferous Exchange of Signals between the belayer (X) and the climber (A). In English*, these are:

(A) : On Belay ??

(X) : On Belay !

(A) : Test Belay !

(X) : Test Belay !

(A) : Testing !

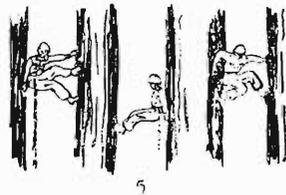
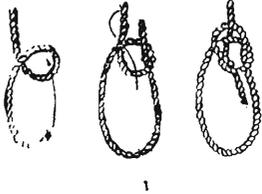
(2) A climbs up a few steps and deliberately falls !

(3) X presses firmly with his feet against the rocks and brings his right hand across his hips towards his left. Presto! A is stopped in his fall quite easily and is not hurt at all. Neither does X feel any great strain, in fact hardly a strong pull on his arms.

(4) A and X are now mutually confident of their team-work. A starts climbing and X takes up the slack slowly never once removing his right hand from the braking position. A reaches X. X can now, if he wants to go on higher.

(5) A becomes the belayer and X or B or C, the climber. A learns how to belay.

* Pending translation into Hindi and/or Regional Language by Experts and Approval by the Appropriate Committee.



The next step is to learn how to climb. Figure 3 demonstrates one essential principle of climbing—the three-point suspension, i.e. two hands and a foot or two feet and a hand must always be on the rock. The fourth limb is used to feel for the next hold. The other essential principle is to manoeuvre one's Centre of Gravity within the chosen three points. To accurately determine the C. G. one needs a helper, a plumb bob and a pencil. The helper, of course, must know how to calculate the C. G. of irregular shapes. However, for most purposes the body seems to do very well for itself with the knowledge of the security of the rope, and a good belayer above.

Note that Figure 3 does not show a rope. It should have been there. It does show however, what a balance-climb is. This is one where the climber, following good practice, climbs with *his arms below the head, and uses his powerful thigh and calf muscles for support more than his arm muscles.*

Figure 4 shows a more advanced climb, the lie-back. If the rock has a crack or fissure not wide enough to get into but enough to jam one's hands in, then this climb is used.

It consists in kicking against the far side with the feet and pulling on the near edge of the crack. The belay is from below and therein hangs a tale. (no pun intended). Climbing is usually done in teams of three, consisting of the leader, the middle man and the end man. The leader, being one who leads, cannot be belayed from above but has to be belayed from below. This type of belaying is safe, though not as safe as a belay from above. It follows that leaders have to be exceptionally good and confident climbers.*

Figure 5 shows a chimney-climb. Here the person jams the whole of his body into the chimney or fissure in the rock face and uses the frictional resistance of the body against the walls for support. The climbing is done by inching** upwards by a rubbing motion. It may be remembered that in figure 3 we talked about a three point suspension approximately five fingers or five toes (albeit enclosed by shoes) as one of the points. This was an Engineering approximation entirely without rigour. In the chimney climb the treatment adopted is one borrowed from Modern Physics and therefore more elegant. We carry out a Lorentz transformation on the human back after first drawing a series of lines on it. (Checked shirts worn by the climber help!). After a sufficient number of these operations it can easily be shown that the back is a point at the extremely slow speeds used in climbing.

* See my "Rock Climbing for Leaders (in one easy lesson)", in next year's Annual Number.

** Most rock climbers unfortunately do not recognise the Metric System alternatives, millimetreing, metreing, etc.

It remains to teach the new enthusiast how to get down once he has reached the top. For this we refer to figure 6. This is known as Rappeling, and is the quickest and safest way to come down whenever possible. Shown in the figure is a body-rappel. The step-wise body-rappel procedure follows :

(1) Double the rope round a rock or something that will hold a climber in a tree, close enough to the next lower platform or ledge.

(2) Straddle the rope and for right handers the rope goes across the right hip and the left shoulder and back to the right hand. This is the braking hand (Left handers, vice versa).

(3) Kick firmly against the rock and lean back on the rope while sliding down. Use right hand to brake the motion, using as much friction area of the body as possible. The left hand is the guide hand and is used for support and balance.

(4) Once at ground level, extricate yourself and pull the rope to the ground, around the tree.

Some additional notes on the procedure are necessary. Notice the almost perpendicular position of the climber on the wall. This minimises the chance of slipping down without control. It is left as an exercise to the budding climber to draw the Force Diagram for this system. (Hint; Do not use the "frictionless", "weightless" approximations). Gloves should be worn during rappeling, otherwise the hands get rope burns on them. The temperature profile of the human hand without gloves during rappeling can be calculated based on the Fourier—Poisson Equation.* Eager climbers attempting an experimental check should take along a table of Laplace Transforms and a bottle of vaseline.

Well, well, well, so we can climb now. Isn't it fun? But one should not rest on one's laurels. Continue on your own using the same judicious mixture of practical work backed by sound theory. We close by pointing out that by substituting the feminine gender for the masculine, wherever applicable, the article can be used to teach rock climbing to ladies. This is in keeping with current thinking on womens' education during the Third Plan Period. The article has been approved by the Central Non-Himalayan Sub-Montane Institute (Southern Region) and the All India Institution of Nylon Rope Artists.

* See "The Conduction of Heat through solids"—Carslaw & Jaeger.

“FOR OFFICIAL USE ONLY”

“T. S. R.”

We are tempted to take most of the words for granted when we become used to them, forgetting that each is alive and full of mystery. More so, the words used in the official documents and communications. I have often felt amused to find how effectively the English language can be used to conceal the real intention behind the ‘official’ mind.

Here is an official document, euphemistically styled as a “progress report”. It is a perfect model to be adopted by those hapless officials who have to write something about nothing and with no progress to report. For the uninitiated, simple translation is given within brackets.

During the year under report, considerable progress has been made in the preliminary work directed towards the establishment of the initial activities” (They are getting ready to start but they have not done anything yet.) “The background information has been surveyed and considerable difficulty has been encountered in the selection of optimum materials and experimental methods, but this problem is being attacked vigorously and we expect that the development phase will proceed at a satisfactory rate”. (They are still trying to find their feet). “In order to prevent unnecessary duplication of previous efforts in the same field, it was necessary to establish a survey team which has conducted a rather extensive tour in the immediate vicinity of the production areas”. (They are having a nice time going round at state expense). “The *ad-hoc* committee held its regular meetings and considered rather important policy matters pertaining to the over-all organisational levels of the staff responsibilities that devolve on the personnel associated with the specific assignments relating from the broad functional specification”. (I confess this is untranslatable, sorry). “It is believed that the rate of progress will continue to accelerate as necessary personnel are recruited to fill the vacant situations”. (They hope to get some work done as soon as they find someone who knows something).

Verily, Pope must have come across such a report before he wrote his lines —

“Words are like leaves, and where they most abound,
Much fruit of sense beneath is rarely found”.

There are certain bureaucratic *cliches* which have often proved to be the graveyard of semanticists. When you are informed that your request is

"under active consideration" of the authority, you feel a glow of satisfaction. Behind the reassuring ring of the phrase, the truth is most likely to be that your papers are temporarily mislaid and there is a frantic effort to find them. There is another favourite expression—"Passed on to higher authority". You begin to feel that things are moving at last and it burgeons with promise and even hits at performance in the not distant future. But, alas! it may be that your papers have been pigeonholed in some more sumptuous quarters. Sometime you hear after much distracting correspondence that your request has been accepted "in principle" by those in authority. The implication, quite obviously is that after so much of exertion on the part of the high-up, it would be churlish on your part to get restive about performance and concrete results. If, however, you are assured that your representation will be considered "in due course", you may rest assured that it has been safely consigned to that veritable limbo of oblivion, the W.P.B.

But then, reading this, if you challenge the phlegmatic "Quill-driver" in the office, who is the true begetter of the foregoing expressions provocative of thought, whether he is not a 'relentless quibbler', he will, true to his tradition, "neither confirm nor deny".

* * * *

"It looks as if our errand boy at the shop is dishonest."

"Oh, you mustn't judge by appearance."

"I am not. I'm judging by disappearances."

* * * *

Mother: What are you jumping up and down for, son?

Son: When I took my medicine I forgot to shake the bottle.

* * * *

"When do girls talk least?"

"February—because it is the shortest."

* * * *

Two Americans were looking at an Egyptian mummy, besides which was written, "6400 B.C."

"What is that number?" asked one of them.

"Must be the number of the car that rode over him," replied the second.

* * * *

Mother: What are you looking for?

Child: Oh, nothing!

Mother: You'll find it in the box where the sweets were.

BALMY DAYS AT BRISBANE

R. NATARAJAN, I.A.S.

Cricket, "which seemed inexorably headed for the text books of the antiquarians," was destined to be reborn, after all. The "greatest Test of all" between Australia and the West Indies, which came off between the 9th and the 14th of December 1960 at Brisbane, did indeed breathe a "new and lusty life into the ailing spectre of a once great game." Fingleton hit the bull's eye when he said, "International cricket emerged from that breathless, spine tingling Test as a game—for the enjoyment of the players themselves and the enormous delight of the cash customers." What, then, were the ingredients of that Balmy Brisbane brew—of a Test that ended as a Tie (it had never happened before in the whole history of five hundred Test matches, with one ball left to bowl after 3,142 balls had been bowled and 1,474 runs scored, which Benaud described as the finest game of cricket in which he had ever been privileged to take part and O'Reilly as "the greatest happening in any sport"?)

Coming events cast their shadows before, they say, but that just did not happen before the Brisbane test. The start to the West Indian tour of Australia could not have been more dismal, in more senses than one. In an untypical Australian summer, the rain had followed the Caribbeans across the Commonwealth from Perth to Brisbane, alongside of mixed fortunes too. The Calypso cricketers went down to Western Australia in the opening big match of the tour, drew with a combined team at Perth in a game they should have won had they held their catches, were behind South Australia at Adelaide, had "compensated" for their glorious innings victory over Victoria at Melbourne with a disappointing innings defeat at the hands of New South Wales at Sydney and had allowed themselves to be led by lowly Queensland on the eve of the Brisbane Test. Individual performances, too, had not kept company with the reputation of the West Indian stars. Except for Kanhai's golden 252 against Victoria, it was a case of "Darkness at Noon". Sobers had played and failed in both the innings at Sydney having been bowled, middle stump, by the first and only ball he had received from Benaud in the second innings. Hall and Hunte, Worrell and Watson, Solomon and Sonny Ramadhin had not exactly been scorching bushfires, which the Kangaroos are accustomed to "down under". Little wonder that Fingleton had written them off as "a typical West Indian side—in the heights one moment, in the depths the next."

About 11,000 spectators took their seats at the Brisbane ground on the 14th of December, the first day of the Test, with the comforting thought that

"On their best days, the way the West Indians played Test wicket against the Australians was magnificent, but it was not the way, to win Test matches." They could be cavaliers, yes, but not conquerors.

Worrell won the toss and the opening day as well. Those inured to cautious skirmishing at the beginning of an innings rubbed their eyes in disbelief when Hunte, who had opened with Smith, offdrove opening bowler Davidson's third Ball of the day to the fence and slammed the very next to square leg for four. Smith joined in the plunder, pulling Davidson over the leg fence for six. Sobers. Worrell, Solomon, Lashley and Alexander kept the steam on, with the result that the West Indians rattled up 359 runs for 7 wickets in only 6 hours of batting. Fingleton had to confess "Never had I seen an Australian attack so torn to tatters in a single day's test cricket."

Though the West Indies, as a team, carried off the honours of the 14th of December, the day belonged to Sobers, in particular. Ever since he gracefully forced Davidson square to leg for four from the very first ball, he never looked back. The Sobers century came in only 125 minutes, with 15 fours. Even Benaud, who had been blasted by his broad bat, had ruefully to admit. "I have never seen a better innings than this one by Sobers. The amazing thing was how he hit good length balls to the fence. I would think I had put down a good length ball that would take some keeping out and then, whizz, off to the fence it would go. And how he found the gaps." Sobers whetted, that day, the appetite of the cricket connoisseur. Fingleton, comparing his sterling knock to McCabe's immortal 187 not out at Sydney in 1932 against the savage bodyline attack of Larwood, Voce and Allen and Wally Hammond's double century against Australia at Lords in 1932, toasted Sobers with the following tribute :

"He demonstrated the true attribute of the genius—the ability to recognise immediately whether the ball was made for a cut, a drive, a glance or a forcing stroke. Defence didn't seem to enter into it. No bowler can deliver on a length when batting genius is at work and it was this day. This, surely, was the most classical innings by a lefthander in a Test since the day of Frank Woolley."

The second day began with an onslaught on the Aussie bowling by Alexander and Hall and before the West Indian innings could be mopped up, their score had mounted to 453 all out. Davidson's 5 wickets for 135 runs in 30 overs stood out as outstanding. When the Australians opened their first innings with McDonald and Simpson, they promptly came under the heavy fire of Hall. Bumpers to the right of the batsman, bumpers to the left.—Wes Hall was in full cry. But McDonald managed a methodical 57 runs and Simpson a solid 92. The Australian score at the end of the second

day—196 for 3 wickets, with O'Neill and Favell batting with 28 and 1 respectively.

