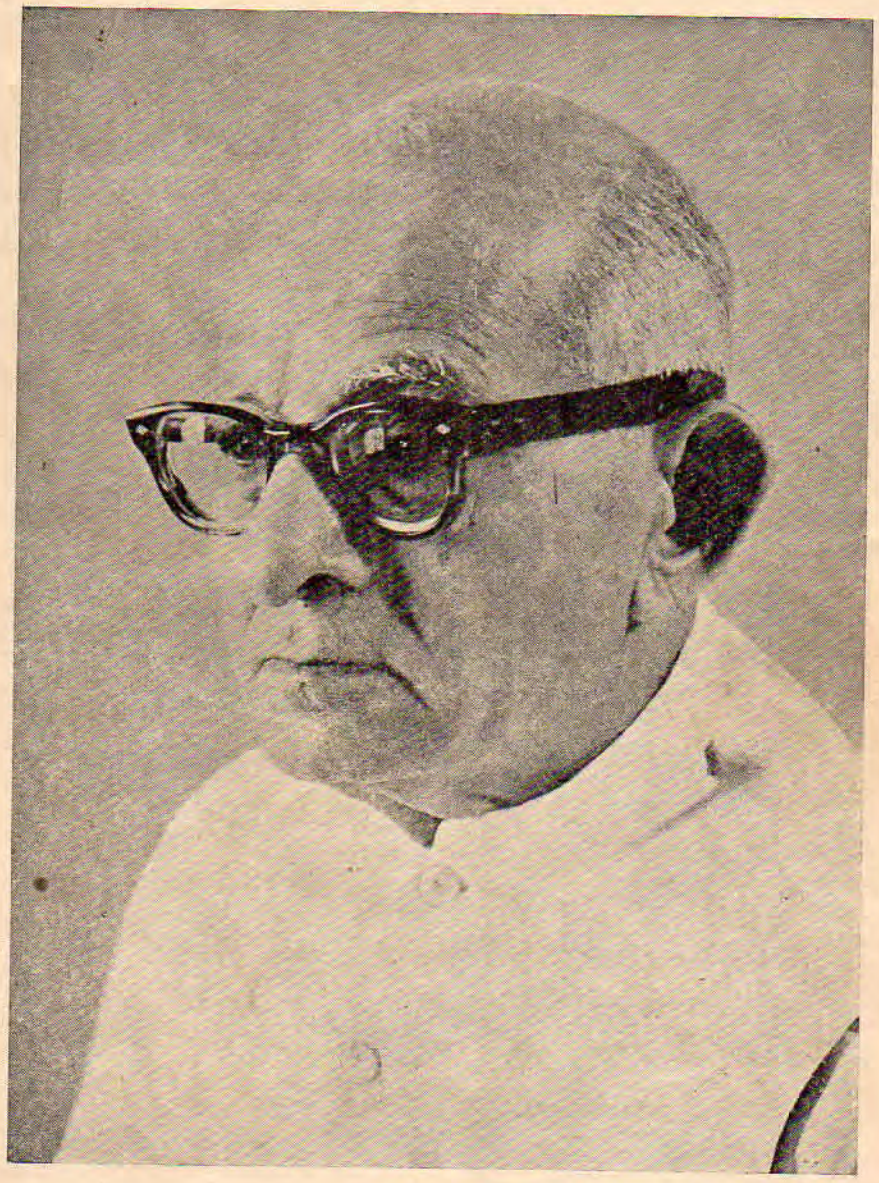


KULAPATIJI

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Our Kulapatiji

"Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time."

—Longfellow

HOW hard it is to think that our beloved Kulapati is no more with us. He has left behind thousands of members of his family—the Bhavan, only to stand as a solitary tower in the realm of God. He was to us a rare gift of God. He can be looked upon as a fragment of the lustre of the Supreme.

"Few of his generation have lived such a purposeful life as Munshiji has done. Few have had the inspiration, the means and the opportunity to convert dreams into realities". He was a fine combination of varied personalities—a scholar, politician, educationist, author, administrator, constitution maker, lawyer, creator renaissance man. There are few such persons, who have reconciled apparently conflicting factors, few who have synthesised the diversities, contradictions and complexities of life, and yet achieved worthwhile results in every field.

His faith in God was absolute. This gave him a rare optimism in the most trying situations. He was firm that the Almighty was instrumental for whatever he did and achieved. The Bhavan itself is God's work according to Munshiji.

The Bhagavad Gita and Patanjali's Yoga Sutra have remained his companions all through his life. Four or five crucial verses of the Gita, gave him the courage and mental peace in the extreme situations. Master-spirits of old, Vasishta, Vishwamitra and Vyas took hold of his imagination. Novels of Alexander Dumas, Sir Walter Scott and Bankimchandra Chattopadhyaya, filled his mind with a sense of adventure in the realm of thought. Biographies like, Abbot's Life of Napolean, the works of Tom Paine, Mazzini, John Stuart Mill, Macaulay and Carlyle inspired him to create great things. This wide reading and the habit of constant writing transformed Kulapatiji into an intellectual. To-day he is one of the outstanding writers in Gujarati and English.

He is the author of over 125 works. These include historical and social novels, prose-poems, plays, short stories, literary studies, translations of outstanding works in other languages. They are written in a masterly style. His 'Kulapati's Letter' in the opening pages of the Bhavan's Journal was informative and interesting feature.

Aurobindo—a master mind, gave Munshiji a new outlook and a fresh inspiration. Mahatma Gandhi was "significant to Munshi more as an apostle of Indian culture, as the embodiment of the collective unconscious of the people" and not as a mere political leader.

"It had been Munshi's mission to contribute in his own way to the vitality of Indian culture in its manifold facets". He had a great reverence for the Vedas. He pointed out that all the schemes necessary for our country's material prosperity and rejuvenation are suggested in the Vedas.

He had the best ideals regarding education. Education, according to him, should follow necessarily the lines of our own culture. Education in India for hundred and fifty years had been "neither Indian nor creative. Even at its best it is not western. It is purely informative and not formative". Creative Education is the most essential for India. Overemphasis on science and technology and neglect of permanent values of life must be avoided. Munshiji wanted the Bhavan to be the instrument of this creative education.

He had been associated with education in many of its aspects. Whenever he had the opportunity to come in contact with the student community, he helped in shaping their thoughts and ideals, sharing their activities and aspirations.

We, the members of the Bhavan's family must remember to live up to the great ideals to which Kulapatiji dedicated his life. Though he is not in our midst any more, the institutions reared by him will continue to inspire us.

May his soul Rest in Peace.

A special meeting of the students and staff of Bhavan's Sardar Patel College of Engineering was held to mourn the sad demise of our beloved Kulapatiji. At this meeting the members of the bereaved Bhavan's family paid homage to our departed Kulapatiji and pledged to work wholeheartedly to the accomplishment of his cherished ideals.



The professor and his wife were returning from the theatre.

"Now who is absent - minded?" he said triumphantly producing two umbrellas from under his arm. "You forgot your umbrella and I remembered not only mine but your's too!"

"But" said his wife. "Neither of us brought one!"



Dr. C. V. RAMAN
(Drawing by P. V. Keni, F.E.)



LALBAHADUR SHASTRI
(Charcoal Drawing: G. B. Nerurkar, F.E.)

SRI C. V. RAMAN

P. V. KENI, F.E. Class

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The Indian Science has lost its doyen in the demise of Dr. C.V. Raman.

Chandrashekhar Venkat Raman was born at Trichinapalli on Nov. 7 1888. Venkat Raman had shown exceptional intellectual powers from the very childhood. He secured the first class first positions in the B.A. and M.A. examination. Passing the Finance Examination with distinction, he was appointed as Deputy Accountant General in the Imperial Government Service.

Raman's interest for Physics was so absorbing that even while holding the responsible post of Deputy Accountant General, he devoted every spare minute in carrying out his investigations in the Indian Institute of Science, Calcutta, (established by Dr. Mahendralal Sarkar). In 1921, he represented Calcutta University at the Congress of Universities held in Oxford.

The University of Calcutta, conferred on him the D.Sc. degree. Later on, he was elected the Fellow of the Royal Society.

Raman immortalized himself in the annals of Science with the discovery of the celebrated effect, known after him as the **'Raman Effect'.** According to this, when monochromatic light passes through a transparent medium, some of the light is scattered. If the spectrum of this scattered light is examined, it is found to contain, apart from light of the original wavelength, weaker lines differing from this by constant amounts. He was awarded the **Nobel Prize** on **Dec. 10 1930** for the above mentioned discovery. In 1931 he was appointed the Director of the Indian Institute of Science, Bangalore.

Other honours won by him were, the Franklin Medal, the International Lenin Prize and the highest national award of 'Bharat Ratna'.

He has also made valuable contribution to other branches of physics. These include, the mathematics of the vibrations of the "Mridangam", properties of diamonds and researches on colour and vision.

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A proud father was talking about the intelligence of his son.

"You know dear", he told his wife, "I think he must have got his brain from me."

"He certainly must have," retorted his wife.

"I've still got mine."

Principal's Report

Honourable Sri Chavan Saheb and Smt. Kusumtai Chavan, Members of the Staff, distinguished Guests, my Young Students, Ladies and Gentlemen,

On the occasion of our Ninth College Day Celebrations, it is a great privilege for me to accord most hearty welcome to you all on behalf of my students, staff and on my own behalf. I am extremely grateful to you Sir for readily accepting our invitation and spared your most valuable time from your many busy engagements.

On such occasions it is customary to introduce the Chief Guest. But the Chief Guest is so well known to you all as our Acting Chief Minister when Hon. V. P. Naik, our Chief Minister was on foreign tour. Sri Chavan Saheb is one of the finest sons of the great land of ours and of Maharashtra in particular. He has taken part as a freedom fighter against the alien rule, when Marathwada a part of Maharashtra State formed a part of the erstwhile Nizam State. He is an able administrator and a scholar. It would be impertinent on my part to say anything more, and would therefore straight give a brief account of our achievements and failures.

You Sir, have been keenly watching the progress of our institution from its very inception and taking keen interest in the welfare of our Bharatiya Vidya Bhavan of which our College, Sardar Patel College of Engineering is a constituent unit. You have extended your helping hand in looking to the welfare of the students and the teaching community.

This Institution came into existence in June 1962, when the University of Bombay granted us affiliation and permission to admit 120 students, 60 for Civil, 30 for Mechanical and 30 for Electrical. The work of constructing this building, which started in the beginning of 1962 has been completed in three phases; the first phase, for an intake of 120 students, which commenced from 1962 and was completed in 1965. The second phase, for the increase in intake (raised from 120 to 180 in June 1964) started from 1965 and was completed in 1967. The third phase commenced from June 1966 with the change over from three to four years course. The construction for this phase was taken up from March this year and is nearing completion.

Sir, our students and staff have undergone great hardships which always confront a new and growing institution. There was the shortage of class rooms, students' common room and staff common room. New laboratories had to be started as a requirement for the four years course, which had to be done at the cost of other facilities. But with the completion of the third phase of construction and equipment, it will be possible for us to provide all the normal facilities, from the new year, January 1971. The total expenditure for the project, including the building and equipment, so far is Rs. 83,08,380/-. This has become possible because of the magnificent grant of Rs. 31,74,140/- by the Government of India, a loan of Rs. 7,96,400/- for the building up of the Hostel and Rs. 19,26,837/- by the Government of Maharashtra.

The College is now fully equipped with all the laboratory requirements stipulated by the University of Bombay, has a well equipped Workshop, Electrical and Electronics Laboratories, the Hydraulics, Public Health, Structural, Concrete and Soil Mechanics Laboratories. The College is yet to develop Control, and I.C. Engines laboratories. We need very badly the Control equipments and Gas Turbine equipments from the U.K. at a cost of Rs. 50,220/- C.I.F. value £ 2511/- for which application has been made to the

Controller of Imports and Exports. We have been informed by the Government of India that import licences are issued only for importing spare parts and not for the purchase of new equipments. We do hope that the Government of India will be pleased to permit us, an educational institution, to import the above mentioned items, since only a microscopic fraction of the value of our total imports is required for the purpose and without these the young students of to-day who have to shoulder the responsibility of bearing the burden of developing this country will not be properly trained to contribute their best.

The modern advances in Science and Technology have imposed a very heavy responsibility on the shoulders of those who are responsible for training young men. In the year 1966, this institution had the privilege of having you Sir, as our Chief Guest and then you had correctly enjoined upon the young engineers and students to study carefully during the days they were in the College and apply their scientific and technical minds to the development of human and material resources. Born as they were during the post independent era, they would be called upon to build on sites which were considered impossible a generation ago. They would be required to supply the developing skill to man the industries and harness power, badly needed for the uplift of the rural population. For this gigantic task they will have to make use of the latest techniques in the development of natural sciences. I pray to the Almighty that He may bestow kindness and glory on the younger generation and give it the necessary strength to prove themselves worthy of the new task ahead. Times are very hard and more difficulties appear on the horizon and stupendous energy is required to face the problems which you Sir, are at present confronted with and the day is not far off when you Sir, with your foresight and perseverance would be able to lead the nation in future. We are living in an age when man is able to control the movements of space vehicles on the moon from the earth and man had landed on the moon. As such it has become necessary to change our educational system. This Sir, we are tackling at the University level. Our old system of engineering education was based on small scale lathes and machines, but our young engineers to-day have to man heavy industries using titanic machines all operated on computers. How can the College get this equipment? It is physically impossible. What we need badly is to transfer our educational system by remodelling it on the sandwich pattern, meaning thereby a close liaison between academicians and industrialists. This will be a break from the past and needs complete overhauling of our old ideas and outlook. We fully realise that this is no small task and it can be done only by close co-operation of all concerned. Our students are looking to you Sir, as the architect of future India, since you are the Minister in charge of Irrigation, Power, Communication and Transport services and can thus claim credit for creating conditions for the full utilisation of man and material resources.

In my report I give a picture of our academic achievements during this year:

Shri A.R. Nene secured the first rank in the B.E. (Civil) Examination of the University of Bombay bagging the James Berkley Gold Medal, the Naegamwala Prize, Principal S.B. Junnarkar Gold Medal and the Rao Bahadur Rajadhyaksha Gold Medal.

Earlier also our College had won the first rank in the University in the B.E. (Civil) Examination. Shri D.N.Lathia had secured the first rank winning James Berkley Gold Medal in 1968. Our student Shri A.R. Nene was awarded the Kulapati's Gold Medal for being the first best student of the College during the year 1969-70. This year as the results of the October Examination are still not out, it has not been possible for the Col-

Class	Appeared	Passed			Total	%	Last years' result %
		I	II	P			
F.E.	203	13	120	4	137	67.5	72.92
S.E. (C)	49	—	22	1	23	47	68.42
S.E. (M)	67	19	39	—	58	86	79.00
S.E. (E)	100	4	66	1	71	71	77.67
T.E. (C)	50	1	27	9	37	74	63.41
T.E. (M)	72	29	37	1	67	93	84.21
T.E. (E)	94	7	69	2	78	83	87.80
B.E. (C)	32	10	15	1	26	81	These are the results
B.E. (M)	63	15	40	—	55	87.3	of the first batch
B.E. (E)	65	18	24	—	42	64.6	since the introduction of the four yrs course.

lege to select the all round student for awarding the Kulapati's Gold Medal.

Shri S.R. Desai won the Theodore Cook Memorial Prize for securing the second highest marks in the University. Shri D.G. Namjoshi was awarded Jamshedji Dorabji Naegamwalla prize for securing the highest marks in Drawing and Project in B.E. (C) in April 1969.

Kulapati's Gold Medals for the year 1970-71 have been awarded to Sri A. R. Nene, Sri B.C. Mehta and to Sri M.B. Rao for their excellent performance at the April '70 Examination. The Silver medals have been bagged by Sri A.Y. Tirodkar, Sri V.S. Kogekar and Sri J. V. Naik.