The beginning of the third day's play saw a strangely hesitant O'Neill but a fiery Favell. The latter hit Valentine for two successive sixes but O'Neill struggled to get going. In the process, he was missed by Sobers off Worrell at 47 and again, by wicket-keeper Alexander off Valentine when 54. But from 70 on, O'Neill ran into his wonted form and got his century in 235 minutes. His second fifty was a refreshing contrast to the first. "His first 50 had the taste of corked wine about it; his second sparkled like Champagne." With O'Neill contributing an invaluable 181 and Davidson a bright 44, the Australians totalled 505 runs but not before they had slumped from 469 for 5 to 505 allout, thanks to that tropical hurricane, Hall, who took 4 wickets for 18 with his last 3 overs. If the West Indians had lost a big chance by missing O'Neill twice early enough in his innings, they had salvaged the day by getting the last 5 wickets in 36 minutes for only 36 runs. The West Indies had, at close, entered on their second innings with Hunte and Smith, when fading light stopped the play 35 minutes early.

On the 4th day, Smith and Hunte were out early but Kanhai scored a splendid 54, as if to compensate for Sober's early exit for 14 runs, thanks to a Davidson yorker. Worrell and Solomon batted sedately to score 65 and 47 respectively and it was mainly due to them and Kanhai that the West Indies had on the board 259 runs for the loss of 9 wickets, with Hall and Valentine batting with 0 each. Davidson had, again, done a wonderful job by Australia with 5 wickets for 70 runs in 24 overs.

On the fifth and final day, Hall and Valentine resisted the Australian attack for 40 minutes before Davidson bowled out Hall, to finish with 6 for 87 in 24.6 overs. In the process, the West Indies second innings score rose to 284 all out, leaving Australia to make 233 runs to win in 312 minutes—roughly a rate of 45 runs an hour. The pitch was still good and had not thrown, as was evident when Benaud and Kline were bowling, the slightest suggestion of a picnic for Ramadhin and Valentine. When McDonald and Simpson embarked on Australia's second innings, all Australia thought that the table was set for an Australian plum pudding. But little could they anticipate that the morning had hidden sensation in its handbag! In Hall's second over, Simpson was held by substitute Gibbs. In Hall's next, Harvey was caught by Sobers. The Australian score card read 2 for 7! But worse followed when both McDonald and O'Neill left at 49, Favell at 57 and Mackay at 92. Hall had blasted a hole right through the centre of Australia's best batting. Dame Fortune was now smiling on the West Indians. Hall had made a West Indian victory look certain. The crowd now waited with bated breath, for Ramadhin and Valentine to turn on the

Australian tail enders like lions on hapless Christians in an ancient Roman amphitheatre.

But the incredible now took a hand in the proceedings. Benaud, after an early fright when Ramadhin shaved his stumps with his second ball, settled down to keep company with Davidson, who was batting brilliantly. They stole sharp singles, rattled up the West Indian bowlers and fielders and pushed the score to 206, when Worrell abandoned his spin attack in a hurry and bowled Hall with the new ball—the last card in the West Indian pack—at 5.30 PM with Australia needing 27 runs in 30 minutes to win, with 4 wickets in hand. There was a definite swing-over of fortune now to the Australian side and the Brisbane crowd breathed more freely though not for long. Davidson, who had made 80 fighting runs, was run out magnificently at 226 by Solomon, who picked up and threw with one action, hitting the stumps from the acute angle. Grout joined skipper Benaud—with Australia needing 7 runs to win in 6 minutes—a small task by any assessment. But “purple drama mounted upon purple drama.” Benaud, who had batted imperturbably for 52 runs, touched a Hall bouncer to wicketkeeper Alexander who grabbed it with gusto. Benaud was out. Five runs now to win with 6 balls to go. Meckiff joined Grout and together they added two more runs. But suddenly, oh, suddenly Meckiff swung at a ball from Hall and he and Grout, after taking two runs, turned for what they thought was the third and winning run. But out came a throw from Hunte from some 90 yards away at deep square leg and poor Grout dived for the crease in vain. He was run out. Speaking about that magnificent throw of Hunte, Fingleton wrote, “Never, in all cricketing time, was there a better throw from the boundary.” Had that third run materialised, Australia would have won. The two from Meckiff’s stroke now made the scores level—737 runs all. And now 2 balls to go and 1 run to win!

Now came the perfect climax to this mad, surging day. Kline, the new and last batsman in, turned Hall to leg and both he and Meckiff trotted off for what seemed a comfortable run. But the Fates had ordained it otherwise. From twelve yards away, completely side on, so that only one stump showed to him, Joe Solomon swooped one handed and threw down the one stump visible to him. This was the miracle superb. If this run out—or was it a rope trick?—were to be contrived, Solomon had to throw at the stump just by instinct, which he did. Meckiff was run out for 2. Australia were all out for 232 runs and the Brisbane Test ended as a Tie—the one and only Tie in international Test cricket.

The final hour of play was a “delirium of ineffable excitement ineffably prolonged.” Jack Fingleton referred to the closing proceedings of the match as “that demented finish” which “had to be seen to be believed and of a

truth, those few who saw it could barely believe that what they saw was true. It all seemed fantastically impossible—drama piled upon drama to an excruciating climax”. Jack was quite sure that “No earthly mind could have conceived such a finish. Had it been presented in fiction, publishers would have told the author to take it away; it was beyond the bounds of human credibility.” Richie Benaud, the Australian skipper, was ecstatic. He wrote later that “Never before have I played in a game so full of electrifying thrills, so riddled with periods of nerve curdling strain. Disappointment and delight, depending on the side you were on, dominated our feelings in a game of swiftly changing fortune. This was no Test match—it was a game of cricket full of thrills and dismay.”

As for the Roll of Honour, the game just hummed with heroes—Davidson, Sobers, O'Neill, Worrell, Hall, Benaud, Simpson and Grout. But was it only the excellence of such individual performances which made all Australia miss their customary beer at 6.00 PM in the evening of that historic 15th of December, 1960 and drove a West Indian journalist to send his story of the last day's play to the cable clerk without an address upon it(!) in spite of fortifying himself several times during the tumultuous afternoon with double brandies? As Benaud justly queried in his “Way of Cricket”—“Who can say their performances were any more valuable than the breathtaking throw from the boundary by Conrad Hunte or the two sharp shooting flicks by Joe Solomon to run out Davidson and Meckiff?” Yes—the unbelievable finish could be associated with no side, much less with individual players, despite deserving an inscription of their deeds in letters of gold in the cricket scroll of fame. Benaud echoed the sentiments of all when he wrote later “It is literally correct to say that neither side won this great match. The only victor was the game of Cricket”

Those balmy days at Brisbane were, truly, Cricket's “finest hour”

THE FIRST FIVE-YEAR PLAN

V. S. KUMAR

Oh! plan of humble ambition, amply realised
Creator of hope, how did it so happen,
Yourself a creator, your life was but short-lived?
And yet have you survived in your sturdy off-spring.
Empty you're not, for you have stirred
People's passion and left them your promising child,
For them to foster and see your image.
Weep not then over people's rejoicing,
For to mortals common are birth and death
And their hope is as enormous as the solid impression
You have left behind and as much liquid tears
As the ink in you, the hope can blot.
Pardon them, Oh humble parent plan!
And join everyone in your heir's crowning
And be satisfied, people gratefully worship
Your child, whom they think yourself new!

S U M M E R

G. VISWANATHAN

The earth is a stilly throat of parched silence;
The sky is a vast kitchen of burning oven;
The river is a static bed of waterless pathos;
The tree is a standing agony of silent height;
The dry chirp of thirsty birds,
Breaks the hot dumbness of the fainting noon.
The mire-sick buffalo is lowing for puddles,
The sun-burnt bricks are in a sweaty swoon,
The south summers in sweltering sun,
Solar ardour steals into the world
Which is an unending thermal throb.

A WISH GRANTED???

K. M. KRIPANARAYANAN

The clock tower in the market square of the little hamlet of Andau struck twelve. It was Christmas. The little village was in a festive mood. All roads led to the ancient church which was brightly illuminated. Every now and then, a cracker broke the stillness of that chilly night. It was snowing. The usual paths were strewn with snow and it seemed as if the way-farers were struggling to reach their destination. Tiny toddlers, covered from head to foot, in nice warm clothing often tripped and fell—and as they got up their cheerful faces were covered with snow—they seemed to enjoy their falls and laughed merrily along their ways. The tall trees were dancing to the tunes of the gentle breeze. Everywhere, there prevailed an air of eager expectancy. Christmas, comes but once a year, but when it came it brought with it new joys, new hopes and new aspirations. Just in front of the church was a beautiful Christmas tree laden with presents. Many were the children gazing eagerly at the tree, with the hope of satisfying their innocent desires.

Many were the people who came to the church for the midnight service. Preparations for Christmas had begun much early and at last.....the day had come, when everyone attired in neat and beautiful robes sauntered along to the church to seek from Him blessings for a bright future. Among them was Jane, a sprightly young girl of seventeen. Everyone in the church looked out for her but she could not be seen.

At last, she came, but that night she wore a sullen look. A strange feeling of sorrow seemed to eclipse her bright face. There was a marked difference in her gait. Yesterday, she had been all enthusiastic about Christmas but today something seemed to weigh heavily upon her mind. Her steps were heavy but sure and her eyes seemed to stare into the unseen emptiness. Her head was bent low and she seemed not to realise the importance of the festival. She was too serious to notice her friends. Through her face was calm and bright it was not beautiful enough to cause unnecessary attention from the bystanders. Everyone looked at her in astonishment but none had the courage to ask the reason for her grave attitude. She went straight into the chapel and knelt at the foot of Lord Jesus. The prayer was soon over and gathering people began to disintegrate. Most of the villagers had left the chapel, but in that illuminated place, could be seen this young girl kneeling still in reposeful prayer. She was not aware of the emptiness prevailing in the chapel. Her mind seemed to be far far away—Her story a very sad one. Sorrow like joy cannot be suppressed in one's mind for long. Tears began to trickle down her soft cheeks. Soon, her

sobs seemed to reverberate within the four walls of the chapel and as tears rolled down her cheeks, in the midst of sobs, one could decipher her sincere entreaty, to God, "Cruel indeed is Fate! Unmerciful indeed is divine Justice. It was 15 years ago that I lost my father and yesterday, alas! my mother too. What hopes I had of making this Christmas a happy one! O! Lord! Can I no longer enjoy the sweet caresses of parental affection. Am I to suffer the pangs of separation from my parents? Can I no longer confer on someone the affectionate feelings of love?"

Left alone in this wide world, she wondered how she could face the many trials and tribulations of life. She was an orphan and now her only hope was gone—her void became greater—her sorrow unbearable but slowly she left the church and took to the beaten path. It was still snowing. Small pieces of snow struck her face but she seemed not to care for these. But just as she passed by the well-known Oak tree, a groaning was heard as of someone in distress. Jane was too absorbed to hear this but as she moved away the distressing sound increased and Jane saw that a few yards away, a female deer was lying dead and by its side a young one was weeping. Jane realised for the first time the sorrow of parting. She could at least earn her living but how could this tiny deer survive. Soon the snow would cover it up with a fine velvet of white and no more shall the agonising cry pain her gentle heart. Her tender feelings and sincere emotions found vent in tears. Jane took the deer in her hands and as she stood in the drizzling snow, framed between the two tall pine trees, she understood and realised that Jesus had granted her only wish.

IMPRESSIONS

J. C. CAMILLUS

<i>Delhi</i>	: Concrete structures, bustling streets.
<i>Kerala</i>	: Communists and calm retreats.
<i>Gujerat</i>	: Gandhi caps and millionaires.
<i>Maharashtra</i>	: Marine drive and Western airs.
<i>Orissa</i>	: Gushing Mahanadi, floods and blushing belles.
<i>Nagaland</i>	: Recesses, Ravines and Rowdy Rebels.
<i>Andhra</i>	: Mangoes, Mica, Charminar.
<i>Punjab</i>	: Akali Dal and Chandigarh.
<i>Mysore</i>	: Coffee, spices, Chamundi Hills.
<i>Bengal</i>	: Classicists and mundane mills.
<i>Jammu & Kashmir</i>	: Lakes, houseboats, eternal snow.
<i>Assam</i>	: Oil rigs and the rare rhino.
<i>Uttar Pradesh</i>	: The moonlit Taj Mahal and the laughing hyena
<i>Madras</i>	: Gopurams, natyams, the famed Marina.
<i>Rajasthan</i>	: Pseudo tiger-hunts, deserts, durbars.
<i>Bihar</i>	: Unsung source of fragrant cigars.
<i>Madhya Pradesh</i>	: Desperate dacoits and manganese.
<i>I. I. T.</i>	: Periodicals and constant 'D's.

ASHTA-GRAHA
OR
(*D-Day-The 5th of February*)
R. T. NARAYANAN

The papers forecast,
The sages broadcast
That the end was well-nigh!
We would all only sigh!
That eight planets would meet
To give mother earth a treat,
That the earth would quake
And we would shake.
That the seas would soar
With a murderous, roar,
That the Fifth of Feb'ry
Would all mankind bury.

The pious became more pious,
The impious slightly pious;
Wives were more affectionate,
And husbands doubly passionate;
With many a nervous kiss
Before all that was to be bliss.
Business began to sag
Under the planetary drag,
Schools were locked
And temples flocked,
Election fever and planetary fever
Made our campaigners all shiver.

The fatal day came
We were in classes all the same,
The march to the coffin,
Was to be soon in the coffin,
And men waited with anxiety
The approaching calamity
But, lo and behold!
The morrow was on the threshold!
And so with souls more bent
To work, men went.

*THE ENGINEER'S WAND-A FANTASY

P. MOHAN

How would you like a fairy tale? No? You are shocked? Insulted? I agree with your sentiments. It would be presumptuous of me to expect you, the Scientist and Engineer, to listen to a lot of nonsense about witches and fairies. But what I offer is not the kind of fairy tale you were forced to gulp in your kindergarten days. This is something connected with an Engineer and the wonderful things he did.

Now, this Engineer was quite a civil Engineer. He had studied the ways of Engineering his way through Life, for a goodly period of five years. Not content with mastering all that the teachers had to offer, he felt he would do well to linger on for a sixth year, just in case he had missed some little piece of useful information. It was in this sixth year, then, that the eventful happened.

One morning, the Engineer, as was his wont, picked his slide rule and notebook and ambled leisurely towards the Institute. The path was shady, and a cool breeze carried with it the fragrance stolen from the flowers. Suddenly, out of nowhere, there popped up a fairy, all in a flutter, her lovely wings flapping like a sail caught in a wild gale.

"Dear Engineer", her voice tingled as she spoke. "Oh, please, won't you help me?"

Now, our Engineer was a gallant soul, filled from top to toe with the most chivalrous impulses that ever man was blest with. However, he was also a shrewd man. Not for nothing had he learned all his Economics, Physics and Applied Mechanics. Were they not intended for just such an emergency as this, when shapes like fairies popped out of nowhere! He made a smart, swift calculation that convinced him that the creature standing before him was a genuine fairy, and not one of those strange optical illusions which raise doubts in a person's mind regarding his sanity. It was only then he asked her what she would have of him.

"Oh dear, I've lost my wand, and without it I shan't be allowed to enter the gates of Fairyland. What shall I do?"

The poor creature was frantic, as she stood there, wringing her dainty hands and shedding pitiful tears.

* Prize winning contribution.



Now our Engineer had associated himself for the past five years with a considerable quantity of stones, mud, soil and the like, so that one might expect him to have become as inert as the earthly substances mentioned before. But, no! His heart was still in a rather elasto-plastic state and was easily moved by the sight of tears. Economics and Physics had not done their worst, yet.

He consoled her as well as his unpolished eloquence would permit him. "Please don't cry, fairy dear, I'll fetch your wand at all costs, even if it should warrant a couple of "D" grades in the coming Periodical Examinations".

He slung his slide rule over his shoulder and with a resolute N.C.C. gait marched in the direction of the Institute's Laboratories.

Curse the attender, on this day of all days he had to be late!

The Engineer stood at the locked doors of the laboratory and ran through the plans he had formed. That he should go in quest of the wand was out of the question, for, he was not a detective, but, an Engineer. Well, then, the only other solution was to replace the wand with another wand. And, who, but he, the Prince of Civil Engineers should be better suited for a job demanding such delicacy and precision!

Ah, there's the attender, that tardy fool. Hurry up, will you!

The Engineer strode into the dark hall of the Civil Engineering Laboratory. He took his slide rule in one hand and a pencil in the other. Only a few swift movements of his nimble fingers could be discerned by even the most watchful observer. But, through his mind, ah, what a procession of strange symbols and weird formulæ marched on, as he marshalled the bits of information collected over a span of five years! $\frac{M C}{1}$, $G \frac{mm'}{d^2}$, $F = m \times a$, functions of conglomerated soils multiplied by deep foundation bed slopes, etc., etc., they raced by in quick succession as the Engineer calculated calculated, calculated....

And so the Engineer sweated amid his equations, theories, and theses. Something had to come out of all this brilliant industry. And it did come out, as you will soon see.

The plans were ready, the blue-prints were prepared and all was set for the final stroke. The oiled German machines stood expectantly on their hinges and greedily devoured the materials the Engineer fed into their gear-filled jaws. My word it was a bewitching sight! Our Engineer appeared like a sorcerer of medieval times amid his eerie goblins. And the confidence with which his hands moved! Not a movement was uncalculated, not an eyelash stirred, until the entire project was completed.

There it was, at last, entirely his own creation. It gave him a pang to think that he would soon have to part with his handiwork; but it was only for a moment. The thought of the poor fairy drove away all ungentle thoughts from his simple mind.

Ah, there she was, now, her own delightful little self, the mischievous creature, with a smile that said, "look, how happy I am!"

"Oh, I've found my wand, Mr. Engineer, and thank you so very much for your kindness," she tittered.

For just a tiny second, the Engineer's heart was heavy, for all his labour was gone to naught. But, like the true gentleman he was, his buoyant spirits revived at the thought of the good fortune of the little fairy.

"I'm so glad you found your own wand", he said, "But I have one all ready for you the next time you happen to lose it".

With that, he withdrew the silken drapery that covered his creation.

The poor fairy was aghast. A fine-looking beam of monstrous proportions beamed from its situation on the table.

“I designed it in just two hours' time, you know”, the Engineer exclaimed with just pride. “It's fully reinforced, too, top and bottom!”

A feeling of relief came over the fairy as she felt her own wand that fitted so snugly in her little palm; what use could she possibly have for this over-sized hunk of concrete! And, reinforced, too! Gently, gently, she broke it to the Engineer that the wand he had made was just a little too big for her.

“Oh, a slight slip of over estimation”, he breezily remarked. “I never was very good at the Estimation classes, I must confess”.

Not wishing to hurt his pride, the fairy thanked him again, and with a graceful flutter of her lovely wings, flew away to far far fairyland.

The Engineer's work was praised by all who saw it, and, as a fitting memorial they hoisted it up to the ceiling. There it stands, to this day, in the halls of the Civil Engineering Building. There are several other wonderful beams, too, of the same monstrous dimensions in the ground floor of the building—but these, we may presume, keep company to that original masterpiece of our Friend, the Engineer.

FINIS

Moral :—Have no trust in your Engineering abilities, as early as the sixth year after your initiation into the Profession.

Acknowledgement :—The author would like to express his indebtedness to Mr. R. Ganesh for condescending to illustrate this little piece of fantasy.

—P. MOHAN

THE ROAD TO I. I. T.

V. S. KUMAR

Come to our I. I. T.,
For monkeys, deer, men and gaiety
It's broad, it's long,
With snakey roads and shady throng.

Dangerous bends an' deep pits
It's safe on way to keep your wits.
Lofty trees and rustic looks,
Sleek avenues and suspicious nooks.

Primitive carts and posh cars,
All at gate the Watchman bars.
Panting workers and puffing bosses
Mostly profits, make no losses.

Ruined temple and roaring machine;
Musty oldness and modern sheen;
Stygian darkness and blazing lights,
Civilized, but full of frights.

Grazing grounds and eating places,
Beast or man busily paces
Old or new, all is one;
If you're lost you are done.

Old jungles and modern houses,
See for yourself what it rouses
Said a visitor "God Almighty,
Too much, the road to I. I. T."

A NOVEL SOUVENIR.

DR. V. ANANTARAMAN,

Automobile accidents are the greatest of nightmares for our parents and beloveds when we go over to the States for higher education ; but some old-timers among the Indian students in any American campus will reassure you by revealing the brighter side of the picture. "Get involved in an accident ", one of them will advise you, and add nonchalantly, " but escape with minor injuries ", and appear to be philosophising when he concludes with a grin, " the experience will be highly rewarding ". What this Indian philosopher attempts to impress on you is a strictly materialistic approach to this philosophic puzzle. The United States is a land of insurance against all conceivable risks, and you may hope to be paid fabulous sums by way of compensation for injuries you might suffer from auto-accidents. By way of an illustration, if you can manage to escape an accident with a fractured arm (minor one, mind you, and I don't know how you can manage it), perhaps you may confidently hope to pocket 25 thousand rupees (5000), the rate of compensation depending, of course, on whether your arm is left or right or whether it is that of a physician or a professor, a pianist or a playboy. In India also, we occasionally hear of such compensations being claimed by eminent medical men when they get their fingers crushed by the window shutters of the *first* class compartments of our Railways. I am yet to hear of any compensation for similar mischief done by the shutters of a *third* class compartment !

As the President of the India Association, University of Wisconsin, Madison, I went to attend the Milwaukee International Club Day accompanied by my room-mate and two Indian girls who were to give a music performance at Milwaukee that evening. The car was driven by another friend of mine, an Indian graduate student of the Milwaukee School of Engineering.

We were driving downtown, Milwaukee through many traffic junctions in succession ; perhaps all of us, particularly our driver, were thinking of the beer that made Milwaukee famous. When we were at North 17th street and West Highland Avenue we recorded a severe seismographic shock ; no sooner I recovered from it by rudely coming into contact with something

painfully hard than I felt the impact of a projectile on my back. I found myself covered with dirt in the middle of the square some 20 feet away from our car, and scrambling on to my feet with all anxiety as to the fate of my friends I realized the situation.

A car driven by a typical American coming with considerable speed from the side road to our left hit us perpendicularly against the bonnet of our car, and while his car had overturned with its passengers, its impact flung open the door by my side, and I and the girl seated next to me were ejected out like two rockets one after another. When the booster rocket sent us out, unattached as we were, I went first, and she came after, and when I hit the ground, she hit me on my back. Believe me, I was happy to be a cushioned buffer between her and mother earth when thoughtlessly, as women are, she was coming to a head on collision with Her. Others were safe except that the shock deprived the other girl of her speech for half-an-hour, and it took two more days for her to regain her sweet voice with which she used to delight many an audience.

As we were assessing the damage to ourselves and consoling and comforting one another, the Ambulance came screaming on the scene; but I managed somehow to pull the girls off and took off in a cab to the nearest hospital in my anxiety to escape from press photographers lest by some mischance a picture may appear ultimately in the American Reporter in India scaring our people at home out of wits. Anyway the American Police was efficient; they took a picture of the accident, hunted us out in the hospital and gathered all details, and in spite of our earnest requests to keep our names out from any publication, the next day the Milwaukee Journal presented us with a Souvenir in the form of a beautiful picture of the accident with our names and description of our nationality and academic status captioning it.

The important point to be noted in this narrative is that we "managed to escape" with "minor injuries". We returned to Madison to tell the story, happy over the fact that we were not dead or maimed for life. Some of the old timers advised me to keep on limping for a week at least for the insurance people were expected to call on us during that period. Actually there was no need for it for my wounds were painful enough to prevent me from moving out of my apartment. Besides I had a swollen face and a frightening bandage around my eye which was stitched. They congratulated us on our good luck: they hoped that we would each get atleast Rs. 10,000 !

The police decided that the fault was that of my friend who jumped on the traffic lights and not that of the American who crashed against us. This did not dishearten our old timers because it was now only the question of my friends insurance company paying us compensation and not that of the American's. Lo and behold! my friend had not insured his car against such risks! He is a greater philosopher than we Indians ordinarily are. He never cared for his life nor for the lives of others!!! However, he had to shell out Rs. 4,000 for the American and we did not want to tax him further by claiming compensation. Anyway to state the moral of this story in the traditional way: ascertain before driving with an Indian in the U.S.A. whether or not he has insured his car. If you are lucky as we were you will get atleast your life though not money; if not you will get neither.

* "THE TIMACHINE"

SUDHIR PURI

Nothing ever happened to Pipsqueak, the quiet fellow who sat at the back of the Humanities lecture room. The Professor droned on mercilessly, Pipsqueak decided that it was getting boring and he finally began concentrating on a mosquito which was buzzing around his desk. The mosquito travelled in a wider arc and suddenly it—it just wasn't there! It disappeared! Pipsqueak thrust his left hand towards the place where the insect had vanished.

"Is there anything the matter, Mr. Pipsqueak? You raised your hand",

"No, professor, I didn't raise my——yes I——N—no, nothing, Sir".

It was then that Pipsqueak (Squeak for short) looked at his left hand. He blinked. He pinched himself. He decided he was wide awake and what he saw made him wince. HE WAS MISSING THE FINGERS OF HIS LEFT HAND. He did not FEEL that his fingers were missing. He could even wiggle them. But yet he could not SEE them.

He took his pencil (Venus HB) and held it out with his right hand so that half the pencil disappeared. Then he brought it down sharply and heard a sound identical to the one made by a pencil rapping the knuckles of a person's hand. Those were HIS knuckles. He knew that. A mild panic seized him. When the professor's back was turned towards him, he got up and took a step towards the space". Suddenly everything became black and he lost all the self-confidence that the N.C.C. had taught him. He heard a soft whirring of motors all around him and yet his knees would not listen to reason—they refused to support his bulk and he sank down slowly.

A shrill metallic voice, which seemed to envelope him, demanded "Wacha doin' 'ere?" Slowly Squeak came to "Savdhan" and asked softly, "Where am I?" " 'nmy timachine" came the reply.

"Uh?"

" 'nmy timachine! "

* Prize winning contribution.

Slowly realisation dawned upon him. IN MY TIME MACHINE was what he had heard.

“Whydya stepintu m’ timachine?”

“I wanted to do a little investigating.”

“Wacha ‘nvestigation?”