We have also awarded merit prizes to two students in each class from F.E. to B.E.

This year, the College celebrated the U.N. Day, by arranging a Mock Parliament on 10-12-70. Students and staff came together on a common platform. Principal A.B. Yagnik of Mithibai College of Arts and Science was elected the speaker of the House. The students showed lot of enthusiasm and have requested me to arrange for the second session, in January 1971.

The College participated in the inter Bhavan Sports events, also in the Inter-College Sports meet, in Kho-kho, Kabadi, Badminton, Chess etc. Their performances were exemplary. The students of this College also participated in Elocution Competitions. Sri Deepak Chandavarkar and Sri Girish Vaidya of the S.E. Class have won the shields in the Elocution Competition conducted by R.A. Podar College and the Juhu Junior Jaycee besides winning individual prizes. Sri V.E. Kapadia B.E. (M) stood second in the university Inter-College Chess competition. I wish all of them success and congratulate them for their achievement.

I am highly grateful to the students and staff of my college who have given me their full co-operation, for without it the college would not have achieved those honours. Our Governing Body has passed a resolution congratulating the students and staff for the excellent academic records achieved during the last examination. We have today 786 students on roll and 173 staff members.

I take this opportunity to pray to God to bestow good health and happiness on our Kulapatiji who is entering eighty fourth birth day and our Mummy Smt. Lilavati Munshi. May God give them a long life to guide the destinies of our Institution in the difficult times ahead.

Once again I welcome you Sir, and Smt. Kusumtai for giving us your most valuable time and spend this evening among the young boys and girls, some of whom will join the various departments of the Government in the coming years.

JAI HIND

On Recasting of Technical Education

Principal **R. H. CHOKHAVATIA**
M.E., M.I.E., M.I. Struct. E.

(Contents of the letter dated 19-5-1970, written by Principal R.H. Chokhavatia, conveying his views on the subject to Sri Ram Agarwal of the All-India Manufacturer's Organization.)

I AM thankful to you for your letter No. 7615 dated 5th May, 1970, regarding my views on reorientation of Technical Education. I am glad to furnish my views as under and I hope, this would be of some help in recasting much needed technical education in the country.

1. Technical Education whether degree or diploma has been carried on since independence in the same old colonial ways, which produced the overseers and account-keepers of the former rulers. Hardly anything needed by the country was produced except in a few cases where the Indian giants did produce epoch making results of which the Country is proud. We had the Krishnaraj Sagar and Shiva-samudra power stations in Mysore, Sukkur Barrage in Sind and the Country had Textile, paper, cement and jute industries to a limited extent. We had the steel industry producing hardly a fraction of our needs. We did not have heavy industries, which could be counted upon to build the foundation for a modern country.

2. During the Second and Third Five Year Plans, basis for industrial development in the county was the main objective and this needed engineers and technicians in large number. The technical institutions in the country had a very limited scope of expansion. The Government of India therefore embarked on the large scale expansion of Technical Education. With this there was a phenomenal rise in the number of Engineering Colleges and Polytechnics founded on the pattern of the Old Bombay, Calcutta and Madras Universities, with a few changes made here and there. The content of the course remained almost the same. Those who went abroad and got specialised training got better jobs and were absorbed on lucrative posts in the growing industries which were mostly built on *foreign collaboration*. As industries developed, the technical know—how came from the foreign countries and the institutions of technical education that were being built up did not change the course, content and method of training and were hardly prepared to train the young men to man the industries.

3. This developed the gulf between the training imparted and the training needed for the country. With the shortage of imports and the need to boost exports the economic needs of the Society changed radically and the young men in the country on whom the Government spent crores of rupees were becoming frustrated. Many of them looked to foreign lands for migration to have a decent living.

It is in this background that our education system needs to be recast with the following objectives:

The young man must be prepared to meet the growing needs of the industry and society at different levels we need.

(a) Managers,
(b) Economists,
(c) Foreman,
(d) Engineers—Designers,
(e) Engineers—Research Workers,
(f) Engineers—Executives,

(g) Technicians for (d) (e) and (f),
(h) Artisans skilled,
(i) Clerks & Accountants.

Technical Education has to prepare the above categories of young men and women who would shoulder the responsibilities placed on them by the society.

4. It is difficult and impractical at this stage to break from the present the past, and lay the foundation for the new order as there are many views on this matter although every one agrees upon a need to change and the country can ill afford to take a chance and experiment on wrong tracks. As a practical step, therefore, I suggest that:

(i) The All India Manufacturers' Organisation divides itself into groups (one group for each industry steel, cement, paper, jute, engineering, textile, electronics instruments metallurgical etc.). Each group according to the location of industries, builds up close liaison with the group of Universities and Directorate of Technical Education in that area and chalk out detailed courses both basic and practical and periods for different level of technicians and assist the Universities and Governments in training up young men for the needs of the industries. This type of training is *Sandwich type* suited to Indian conditions and the Government of India Ministry of Education has come forward to encourage this type of training wherever possible.

(ii) Bombay has a wide net-work of highly developed industries, and there should be 3 years diploma course in polytechnics plus an year's industrial training; i.e. a course of 4 years duration. A two years course for skilled artisans. This is done at ITIs. Those who find the course tougher should be given only two years course and trained for craftsman course.

(iii) After Intermediate Science there should be a three years course for Graduates who would do the real execution work, and this category can also be reinforced from more skilled persons in category (ii) above, after a special course of one year. A further two years course for designer and research workers should be built up from among the highly intelligent and brilliant students who would be the back bone of the industry. Different courses could be designed to suit our needs. Every group of industry should take upon itself the responsibility in co-operation with the University to train these categories of young men.

The time has now come when we all should join hands in placing our problems before universities and universities in placing their problems of educating these young men, to meet the growing needs of the industry.

All India Manufacturers' Organisation can play a big role in this connection and help the country in eliminating gradually the brain drain from this country.

5. The Technical Institutions will cooperate with the industries in all possible ways in this national task.

6. Research in Educational Institutions should be based on the problems of industries which should lay the foundation for basic research also.

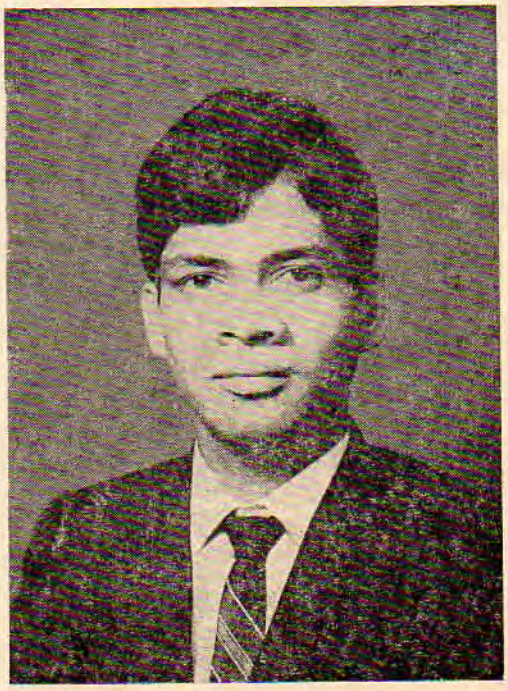
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Principal Sri R. H. Chokhavatia

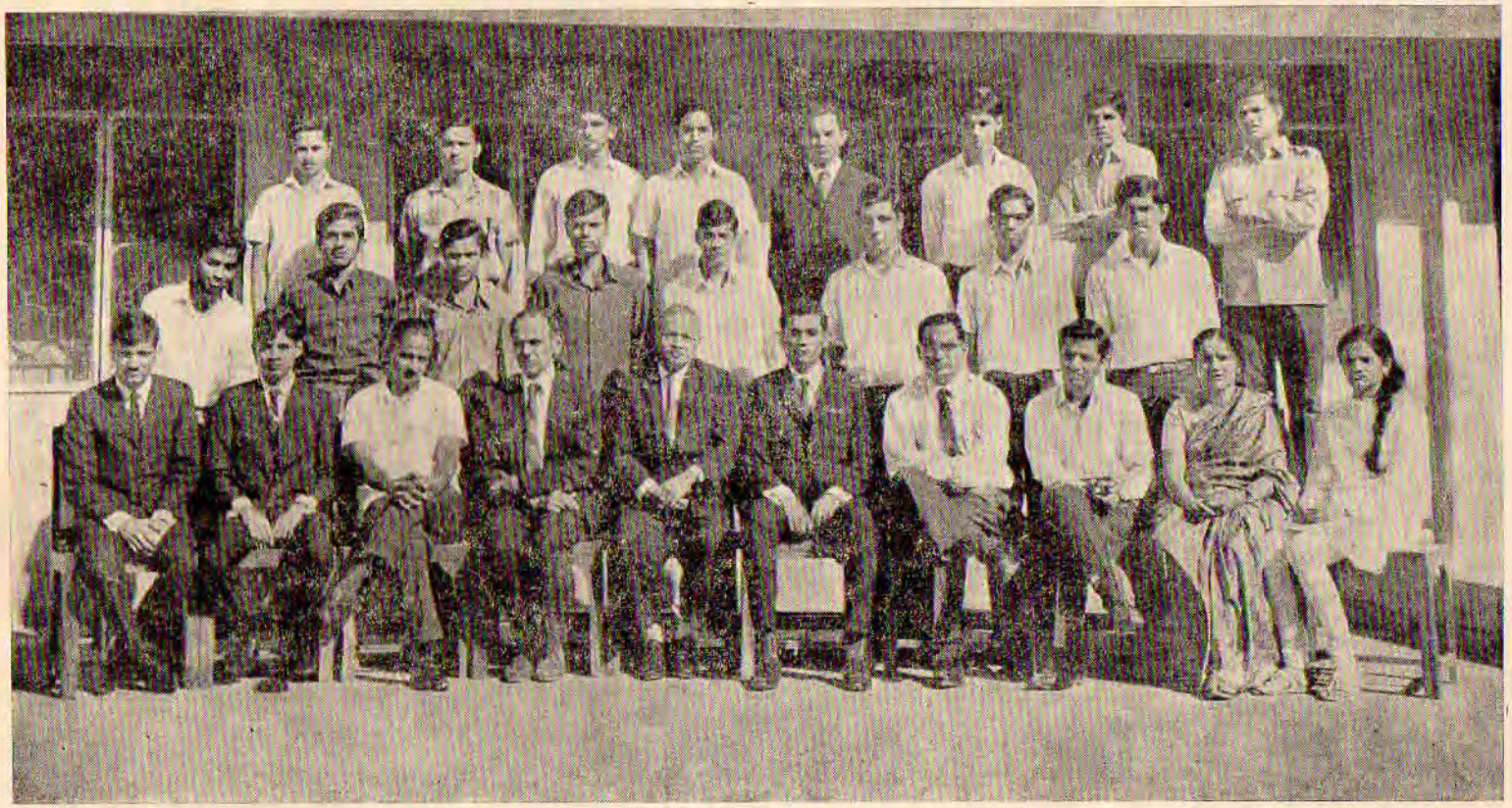


Sri U. J. Badkar
General Secretary 1970-'71



Sri J. S. Parab
Joint Secretary 1970-'71

GYMKHANA COMMITTEE (1970-71)



Politics IN THE LIFE OF STUDENTS

By **BEHL RAMESH, S.E. (E)**

TODAY'S world is a hot bed of politics: as it is, politics has become a striking feature of modern Indian Life. It has entered the world of schools and colleges where it was least expected. It is not certain whether politics is an art or a science. It is however as some say "a very noble and arduous pursuit". But I would define it as "the dirtiest game" ever played in the arena of humanity's welfare.

The students of today are the active citizens of tomorrow. The modern youth is the product of the environments, "social, political" and economic; the student's interest and participation in politics have been steadily growing to a disturbing degree. They have adopted the political weapon of strikes to achieve their ends, which are neither rational nor practicable.

Like Tiger tasting human blood, and not satisfied with animal blood, our young men and women tasted the power of politics in a wrong manner. To them politics means nothing more nor less than the job of defying authority, whether this authority is governmental, parental or academic.

Who did take the leading part in Gandhiji's non-co-operation movement, satyagraha movement, civil disobedience movement. It was chiefly the students, who displayed their courage and self-sacrificing spirits. Gandhiji used students for a noble purpose, for the political emancipation of India from the yoke of British rule and tyranny.

But today the mean political leaders misguide the students by arousing in them the rebellious spirit for destruction and chaos in the country. The wicked brains utilize to their own advantage these human atoms of dynamic energy.

If such full-blooded, full-grown, full-awakened personalities are wrongly handled in any direction, the reaction may not be favourable and help to weaken and degenerate the nation.

Frustration on the other hand plays the greatest role in students—Unrest, indiscipline and crimes. Students get disappointed when their hopes, ambitions and aspirations are not truly awarded and this leads them to use the political weapon to achieve their ends.

As a matter of fact, students have very few grievances, but they have been magnified to unusual dimensions by the political agitations from behind the screen. According to my opinion, the students should not ventilate them in the streets and should see that they are not exploited by outside elements and anti-social forces; It is largely the exploitation which gives a violent turn to student trouble.

Students' actions should be channalised for worthy objectives with some definite purpose. Teachers and Guardians should tackle the students, because they know their psychology best.

It is the character of the guardian at home and of the teacher in the college that really shapes the life and character of the students.

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Can Scientific Advancement Lead To World Peace?

ABRAHAM SAMUEL, T.E. (E)

SCIENTIFIC advancement could not stop the two world wars and its disastrous, ruinous effects. It left in its aftermath, countries wholly or partly obliterated, people became nervous wrecks and in some cases people were disfigured for life by radioactivity. People were killed by the millions, money spent by the millions by countries trying to achieve supremacy.

The world now, in the seventies, is living in an uneasy peace. There are trouble spots in each corner of the world. Vietnam in South-East Asia, Israel and U.A.R. in the West are the two main trouble spots. But there is also sporadic fighting on the Russia-China border, two of the biggest powers today and even the Indo-Pakistan border trouble has not been solved yet and is liable to erupt into a confrontation at any time.

Each country is trying to become nuclear. Even India has tried to become nuclear, the superfluous excuse being, to be able to use it as a deterrent to other countries. Soon all countries, however small they be, will try to become nuclear, so as be able to defend themselves and become self-reliant. This may seem to be a good idea and good psychology; but just imagine the tension between two nuclear, lukewarm neighbours, each neighbour worrying who will be the first target! This will trigger off petty quarrels, suspicion, hostility and may finally result in a clash.

Thus it is advisable that all countries, especially the "Big Five" powers, get together and devise some plan for disarmament. In the past there have been such talks, resulting in organisations like SALT—Strategic Aims Limitation Talks. But so far it has been of no avail, with the major powers not willing to take a definite stand, thinking that if they forfeit their nuclear weapons, they may not be considered major powers any more. Political haggling and inconsistency at high levels also minimise chances of disarmament taking place.

But this is vital, since any further world war will totally destroy and anhiliate the whole world, with the mass destructive weapons now in man's hands, each capable of reducing a big city to ashes. Perhaps it is this fear that prevents the Big powers from resorting to the use of nuclear weapons uptil now.

But many events take place behind the scenes, events which the general public does not hear or read about or even if they do come to know about it, cannot read between the lines or fail to attach significance to it. There are situations where countries fight each other, the difference being that these fights are not physical wars, but shrewd, tactical battles, each country trying to oust the other to gain supremacy and become omnipotent in their sphere. This has led to the cold war in Europe. After the Second World War, Russia, America, France and England were each trying to dominate war ravaged countries like Germany, Poland, Czechoslovakia etc. to gain supremacy in Europe.