With a mighty effort Squeak gathered his wits about him. “If you switch on the lights, I may be able to exploin better.”

“Wizeguy.”

The space was lit up slowly at the flick of a switch. A soothing glow spread over the small, mosscoloured cell he was standing in. A huge control panel was set in one corner. A built-in visiscreen was glowing faintly. The cell was void of furniture but for a swivel chair which stood next to the control panel. Sprawled in this chair was a green rug with a large, yellow circular design in its middle. Squeak looked around the cell. Nothing happened. Squeak looked at the rug—his hair stood on end and had he not used ‘Pure Silvikrin’, his hair would have fallen off due to the shock. For the ‘rug’ was not a rug. It was the thing that had spoken to him in the dark. The blood drained from his face as the “thing” slid off the chair and waddled towards him. Right then he wished he were in the Humanities, lecture room, but he could do nothing about it—his knees were too busy hugging each other to run for it. “‘Smatta? I’m nogonna hurtya.”

“I—I’m looking for my fingers”.

“Yeah. They fellin’ ‘ere.”

At a loss as to what next, Squeak ventured continuously—I always thought that a machine contradicted the theory of relativity”.

“Prof! To hell with them scientists. Us Martian mushrooms are plumb crazy. Zats all. Wacha wanna know?”

“Firstly, how did I, or rather how did you make me, get into this contraption?”

“Simple, Y’were sittin’ there in the year 1962 and I wuz just behind y’ in 1970. Wuz listenin’ to a guy lecturin’ on gyroscopic motion. All bosh. Then your fingers fell in, then y’ came onstage”.

"I am in 1970? May I listen?"

"Sure. Stick um hand out—and grab".

Squeak inched over to a "window" and gingerly stuck his hand out. It disappeared and landed on a fluffy mass, which he clutched. The mass immediately jerked out of his hand, and, startled he pulled in his paw. To his surprise, he saw a black ribbon ensconced in his rough palm. "Haw, how," bellowed the rug. "Your landed toside of a female with a black pony-tail. And boy! didya pull off ze ribbon when she screamed and jerked free. Yikes listen. The lecturer is asking her to stay back after class. By the gleam in his eye I can bet to any adds that he wantsa make a date! Haw, the skunk!"

"You mean to say that a girl is listening to a lecture in the I.I.T.? In 1970?"

"Sure. There sure are girls in I.I.T."

"Boy! What I wouldn't give to be there in I.I.T. in 1970. I want out, now. Give me my fingers. I want to go. 'Bye'"

Squeak stepped out into glaring light. The professor's back was still turned towards him, so he sat down quietly. Atleast, he thought, I am in one piece; Soon the worries of his day to day routine made him forget the wonderful episode of the martian mushroom. About seven or eight years later Squeak joined the teaching staff of the I.I.T., Madras, as a qualified lecturer in Physics. It was always a pleasure to lecture to the D batch of the First year students because he felt that a girl with a black pony tail was all eyes and ears for him. But he could not reason why she always sat at the back of the class. One day he was explaining the principles of gyroscopic motion when pony-tail let out a scream and slewed her head around.

"What is the matter, Miss——?"

"Somebody pulled my hair," she pleaded. "My ribbon! I——!"

A beautiful opportunity, thought Pipsqueak.

"Will you please stay back after class? thank you."

Squeak hoped the freshers had not noticed the gleam in his eye.

"As I was saying, this is called the cone of mutation.....—"

GERMAN LANGUAGE

M. VENKATESWARA RAO

The intensity of the intent wish
To learn the mysterious "Deutsch",
Instigated by its propinquity with English,
Is interred under an insipid anguish
When we stepped into its grammar so outlandish.

It is a mountain, you may think unaware
For "Alp", beware that is a "nightmare"!
Be the possessor of a "paddock" with German "Anger"
Don't hold any "rank", it is "slender";
Scold one "Robber", and apologise with "rubber".

Thank none in German with "Danke",
He may slap you thinking you scold him "Donkey".
You are losing a "fairy" by paying a "fee",
You may hate a "Rat", it is their "remedy".
Don't try a "leer", it is "empty".

Don't give or take a "gift". it is "poison" vicious;
You are an owner of "scythe" if you have "sense".
All "red" things appear "rot" to German eyes
"Links" - you may think is your "golf-course",
It is (to) their "left", and their "golf" is "gulf" of course

Don't make "sound", it is their "Hall".
You may call it "bright", but they call it "Hell"
They look upon "hat" as "Hut" and "boat" as "Boot"
They call (you) "mad" if you mean "tax" by "toll"
You won't wear a "rock", but they say their "Rock" is your "Coat"

Our German Teacher indeed is our boon;
His name is "short"; but he is not a buffoon;
He is a versed linguist and a gallivant raccoon;
Teaches German in all the languages known,
And punishes us with his dummy pistol or a counter-feited swoon.

At the delicious German banquet, he is the host;
Feeds us with icicled cakes of jokes and bonbons sweetest,
With flavoured juices and dessert of savoury taste,
And our voracious minds reach satiety at all cost.
May I invite you to one such a feast for a toast!

IF I WERE THE CREATOR!

D. D. SAMUEL.

“What a piece of work is a man!
How noble in reason! How infinite in faculty!
In form, how moving
How express and admirable!
In action how like an angel!
In apprehension how like a God!
The beauty of the world, the paragon of animals!”

—Shakespeare.

If I be the only person to survive the long-threatened “end of humanity” by the so-called conglomeration of planets and if I am bestowed with the divine powers to create a new world I will follow a new master design where man can be more independent of worries and temptations and can lead a more happy life.

First I will set the earth straight—not inclined at $23\frac{1}{2}^{\circ}$ —and make it a perfect sphere—not the present shape of an orange. To be coherent with the metric system the “acceleration duo to gravity” will be 1000 cms/Sec² and this will be independent of height, latitude and longitude, etc. (independent also of the experiments used to measure it and also the experimenters). Along the axis of earth’s rotation I will introduce a “cam” whereby the nights are longer than the days by four hours; 16:8, the total time remaining the same. Man can sleep more and study less; he can dream more and worry less; he can rest more and work less!

Space shall contain only four things; the Sun, the moon, the earth and a “perfect reflector”, the movement of which will be arranged such that there can be sunlight during day time and moonlight or light from the reflector on all nights. The sky shall have no stars and will be pink in colour.

The mountains, valleys and rivers will be few in number but much more useful. Some trees will be straight with branches going at angles of 90° , 60° , 45° and some trees will form a circle, some ellipses and some hyperboli with

asymptotic branches, all enabling animals and children to learn "geometry" from nature. Some trees will be having fruits hanging down forming a "simple pendulum" on a tree top. They will require only inert gas for existence.

The sea shall contain "pure" water and will occupy only $\frac{1}{4}$ th of the earth solving space scarcity for the population. The waves shall be periodic and regular. How will men and animals be?

* * * * *

Man !.....Man judges man by nationality, colour, creed and caste—How noble in reason! He wants to live by murdering others for which he invents mighty war-weapons—How infinite in faculty! Man goes around in tweed suits and lovely garments clothing hatred and lovely garments clothing hatred and jealousy—in form, in moving how express and admirable! His actions are most hypocritical, selfish and untrustworthy— in action how like an angel! He is nothing but a devil in incarnation—in apprehension how like a God! The beauty of the world spoils the beauty of the universe.

Why did God give man "variety"?—various colours, forms shapes—to make man's life a bit more interesting, definitely not to make life more dangerous. He thought man can enjoy more; He thought man will develop competition whereby he will advance more and more towards a happy and a peaceful existence. But alas! What is it we see today?

* * * * *

Hence "my" world will have no variety. All men will be of the same colour, same feature and same form. There shall be no nationality, no creed, no caste and no names; man and woman are the only two names. All women will be beautiful and alike; hence no problem of choice will arise! Men will be of equal intellect which will be of a supreme order. They shall inhabit earth and moon. Children and the old shall live on earth while newly married couple will go to moon to have a real "honey-moon".

The form of man will not be as it is today. He will be a "semi-rocket" man. Controlled by self-will he can assume the form of a rocket when his internal systems namely heart, lungs, etc. will occupy one half of the entire body, the other half becoming a fuel chamber. A "turbine"

And thank God, we have not yet converted our villages into cities. Writes Hans Pragear, in a little book on Gandhi :

“ Our civilization hides behind a very virile mask our moral weakness, our fear. We are no longer warriors, but mere servants of lifeless machines. Heroic war has turned away...Soon it will no longer be the men who will take up arms, but the machines which will take up men. That which makes the pride of man, his inventive genius, will become his shame for having created machinery which prevents his defending himself any more by his own strength ”.

And Gandhiji writes :

“ The fashion nowadays is to take for granted that whatever America and England are doing is good enough for us...War has become a matter of money and resourcefulness in inventing weapons of destruction. It is no longer a matter of personal bravery or endurance ”.

Even Gandhiji realised that “the soldier fills the recruiting ranks because he believes that there is no other means of livelihood. The Government has made the profession of killing attractive by a system of special rewards, and by a system of skilfully devised punishments has made it well nigh impossible for the soldier, once he is in, to get out without difficulty”, (Young India).

Today we are purchasing aircraft-carriers, bombers and what not from others. Even if we believed in violence, this is not the way to prepare ourselves. It is child's logic that for victory in war, we have to possess deadlier weapons, unknown to the enemies, than what they possess. When are we, who are unable to finance our development plans, going to catch up with the rest in the race for new armament which is quite an expensive one? And we can be sure that one of the power blocs will step in to use our motherland as a military base in its patriotic struggle for existence in the event of the next world war breaking out. In short, prepare we must to resist aggression; at present we are fiddling with preparations for violent resistance and it is going to prove to be disastrous. The only way then open to us, and which conforms to our national heritage, is that of non-violent resistance. At first ours will be the non-violence of the weak; but we must begin somewhere.

It is worth pondering whether the present emphasis on modern scientific education in India has any meaning in the midst of undiminishing—rather

evergrowing—ignorance and poverty of the masses; the first priority should be given to the elementary education of the people in villages—not merely the knowledge to read and write but political education. Today the political knowledge of our masses is conspicuous by its absence. In the light of this, national defence—whether violent or non-violent—is simply impossible. Our educated men and women should shed their dislike for villages and their craze for city life. They must go and live amidst villagers imparting useful knowledge to them.

Compulsory military training has become the fashion of the day. It is interesting to know what Gandhiji thought of this even before it was started :

“ I should be against compulsory military training in every case and even under a national government...physical culture stands on a different basis altogether”.

Instead, peace brigades, however sour they may sound to modern youngsters who are mad after western civilization, must be started. In times of peace these brigades must instruct and help the poor and ignorant in every possible way. In times of war, the political awakening that would have taken place due to these brigades, will account for any aggressor.

At a time when every nation is immensely interested in the complete disarmament of its neighbours, India's acceptance of non-violence as the only policy of defence will be unique; opportunities are not wanting to prove her sincerity.

New tenant: Does the water always come through the roof like this?
Landlord: No, sir, Only when it rains.

* * * * *

The teacher was checking his students' knowledge of proverbs.
“Cleanliness is next to what?”, he asked.
A small boy replied with real feeling, “Impossible !”

* * * * *

“I'll never forget Christmas in 1950. I spent the whole day peeling spuds.
“Why, what happened?”
“Our Sergeant asked me what I wanted for Christmas and I told him the truth.”
“What did you tell him?”
“A new Sergeant.”

* * * * *

A miser was once travelling in a taxi, and the cabman informed him that the brake had failed, and there was danger of the taxi falling into the river.
The miser exclaimed frightfully, “Stop the metre first, I say !”

* * * * *

8

THE GESTETNER CIVILISATION

Dr. Th. RAMACHANDRAN

Prime Minister Nehru claims often that we have advanced very rapidly from a bullock-cart civilisation to a bicycle one. This may be true. But what is certain is that we have left behind the palm-leaf and "writing-nail" bureaucracy, and after a brief pause in the quill-pen and paper stage, have jet-propelled ourselves into the wonderful and luxurious Gestetner age, or civilisation if you like, bureaucratically speaking, of course.

We may be a poor people, but we can certainly afford such things as Gestetners *en masse* and use them with a vengeance. And as for filing cabinets....., well, let filing cabinets be filing cabinets and let us not hear any more of it.

Suppose you want to go to the cinema and want to ask your friends to go with you, well, where is the difficulty as long as your gestetner is there? Get a stencil cut and send each of your friends a few copies of your proposal, repeating the process, if necessary, at regular five-minute intervals. You may even get gestetnered replies for your query!

In olden days if a bank manager wished to inform his employees about the disbursement of salary cheques, he used to have a short circular typed out and circulated. In fact, even before the circular left the typewriter every one knew of the coming event. But today, thanks to the Gestetner, the same manager does not have to depend on such efficient and simple means. All he has to do is to make use of his Gestetner and soon every employee will have at least a dozen copies of a foolscap-size circular!

In the pre-gestetner days, if I had to hold a periodical test for fifteen students, I would have had to write the two or even three questions on the blackboard and use up so much of my time and energy, not to mention the enormous quantities of chalk needed. I might even have had to read the questions over to the boys owing to my poor handwriting. To-day all that is simplified. To make sure I have enough papers, I ask for twenty and I can bank on at least thirty crisp, well-gestetnered question papers, with perhaps only the 'o's and 'e's and sometimes the 'b's and 'd's duly filled in with ink, which can be easily explained to the boys.

I could go on thus, extolling the virtues of the gestetner, and even hope for some sort of commission on the sales for this advocacy. Even if I got a modest 1% commission, I should soon be a rich man, considering the numb-

ers sold in India. And if I added filing cabinets to the list, but well, we agreed in leaving them alone.

Of course, the most profitable function of a gestetner is its use in asking people to curtail the use of stationery. All you have to do is to send each of your subordinates a sheaf of admonitory letters, gestetnered, of course, and ask them (subordinates) to use them (admonitory letters) as a sort of Calendar, each letter to be used for the day only!

LONG LIVE THE GESTETNER!

F L Y !

N. RAMESH

Let me fly! fly like the bird!
Gliding thro' the heavenly space;
Away from a mocking place;
No bonds, shall tie me down,
On the weather sleeping,
My mind shall soar to the skies;
Trifles shall neither mar nor make,
Its dents of feeling sad,
Free! and romping thro' a silent world;
I can only feel a burning desire,
To die in loneliness! A crowning pyre.

* THE AROMATIC RIVER

R. T. NARAYANAN

Fringing the Central Station,
At nobody's invitation,
A river takes a winding course-
It is the Cooum-of course.
It is spanned
By a bridge ill-planned,
Which is memorable
For reasons innumerable.
Foul and fragrant
With a special brand of squalor,
Seemingly stagnant
With spontaneous change of colour :
So flows the river
The City's big sewer,
Bubbling oxides and sulphides
Difficult to analyse.
The author of nausea
The peril of the trachea :
So the river flows
With lots of mosquitoes ;
Sow, pig and swine
And their long family line
Dip here for fun
In the bright noonday sun.
The permanent haunt of beggars
And fast-talking hawkers
The bridge also boasts of sharpers.
Who relieve the purse of others ;
And so I say
That it causes dismay
To all, who may
Have to pass this way.

* Prize winning contribution.

A PORTRAIT OF NEHRU

M. A. ABDUL KHADER

It has been said that Mr. Nehru is a complex, ever elusive personality. He is loved, revered and criticised, but all agree about his pre-eminence. "Nehru", said Walter Lippman, "is certainly the greatest figure in Asia". It is therefore difficult to assess and analyse the qualities of a great man who inspires diverse sentiments.

Pandit Jawaharlal Nehru is a contradictory character. Still slender, handsome, and energetic at seventy-two, he looks taller than his 5 ft. 8 inches, works seventeen hours a day, year in and year out, and has had only a six weeks' vacation from his tiresome job since 1947.

Personally fastidious, from the fresh rosebud in his buttonhole each morning to the silken handkerchief tucked in his right sleeve, he is most at home with the teeming millions. An agnostic who "is not interested in religion" he is the leader of one of the world's most religious people. He is a socialist with well built antipathy to capitalism, but most of his governing colleagues are conservative businessmen. We scarcely remember the 1947 warning of Sir Winston Churchill that "we are turning over India to men of straw, the caste Hindu, Mr. Nehru of whom, in a few years, no trace will remain". Fortunately Churchill was wrong, and Nehruji remains what he was fourteen years ago, the biggest man in India and the idol of our people.

Jawaharlal Nehru is not a mere political boss. For the people of India, he is a national symbol, almost the very embodiment of India, and receives from his countrymen probably more unbounded hero worship than any other national leader in the world. Nay! He is an international figure, who commands respect and admiration of all. As a matter of fact, this annoys and disgusts Nehru. He knocks the very people who try to kiss his feet, swings his ivory-tipped teakwood swagger stick at crowds, which come too close! Yet he seeks out crowds, giving as many as ten speeches a week when he is at Delhi; and many more when he is travelling. He is very short-tempered and often so irritable that he would explode with anger at a misplaced tea-cup.

None of these, nor the fact that many do not even understand the language he addresses them in, bothers his audience. They have come not to hear him but for his 'darshan', the spiritual impact of being in the presence of a great personality. "Nehru", says one American familiar with these spectacles, "is the opium of Indian masses and they are his"

Officially Jawaharlal Nehru is not only our Prime Minister, but the Foreign Minister, and Minister for Atomic Energy as well. Unofficially he is India's Chief planner, chief policy-maker, and chief reformer. Proud of his command of English Nehru will sign no letter prepared by any one else, and he personally dictates the great bulk of cables going to Indian ambassadors abroad. Nehru starts off each day at New Delhi at 6.15 in the morning with twenty minutes of yoga exercise that invariably include a few head-stands. By 7.15 he is in his teak-lined study reading cables from his Ambassadors and signing correspondence that he dictated the night before. Promptly at 8.30 after three minutes breakfast, Nehru moves into the carpeted room of his residence. Here awaiting his arrival, there is always an assemblage of labourers, refugees, petitioners and peasants, some of whom have come to Delhi from as far as two hundred miles away to state their grievances to Nehru personally. The Prime Minister talks to them, and often dictates on the spot a letter to the appropriate official.

Thus because of all this hardwork under Nehru, India has had a generally sound Government, stable currency, a worthy democracy, throughout its years of independence. The press is free, the restrictions on free speech and assembly are minimum. Forty million of us attend schools and colleges, and the number is to be doubled in the next four years. The community Project and National Extension Services are also doing excellent work in the rural areas under his guidance. If anyone can claim the credit, it is Nehru, and all of us know it. May Nehruji live long for a speedy industrialization and economic and social independence of this great nation.

THE QUAIN T WAYS IN BRITISH PARLIAMENT

S. SESHADRI

What interests everybody in the British Parliament is its odd ways of extreme formalities ; formalites mixed with extreme absurdities, and formalities having no connection to the present day things. The unique chamber of the House of Commons was gutted during the German air raids and was re-constructed in the old style. It provides only 437 seats though there are nearly 625 members. The original idea of constructing it into a small compact chamber was that it facilitated easy conversation and prevented the feeling of being lost in a vast hall when the business was not such as to call for a full house.

The ceremony of searching the house is the next attractive quaint way which commences on the morning of the beginning of the new Parliament. On the early morning of this particular day, twelve yeomen of the guard from St. James palace march to the Houses of Parliament with all the adornments of Tudor regalia, having lanterns of the pattern of 1600 in their hands, headed by the custodian of the palace who is the Great Chamberlain. These yeomen penetrate through each and every corner of the Parliament chambers. They go in and out of the coal bins, furnaces, gas pipes, steam pipes and the rubbish rooms of the Parliament building. Keeping their eyes to the front, they are looking for kegs of gun-powder placed in some out-of-the-way corner by the enemies of the King.

Why such a search for gun-powder and that, too, in the early hours of the beginning of the new Parliament ? It traces back to the following incident. During the time of James I a certain Guy Fawkes, a young Englishman, who had served in the Spanish Army was bribed by some conspirator to blow up the Parliament building. The young man was extremely successful in placing 20 kegs of gun powder in the basement of the building covered with kindling wood. It was the plan to blow up when the Parliament was about to meet. But somebody very unco-operative with the conspirators but very loyal to the King revealed it to the authorities who, without wasting a single minute, arrested Fawkes in the cellar with a key in his pocket on the morning of the explosion day (5th November, 1605). To avoid the acts of newly hailing future Fawkes' and as a precautionary step, it was ordained that a thorough check-up be made before the beginning of a new Parliament.

In spite of the facts that the abode was since changed, that all the nook and corners of Parliament building are brilliantly illuminated with electric lamps, the yeomen still continue their rounds with flickering lanterns in their hands during the early hours of the beginning of the new Parliament. After a thorough search, they send a report to the effect that all is well for which they are rewarded with a repast of cakes and ale ending with a toast to the King. At present also, 5th of November is treated as a day of festival and its importance may well be judged from the following well-known rhyme :

“ Remember remember the fifth of November,
The gun-powder treason and plot
For I know no good reason why the gun-powder treason
Should ever by us be forgot ”

Another peculiar system is while prayer is being read during daily sittings of the session, the Members turn their face to the wall. This idea has got its origin in the usages in the past days when the Members knelt at their benches during prayers turning their backs to the Chaplain.

Another thing attracting our attention is the use of the Mace. The Mace, a wooden staff with a crown on its head, is a symbol of Royal Command and protection. Unless it is placed on the table, the House of Commons will not function. It silently reposes on the table until the House adjourns. This has got its origin in the fact that when the Parliament was divided into two Houses, the King began to attend the House of Lords only. Since the House of Commons had no king to attend their House, the above symbol was devised. It is very much interesting to see in the history of the British Parliament, that once very much provoked and exasperated at the action of Parliament continuing their existence, Oliver Cromwell in the year 1653 entered the House with his military retinue. On seeing the Mace on the table, he shouted “ Take away that bauble ”. Immediately the mace disappeared. But it was soon brought back again.

The official pew: On the right side of the Speaker is the small enclosure in which important officials will be seated to aid the confronted ministers when questioning time starts. These officials colloquially are known as official pew. Hence the cynical assertion that ministers are merely the spokesmen of their professional subordinates and the House of Commons is merely a hall of echoes for the sayings of the Clerks and Secretaries.

The influence of hats has much to do with the House of Commons. If a Member wants to reserve his seat when the House is in its full swing, he can do so by placing his hat on his seat. Otherwise, his seat would be occu-

ped by somebody else, and he has to stand all the while, if he returns to his seat after having some leisure outside.

The humour of reservation of seats with the aid of hats had reached its apex, many years ago when Irish Nationalists in the House of Commons consisting of nearly 100 Members, wanted to have their seats reserved well in advance during the first day of a new session. They would send one of their friends to reserve their seats. This "reserving" friend, with 100 hats of varying sizes and measure would appear early in the morning and deposit each hat in a particular seat. But the Tory Members, though enjoying the humour, brought a protest to the effect that each Member would be entitled to reserve his seat alone and no body else's.

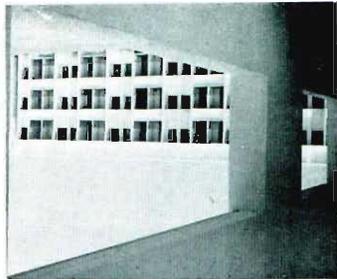
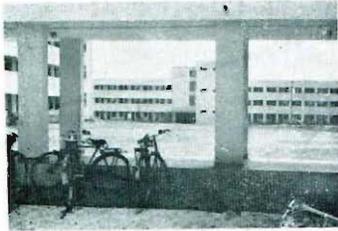
The usage of swords has got an unfriendly attitude for the use in the House of Commons. Anything resembling a sword should not be brought into the House of Commons not even a drawing room rapier. This prohibition had its seed in the past days when knights permitted with swords would not lag behind in crossing their swords at a heated discussion. At present, the oddest function is to receive the petition. The Member would read out the contents and the number of signatures obtained in support to it. Thereupon the Speaker asks the Member to drop the document into a sack which hangs to the left of the chair. These petitions are supposed to be examined thoroughly by the Committee on Petitions but it never does. Though petition has no importance in the modern day procedure, it is given priority to all other urgent business for it is traditional to do so.

The House adjourns in a peculiar way. The House of Commons prefers its session in the darkness. At times, the sitting will be continued through out the night without any adjournment. It is the voice "Who goes home" from the principal door-keeper which remind the Members of their homes and their late sitting. They would immediately pack off to their homes one after another.

This crying out of "who goes home" had its origin in the interesting incident of the past when the undeveloped and unelectricified roadways were places for the brigands, highway robbers and rowdies who might take any opportunity to kill anybody. To defend the members from such dangers, well-armed yeomen would accompany them all the way to their homes. When the squad of yeomen arrives, the door-keeper used to shout "Who goes home" whereupon the minister would go with the yeomen. Though all the above practices were left off as London has become a great metropolitan city flooded with electric lights and provided with best police protection, the doorkeeper even to-day raises his voice "who goes home" echoing the hall to adjourn the session as his predecessors did it 300 years ago. Last, but

I. I. T. THROUGH PHOTOGRAPHS

Photographs by: SESHADRI



The Hostels

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not least, is the peculiar position of the inability of the Members to resign until the Parliament comes to an end. In U.S.A. it is sufficient that if a Member wants to resign, he can do so by giving his resignation letter to the Speaker. But in Britain, it is not so as the act of the year 1623 says so. Then what is the escape from this rule. The rule that no Member can accept a job of an office of profit in the gift of the crown serves as the remedy to this. The Member who wants to resign would get the consent of the Speaker for appointment to the post of Stewardship of Chiltern Hundreds, a post having no salary but nevertheless a gift of the Crown, whereupon his seat as a member would be vacated.

The above are only a few examples. It is characteristic of the British to follow tradition rigidly. The House enjoys its old customs and that is the way to preserve them.

* * * *

COLLEGE DAFT-NITIONS

- The College* — A fountain of knowledge where all come to drink.
- The Director* — A lone audience, he faces the music.
- Student* — Mostly polish—it shows off best on hair and shoes.
- Education* — Mostly reading, left for the weak-end, too time consuming.
- Activities* — Very strenuous.

THE CHEMISTRY OF ENGINEER

V. KOTESWARAN

In the midst of the more complex studies of the Chemistry of metals and non-metals, let us see something about this (metal or non-metal or both!)-Engineer."