Russia is still trying to further their gospel of Communism in Europe. It has tried and partly succeeded in brainwashing Czechoslovakia, Yugoslavia, Poland, Hungary and keeping them as buffer states, to be used when required. This is a cold, calculating, sometimes an even brutal and ruthless game between the brains of the big powers.

Scientific advancement has led America to the moon. Russia is not far behind. Each Apollo mission costs about a billion dollars.

But there is no peace inside America. Racial conflict has cast a swear on America. Even there in America, people live in gheltoes with the barest minimum of necessities, while others live luxuriously. Science has not taught man to consider his fellow human beings. True, great strides have been made in medicine, but this has been counterbalanced by the fanatical attention paid to increase arms production and to accumulate wealth.

There are many under-developed countries and countries just developing. There will be no peace if the rich countries neglect the wants of these countries but decide to go ahead and try to go to Mars and Venus, thus wasting man power and money. Manoeuvering tactics used to gain power on land and sea should be given up and nations try to live peacefully. Science should not be made the master of man but used as a tool to serve mankind.

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IS CHANGE OVER IN UNIVERSITY MEDIUM OF INSTRUCTION NECESSARY?

To-day majority of the students are against the idea of changing the university medium of instruction from English to Regional language. Because, by doing so they think that they are being imprisoned within the narrow boundries of their native states and forced to fight for pretty jobs. Here I leave you with the actions and reactions of the same and it is up to you to justify this challenging problem.

—S. T. DOHADWALA
S.E. (Civil).

DR. RAO, the union minister for Education and Youth Services, reiterated in the Lok Sabha on May 13, 1970, the Government's declared policy of progressively switching over to regional languages as media of instruction in Indian Universities, without of course affecting the standards. While agreeing to replace English by the regional languages as the media of instruction, he strongly opposed the demand for banishing English altogether from the country. In the context of pointing out that the pace of progress, on this switch-over varied from university to university, depending upon the enthusiasm shown in particular Universities and the resources they have been able to mobilise, the Union Education Minister mentioned that over the last few years 53 Universities out of a total of 72, had adopted the regional language as the medium for one subject or the other.

We do not dispute the statistics. The statistics may be correct and what is more, they might seem quite impressive also. But the fact is that this is only one side of the coin. When we turn the coin around and have a look at the picture on the other side, it tells a different story. Unfortunately, none seems to have bothered to collect the statistics of the situation. Although, nearly 74% of the Universities have provided facilities, at so much of cost to the tax-payer, for instruction in the regional media, hardly a handful of the two and a half million university students have opted for pursuing their studies through the regional media. This situation persists in spite of the many incentives that have been promised by the various State Governments. What is more, the number of students who are opting for instruction in the regional media is dwindling day by day. In addition, there are also quite a few instances where the students after pursuing their studies for a year through the regional media have strongly agitated in the second year with the demand that they should be allowed to change over to the English medium. When we are wedded to democracy, when we set so much value to majority opinion, when the students, practically one and all, are so much opposed to the regional media and at a time when their minds are so much exercised with so many other issues, we are duty bound to respect the popular demand and bow to the wishes of the majority of those who are vitally affected.

Because of the English medium many of our students are able to pursue readily and easily and advantageously their studies in foreign countries and bring glory to themselves and to the motherland. If we act in haste, if we ignore the wishes of the students, if we deny the opportunity to our students to extend the horizon of their knowledge, we will be inflicting incalculable as

well as irredeemable injury to our country as a whole and to its youth in particular.

The woeful shortage of textbooks and absence of competent teachers to impart instruction at the university level in regional media are only too well known. In spite of all the talk and the statistics, precious little appears to have been done to fill this great void. While the Government contemplates a "very big programme" of translation, in the Fourth Plan, the University Grants Commission proposes to institute about one hundred senior fellowships purely for translation of major books. The candidates will be awarded M.Litt. or Ph.D. for their work and later absorbed in the colleges as lecturers. It may therefore be a long time, before up-to-date and quality sets of books on various topics become available. Since a good translator may not necessarily also turn out to be a good lecturer or teacher, we do not know how long it would take to obtain competent teachers.

We must therefore stop and ponder for a second before we rush headlong towards the phobia of instruction through regional media at the university level. Instead of being guided by our sentiments and emotions, let us be bold and wise enough to tackle this very vital issue objectively and dispassionately. English today gives to our youth the freedom of movement, scope for action and unlimited opportunities not only in India but also in all the other advanced countries of the world. It opens before their eyes the gates of contemporary science and technology, including such fields like medicine, surgery, nuclear science, rocketry and space technology. Let us not deny them this great liberty, freedom and opportunity to study according to their capacity and aptitudes, as they want and how they want. Let us not commit the unpardonable sin of making them frogs in wells, imprisonning them within the narrow boundries of their native states and force them to fight for pretty jobs.

For her very existence and to preserve her precious independence, then to progress and finally to become a major world power, India needs desperately great scientists and technologist, more urgently now than ever before. It is our duty to see that congenial conditions to promote their numbers exist.



TENDER NOTICE

T. E. CIVIL CLASS OF
★ ★ ★ ★ COLLEGE OF ENGINEERING
BOMBAY ??

Sealed item rate tenders for "writing journals and preparing drawing sheets" are invited preferably from past students of this college who are yet not employed any where.

The brief description of the work is as follows:

Sr. No.	Subject	Approx. pages or Sheets	No. of copies to be prepared
1.	Theory of Structures (drawing sheets.)	5	43
2.	Foundation Engg. (Journal.) ..	50	43
3.	Hydraulic Machinery (Journal)	60	43
4.	Building drawing & design (sheets)	5	43
5.	Surveying (sheets)	2	43

Tender forms can be had from the college office on payment of Rs. 5/- (not refundable) in cash or by money order, during office hours.

The tenderers will be shown old journals and drawings on their demand. Successful tenderer will have to pay security deposit 10% of the estimated cost, before starting the work and he will have to complete the work strictly before 15 March 1971. He will be supplied with literature for journals, observations of various experiments, figures and data for drawing sheets. G.T. should be undetectable.

The tenders along with the earnest money (5% of the cost estimated by tenderer) will be received upto 16.00 hours on 15-1-71 and will be opened on the same day at 17.00 hours in the presence of such tenderers who desire to remain present.

The Junior Engineer does not bind himself to accept the lowest or any tender or part thereof and also reserves the right for rejecting any or all tender without assigning any reasons thereof.

Sd/- *Vijay Churi,*

Junior Engineer.

Earth Satellites and Re-Entry Problem

By R. VEERARAGHAVAN, S.E. (E)

"SPACE Technology", as the name implies, is a branch of Engineering, which mainly deals with the design, development and construction of Space Vehicles such as rockets, and also with the means of control and navigation, problem of communication and the re-entry of the Space Vehicles into the atmosphere surrounding the earth. The whole field of Space Technology is an ocean by itself. Hence we shall deal with a brief review of a part of this subject, namely the problem of re-entry.

There are two types of re-entry. (1) Grazing re-entry. (2) Precipitated re-entry. In Grazing re-entry the satellite performs several circuits, is gradually slowed down as it comes in contact with the atmosphere and finally falls to the earth. The time taken for such an entry cannot be determined. It can either be a few hours or even a few centuries. In precipitated re-entry the orbit is deliberately altered sufficiently, so as to bring the vehicle to the earth's surface before another circuit can be completed.

At the time of re-entry, the vehicle has to be deelevated to a certain extent and it has to be controlled. This can be done by increasing the time element involved in the slowing down process. This prolongation of the slowing down process also helps in correcting the flight path and landing in a predetermined area.

There are two types of vehicles. Lifting type, and non-lifting type. The employment of the former enables the deceleration to be limited and controlled. The design and operation of such a spacecraft presents many difficulties. The re-entry of non-lifting vehicle follows an inevitable and easily forecast pattern. This type of vehicle is also known as a Ballastic re-entry type.

In Ballastic grazing re-entry, the deceleration during descent will rise to 8 g (g-gravitational force of earth) in the final plunge to the earth.

During the many orbits there is appreciable aerodynamic drag near the perigee only. But even this provides a tiny fraction of 'g' by way of deceleration. Because of this the apogee of the orbit is progressively reduced in height—the orbit contracts, becomes less eccentric until re-entry is imminent. At the time of re-entry when the deceleration is 8 g, the aerodynamic drag reduces the speed of the vehicle from 8 km./sec. to $3\frac{1}{2}$ km./sec. This change in speed gives rise to the loss in Kinetic energy, which appears in the form of intense heat, which surrounds the vehicle. This is known as aerodynamic heating. The rate of heating itself can be controlled by adjusting the mass to surface area ratio (m/S ratio) of the vehicle. If the vehicle radiates at the same rate at which it absorbs the heat the m/S ratio can be reduced by increasing the surface area of the vehicle. But in the case of the vehicles which are designed to absorb all the heat, however rapidly it comes, the m/S ratio is increased.

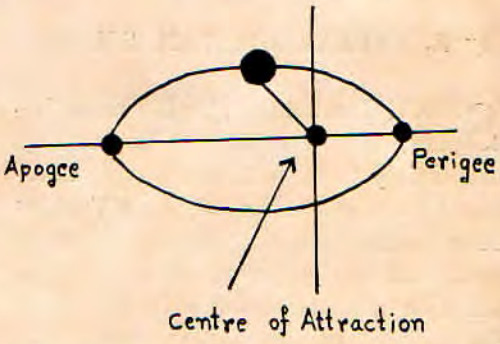
Present-day practice apparently favours absorption 'cooling'. The inner layer of the vehicle is made of a good insulator while the outer layer gets hot—very hot, and melts away exposing fresh, cold, absorbent layer. Alternatively a metallic conductor could be used as heat shield, like beryllium. In this case temperature distribution will be uniform over its thickness, but the conductor should have sufficient thermal capacity, not to get too hot so that it would melt. This concept is known as heat-Sink concept. Of course the interior layer should be insulated

to avoid the pay load becoming the part of the Sink.

Even at the first contact with the atmosphere 30% of the total heat is generated because of friction. In the case of precipitated re-entry from an orbit of high energy, the loss in kinetic energy is correspondingly larger. The time scale of retardation process is quickened due to the steeper angle of decent into the effective atmosphere. The rate of heat transfer is also increased.

Re-entry angle: The steepness of the re-entry is also known as re-entry angle. The re-entry angle is defined in many ways. But for steep precipitated descents it hardly matters how the re-entry angle is defined. Since through out the retardation process there is very little change in inclination of the path. For steep descents the path can be assumed to be rectilinear during the period of deceleration which leads to the result that the maximum retardation occurs at 0.6 of the re-entry speed (V) and amounts to $\frac{V^2 \sin\theta}{2\varrho H}$ where θ is the re-entry angle. For descent from a close orbit this works out as about 3g per degree of re-entry angle. Hence the angles larger than 6° would evidently be dangerous for manned vehicles.

The retardation (and also rate of heating) for steep descents will be seen to rise with increased orbital energy and for precipitated re-entry from parabolic orbits; [(where $V^2 \sim 2gR$)—R is the radius of the earth] The re-entry angle would have to be kept below 3° if the vehicle were to be manned.



Employment of retro-rockets helps in the modification of the orbits. Usually vehicles from high energy orbits are brought to close orbits with the help of retro-rocket impulse.

As such Re-entry is one of the major problems which faces the Technologists and even a small error in the calculation of the re-entry angle, speed, state of the atmosphere during re-entry, variation of the drag coefficient or the delay in timing the retro-rocket impulse could build up into an error in line of several miles.

ANNUAL DAY CELEBRATIONS



Prayer

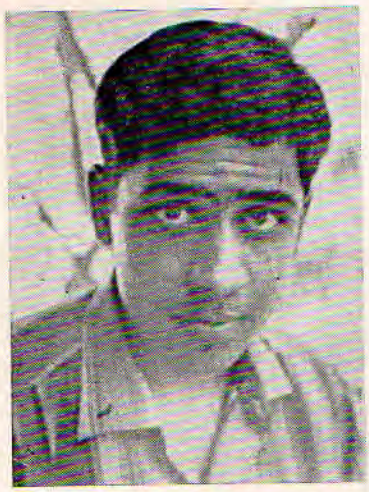


Principal presents the report for 1970-71

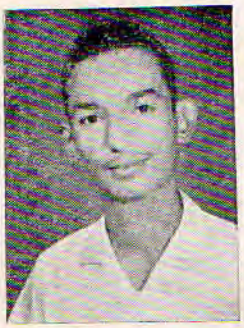
OUR DISTINGUISHED STUDENTS



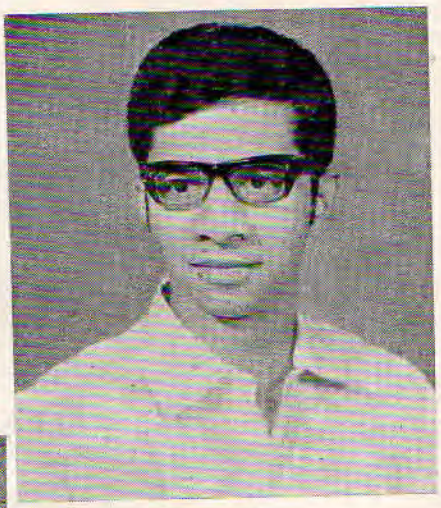
Sri S. V. Gogate
The Best All-Round Student



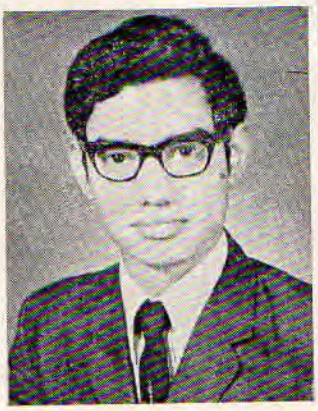
Sri D. M. Chandvadkar
Best Student: Consolation Prize



V. R. Nadkarni
Elocution and Debate



Sri G. G. Vaidya
Elocution and Debating



Sri P. B. Kadakia
Best Secretary Award

"Solar Distillation"

Sri. D. D. DESAI,
M.E. Civil (Public Health), B'bay.
A.M.I.E. (India)
M.I.A.W. & W.P.C. (India)
Lecturer in Civil Engg.

BOMBAY city with its suburbs has become an overpopulated area. The water shortages exist now in some parts of the city and more serious shortages are projected for the near future. Many localities are forced to impose restrictions on the use of water when rainfall is only slightly below normal. The demand for fresh water would go on increasing because of the ever increasing population, industrial and agricultural activities.

The city Engineers are ever busy developing and augmenting the present water supply situation. The upper Vaitarna, the Bhatsai, the Ulhas and Kalu river pollution studies and many other water supply augmenting schemes are under consideration, some of which have shown rapid progress. At present the city population is getting water from five major lakes namely, Vaitarna, Tansa, Vihar, Tulsi and Powai. Serious thoughts have now been given to the desalination of sea water. In this article some of the fundamental principles and aspects of Solar distillation have been discussed from the point of view of general interest.

There are many ways to produce fresh water from saline sources; but to do it at low cost is extremely difficult. The commercial price of fresh water should be generally very low. Several factors influence the cost of water produced by desalting plants, including the size of the plant, the cost of energy, and the concentration of salt in the saline water. The cost of desalination chiefly depends upon the cost of energy.

Bombay with its suburbs is covered on all sides by saline sea waters; it is obvious that some of the water shortages could be eliminated by development of effective means of obtaining fresh water from sea. The solar distillation, in the present day practice has been found to be common in towns, villages, small communities and isolated dwellings in areas such as around much of the Mediterranean sea, the north-west and north-east African coast, the shores of the Red Sea and the Persian Gulf, parts of the Australian coast, the west coast of central and south America, the north-east coast of Brazil, and numerous small islands throughout the world. The system of solar distillation does not require skilled labour for construction and operation and has high distiller capacity, hence it is particularly suitable for developing countries where fresh water scarcity is often experienced due to high water demand.

The Sun as an Energy Source:

The solar energy is available free and it eliminates the entire cost of energy. In solar distillation process, the prime cost is only that of the equipment required for converting the radiant energy into forms useful for desalination.

Solar radiation is an intermittent, low-intensity, abundant source of energy. Most of the inhabited parts of the world experience average daily radiation levels in the range of a few hundred to about 2500 Btu/ft^2. Nearly 65 billion Btu are received by one square mile of land on a sunny summer day, roughly equivalent to the recoverable energy in 15,000 barrels of petroleum!

Theoretically, solar energy can be used for any process which requires heat or motive power. Thus, it is equivalent to coal, as far as its capabilities are concerned. It

can be converted to heat at low temperature or high temperatures by direct absorption or by absorption after focusing, and the resulting heat can be used directly or converted to electrical energy by use of heat engines; electricity can also be generated by thermoelectric or photovoltaic devices. The economies of solar energy use can be advocated by comparing the cost of providing a certain quantity of heat at a given temperature by conventional methods.

Solar energy may be used to generate heat or power which can then be used for operating any desalination process, or it may be employed directly for distillation of saline water in equipment which serves both as a solar energy absorber and as a distiller.

The solar distillation process makes use of the fact that water will evaporate from a free surface, even though the water is at a temperature below its boiling point. The solar-distillation and process are extremely simple. There is no moving equipment; there are no high or low pressures in the system, and the plant is substantially self-operating.

The rate of evaporation of the water depends on the temperature of the water and the relative humidity in the space above the free surface of the water. The conversion process takes place in an apparatus called a solar still. The sun's rays pass through the glass top without giving up any significant amount of energy. The sun's energy is absorbed by the black surface on the bottom of the still. The temperature of the water in contact with the heated black surface increases, and the water evaporates.

Because the glass top of the solar still is not heated by the sun's rays as much as the black surface, the temperature of the top remains lower than that of the vapour. Because of this temperature difference, the water vapour that comes in contact with the top condenses and runs down into the collecting trough. As some of the vapour is removed from the space above the water surface by condensation, the relative humidity decreases, tending to increase the rate of evaporation (Ref. Fig.).

The efficiency of the solar distillation system depends upon a number of factors. The conversion rate depends on the intensity of the sun's rays, which varies according to geographical location, time of year, and the extent of cloudiness, fog, or haze. The rates of evaporation vary with the temperature, wind speed, barometric pressure, and water quality. Rates of evaporation are decreased slightly when salt concentrations are high. As pressures drop, evaporation rises, but altitude has little effect because of counterbalancing changes in temperature. Fast rates of evaporation at high altitudes are caused by greater wind velocities.

The latitude of Bombay city is 18° 54′ N and the altitude is 7 m. above M.S.L. The mean temperature that prevails during the month of January in Bombay is 23.8°C. The corresponding figures for the months of May, August and November are 29.6°C, 26.9°C and 27.2°C respectively. The velocity of wind in Bombay that prevails during January has been observed to be 10.62 Kms. per hour, the corresponding mean values for the months of May, August and November have been found to be 10.78 Kms. per hour, 15.93 Kms./hr., and 10.14 Kms./hr. The sky clearance factor, that is number of sunny days on percentage basis, for Bombay has been observed for the month of January as 83%. The corresponding figures for the months of May, August and November have been found to be 65%, 16% and 68%, respectively.

Hence, from the above stated characteristics it can be said that the solar distillation system for obtaining fresh water from the saline sea water that cover the Bombay region from all sides, can prove to be the most ideal and economical system for the city population.

The solar distillation system is yet in the experimental stage. Several types of direct solar stills have been designed and constructed in various parts of the world. In order to ascertain the performance of solar distillers several experiments have been carried out. A number of variables like solar radiation input, water distillation rate, atmospheric temperature, wind velocity, basin temperature, cover temperature, water-supply temperature, temperature at various positions in the ground under the distillers, heat-flow rate into the ground, temperature variation in the salt-water pool and in the vapour space, and reflected solar energy from the water surface and the cover surface, have been measured and correlated to evaluate the cheapest solar distiller system.

It has been observed that a distiller with bottom insulation and only an inch or two of brine will start producing water shortly (less than an hour) after sunrise and will cease distilling a short time after sunset, when brine temperature decreases to a value equal to cover temperature. Reducing the water depth from 1 ft. to 6 inches raises the productivity approximately by 8%, whereas a reduction from 6″ to 2″ increases the output by another 25%. The system of solar distillation can further be advocated for Bombay region, because of the larger durations of possible sunshine hours on horizontal surfaces. Such duration has been observed to be maximum on 22nd June as 13H-18M. The sunshine hours on 21st March and 23rd September have been observed as 12H-06M, with the value on 22nd December as 10H-58M.

The most common types of Direct solar stills used in the present day practice throughout the world are Glass-Covered Basin distillers, Large Plastic Covered stills, Small Semiportable glass distillers, Tilted wick stills, Multiple-Ledge tilted stills and Expendable all-plastic stills. The Tilted wick stills are useful at locations other than the Equator, because at such places a horizontal surface intercepts less solar radiation. The more nearly perpendicular is the solar still to the sun's rays, the greater is the radiation intercepted by a unit area.

It has been evaluated from experimental studies that a Glass-Covered basin distiller can produce about 0.12 gallon at a maximum summer radiation (in the southern U.S.) of about 2500 Btu/ft^2. Similar results have been obtained in case of Multiple-Ledge tilted stills, such stills can provide potable water for individual households supplied by brackish sources. Several research problems have been undertaken by western countries in order to evaluate the most economical system of solar distillation.

The geographical location of our country is such that it is covered on three sides with saline sea waters. The Arabian sea on the west, the Hindu Maha Sagar on the south and the Bay of Bengal on the East side, covers about three fourths of the geographical boundary of the country. Hence, the solar distillation system can very well be adopted in India. The system can further be advocated for the southern part of the country because the rivers of the south are generally non-perennial, running almost dry or with a very meagre flow during the hot weather. It can be said that the solar distillation system, if adopted in the south, would certainly augment the tube well supplies of the south. In India the solar distillation system can very well be adopted in places like Calcutta, Jamshedpur, Visakhapatnam, Mysore, Banglore, Madras, Trivandrum, Madurai, Cochin, Coimbatore, Surat, Ahmedabad, Belgaum, Ratnagiri, Bombay, etc., since some of the places are having very high population density and are situated along or in the vicinity of the coast line.

The water problem of Bombay can be easily tackled by supplying sea water for purposes other than drinking and cooking. The water required for drinking and cook-

ing can be obtained by the solar distillation of saline waters. Every individual house or isolated community can have its own solar distillation plants, either on small or on a large scale. It has been observed that the saline waters are highly corrosive, which requires a very careful consideration in selecting the materials to be used for plumbing fixtures. Generally, corrosion resistant materials should be selected.

We are passing through the stage of green revolution. In Bombay almost all residential buildings are having terrace gardens; this adds to the beauty. The water required for these gardens can be naturally obtained from a solar still, installed on the terrace. The size of the solar still to be provided depends upon the quantity of water required. Thus, even during the worst water crisis, the plants could be kept green.

Lastly, the solar distillation system is in the experimental stages and the economy of this water resource has yet to be properly studied in India. It is yet to be precisely evaluated, whether the system is economically feasible, physically possible and structurally permissible in India or not; and it is a vital research problem to be tackled.

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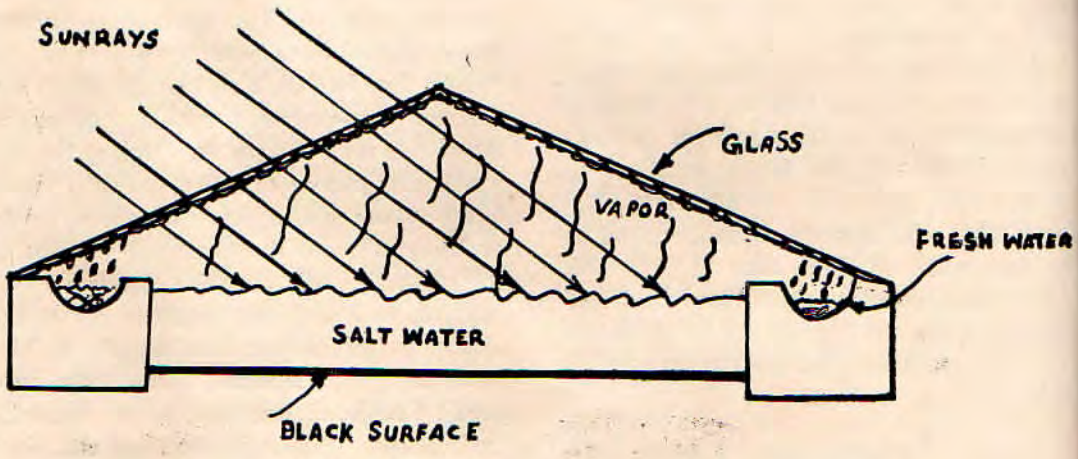


FIG. A SIMPLE SOLAR STILL

MIG-21

A RIGHT SELECTION?

BAKUL H. KHARA, T.E.(C.)

THE first MIG-21 produced from indigenous raw materials at the HAL factory (Nasik) was handed over to the Indian Air Force on 20th October, 1970. Our government has been praising this aircraft and succeeded in creating an impression to the public that everything with the MIG programme is well and nobody had raised a voice against it. But Dr. J.P. Chawla [former Director of Technical Development and production (Air) in the Defence Ministry] said in an interview with the Indian Express (on 28-4-70) that the selection of MIG aircraft by the Defence Ministry was not a proper decision, as the aircraft had a restricted capability and was developed only as a fair weather tactical fighter for operations in Eastern Europe.

If we take little pains to examine MIG-21 in some detail, we will surely find his statement believable. Unfortunately nothing much has been released by official sources on MIG-21. Hence we have to base our study on unofficial reports only. The MIG-21 is a single seat delta wing supersonic fighter, powered by one TDR MK R37F turbojet engine which provides a thrust of about 10,000 lb. and 13,000 lb. with reheat. The first MIG-21 (prototype) is believed to have been flown in the year 1955 and became operational a few years later. It can attain a maximum speed of about 1,450 miles/hour at an altitude of 36,000 ft. without external stores (in the clean configuration). The first shortcoming of MIG-21 is its range. Due to its limited radius of action, it cannot be deployed too far from its base. The second drawback is its low load carrying capacity. Its weapon arsenal contains only two air-to-air Attol missiles which are meant to be used against enemy aircraft. Hence MIG-21 is purely a defensive aircraft suited only for the role of interception.

One will be surprised to note that cannon armament has been removed altogether from MIG-21 Fishbed-D (the version which is being manufactured in India). It depends entirely on missile armament for destruction of enemy aircrafts. It can carry two Attol homing (passive) missiles. These missiles seek infra-red radiation (which are emitted from exhaust gases of aircraft engines) and is thus guided to the target. These Attols are similar to American Sidewinders which were used by Pakistani Sabres F-86 and Starfighters F-104 against Indian aircrafts in the 1965 war.

Unfortunately these missiles are not reliable and do not guarantee the hit everytime. At low altitude, they are least effective and often turn towards some heat emitting source on the ground. Again in the close range combat they are not much effective and can be evaded by skilful manouev-

res. In the 1965 war, our pilots had proved that it was possible to escape such missiles (Sidewinders) and divert them to sun by skilful manouevres.

It will be much interesting to note the experience of America (USA) in this field. America completely relied on missiles and built their Voodoo F-101, Delta Dagger F-102, Delta Dart F-106, Phantom F-4 etc. fighters without any cannon. But pilots fighting in Vietnam reported that much reliance on missiles sometimes proved to be suicidal. And once the missiles are exhausted, the aircraft becomes unarmed which proves an easy prey for enemy. These experiences again established the importance of cannons and America started to reintroduce cannon in the later version of Phantoms. Provision has been made for one cannon in Naval Fighter F-14 which is still in a design state and expected to be operational by 1974. Only future can tell us about the consequences of the absence of cannon in MIG-21.

In 1965, was the time to test the performance and ability of MIG-21. There are miscellaneous reports about the use of MIGs in that war. Some reports say we kept MIG-21 in reserve and did not use them in the war. Other reports say MIG-21 never came across Starfighters. Whereas reports which denied the destruction of MIGs by PAF, said that IAF started operations with nine MIGs and was prepared to show eight of them at the end of the operations. Unfortunately we never knew the results of these operations which make us bit suspicious about the ability and performance of the MIGs.

Moreover, one hesitates to consider MIG-21 as an advanced and modern aircraft since the aerodynamic design of MIG-21 is more than 15 years old. Of course some improvements were made in the version which is produced in India. We decided to manufacture this aircraft in our country in 1963. And we started to work on this project at such a slow speed that we are getting the first indigenous MIG this year. How old the design will be when we will complete the manufacture of MIGs! It is feared that by that time, the aircraft will be nearly obsolete.

Seeing the importance of MIG-21 in our defence system, one is tempted to ask our government some of the following questions.

(1) Was MIG-21 selected after thorough examinations and due considerations Or had we to hurry under political influence and pressure? Was IAF given chance and enough time to select and examine the aircraft?

(2) Was it advisable and profitable to split MIG complex into Nasik, Hyderabad and Koraput divisions; located too far from each other?

(3) Does MIG project work according to time-table or lagging behind the schedule? If it is progressing according to the schedule, why we set such a time-table that we get the first indigenous MIG this year i.e. after seven years of work on the same project!

(4) Is it true that we could get French Dassault Mirage, British BAC Lightning and Swedish SAAB Draken? Why were their offers not accepted? All of them are having Mach 2 capability and besides the role of interception, they can also fulfil our requirements of attack-aircrafts to some extent. How are MIGs better than these aircrafts?

(5) What does a MIG-21 aircraft cost us? Are they cheaper by way of their performance compared to foreign aircrafts of the same class? Or is this project costly like other public sectors?

(6) What is the future of MIG complex after completion of the present order of MIG-21? Is it possible to utilize these factories for other aircrafts of Indian or Foreign

designs? Or shall we have to produce whatever Russian government will find to suit us?

It is believed that we are going to manufacture about 350 such aircrafts and our whole fleet of interceptors will be equipped with this type of aircraft. Hence MIG-21 shall have complete responsibility of aerial defence (with surface-to-air missiles) of India. The Government should answer these questions which are vital to our defence. This will be definitely in 'the public interests' and not vice versa as often stated by our Defence Minister.

Some MIG-21 characteristics:
Country of Origin:—U.S.S.R.
NATO Code Name:—Fishbed.
Type:—Single seat interceptor fighter.
Length:—49 ft.
Span:—25 ft.
Height:—15 ft.
Wing area:—250 sq. ft.
Maximum Speed:—1,450 m.p.h. (Mach. 2.2) at 36,000 ft. without external stores.

Radius of Action:—About 400 miles.
Weight:—19,500 lb. max. loaded.

Armament:—Two air-to-air Atoll missile or 32 55 mm unguided rockets.

Operating Countries:—Algeria, Indonesia, China, Cuba, Czechoslovakia, Finland, East Germany, Hungary, India, Iraq, North Korea, Poland, Rumania, U.S.S.R., Syria, Egypt, Yugoslovia etc.

Eight squadrons of the Indian Air Force are believed to be equipped with MIG-21 aircrafts.

"What our country now wants are muscles of iron and nerves of steel—gigantic wills which nothing can resist, which can penetrate into mysteries and secrets of the universe and will accomplish their purpose in any fashion even if it meant joining to the bottom of the ocean and meeting death face to face."—*Vivekananda.*

What India Needs Most Today

DEEPAK M. CHANDVADKAR
S. E. Mech.