History: It has been known for a very long time and evidences of existence even in the most ancient civilizations are to be easily found.

Occurrence: It is more commonly found in the free state throughout the world and in places where something has to be built or designed. Along with others it is found as Engineers and Architects, Engineers and Builders, Engineers and Surveyors, etc. Production is high and is increasing at an enormous rate. Common occurrence in India are Madras, Bombay, Delhi, Calcutta and all other major cities.

Laboratory method of preparation: Since the time taken is very long and the process is a bit costly only mass production is prevalent.

- (i) *Methods of Manufacture:* There are two major methods. (a) Diploma method and (b) Degree method. The other method by experience is not very safe and hence not much used. The procedure for both the methods is the same and runs as follows.
- (ii) *Extraction from ores:* Native ores having at least 25% of the necessary ingredient "intelligence" are taken and are thoroughly examined by expert committees. It is there that they undergo preliminary washing, sieving and froth floatation. Due to the differential sieving adopted in the froth floatation process, heavier particles, which settle down are accepted while the froth is skimmed off.
- (iii) *Smelting:* The selected quantity is then melted in a furnace for one year at the rate of $5\frac{1}{2}$ days per week under a pressure which is slightly more than the atmospheric pressure. At the end of the first six months, they are partially dried and again smelted as before. At the end of 10 months they are thoroughly dried for a period of 2 months. The whole process is repeated twice (i.e., total number of years amounting to three) the pressure being increased gradually.
- (iv) *Concentration:* The concentration process is begun even at the end of the second year using all sizes of filter papers, known as "selection

examinations" and "re-examinations" in technical language and about 80% of the pure product filters out. It is seen that due to some inefficiency in the process impure particles also come in the filtrate which is accepted without any question. The filtrate is then dried.

The final smelting process takes two years and is done under enormous pressure and it is again filtered in vacuum. It is a 85% pure product by this time.

It could be purified more by extensive training in foreign countries or in the Higher technological institutes to an extent of 90% but 100% pure product is obtained only after constant use of it for a few years.

Properties: (a) Physical: At ordinary temperature it is a semi-solid substance, soft (certain varieties are a bit hard) and malleable, varying in colour and smell. Taste—not known but not to be tasted. In general it has a melting tendency but is not easily boiled. It is easy to handle but should not be played about with.

Chemical properties: Insoluble in all substances though it putrefies when buried. It is non-inflammable. The particular variety called Civil Engineer has affinity towards the Architect and both combine under certain conditions while proper care should be taken to avoid explosions. It is highly active and designs and builds machinery, buildings, dams, electric projects, etc., with consumable skill in the presence of money as a catalyst.

Allotropic modifications: There are many known and to name some we have the Civil Engineer, Mechanical Engineer, Electrical Engineer, etc. The different allotropes are produced more or less in the same manner during the first three years. The last two years bring about the difference seen in them.

Detection: There is a marked tendency for specific allotropes to associate with specific places. Thus the Civil Engineer could be found in places where building construction is going on, an Electrical Engineer in any Electrical laboratory or project, a Mechanical Engineer in prominent workshops, Textile Mills, etc. It can also be identified by the number of diplomas and degrees such as B.E., B.Tech., B.Sc. (Engg.), M. E., etc., found on the visiting cards and name plates.

Uses: Widely used in industrially advanced countries both for consulting and executing. Most commonly (and cheaply) and abundantly used in all big projects.

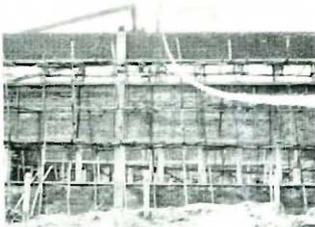
CAMPUS NEWS



Institute Buildings and the Central Workshops



Students at Work and Study



Construction in Progress



Students at Shanti Kunj and at Play



Cartoons by—Pradeep Gupta

* Prize winning contribution.

INSTITUTE GYMKHANA

'What is this Institute Gymkhana?' is the question which a distinguished Professor from a leading college in Madras asked. On looking up the dictionary, one would find that Gymkhana is a public place arranged for display of athletics.'

As this meaning of 'Gymkhana' does not fit into the pattern of Gymkhana activities in our Institute, you may look up Encyclopedia Britannica for further information wherein you find "gymkhana" is a display of athletics and equestrian events originated at the military stations of India. The word apparently is derived from Hindusthani *gendkhana*, "ball house" or "racquet court" and the Persian *khana*, "house".....Outside India, amusing races were added. Thus gymkhanas now include varied competitions, some serious and some funny, on foot, on horseback and on bicycles.....

SCOPE OF ACTIVITIES

At the Indian Institutes of Technology, Gymkhanas are intended to serve as organisations for fostering and developing extra-curricular activities of the students."

The question then arises, "What are extra-curricular activities?" This is again a difficult question to answer precisely. But a fairly satisfactory definition of extra-curricular activities is "programmes and events carrying no academic credit, sponsored and organised by pupils' or students' organisation or by the educational institutions, designed to entertain, instruct and or provide exercise of interest and abilities, subject to some measure of control by the institution."

The purpose of the extra-curricular activities of the gymkhana may be more clearly defined as

bringing together students and teachers of different faculties, disciplines, interests and age groups for mutual benefit,

providing facilities for the development of individual talents in a wide variety of activities, developing the qualities necessary for working with others as a team,

developing qualities of leadership and a sense of respect and tolerance for the opinion of others.



FLAG



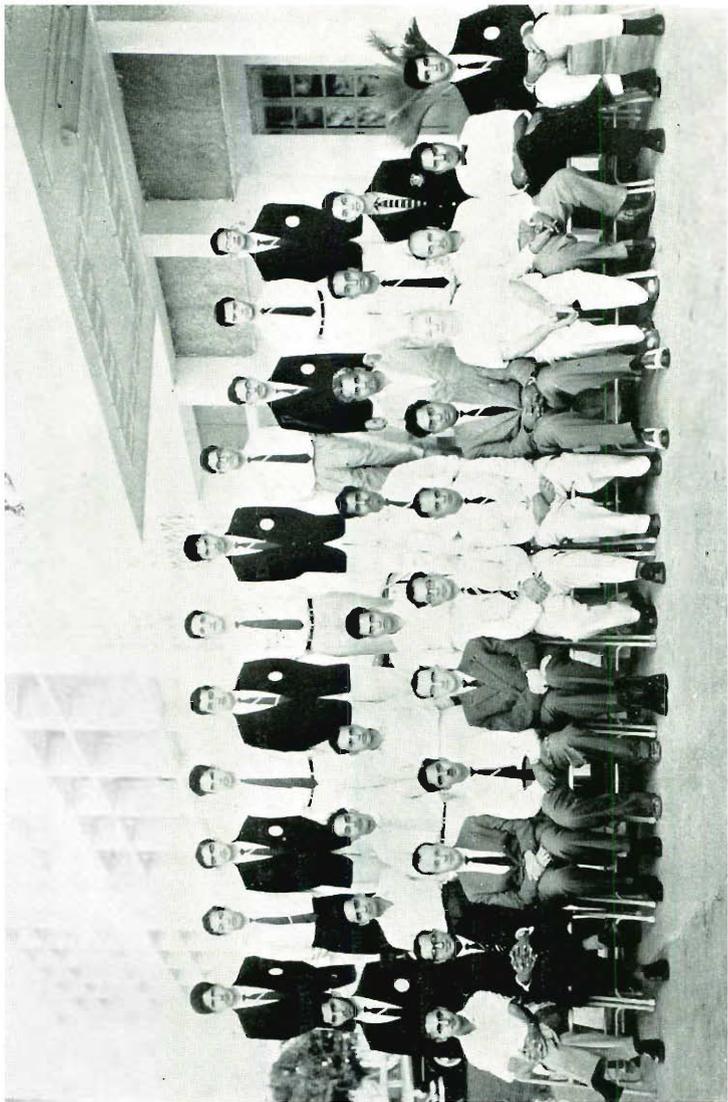
TIE



CREST



COLOURS



INSTITUTE GYMKHANA COMMITTEES

Back Row: Standing Left to Right

A. K. Mehrotra C. Krishna R. A. Vaswani P. Mohan A. S. Bawa S. Talukdar G. Verghese R. Ganesh
T. S. Ananthu R. P. Loomba M. A. Abdul Khader.

Standing: Left to Right

S. A. Aleem Shri V. S. Kumar Shri G. Vishwanathan Shri S. Sur Dr. K. J. Srivastwa Shri S. Balakrishnan
G. Sundaram R. Rajamani Ayyar.

Sitting: Left to Right

Dr. V. G. K. Murthy Dr. D. V. Reddy Dr. N. Klein Dr. C. Ramasastry Dr. K. W. Hang
Prof. B. Sengupto (*Director*) Dr. D. Venkateswarlu Shri R. Natarajan Dr W. Koch Shri S. S. Das Gupta
Dr. V. Anantaraman S. S. Randhawa.

These objectives can be achieved by providing facilities for sports, athletics, recreation, debates, music recitals, dramas, photography, mountain climbing, swimming, rowing, publication of magazines, newspapers, etc. A variety of such activities may be mentioned and organised depending upon available talents, resources and finances. The gymkhana should be able to afford some extra-curricular activities for every student.

With a view to developing extra-curricular activities, the Director appointed Gymkhana Committees in November, 1961. The work carried out by these Committees is reported elsewhere in this third annual Number. But some aspects of this gymkhana, not reported elsewhere, are given below :

DESIGNS

The gymkhana committee adopted in December, 1961 the design for the gymkhana flag, uniform, a tie and colours.

The Flag shall be of silk with a length to breadth ratio of 3 : 2, cream colour for the upper diagonal half; maroon colour for the lower diagonal half with a white strip in between maroon and cream and the Institute crest in the centre.

The uniform for ceremonial occasions shall be white trousers, white shirt, navy blue coat with Institute crest and tie.

The tie shall be dark blue colour with three stripes of maroon, white and cream colours diagonally, each of $\frac{1}{4}$ " width in the top half of the tie. The tie may also be presented at ceremonial functions to distinguished persons as a mark of honour.

Institute colours shall consist of an Institute Crest on dark navy blue cloth with maroon, white and cream colour stripes of $\frac{1}{4}$ " width on the both sides of the crest and with year of presentation at the bottom. Institute colours are for presentation to students who bring credit to the Institute by excellence in sports and other extra-curricular activities. Award of colours every year shall be limited to only one or two persons of outstanding ability. If the same student secures the colours for more than once, the years in which he secures the colours shall be indicated thereon.

The flag, ties etc. and the colours are shown.

SPORTS FACILITIES

During the last two years, it has been able to make arrangements for only some of the Sports items, as we were depending on borrowed or hired

facilities. Efforts are being made to organise as many sports activities as possible. A stadium for conducting sports Meets, a gymnasium for conducting gymnastic activities, a big common hall for conducting indoor competitions are the immediate needs of the gymkhana. Facilities for rowing and swimming will also be needed as the membership of the gymkhana increases.

SHANTI KUNJ

A quiet place in the campus with a *kunj* or grove of trees with a huge tree in the centre providing the necessary shade where peace or *shanti* prevails has been found by Professor Sengupto. It is named *Shanti Kunj* developed and handed over to the gymkhana for its meetings. It is hoped that Shanti Kunj will be developed further, perhaps by providing permanent lighting arrangements, access roads, parking space, concrete benches, rooms for storage of furniture and microphones, etc.

Shanti Kunj cannot, however, be used all through the year as rains in Madras do not seem to obey the predictions of meteorologists. It is necessary to have an Auditorium if we wish to spread our literary activities throughout the year and if we wish to organise inter-collegiate literary competitions. It will be useful to have the Auditorium, Gymnasium and Gymkhana Office in the building.

PUBLICATIONS

The publications of the gymkhana this year are this 'Third Annual Number' and brochures for the Sports Day on March 3, 1962 and for the Institute Day on March 9, 1962.

The members of the Literary Activities and Magazine Publications Committees feel that it will be possible to run from next academic year a Monthly or weekly, devoted principally to campus events and news of interest and value to the students.

ROLLING CUPS

The Gymkhana accepts with thanks the following cups instituted by the following members :

1. Dr. M. V. C. Sastry for Group Discussion.
2. Mr. Kurt Schroeter for General Championship.

FELICITATIONS

The Gymkhana extends its hearty felicitations to the following members :

1. Jacob Dominic for securing the Second best championship cup in Inter-I.I.T. Sports Meet held at Bombay in December, 1961.
2. V. Sidhartha and R. A. Vaswani for winning the Gordon Mathews cup at the debating competition organized by the Madras Christian College. Vaswani also won the individual cup as the best speaker of the day.
3. R. Venkateswaran and S. Nageswar for winning the Johnson Cup and Evening Club Shields in Quiz Competitions.
4. Lonel Paul on winning the Junior Singles title in the Gymkhana Club open Tennis Tournament.