AFTER twenty-three years of self government in India, all that Democracy has given us is the value of being poor and the value of being oppressed.

It is for this reason I write, that what India needs most today is a benevolent Dictator. If you are shocked, then wait for a few seconds and read further for reason and explanation.

Let me give you the example of Adolf Hitler. To most of you Hitler was a madman, but please try to go back to the 1920's when Germany was facing a crisis after having lost the first World War. The whole country was in ruins and shambles, people were suffering and dying of hunger. During such difficult times only one man dared to come to power. That man was Adolf Hitler. He in ten years changed the face of Germany completely. There was a fantastic improvement in industry, technology and science and not to forget the Army. By 1942 he had increased the area of Germany roughly, to twice the original size. He had done well for his country. But when there is war one side has to lose and the other wins. It was Hitler's misfortune that he lost. Otherwise you will agree that this world today would not have been the same.

Take the example of France. From 1945 to 1957, in 12 years many Governments toppled. France had suffered a lot at the hands of the Germans. The economic condition of France in those 12 years was very bad. Frenchmen did not know what to do until they realised that what they needed was Gen. Charles de Gaulle. Of course De Gaulle did not proclaim himself a dictator; but he acted as one because what he said was law and that is what dictatorship is. And look! Where he has brought France to. It is one of the leading nations of the world.

Take the example of Nehru. He too did not proclaim himself as a dictator; but acted as one because what he said was law and no minister could oppose him. And what India is today is all because of Nehru and it is no wonder that the world calls Nehru "The architect of modern India".

Take the example of Nasser's Egypt, take the example of Ethopia. Take the example of Mussolini's Italy. Mussolini gave Italy good roads, good houses, good libraries. He built many monuments for which Italy is popular today. Take the example of so many other countries which had a dictator. One fact is quite obvious that most, in fact all the countries were facing a crisis untill a dictator came and helped them. Today India is also facing a crisis. Think of any problem, we have it here in India. And it is for this reason that I write, that let us have a dictator, because it has been proved in the past that a dictator does help when a country is facing a crisis, when a country has had a stagnant economy for 20 years.

We have been shouting for the last 20 years for the basic necessities of life. Have we got it? Yes some we have, but the percentage is negligible.

So now, don't ask for food, don't ask for clothing, don't ask for shelter. Ask for a dictator and he will give you everything.

★



Chief Guest—Sri S. B. Chavan



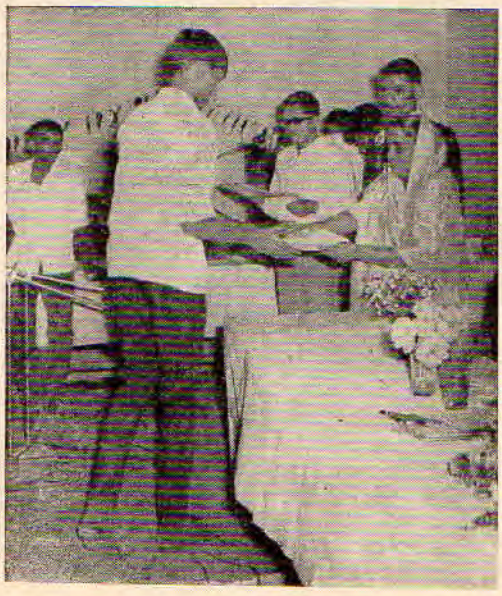
A bouquet to Smt. Chavan



S. B. Rege—Best Actor

Miss A. D. Dhupkar—Dramatics





V. L. Shah—
Best Athlete

RAILWAY AIR CONDITIONING

A. S. PARCHURE, Asso. Lecturer, in Mech. Engg.

COMFORT Air-Conditioning has a vast field of application. An interesting application being transport air-conditioning. The equipment used for railways must be safe, reliable, compact and light. To air-condition passenger car, heating, cooling, humidification or dehumidification, filtering processes must be adopted. Air from the exterior of a compartment will be mixed with fresh outside air. Mixed air after conditioning will be delivered to the interior of the car.

In passenger car air-conditioning, the important problem to be faced, is of ventilation. The average car contains 140 M^3 of air and can accommodate about 80 passengers. The heat transferred thro' the brake, heat, CO_2 and moisture liberated by the occupants constitute the load on the conditioner. 70-80 M^3/min. of conditioned air is circulated through the carriage. The amount of air recirculated will be depending upon the type of car, number of passengers, humidity and odours.

Air distribution System

The conditioned air may be delivered to the car through the ducts by a fan or a blower. The methods generally used are (1) a lengthwise central duct (2) 2 side ducts inside the arched roofed car (3) Free discharge from a unit placed overhead in the centre of the car. The air will be supplied to the compartment through supply duct outlet grille and recollected from the recirculating grille. Sometimes an adjustable air outlet is provided by which the occupant can regulate the velocity and flow of the supply of conditioned air.

In cars containing one or two compartments, satisfactory result may be obtained by discharging the air directly from the unit into upper part of the car; but for better circulation a necessary and sufficient velocity should be calculated which will avoid objectionable draft.

Air filtering

The air circulated in the conditioned car is filtered before passing over the cooling or heating coils. The outside and recirculated air sources may be filtered separately or mixed air may be filtered through a common filter. To have a greater cleaning efficiency oil coated filters are used.

Heating Equipments

In the winter season the outside air temperature is low hence the conditioner treats the air in such a way that heating and humidification processes are involved. If the locomotive is operated by steam or diesel then the exhaust of the engine may be used for indirect heating. Sometimes the floor heating system is used along with the duct system. Some rebuilt cars have the heating pipes enclosed in a duct through which air is forced by a fan, the warmed air discharging through the grille. The amount of heat supplied depends on construction of car, insulation, train speed, outside and inside temperature and number of passengers. In severe weather on an average 100 Kg. of steam/hour is circulated.

Cooling Systems

In the railway air-conditioning 3 general types of cooling systems are used: (1) ice-activated, (2) steam ejector, (3) vapour compression system. The new or rebuilt cars use V.C. system. The drive for the compressor is electro-mechanical, direct mechanical or I.C. Engine mechanical. In electro-mechanical system, a generator and a storage battery is used. But most of the designers

prefer I.C. Engine type drive. The refrigerant used is F12 or F22 and the condenser is air cooled. The air to be conditioned is blown over the evaporator through which liquid refrigerant is circulated. In the summer season about 16,000 K.Cal/hr. to 20,000 K.Cal/hr. heat is removed from the car to maintain an effective temperature within the comfort zone which means that the refrigerating capacity is 5 to 7 Tons.

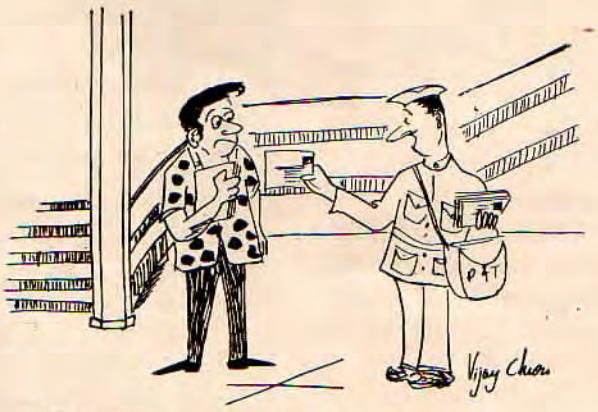
Temperature and Humidity Control

For summer air-conditioning while cooling the air, moisture gets condensed and hence humidity is automatically controlled. Sometimes cooling is followed by reheating the dry air. During winter when heating and humidification is essential, a steam or water spray controlled by humidistat is generally used.

To control the temperature of the interior of the car automatic thermostatic controls are used. Generally separate thermostats for cooling and heating are provided. Cooling thermostats will control the flow of the refrigerant whereas a heating thermostat will control steam or exhaust gas flow or will adjust the timing of the heater. The thermostats are located in the air ducts near the floor or at the recirculating grille. A range of temperature can be obtained from an automatic thermostat control.

Automatic controls and relays will operate the system in such a way that heating and cooling equipments will not operate simultaneously. For winter heating when the heating system is out of operation, the blower also stops avoiding the cold air from entering the interior of the car.

Railway air-conditioning is becoming popular in India and a satisfactory performance is obtained from the de-lux Express.



Gentleman, are you Mr. D. R. Desai?
There is a letter for you.
To Mr. D. R. Desai, Care of Sardar Patel....

In a Humorous Vein:

"INDIAN OLYMPIC"

SHANKAR N. R., T.E. (M)

APPLAUSE and cheers welcomed the Union Minister for sports as he rose to speak.

"From sometime now, the spell which the foreign games had exerted in our young blood faded," he began. "Cricket, Football, Tennis are being watched by few people and played by even fewer. Attitudes of team spirit and sportmanship have been fast vanishing from every sphere of action and are considered foreign and out-dated."

"Different kinds of new sports which have a distinctly Indian individuality, are being played. Moreover these sports which have sprung from our own people, have caught the imagination of Indians, from every state. It is a great pleasure for me to give away the prizes after reviewing each game."

No sooner the Minister paused than the secretary came forward and began announcing the results. "First event".

Stone Throwing: All states participated in this event and the general standard was high. Andhra Pradesh gave a tough time to West Bengal, the holders. The final was replayed thrice before it was declared a tie.

Land Grabbing: A promising game invented quite recently. Kudos to Kerala for snatching the largest area in a short period. The second prize was not awarded as other states did not meet the minimum requirements.

Bus Burning: Trophy goes to Maharashtra, who, being a late starter swung into form to knock out West Bengal as the country's quickest bus-burner.

Car Sticking: The game involves stopping cars moving at high speed, removing the plates licence and adding new numerals. Tamil Nadu clocks the fastest time. Delhi and Gujarat tied for the second place.

100 meter smashing the street light:— Special mention must be made of the tender age of champion bulb-breaking. Andhra Pradesh leads in this event, followed by Maharashtra for the second and West Bengal for the third.

N.B.—Decision of the Judges is final. Apologies are asked from the participants of stone throwing event, who flung a volley of stones at the panel of Judges, injuring two, when the results were announced.

Finally, we thank the audience for their enthusiasm shown and would request them not to practice for the stadium-breaking event just now.

DID YOU KNOW?

RAO A. V., F.E. III

1. THAT the Ravenglass and Eskdale Railroad of England operate commercially as a freight and passenger carrier on rails only 15 inches apart?

2. THAT 'Californium 252', a radio-isotope is billion times more valuable than gold and sells at $ 450,000,000,000 per pound and by 1980 when its production may go up, it will be a bargain at about $ 200,000,000 per pound!

3. THAT 'Demographer' is a person concerned with populations?

4. THAT 'Plectrum' is the name of the pick used to pluck a Guitar?

5. THAT in India, tea is usually served to welcome visitors but, in Australia and Newzealand, to indicate politely that the visitor has overstayed?

6. THAT Science of Cybernetics deals with Computers?

7. THAT slight ruffle caused in the sea by a breeze is called 'a cat's paw'?

8. THAT Dutton hall built in Cheshire, England, in 1542, was dismantled in 1933 and with every stone and timber marked was moved 250 miles to east Grinstead, Sussex—where it was reassembled and now serves as a boy's school?

9. THAT a line placed over a roman numeral multiplies its value by 1000?

10. THAT when India introduced the Naya Paisa, late De Gaulle introduced the New Franc and when India removed the prefix "Naya" he followed suit and called the French currency again the franc?

11. THAT the Gulf of Morbihan in Brittany France, is studded with 365 islands—one for each day of the year?

12. THAT "Astrorama" as it is called by its inventor, Midoni Kans, is projected by five 119 mm projectors and 515 speakers are used on a domed 360 degree screen which is 12 times the size of Cinerama and is shot with five linked 300 mm, 3.5 Nikkor lenses, each covering 122 degrees?

13. THAT, at the recent Expo '70, movies were shown on screens varying in sizes and shapes e.g. Canada had a triangular (24 feet high and 48 feet wide at base) and Australia had a circular screen while the size of the film ranged from 35 mm. to 210 mm.?

Computers and Electronic Data Processing

By BEHL RAMESH, S.E. (E)

VERY recently man has achieved one of the most significant land-marks in the history of human progress. A dream that man has cherished for countless years. "The landing of man on the suface of moon and getting him back safely": A very large number of factors have contributed to the success of this mission, but most important of all is the services of Electronic Computers without which the task would have been impossible.

Today's computer is a most powerful automatic device for processing information whether it is scientific data, military statistics or management information.

A Computer can be defined as:

"A device capable of accepting data, performing specified operation automatically in a logical sequence and giving meaningful results".

Problems have to be fed to the computers in a form which machines can understand. Computer meniory has to be educated to deal with the problems giving a detailed procedure by which that question can be solved by a series of logical instructions. The set of logically sequenced instructions followed by the computer for solving the problem is known as PROGRAMME.

Depending on the logic and design of various computers, a set of rules is devised and instructions are codified to write the programmes. These are called programming language such as Autocoder, Fortran Cobol etc.

Programming is a laborious process. But once this is done, processing is achieved at extremely fast speeds.

There are two basic types of computers:

(1) Analogue and

(2) Digital.

The analogue computer interprets and uses continuous variables like say voltages, volumes, speed or temperature, rather than numbers which are used by digital computers. It is relatively simpler than digital computer, but its applications are generally restricted to scientific problems.

The digital computer is fed by and produces numerical figures or alphabetical information coded in the digital form. Thus their use is predominantly in production control' inventory control, cost control, project control etc. including solutions of scientific design equations and simulations.

All the data/information which we want to be processed has to be given in a code form which can be sensed by it only in the form of electrical impulses.

Having written the programme, computer processes the data extremely fast, accurately and consistently. Where repeatedly similar calculations, are required for a very large number of items, it is most useful. In mathematical problems requiring a large number of inter-dependent factors in a design problem computer tends itself most creditably. This helps the analysis of overall system, resulting in better co-ordination and efficiency. Decision making is made much easier by the help of Management Information systems which are a direct outcome of intensive computer usage.

ELECTRONIC DATA PROCESSING is simply processing of Data at Electronic speeds automaticially. It is also known as automatic Data processing.

Three basic phases or steps are:

Input,

Processing

and Output.

Input:—Input to the computers has to be in a definite form. It is usually in the form of punched cards or magnetic/paper tape. Data is punched/written on these and fed to computer memory through card readers magnetic/paper tape units. Similarly the sequential set of programme is also fed into the computer memory through these devices.

Memory Unit:—This generally consists of magnetic cores or drum and stores all the data and Instruction during the processing/manipulation period. Final results are sent out through the output devices as punched cards or printed report of magnetic/paper tape and next set of data is taken for processing.

Control Unit

Once the data comes into memory unit, the manipulation/processing is carried out under the control of this unit by picking up the stored instructions according to the sequenced programme.

Control unit also exercises control on the input/output units and causes the writing/printing of required results. This really acts as the nerve centre of computer.

Arithmetic Unit

Actual operations of addition, subtraction, multiplication division and comparison are carried out by this unit under the guidance of control unit.

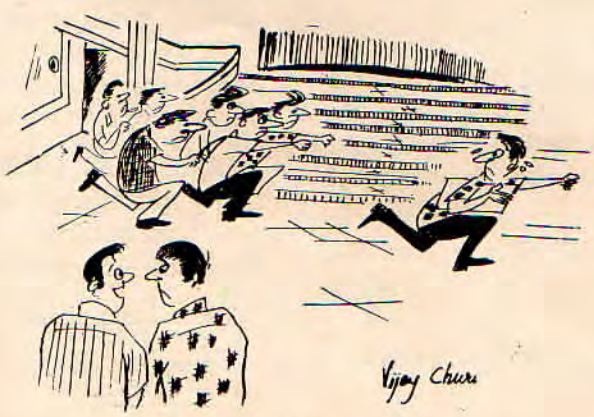
Output Unit

After processing is completed the results are given out on the output devices like card punches, magnetic/paper tape units, printers or video units. A considerable development has recently taken place in the design of video units, where pictorial representations of results can be seen by the users.