DR. D. VENKATESWARLU

CHRONICLE

- JULY** Introduction of the new members of the staff and the students.
Farewell to Dr. W. Hahn, Professor in Mathematics.
- AUGUST** Farewell to Mr. M. D. Khadkikar, Department of Physics who left the Institute for advanced training in Germany.
Independence Day celebrations. Prof. B. Sengupto took the Salute.
Debate on "The method of assessment in I. I. T. Madras is Ideal". Judges: Prof. B. Sengupto, Prof. R. G. Narayana-murthi, and Dr. V. Anantharaman.
Dance performance by Kumari G. Indrani
Avani Avittam celebration.
- SEPTEMBER** Farewell to Dr. T. Gopichand, Department of Chemical Engineering who left the Institute as a Post Doctoral Fellow at John Hopkins University, U.S.A.
Talk on "Expedition down the Colorado" by Dr. C. V. Seshadri.
- OCTOBER** Debate on "Fasting as a method of non-violence is an Anachronism", Judges: Prof. B. Senguto, Dr. V. Anantharaman and Mr. S. Sur.
Visit of Prof. Dr. R. A. Kraus, Special Commissioner to the Government of West Germany for the development of I. I. T., Madras.
Visit of German students touring the country under U. N. Programme.
Mono-acting performance by Dr. Chandrasekar.
Film Show: "Imitation General".
- NOVEMBER** Discussion on "Why is there just one language in the world" conducted by Dr. N. Klein.
Formation of Institute Film Club
Formation of Institute Gymkhana
Film show: "Somebody up there likes Me", "Pillow Talk", "On the Water Front", "German Consulate Documentaries".
- DECEMBER** Training Camp of NCC Cadets
Participation in Inter-I. I. T Sports Meet at Bombay.



Visit of His Excellency Mr. G. F. Duckwitz to the Campus.



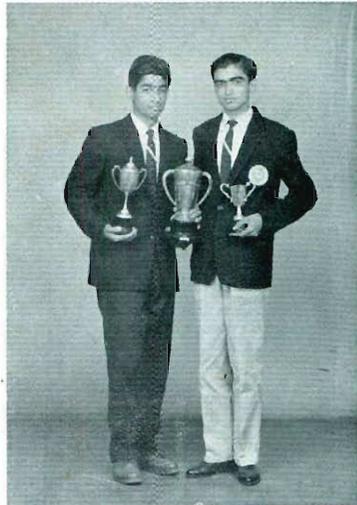
S. Nageshwar & R. Venkateswaran
"the Quiz champions"



Jacob Dominic
"the Sportsman"



R. Rajamani Ayyar
"the I.I.T. representative at the Republic
Day Parade New Delhi"



V. Siddartha & R. A. Vaswani
"they won the debating Shield"

- JANUARY** Republic Day Celebration. Prof. B. Sen Gupto took the salute at the march past.
 Annual Debate on "Perpetual Peace is a dream, and not even a beautiful dream". President: Prof. B. Sengupto, Judges: Prof. R. Krishnamurthi, Rev. Fr. Murphy and Prof. Hegde.
 Film Show "Gigi".
- FEBRUARY** Annual Essay Writing Competition, Judge: Dr. V. Anantharaman.
 Annual Recitation Competitions in (1) English—Judges: Dr. N. Klein: Dr. P. Venkata Rao and Dr. M. V. C. Sastry (2) German—Judges: Dr. W. Koch, Dr. N. Klien and Dr. K. W. Haug (3) Hindi—Mrs. Ramaswamy, Mrs. Sengupto and Dr. V. Srinivasan (4) Bengali—Judges: Mrs. Sengupto, Mr. S. S. Das Gupta and Mr. Mazumdar (5) Marathi—Judges: Mrs. Sen Gupto and Mr. Mavlanker (6) Tamil—Judges: Dr. V. Anantharaman, Prof. K. S. Sankaran. and Prof. S. Sampath (7) Telugu—Judges: Dr. B. V. Ramanamurthy, Dr. V. G. K. Murthy, and Dr. M. Satyanarayana. (8) Kannada—Judges Prof. Chandrasekaranswamy, Prof. M. C. Gupta and Sri Rajasekharamurthy (9) Malayalam—Judges: Dr. Th. Ramachandran, Mr. P. Radhakrishnan and Mr. A. C. Gangadharan.
 Annual competition in Photography, Cartoons, Sketches and Paintings—Judges: Dr. Prof. Desai, and Dr. W. Koch. Group Discussion—Judges: Mrs. R. Kanthimathi. Mr. M. Dharmarajan and Dr. N. Klein.
 Intramural competitions: Football, Hockey, Cricket, Basketball, Volleyball, Badminton, Kabbadi, Table Tennis, Shuttle Badminton, Carrom, Tennikoit and Chess.
 Officials: Dr. C. V. Seshadri, Mr. Narayana kutty Mr. Dravid, Sri R. Nagarajan, Mr. R. Srinivasan, Mr. P. S. Srinivasan and Sri K. Rangarajan.
 Lecture by Prof. W. Koch on 'Modern applications in Physics'.
 Film shows: 'Up in the world', "Brothers Karamazov", "Howrah Bridge".
- MARCH** Annual Sports Day.
 Staff versus students contests in sports.
 Publication of Third Annual Number, Institute Magazine, Institute Day with Dr. A. L. Mudaliar, Chairman Board of Governors as President and Hon. Dr. P. Subbarayan as Chief Guest.

**DISTINGUISHED VISITORS TO OUR CAMPUS,
JULY 1961—MARCH 1962**

Dr. H. R. Ambler, Scientific Adviser to the United Kingdom High Commissioner, New Delhi.

Mr. E. Maxwell Arnot, World Representative of Messrs. Butterworth & Co., London.

Mr. E. C. Watson, Scientific Attache, American Embassy New Delhi.

Prof. Gerlad Picket, Guest Professor, (TCM) Bengal Engineering College, Howrah.

Mr. Hermann, Commercial Councillor, German Embassy, New Delhi.

Prof. Dr. Ing, Hans Rumpf.

Prof. Dr. R. A. Kraus, Special Commission to the Government of West Germany for the Development of I. I. T. Madras.

Dr. D. P. Nayar, Director, (Education) Planning Commission Steering Committee of the Kanpur Indo-American Programme consisting of :

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2. Prof. Robert S. Drake, Jr., Chairman, Department of Mechanical Engineering, Princeton University, Princeton.
3. Dean Robert S. Green, College of Engineering Ohio State University, Ohio.
4. Prof. Erman A. Pearson, Professor of Sanitary Engg., University of California, Berkeley.
5. Prof. Arthur H. Benade, Associate Professor of Physics, Case Institute of Technology; Ohio.

Miss Marga E. Schmitz, Representative of DAAD's Students Section, Bonn.

Professors D. Hahn and Heinrich Bechtholdt of the University of Heidelberg, Germany.

Mr. J. J. Pratt, Deputy Director, Commonwealth Office of Education Australia.

Mr. J. F. Hilliker, Secretary, Commonwealth Education Conference (Canada).

Prof. Ross J. Martin, Dean, University of Illinois, USA

His Excellency Mr. George F. Duckwitz, Ambassador of the Federal Republic of Germany to India.

Dr. F. H. Scheibe, Chief Executive Officer of the German Academic Exchange Service, Bonn and Dr. R. Moenig, Director of the Inter-Nations, Bonn.

Mr. Immanuel Birnbaum, Foreign Editor of the German Magazine "Suddeutsche Zeitung", Munich.

Prof. D. M. Newitte., F. R. S. Imperial College of Science and Technology, London.

FACULTY ASSOCIATION

The Faculty Association was inaugurated in September 1960 by Mr. Gerhard Fischer, Consul of the Federal Republic of Germany in Madras. The aims of the Association are to increase the social contact between the members of the Faculty and to stimulate academic discussion on educational matters. The membership is open to all members on the Faculty of the Institute. The Faculty Association had the privilege of meeting several distinguished persons including Prof. Dr. Ing. R. A. Kraus, Special Commissioner to the Government of West Germany for the development of I.I.T., Madras, Prof. Martin, Dean of Engineering, University of Illinois. The office bearers for the 1961-62 are :—President : Prof. B. Sengupto, Director (Ex-officio), Vice Presidents : Dr. W. Koch and Dr. P. Venkata Rao, Secretary : Dr. C. Ramasastry and Joint Secretary Dr. Th. Ramachandran.

HOSTELS

For the first time since July 1959, all the students are living together in one campus during the academic year 1960-61. The residents of Saidapet and Guindy Hostels and Taramani Hostel moved to Kaveri Hostel. New entrants to the institute were allotted rooms in Krishna Hostels. Both these Hostels are named after the great rivers of India, Kaveri and Krishna. Each Hostel has 212 single seated rooms, a Common Dining Hall with two separate Kitchens, vegetarian and non-vegetarian, and two Common Rooms, one for sports and the other for Radio and news papers.

The Kaveri Hostel started working early in July with the following in office: Dr. D. Venkateswarlu (Warden), Dr. K. J. Srivastava, Veluswamy (Asst. Warden), Mr. Krishnaswamy (Mess Manager) and Mr. A. S. Bawa (Secretary). In place of Dr. D. Venkateswarlu and Mr. Veluswamy who were relieved by the Institution on their own request, Dr. D. V. Reddy and Mr. C. S. Swamy were appointed as Warden and Asst. Warden respectively.

The Krishna Hostel also started working early in July with Dr. C. Ramasastry as warden, Mr. D. S. Subramanyam and Mr. S. Sur as Asst. Wardens. The secretary for the first term was Mr. Y. Sahai and for second term Mr. R. A. Vaswani.

The Hostels were the venue of all activities in the campus before the discovery of Santi Kunj. The Hostels had also the privilege of welcoming and entertaining the German students on a visit to our country on a UN programme.

I. I. T. EMPLOYEES CO-OPERATIVE HOUSING SOCIETY LTD.

The salient feature of the activities of the Institute during the last three years of its existence is the formation of the Indian Institute of Technology Employees Co-operative Buildings Society Limited under the patronage of Dr. A. L. Mudaliar, Chairman of the Board of Governors, and Professor B. Sengupto, Director, I. I. T. The soaring prices of land in the city since 1959 was the prime-mover for the staff to combine themselves to form a Co-operative Society to acquire building sites at fairly reasonable prices. The Society has 74 members on its roll and has entered into negotiations with the Collector of Chingleput, Saidapet for the assignment of government lands to the Society for distribution to its members. The Collector has agreed in principle to the assignment and other formalities are under way.

The proposed land is located at the 11th mile on Velacherry Road near the Christian College. The locality is fast developing with the introduction of electric trains track upto Vilupuram, besides full amenities like school, college, markets etc. already available near the spot.

TECH—OUT

(I. I. T's Outdoor Club)

The Club was formed on October 6, 1961 and enthusiasts were not slacking. It remains for more staff members to interest themselves in our activities, which include, hiking, swimming, rock-climbing, boating, etc.

Our first outing was to the Rock Quarry near Pallavaram Railway Station on a rock-climbing expedition. We met at the rocks at around 8 A.M. and practised a few belays and rappels. A good time was had by all. After a frugal lunch of bread, butter, cheese, hard boiled eggs, more cheese, more bread and butter, sausages and tea we came home tired but happy.

Our second outing was to Elliott's Beach for a swim. Men being men being men we thought perhaps that we would see some women being women on the beach *a la* the Riviera. We saw one, a pregnant shark, dead to boot, being dragged along the sand. She was a beauty. After a good swim in a good sea we came home. If all our outings are as good as the first two, our club should have a great future. It's upto our present Outers to set the traditions for I.I.T. for all time to come!

C. V. S.



INDIAN INSTITUTE OF TECHNOLOGY, MADRAS.

INTER I. I. T. MEET, BOMBAY, 1961-62

Sitting : Left to Right : S. G. Subba Rao, Sri V. Srinivasan, R. Ganesh, Sri S. Padmanabhan, Sri R. Natarajan, Dr. D. Venkateswarlu, Prof. B. Sengupto (Director) S. A. Aleem, J. Dominic, Dr. D. V. Reddy, Sri S. Balakrishnan, George Verghese.

Standing : 1st row : R. K. Verma, V. S. Srivastava, V. Srinivasan, J. C. Kalyan, K. Ramachandra, S. Thangavelu, M. D. Sridhar,

Left to Right : A. C. Raghuram, S. Gopalakrishnan, P. Goswami, G. Srikanth, K. Nayak, Gyanendranath, P. G. Manusmare, G. Padmanabhan, K. Ravichandran, N. P. Rama.

2nd row : R. C. Pahuja, S. S. Chandak, S. Nageshwar, C. L. Chander, K. L. Asnare, A. K. Mehrotra, B. V. Shenoy, J. Ramani, D. K. Lal, D. K. Barde, M. Shivram, C. Krishna, R. C. Pal, E. A. Olia, S. Thanhuna.

3rd row : Chandra Mohan Dass, D. B. Shrestha, B. S. Sudhir Chandra, Sundar Raju, S. Mahendru, V. K. Batra, Chandan Das, L. C. Mudholkar, E. Janardhanam, R. P. Kaushik, M. Chandy, T. K. Ramakrishnan, C. T. Zachariah.