With increasing speed and capacity a very large quantity of data can be processed by a computer establishment at incredible speeds.

Man has always feared the introduction of machines replacing manual work/labour. Yet he has always got used to it and made further advancement to reduce the day-to-day drudgery of manual labour. Computer *is yet another instrument in his hands for* progress and prosperity.

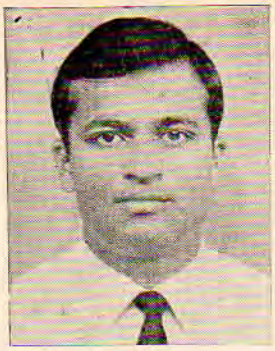
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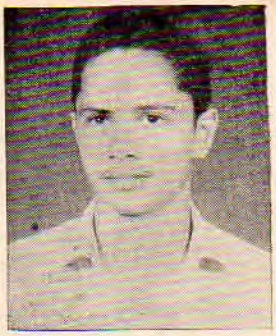
His journal is complete.



M. B. Rao
Gold Medal



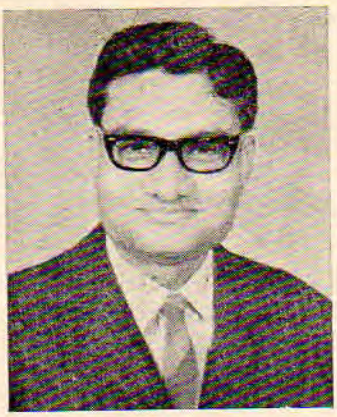
A. R. Nene
Gold Medal



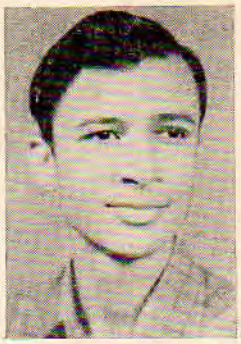
R. P. Jani
Gold Medal



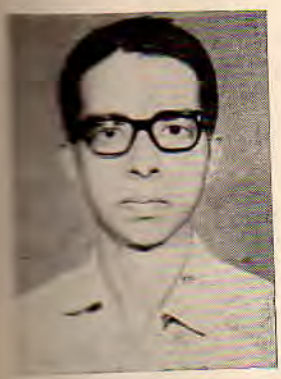
V. S. Kogekar
Silver Medal



Sri K. D. Desai
Passed M.E. Exam.



M. R. Chedda
Khandas M. Prize

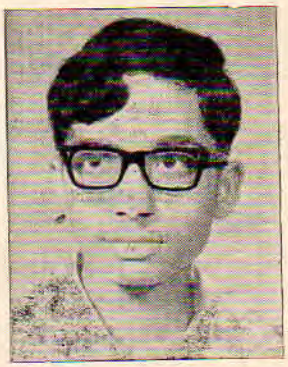


R. J. Modi
Merit Prize

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ROLL OF HONOURS

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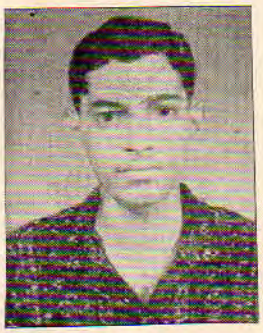
Abraham Samuel
Merit Prize



H. M. Doshi
Dubhashi Prize



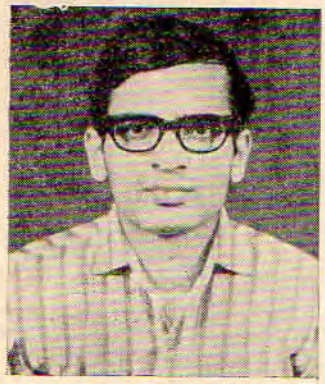
R. M. Parasurampuria
Merit Prize



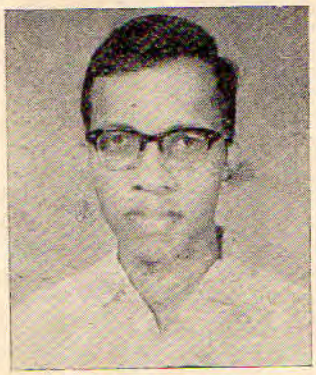
A. B. Kulkarni
Killawalla Prize



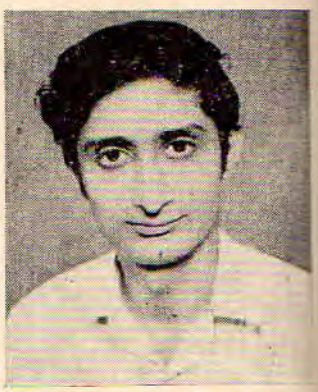
B. K. Parekh
Merit Prize



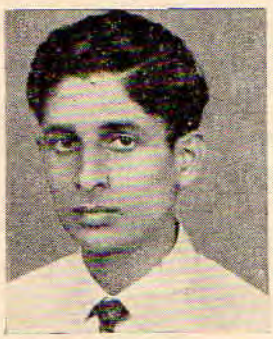
D. J. Telang



M. Anantharam



P. G. Parekh

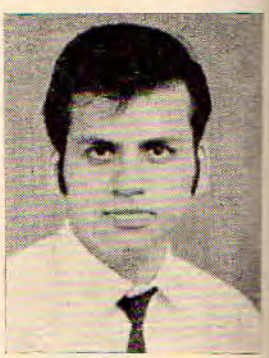


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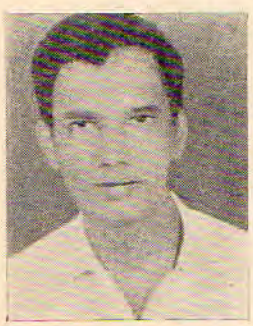
FIRST CLASS STUDENTS

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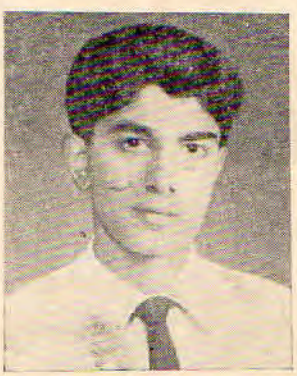
B.E. EXAMINATION



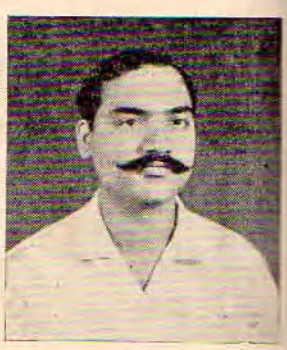
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D. J. Darooka



S. A. Gadag



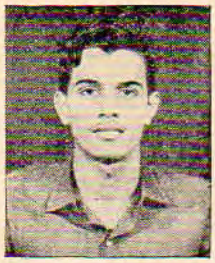
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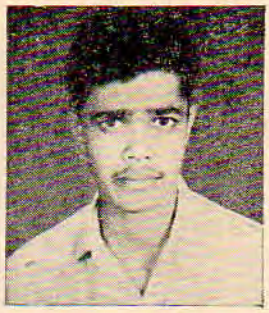
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R. P. Chuga (F.E.)



A. P. Tendulkar (F.E.)



S. S. Angal (F.E.)



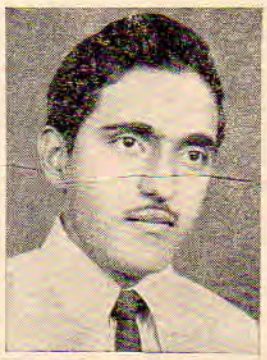
I. S. Jhaveri (F.E.)

FIRST CLASS STUDENTS

April 1970

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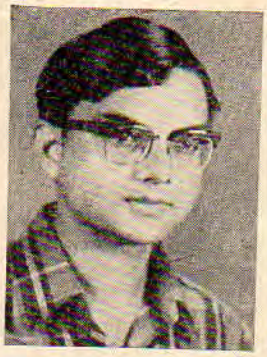
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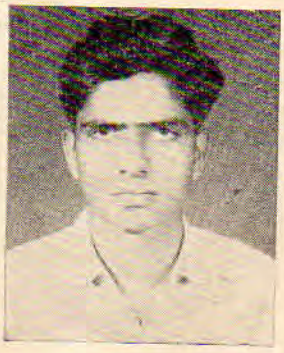
T. A. Ramkumar (F.E.)



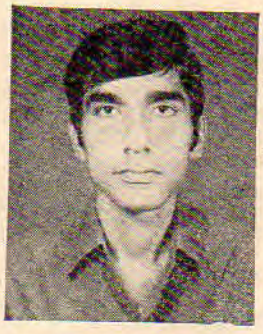
S. T. Vora



B. V. Lodhavia



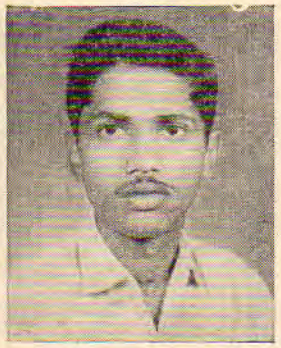
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S. V. Thakkar



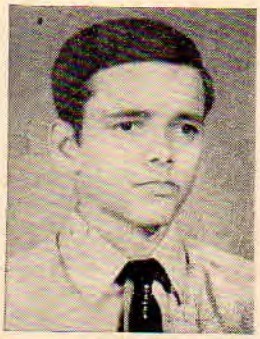
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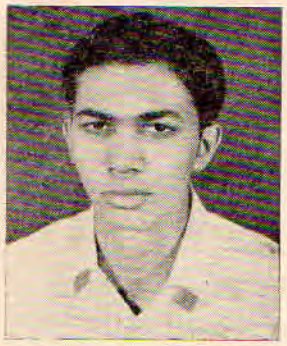
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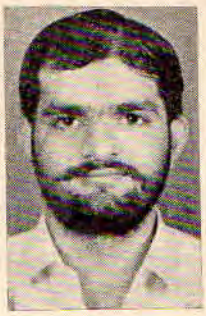
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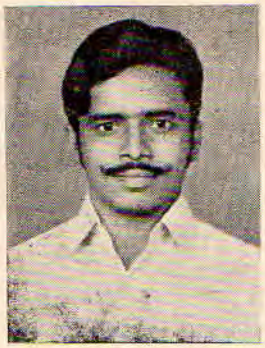
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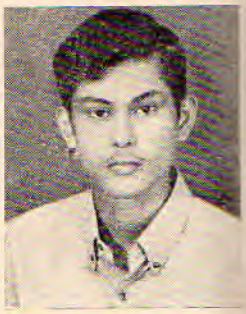
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S.E. (E)



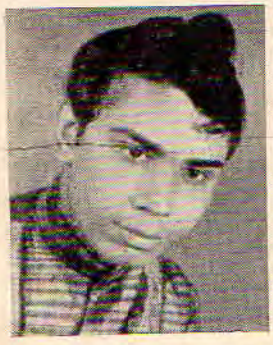
A. M. Udeshi
S.E. (M)



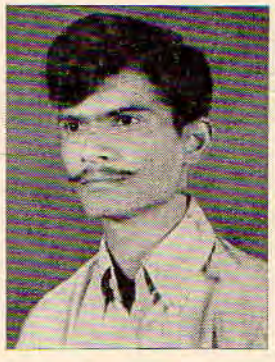
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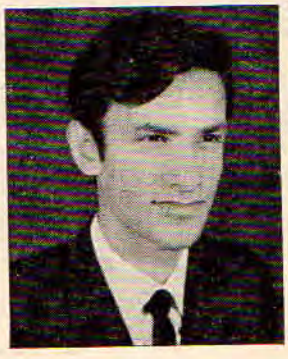
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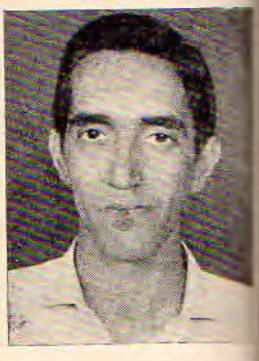
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P. A. Salunke
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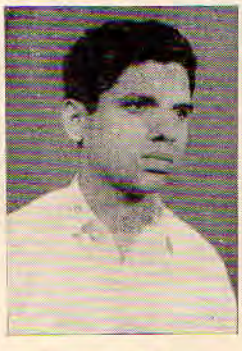
S. K. Idnany
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A. K. Yogi
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S. V. Chavan
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N. P. Eklahare
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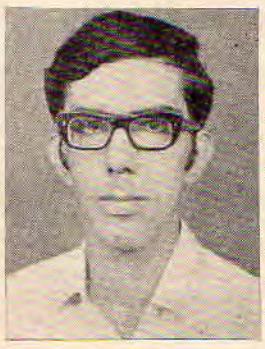
G. P. Joshi
T.E. (M)



C. G. Joshi
T.E. (M)



V. R. Seth
T.E. (M)



B. K. Rastegar
T.E. (M)



R. S. Kothare
T.E. (M)



A. G. Devani
T.E. (M)

Need Of The Hour — Cry Of The Nation

"NATIONAL INTEGRATION"

Though we are making good headway, good advancement in different directions, like economic and industrial, the nation's energies are being snapped by the recurring communal disturbances; all in the name of religion; the nation's progress is being superimposed by the regress—The national disintegration—Read and Think that the successful functioning of a democratic order depends on the enlightened citizens.

—S. T. DOHADWALA
(S.E. Civil)

TO-DAY, we are faced with a very challenging situation in the history of our nation. The solidarity and unity among the various sections of the people is far from satisfactory and the distinction of caste, creed, affiliations and language has again raised its ugly head undermining the very stability of our young Republic. We are thrown into such a situation where we have no longer to think of national integration but how to prevent 'Disintegration'. Our policies, since Independence have resulted in the country feeling less and less like a nation, but more and more as a conglomeration of religions, communities and castes.

The problem of integration of all the people, living in this subcontinent of ours and how to foster peace, amity and goodwill among them have been evading solution, despite the earnest efforts of National Integration Council, these years.

It is the observed fact that national integration is the supreme need of the hour, as without peace, harmony and good neighbourliness among all sections of the people, the nation cannot make any head-way in creative directions. Every citizen of India has the right to work without fear anywhere in the country. Attacking him or killing him does not solve any problem. This is like the monkey in the fable who to swat a fly injured his own face.

There is widespread cause of anxiety and shame that the life of an Indian national should be threatened because of his religion or community or that an Indian citizen from one part of the country should be made to feel a stranger in another part.

For integration, what is required is that, our leaders should capitalise on and strengthen this underlying strong sense of unity and nationalism in the country. Instead of fanning the flames of statism, communalism, casteism and linguism in the country, the various political and non-political parties should work to strengthen the unifying forces.

India's misfortune is that, some political parties have developed a vested interest in communalism, casteism and regionalism to perpetuate themselves in power. Under the banner of 'National Integration' these parties actually accelerate the process of disintegration in the country. Thus the more they talk about 'National Integration' more we move towards national disintegration.

The growing regional consciousness and the separatist tendencies amongst the states

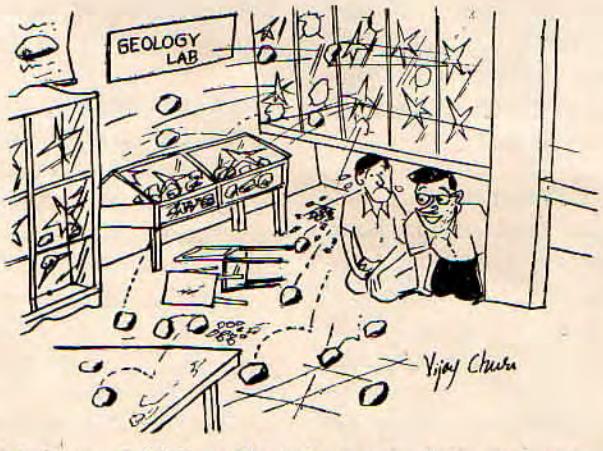
are posing a serious threat to the nation's integrity. The growing process of fragmentation of the nation on narrow considerations of language, region and religion must be checked forthwith, if democracy is to survive and thrive in this country and if the nation is to really progress.

In the process of achieving national integration, every one of us must play his or her part. Politicians in power and in opposition, intellectuals, and indeed all citizens, whatever be their vocation or profession, whether humble or exalted, each one must strive to create a sense of Indianness which will help in the process of national integration.

The problem involves considerations of a political, social, sociological and psychological character, and it is the duty of all of us to help to inject into the climate of this country progressive ideas which will assist national integration. The danger of narrow, parochial forces which are raising their head should not be underestimated. These forces pose a challenge, and it is the duty of us all to meet the challenge with all our might.

JAI - HIND

OOOOOOOOOOOOO



And now, I think, we'll need no more stone specimens.

WHAT IS WRONG WITH OUR EDUCATION ?

ABRAHAM SAMUEL
T. E. (Elec)

THERE is something wrong, radically wrong, with the system of education throughout India and this is evidenced by the large number of strikes and student unrest prevailing in most of the universities today. The stage has come when bribing a high official in the university can get you a degree or cramming and vomiting like a parrot will get you a first class, sometimes even a distinction.

Perhaps this calls for a whole new system of education completely different to the existing system. Perhaps it is the failure of the educationists at the top. In many universities, the chancellor and the vice-chancellor are just tools of the politicians and doing everything for the furtherance of their interests. It has been seen that people with ideas and sound principles of education have purposely been kept on the sideliner and even neglected, their condition being of a voice crying in the wilderness. Instead high posts are taken by influential people who know next to nothing about educating the masses but are only concerned in amassing money and to become a power in their state.

In colleges, students attend lectures, where they are supposed to be taught for forty-five minutes. Bunking lectures in colleges is not uncommon and can be attributed to this system of listening to the monotonous drone for hours. Then one month before the examinations, a lot of memorising and cramming is done which enables the students to pass comfortably.

There are also cases where in the theory lecture, the student is told that he will be told the details in the laboratory and when he goes to the laboratory, it is taken for granted that all the theory has been done in the class and this assumption leaves the students right in the middle, completely confused and not aware of what is going on.

This system of mass education is another obstacle. Students get no individual attention in colleges which is but natural as a professor cannot give his personal attention to each of the hundred or so students in a class. This is comparable to the goods produced in large quantities in factories. In the same way, there are thousands of graduates being turned out every year to face the world and the problem of unemployment.

If education could be made more interesting, if more attention is paid to each student, then education has some value as the student will try to do his best because of the confidence reposed on him.

Today, no consideration is given to those people who get third classes or pass out in the second or third attempt. In an age where first class students are unemployed, what about their plight? Steps must be taken to ensure that all graduates get a fair deal in getting jobs. They must be able to stand on their own feet and get the jobs without influence, which is needed very much these days to get a job.

Digressing for a moment, who hasn't heard of giving donations to colleges while being admitted? These are mostly prevalent in medical colleges where it has become a regular practice and it is the case of not

giving a donation that is the exception to the rule, rather than vice versa. This is another form of racketeering and must be stopped at any cost. It is bad for the morale of a student when he sees a richer student getting into the medical college by giving huge sums when himself can't get, by having only a moderate percentage.

Let us also hearken to the old proverb that all work and no play makes Jack a dull boy. Every student must be encouraged to take part in extra-curricular activities, especially sports and games. This will give the student some extra interest and zest which will benefit him not a little. Elders in authority must therefore take the right steps.

By more interest, dedication, sincerity and co-ordination between professors and students, a better tomorrow will result and the strikes, dissatisfaction and pessimism of the students can be curbed and finally removed altogether.

The Sunshine of Life

Prof. L. L. BHIRUD — Prof. of Civil Engg.

I twinkle like a little star
On the lonely hapless world below
Up above high in the sky
Shine I with my fellow stars.

No misery or sorrow
No evil of death
No worry of future
Reaches me up there.

Nothing can cow me down
Neither the struggle of life
Nor its seeming failures
For, shine I with my own light.

Life, a game of hide and seek
Full of thrill and freshness
Mourn not O' man
Great is thy destiny!

The sunshine is here and now
Open the window of your mind
And behold! You become the light
This is the mystery of life.

EBB AND TIDE

VASANT DAVE, ex-student

It was one of the afternoons of a typical Indian summer in Bombay. Sky had dropped whatever ornaments of soft clouds she had worn uptil now. The greenish-blue surfless sea embracing Marine Drive, the gigantic modern sea-face, reflected whatever light it could into the eyes of the onlooker. Distant trees leisurely rocked in a not so weak wind. However, the wind was neither cool nor comforting. It carried a little dust along with it, making atmosphere all the more unfriendly. Broad tarmac roads were lonlier than midnight. Every living thing had retreated to any scanty shade it had managed to find. The sun scorched the land mercilessly.

At this time, a figure clad in white made its appearance on the scene. It was short and thin and bareheaded. It moved slowly, without any aim, kicking dust carelessly. It was a person who might have been identified as Rashmi, an ex-cashier in a well-known bank in South Bombay.

Only a few days ago Rashmi was charged of giving away confidential information and instantly discharged. With this background, there was no scope of his ever getting as good a job as before. No one would believe him, though whatever he wanted to say was not false altogether. He had been dismissed on the base of a mere report by the head of his department to the manager. Some personal feeling had crept in and the senior clerk had taken advantage of his position to get rid of Rashmi. Little did he care of what happened to the family of the young man snatched off his bread. Most of Rashmi's colleagues knew of his innocence. In spite of that, not a single person possessed guts to stand up to bring out the fact. No one wished to get involved in this affair and get unpopular. Everyone knew that the gun now pointing towards Rashmi would turn to one's own self if one indulged in such a matter. Rashmi was lost in these thoughts and the more he thought, the less he cared of what went on around.

What to do to escape the ungrateful humanity was a question. It was just unbearable to be looked down as a dismissed clerk and unemployed person.

The head was there, proceeding with his selfish plots. He was the culprit. He was the one who alone was responsible for his misfortune. He was the one who shook with suppressed laughter when Rashmi was ordered to leave. Was it not expected of Rashmi to take the beast to court? But he respected little the law court of man. In that way, the court above was far better. Then should not the head be sent to *that* court? Did he deserve to live in any case?

No. That was impossible. Rashmi knew he could do no murder. His conscience kept telling him time and again that life would be too high a price for the head and his family to pay.

What was the use of living any more himself? He was straightforward and immune to those vices with which all he saw around were affected. World was for those who paid a tit for a tat, who could go any length for their own sake, who did not believe in the next world. He was an unwanted person as Socrates had been. Was it not better to bring an end to his own miserable life and leave the rest to live happily?

Rashmi was undergoing a mental ebb just as the sea on his right went through a physical one. Was it for suicide that he had come to the sea-front at this lonely hour?

Rashmi slowed steps. After all, was it wise to give in to one small set-back? His family had suffered a blow at the loss of his job. Yet there was a hope of his getting some other work and continuing as before. In what position would the family be if he lost his life too? Was it not his duty as a son, a husband and a father to pull out his family from a whirlpool?

He looked up. The metrapolis rolled ahead with its sky-scrapper hotels and artistic cinema-houses, crowded slums and smoky factories. There were still many years in his life here during which anything could happen, he thought.

And Rashmi's hands rose. The right fist smacked in the left palm. "I'll fight it out," he gasped, and his sorrowful face pulled up the mask of sternness. Tide had come far more quickly than it ever did in the sea outside.

The figure in the white quickened steps with fresh vigour. The next moment it had disappeared round a corner. The sea complained at the loss of a probable guest. Above, the sun mocked at the ebbing expanse.

* * *



You see! Our design of this culvert is successful. It takes up the maximum live load!

ANECDOTES

B. K. JOSHI T.E. (M)

1. *The Magician*:

Once Mr. Hemmingway and his friend went to a hotel. The hotel was very well furnished and well equipped. There they saw dishes with silver spoons. Hemmingway wished to take away the spoon for himself. But before the thought came to his mind, his friend had already taken away one. Hemmingway could see it in his friend's pocket.

An idea immediately struck his mind. He stood up and said, "Ladies and Gentlemen", I am a great magician. See here. I put this silver spoon into my pocket and it will come out from my friend's pocket". Saying this, he put one spoon into his pocket and took out one from his friend's pocket.

2. *Bhagwath Gita, The Base of all Religious Books*:

Swami Vivekananda went to Chicago to attend the world conference of all religions. There was nobody to guide him. At last one Mr. Write met him and took him to his home. Mr. Write was a great philosopher. He had collected many books on philosophy and religion. There were also some books lying on his table. The Bhagwath Gita was at the bottom of all the other books. Mr. Write said to Swamiji, "Look Swamiji, Bhagwath Gita, the most holy book from your religion is at the bottom." Swamiji said silently, "Surely it is the base of all religious books". Saying this, he pulled out the Bhagwath Gita and the result was, all the other books above it toppled down.

3. *Only One Fish*:

Goldsmith, the great poet and writer, was asked by his friend, "How many fishes are required to reach the moon from the earth?" Goldsmith said, instantly, "only one fish is sufficient if it is sufficiently long."

4. *Coachmen and Chairman*:

Once Shri P.K. Atre, the popular writer in Marathi, and his friends were chating. One of his friends said, "Atre, you are sitting on a chair and we are on a couch (sofa). Atre said, "Yes, You are coachmen, while I am Chairman."

*

THE UNFORGETABLE CRICKETERS

MISHRA S. K. T.E. (Civil)

ALL over the world thousands play the game of cricket for love of it and it is nearly impossible to select players whom everybody loves and likes. Yet I have tried to select from the players whom I think dominated the field whenever they played and created memories which a true lover of cricket can never forget. I haven't seen them in action but through books of then and now. I love them very much. No doubt they are my favourites.

In this article I have not labelled these cricketers with the prefix 'Mr,' for one may be sure that real players have no love for these miserable and most hateful labels and distinctions.

To begin with, the grand old man of English cricket Dr. W.G. Grace who did more to make this game enjoyable than any other player and was the outstanding personality of his time.

Born at Bristol in 1848, was the fourth of five brothers and appeared at the early age of 9 for West Gloucestershire. At the age of 15 he played against the famous All England XI and the next year at Oval and at Lord's. He was one of the heaviest men to play in first class cricket weighing 18 stones. He aggregated 54896 runs at an average of 39.55 and only few have been able to cross this figure. But considering the type of wickets he played, this is the most remarkable career of all. To add to his greatness, you have, his 2876 wickets taken at an average of 17.92. It is hard to find anyone better than him as a fielder to his own bowling. He was first to score a triple century in first class cricket, making 344 runs in 6 hours 20 minutes against M.C.C. in Kent in 1876; and made another triple century for Gloucestershire against Yorkshire. Apart from these two, he made ten double centuries and in all 126 centuries scoring centuries in each inning in three matches. He led England in 13 tests losing only 3 of them and scored century on his debut in the test in 1880. He scored 100 runs and 10 wickets in a match no less than 16 times and as far as I know nobody has yet crossed this figure. In 1874 he became the first to score 1000 runs and took 100 wickets in a single season and repeated the feat in each of the next four seasons and again in 1885 and '86. In one season he crossed 2000 runs mark no less than three times. He made 2739 runs in 1871 at an average of 78.25 in 39 innings and to note, in those days there were no boundaries and every stroke had to be run. He last appeared in the first class cricket at the age of 60, his career lasting 43 years in which he regularly played for 35 years and scored 1000 runs in a season at the age of 54 in 1902.

People say Mcdonald was the fastest in twenties, Larwood in thirties, Lindwall in the forties, Statham, Trueman, Tyson in the fifties and Hall in the sixties and a large section perhaps votes out Larwood as the fastest bowler of all time. But according to Ralph Barker and the great judges of the past, the men who played against Kartright Knox, Jones, Kotze, Mcdonald and watched Larwood and Lindwall, vote for the two Surrey bowlers W.H. Lockwood and Tom Richardson, who were at their peak in Nineties. It is impossible for me to single out any one, from these two giants of the field and such I am writing here about both of them somewhat in a comparative way. Lockwood and Richardson played for the same country, their careers were paralled, bowled for many years at opposite ends and ended their careers in the same season but still in style, physique, temperament, performance and form they were as unlike they could possibly be.



G. S. Z. Pereira—Best Football player



U. D. Kalbag
Kulapati's Medal and Best batsman prize



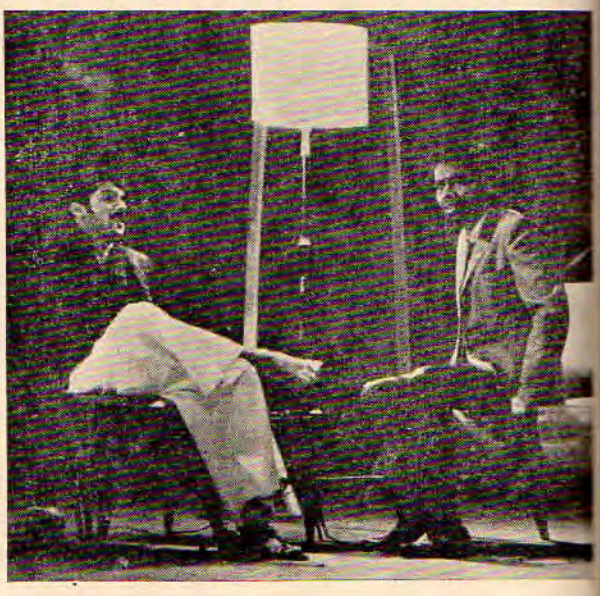
P. P. Surve—Cricket Shield



Ruling Party (Mock Parliament)



Opposition Bench (Mock Parliament)



A Scene from Marathi Drama (Youth Festival)
V. Sardesai and S. B. Rege

Lockwood first played for Notts at the age of eighteen in 1886 and took 4 for 69 in 57 overs which were of 4 balls. But after that he fared poorly in the ensuing matches. In 1889 he joined Surrey countyside and in 1891 he began to develop as a bowler. Sharp fell away in that season and it was then that Lohman found in Lockwood another worthy partner. About his bowling it was of unanimous opinion that a more deadly pace of fast bowling had rarely been seen anywhere, the ball breaking back so much and at such a pace as practically unplayable. In 1892 he became a great fast bowler taking 151 wickets, more than any other bowler, at an average of 13.89. In championship matches he took a wicket every 29 balls becoming the most economical and penetrating bowler in the country. Mcdonald and Larwood have approached the sheer flowing beauty of his action in full motion and he made the ball flick higher from the pitch than any other bowler.

In 1892 Surrey introduced another fast bowler who played only in 10 matches, taking 24 wicket at 18 runs each; but of his pace, it was said, only Kartright could be compared with him. He was Tom Richardson born in 1870. These two bowlers have been compared again and again to the detriment of one or the other. For so many years at Oval, Richardson attacked from one end and Lockwood from the other and if they couldn't get wickets they simply interchanged the ends. Although they had one or two similarities they offered unusual contest and by some freak of circumstances they were rarely at their best together. Lockwood was at his best in 1892, but during 1893-97 it was Richardson who stole the show and in this time Lockwood suffered an extraordinary eclipse and was in and out of the team. But at the age of 30 in 1898 Lockwood came right back to form and emerged once more as the best bowler retaining the distinction till his retirement.