REPORT ON THE INTER-I.I.T. SPORTS MEET

Great enthusiasm and keen anticipation were a glow in all hearts as the Bombay Express steamed through gloomy tunnels and luxuriant fields, approaching Bombay, where the First Inter—I.I.T. Sports and Athletic Meet was to be held. We were the first among the visiting teams to reach Powai followed in the subsequent days by the Kanpur and Kharagpur teams. Spacious and comfortable accommodation, cool and pleasant climate coupled with pleasing food exalted our spirits and hence it was with immense confidence that we took the field against Kharagpur in the opening match in Football. The first few moments told their tale. Being an older and senior institution and having the advantage of a good strength of students to choose their eleven from (not to mention their size!) Kharagpur won over us and went even further to beat Bombay and clinch the Football Trophy.

In Hockey, however, we were fortunate in that we stood third inspite of not losing even a single match. This time it was the spin of the coin that went against us. Bombay won the Trophy and Kharagpur were second. Bombay also won the Table Tennis Trophy while we were the Runners-up.

Kharagpur annexed both Basketball and Volleyball Trophies while Bombay stood second and we third inspite of offering the stiffest resistance in all the competitions.

Coming to the field of athletics, here too we had our glorious moments. Whereas Tanhund of III year annexed the Hammer Throw. Jacob Dominic also of the III year won both the long jump and Hop Step and Jump to emerge as the second best athlete of the Meet. Others to get a place were S. A. Aleem of the II year who stood third in 100 metres, 200 metres and the long jump and Hop Step and Jump, and E.A. Olia, also of the II year, who was third in the 400 metres run. Our relay team stood second and in the overall championship, as if according to seniority, we were third behind Kharagpur and Bombay.

Our display in cultural activities was perhaps the best of all. A special word of praise was showered, by no less a person than the President of the Meet himself for our grand performance in the Hindi Drama "Nawab Sahab".

Too soon to express, the Meet had come and gone, ever to haunt us in our memories for the sportsmanship team-spirit and keen competition it had provided making all happy and proud and embedding deeply into our hearts the spirit to exhibit a much improved display in the none too distant future.

S. A. ALEEM
Sports Secretary.

N. C. C. RIFLES

REPORT FOR THE YEAR 1961-62.

The academic year under report witnessed the formation of an additional Company over and above the one that was in position during the previous year. The strength of the unit was 364 as against 204 of last year. The NCC Schedule consisted of 2 parades of a duration of 1½ hours each every week. I am glad to report that our NCC Stores and outfit have become self-sufficient.

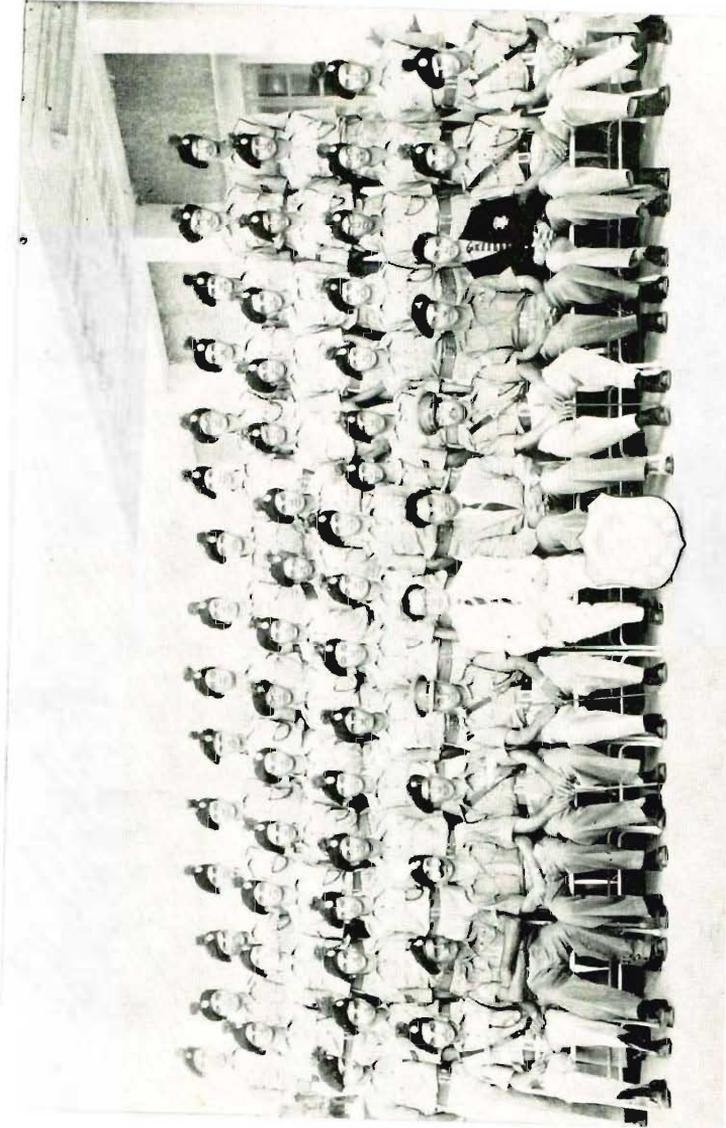
We had the privilege of sending 100 Cadets to participate in the ceremonial parade on the 5th November 1961 at the Marina grounds on the occasion of the 13th Anniversary of the inauguration of the NCC. Dr. A. L. Mudaliar, Vice-Chancellor of University of Madras, took the salute. The parade performance of our Cadets was adjudged as best in the 2 Madras group.

The next milestone to be reached by the NCC Unit during the year was the participation by the Institute in the NCCR Annual Training Camp, at Tiruchirapalli between 27-12-1961 and 9-1-1962 with a contingent of 45 Cadets. The hard work and the disciplined behaviour of our Cadets made a lasting impression on many. To the Institute NCC Unit fell the honour of winning the Rolling Shield for Drill competition. The Quarter Guard of our No. 23 Coy was adjudged the best in the camp. In acknowledgement, the Camp Commandant Maj F. A. Lewin was gracious enough to send out a special letter of appreciation to our Director commending the performance of our Cadets.

Another feather to our cap was added when our Senior Under Officer R. Rajamani was selected to participate in the Republic Day parade at New Delhi on 26-1-1962. This is the first time that our Institute was represented in the State Contingent.

On the 26th of January '62, the Republic Day, a colourful ceremonial parade was held, at our Institute parade ground with 130 cadets participating. The Director, Prof. B. Sengupto, took the salute. He applauded the performance of the young NCC Unit and wished it greater triumphs in the years to follow.

'B' and 'C' Certificate Examinations were held at our parade ground on 4-2-1962. Maj C.L. Fonseca of the First Madras Group presided, The



NCC RIFLES

SHIELD WINNERS AT NCCR CAMP, TRICHINAPALLI-JAN '62.

Sitting from Left to Right

U/O. Basu John Vetteth; HAV Ranganayakulu; HAV Ramditta; JEM Mitranand; 2/Lt. G. V. N. Rayudu; Prof. B. Sengupto, Director; Sri R. Natarajan, I.A.S., Registrar; 2/Lt. P. Radhakrishnan; HAV Raghavan Nair; SUJO R. Rajamani; U/O. D. K. Barde; U/O. Jag Mohan Anand ;—

1st row standing Left to Right

CSM. Chandan Kumar Das; Cpl. V. Sekar; Sgt. N. V. R. Krishnaro; Y.; L/Cpl. Venkataraman Srinivasan; L/Cpl. S. A. Khader; L/Cpl. Naresh Sharma; Cdt. Mallikarjuna Rao, K. Ch.; U/O. V. V. Shrikande; U/O. T. K. Ramakrishnan; U/O. V. K. Batra; L/Cpl. K. Narayanan; Cpl. A. T. Santhanam; Cpl. Venkataraman, B.; L/Cpl. N. Mani; L/Cpl. S. Radhakrishnan; Cdt. Venkataramani, Y.; Cpl. J. D. Sharma;—

2nd row standing Left to Right

Sgt. V. Venugopal; CQMS. Premnath Bhaskaran; L/Cpl. K. S. Subramaniam; L/Cpl. Narayanarao, V.; Cdt. S. Basheer Ahamed; L/Cpl. Vasudevan Srinivasan; Cdt. M. Krishnan; Cdt. T. Suryanarayanan; L/Cpl. Bhagavan Das; Cdt. Balasubramanyam, K.; Cdt. S. Venkataramani; Cdt. Sudarsanam, G.; Cpl. H. B. Fuke; Cpl. M. Krishnamachari;

3rd row standing Left to Right

Cdt. P. K. Krishnakumar; Cdt. L. Sethumadhavan; Cpl. S. C. Malhotra; L/Cpl. C. V. Sahasranaman; Cpl. P. R. Jain; L/Cpl. M. C. Gangwar; Cdt. J. B. S. Katiyar; Cdt. C. K. Gupta; Cdt. Krishnamurthy, M.; L/Cpl. A. K. Nayyar; L/Cpl. V. Ratan Babu; Cdt. Venkateswara Rao, M.; Cdt. S. K. Puri; Cdt. M. M. Gupta; Sgt. R. V. S. Mani.

Board of Examiners had occasion to compliment the Unit on its high standard of discipline and training.

This saga of success would not have been written had it not been for the excellent co-operation that I was lucky to receive from my colleague 2/Lt. P. Radhakrishnan.

I was also lucky to be associated with a devoted band of Under Officers, CSM, CQMS, Sergeants and Cadets. I will be failing in my duty if I do not mention the ready and spontaneous help which our Unit was privileged to receive from our Director Prof. B. Sengupto, Registrar Shri R. Natarajan and our Group Commander Maj P. K. D. Najr.

2/Lt. G. V. N. Rayudu,

(1)	(2)	(3)
	Zeitschrift fur Kristallographic.	1945-58
	Universitas.	1956-58
	Canadian Journal of Physics.	1946-58
4. ELECTRICAL ENGINEERING.		Nil
5. MECHANICAL ENGINEERING.	Proceedings of the Institution of Mechanical Engineers including Automobile Division.	V. 120-149, V. 152-172
6. CIVIL ENGINEERING.	Transactions of the American Society of Civil Engineers.	1950-59
	Structural Engineer.	1955-58
7. CHEMISTRY	Chemical Abstracts.	1907-58
	Transactions of the Faraday Society.	1946-59
	Discussions of the Faraday Society.	1947-59
	Journal of Inorganic and Nuclear Chemistry.	1955-58
	Tetrahedron.	1957-59
	Analytical Chemistry.	1940-59
	5th Decennial Index of Chemical Abstract. 19 V.	13 Vols.
8. CHEMICAL ENGINEERING AND CHEMICAL TECHNOLOGY.	Industrial & Engineering Chemistry.	1909-1958
	Transactions of the Institute of Chemical Engineers.	1923-1958
	Transactions of Indian Institute of Chemical Engineers.	1947-58
	Chemical Age of India,	(except V. 4) V. 4, 7, 8-10
	Transactions of the American Institute of Chemical Engineers.	V. 13-55
	Contd. as Chemical Eng. Progress.	
	Journal of the American Institute of Chemical Engineers.	1955-57
	Chemical Engineering Science.	1951-59
	Journal of Chemical and Engineering data.	V. 1-4
	Petroleum Refiner.	1953-59
	Chemical Engineering.	1950-59
9. METALLURGY		Nil
	Engineering Index.	1941-50, 1954-56
10. HUMANITIES		Nil

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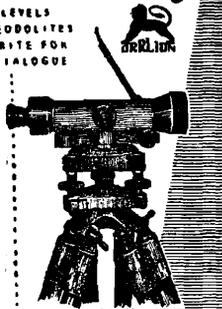
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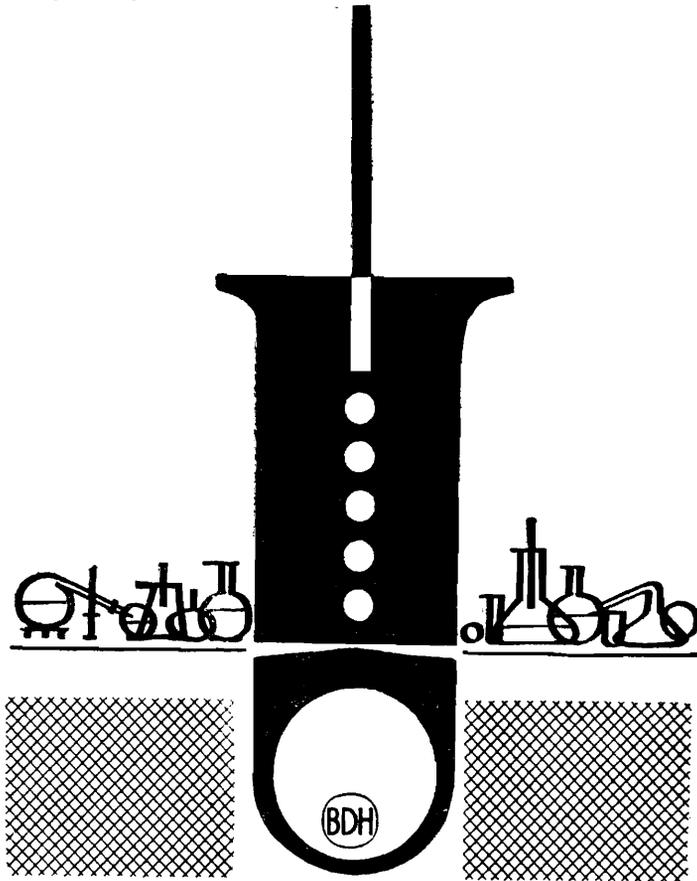
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