Richardson's action was severely criticised and was believed to be throwing the ball, but as time went on, little more was heard of these complaints until beneath a wave of appreciation of his qualities, they died out together. Surrey lost George Lohman through illness after eight great years and Lockwood although at his best was not so consistently successful as Richardson. Australians, under Blackhau, played three test matches and Lockwood was the first choice.

At Lord's in the 1st Test, England batting first, made 334 and when Australia batted they were 75 for 5, all the wickets going to Lockwood, but then through dropped catches they recovered partially and made a good score in which Lockwood was overbowled and took 6 for 101, the match ending on a draw due to rain.

At Oval, England won the second test by an inning mainly due to Lockwood, who broke through early in both innings taking 4 out of the first 6 wickets in each of the innings. Inspite of the rise of Richardson, Lockwood was the first choice. But he suffered from strain and Richardson got the chance to prove his worth and did not disappoint the selectors, as he took 4 for 49 in 13.4 overs, each of five balls, in the first inning and 6 for 107 in second inning of the Third test, which ended in a draw.

Lockwood topped the average with 14 wickets at 15.28 in 2 matches; but Richardson with 10 wickets at 15.6 was not far behind. Lockwood had 25 and Richardson 23 years of success stretched ahead of them. In 1894 Lockwood and Richardson were the leading attacking forces in the country. Lockwood taking 150 wickets at an average of 14.13 where as despite being out of the game for sometime, due to strain, Richardson took 196 wickets at 10.64 missing the 200 mark narrowly. Wisden singled him out as the bowler of two years in succession giving the honour every cricketer dreams of.

Reference: **"The Encyclopedia of Cricket":** by Maurice Golesworthy.
"Ten Great Bowlers": by Ralph Barker.

JOBLESS ENGINEERS

I. R. Paharia B.E.

WITH the dawn of freedom came an awakening in India and our leaders made plans to develop the country rapidly. At that time, all our country men, engineers, doctors, farmers, physicists and politicians took the joint responsibility to develop India as rapidly as possible. Engineers played the important role to industrialize the country. At that time, our late Prime Minister pt. Jawahar Lal Nehru remarked that, it is not the politicians, but the engineers should build a new India.

Watching the position of our country then, every middle class and higher class family started giving Technical Education to their children thinking that after the completion of education, their child will occupy a good position in life drawing a handsome salary.

But at present their hopes remain as hopes only. Today they are facing a serious problem of being unemployed. Now they have came out as engineers and technicians searching for jobs. There are many young engineers who are not employed any where for a long period. The problem of engineers unemployed constitutes a very serious and menacing problem. The engineer unemployed is a frustrated person. He nurses a sense of personal injury and if the grievance is continued long and the numbers involved are large, as it is at present, the situation in our country will be decidedly explosive and will constitute a hindrance to the progress of our country. An engineer is a smart and intelligent person possessing some ideas. Still our country is not in a position to make use of such persons.

Why the engineers are jobless? Are there too many of them in our Country, that all of them cannot be employed? No. As compared to other countries, the number of engineers is much less in India. In the U.S.A. there is one engineer for every ten person. In the U.K. the ratio is 1:40; while in India, there is only one engineer for every 1500 persons.

At the same time, the government is also not responsible for this situation. We should not blame the government. Our country is suffering from many difficulties and wants. So our industries are not modernized and developed. The industrial development in our country is immature and inadequate. Our industries have not been able to maintain their hold on the foreign market. An export industry of a particular country may suffer because the other countries restrict the import of its products or because rival exporting countries through greater efficiency, can under sell them in the world market. There has been then a fall in the export industries, which is transmitted to other industrial sectors. Thus when industries suffer, then all others who are connected with the industries will also suffer. This is one of the reasons for the unemployment of engineers.

The other effective reason is the system of technical education. Engineers are given little practical training in the colleges. An industry wants a person who possesses some practical knowledge of his work. So when a fresh graduate comes out he has to face the difficulty of having no practical knowledge. So our education system must be improved and students should be given compulsory practical training of one to two months in the industries during their study period.

Although from last year, our government has taken up a sensible step by reducing the number of seats in engineering colleges of our country, uptill now our universities were "manufacturing" engineers with a very high speed. Every year the production exceeds consumption. But now the production will try to balance with the consumption. Further to avoid unemployment of engineers, our government should help in modernization and development of industries. Government should establish new and bigger plants.

Although this year, the situation of some of the industries is better than it was in 1968-69, let us hope it will go on improving and within the next two three years, it will be much improved. Also, the new generation of engineers might not have to suffer.

★ ★ ★

COME-DECEMBER

T. A. Ramkumar, S.E. (MECH)

DECEMBER, comes with a bumper offer,
To the children of all ages,
To fill the hearts of pretty pages;
With the scintillating sense of Pleasure.
The MONTH, that comes once a year,
To spill sweet odour of cakes
On the august body of dear
Dances with blessing pair makes.
To S.P.C.E. young engineers, teachers
The month comes with smiling face
Shedding brightness on the innocent face,
With many opportunities to cheer.
Here, swings cricket, chess, football,
Table-tennis, carroms, volleyball,
With dear teachers and the rest
Brought back to their lovely childhood.
Teachers, go gay with dear students
For the double movie at Navrang,
Topiwala
For the buffet dinner at midwinter night
For the various entertaining programme.
Last; December recalls the youth, of their
destiny,
To fight the drawback in society,
Polishing the immemorable deeds of
Jesus,
To find our country in Peace-Prosperity.

The Meaning of TRUE EDUCATION

By BEHL RAMESH, *S. E. (E)*

THE ordinary meaning of education is a knowledge of letters. The true definition of LIBERAL education, according to Gandhiji stands true when body is a ready servant of one's will, whose intellect is a clear cold logic engine with all its parts, of equal strength and in smooth working order, whose mind is stored with a knowledge of the fundamental truth of nature, the servant of a tender conscience.

According to his conception the function of education is Character building and that is achieved by primary education. Literary training by itself adds not an inch to one's moral height and that character building is independent of literary training. The end of all knowledge must be building up of Character.

What better looks can there be, than the book of HUMANITY. Real education has to draw out the best from the student to be educated. This can never be done by packing ill assorted and unwanted information into the heads of the pupils, but can only come through, a proper exercise and training of the bodily organs. Man is neither a mere intellect nor the gross animal body, nor the heart or soul alone. A proper and harmonious combination of all the three is required for the making of the whole man and this constitutes the true economics of education.

The world is full of many a gem of priceless beauty, but then, these gems are not all of English setting. Other languages can well boast of production of similar excellence.

The field of education, which holds the seeds of the future of the children requires absolute sincerity, fearlessness in the pursuit of truth and boldest experiments based upon deep thought and soundness of Maturity.

We may give a working knowledge of English. But we may not without committing national suicide neglect the mother tongue and make English the vehicle of our thought "I must cling to my mother tongue."

Regarding religious education, students should be trained to cultivate the habit of understanding and appreciating the doctrines of various great religions of the world in a spirit of reverence and broad-minded tolerance. This will give them a spiritual assurance and a better appreciation of their own religion.

Finally every country to be a progressive country must have sufficient facilities for the pursuit of all branches of knowledge and this is the foundation stone for New Education.

□ □ □

A BIRTH DAY SONG

By. R. Veeraraghavan.
S.E.(E).

The Skylark Scans the Heaven tops,
The roaring sea—suddenly stops,
The nightingale in deepwoods sings,
Beautiful Peacock spreads its wings,
Mischievous moon comes out of the hood,
To join us in the happy mood,
To celebrate this, very auspicious day,
To wish you a Happy Birth Day.

If I were An Astronaut

by KUM. INDIRA S.
College Office

IN a sense I have always been an astronaut. It has been my habit to ride on the wings of fancy to distant worlds and explore them. It should therefore be not difficult for me to write what I would do, if I were a real astronaut.

The count down is one, and the rocket booms off like a thousand guns fired in unison. I sit stiff in my seat with thoughts of my near and dear ones and a prayer on my lips and a chill spreading all over my body.

The trail of smoke clears. It is nearly five minutes since I left the ground. I see the beautiful earth, the vast blue expanse of the seas and the lush green fields dotted here and there with neatly laid out towns and villages and the solid mountain ranges with snow capped peaks, feeling so lonely and so distant from Mother Earth. It's such a wonderful sight that I keep on thinking what made me leave such a beautiful place and search for another.

The second stage rocket has fired. I have gained speed and am already thousands of miles out in the space. The earth now is a huge ball. The mountain ranges, the fields and the seas are mingling with each other so much, the bright reds and greens and blues are taking a greyish hue. A feeling of some sickness gradually takes hold of me but I manage to overcome it with the help of nobler thoughts, for only these can make us forget and control our feelings.

I think of the petty feuds between individuals, groups and nations. In a special way in a more personal manner, I think of the silly disputes over the boundaries between our various state governments, and of the unreasonable arguments over linguistic problems. It seems to me now, that the human race in general and we Indians in particular are mainly engaged in quarrelling when there is so much else to do. At this distance from the earth, I realise fully the folly of all the feuds going on all over the earth. I decide to destroy all the barriers of my narrow self, to shed all my own foolies and work for unity, progress and brotherly love on my return to earth, if ever I return safely!

Whether it is due to my lofty thoughts or to the vast distance separating me from the earth, I do not know, but I have a feeling of weightlessness. The last stage rocket has fired and my space capsule is now circling the earth once every eighty minutes. I wonder on the marvels of science and spent nearly four days in space where really there is neither day nor night. The notion of time is valid only on earth. In space it is all infinity with neither beginning nor end, like the Almighty. I start thinking of Him and feel that here I am closer to Him than down on earth. If only we human beings, had lived closer to the nature for then we would be nearer to God!

But I am of earth and my journey must end. The order to come down has been given and here I am falling down and down, fast and very fast. But this is only a physical fall for I hope to remain at a great height moving upward in my life securing God in my neighbour in brotherly love, for God made me and all men to be astronauts.

I ponder on the long history of the human race. We have travelled far from the Stone Age Civilisation. The material progress is dazzling. But we still lag on the spiritual side. The hearts of men are still ruled by the story and primitive passions of hatred and greed which urged our cavemen ancestors in their struggle for existence. I decide to devote the rest of my life on earth if I reach there again, to work for the spiritual uplift of the human race. I realise that the progress made so far has not been balanced. We have gone in all for the physical sciences and neglected the spiritual and social values and there lies our tragedy.

HIPPIES: A menace to Society

oooooooooooooo **DEEPAK M. CHANDVADAR,** S.E. (M) oooooooooooooo

The baffling history of mankind is full of obvious turning points and significant events: battles won, treaties signed, rulers elected or deposed. Equally important are some of the popular or unpopular movements which affect the minds and values of a generation. One such unpopular movement is the Hippie movement.

Part of the mystic attraction of the hippie movement has always been its invitation to 'freedom'. It beckons young people out of the tense structured work day world to a life where each can do his own thing. It is difficult to understand what hippies really mean by saying "can do his own thing". All that I can see, hippies doing is either begging or roaming about the streets aimlessly. If you ask a hippie what he is doing, sitting in the mud, looking aimlessly at something, he will say "I am contemplating on the world's condition". But is their contemplating going to change the world in general? The answer is definitely no.

It is a point worth noting, that nearly all the hippies are very young. And a very good explanation is that when an individual is in his teens, he does not know what is expected of him. Their ideals and aims are a bit hazy. And at this psychological moment, if he looks to his left or right, for an answer, he finds Hippies calling him towards freedom. Freedom from what? Freedom from society, freedom from reality, freedom from law and order. If a person wants freedom from such things, all that I can say is that he should do self examination.

When God made the man, he expected man to fulfil certain obligations towards society. You just cannot forget what is expected of you in this world. Man comes to live well and to work hard to make this earth of ours a still better place to live in. One cannot forget this as the hippies are forgetting. The way they dress, the way they let their hair grow, the way they waste their time, are disgusting. Some may argue, that it is their time they are wasting, it is their hair which they are growing. But as I have said before, that we are under a moral obligation towards the world, towards GOD.

Dr. Lewis Yablonsky, a thorough student of the hippie movement says, "Criminals and 'psychotics' began joining the movement. They were readily accepted, as anyone who is willing to let his hair grow and don a few beads" can join the movement. Hippies find their world a good one because they can escape from law and disciplines of society.

Hippies are a race of severely emotionally disturbed people. There has been far more violence among the hippies than most people realise. There has always been a potential for murder. Many hippies are almost dead inside. They require massive emotions to feel anything at all. They need exciting acts to feel alive—immoral acts, acts of violence.

Another attraction of the hippie movement is their slogan of "free sex and free love". Sex and love are such things which will always have some value, in some form or the other and can never be 'free'. It is difficult to imagine how one person can love another person for one day and next day transfer his emotion to some other partner. At least no normal person can do that. It is this slogan of "free sex and free love" which is spoiling the moral sense of the

generation. Many weak minded are joining the movement for fun, realising its implications and dangerous consequences.

It is also known that children born to the who lead a loose life, are mostly, deaf and dumb. Imagine the plight condition of these innocent children, have to suffer because of their parents. The question now is who is to answer for these poor children. The answer obviously is, their parents. But their parents are the hippies; so the problem falls on the shoulders of the Society.

So let us work together for the downfall of this race of emotionally disturbed impractical people. Let us, in short work for the uplift of mankind and preservation of a healthy society.

*



Daddy! Daddy! Does B.E. mean 'Bekar Engineer'?

In Memoriam : : :

A. G. ADVANI
F.E.

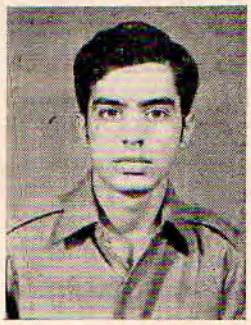
IT was the fateful day of 2nd February 1971, that snatched away our dear friend Yogesh Asher from our midst. It was around 3 p.m. I had to stay back for some work in the college. So he bid me 'farewell' and said that he was going 'home'. Little did I realize at that moment, that he was heading for his Heavenly Abode for death with its inexorable finality claimed him for its own, in the train accident on that very day.

We were all bewildered and astonished when we heard the shocking news of his death, and those of our classmates who were with him at the time of the accident were also overcome wih grief and anguish to narrate the incident.

I came to know Asher—as he was popularly known, only in June 1970 when we both joined this college. But these few months were enough for me to gauge his great qualities. He was a humble boy, never making any claim of his own greatness, either intellectual or social. But he was good and great in his own way. He had the fine ability to make friends.

He was popular among all his fellowmates and it was the constant friendly smile on his face that endeared him to the whole class. I can confidently say that he had only friends and no enemies. His was a sobre personality. But his innocent face clothed in a pleasing smile, will no more adorn the class to which he was attached.

He had a great love for books and above all the will to learn. His efficiency in the practicals and workshop was applauded by our teachers. His sincerity and dedication paid dividends when in the first semester he was among those few students who



Y. M. Asher

secured a first class. He had a bright futu in reserve but God disposed otherwise.

He was also fond of games. The game i which he excelled was cricket. He was a good sportsman right from his school day

He was truly a selfless and lovable friend whose memory will live for ever in th minds of all those who came in contac with him.

It is said, "Those whom the Gods love die young." We all loved him dearly. Bu the Almighty loved him more. But,

"He shall grow not old, as we that are left grow old.

Age shall not weary him, nor the years condemn,

At the going down of the Sun and in the morning,

We shall remember him."

May God grant him eternal peace. To his bereaved mother we offer our sincere condolences and pray God to give her the strength to bear this irreparable loss.



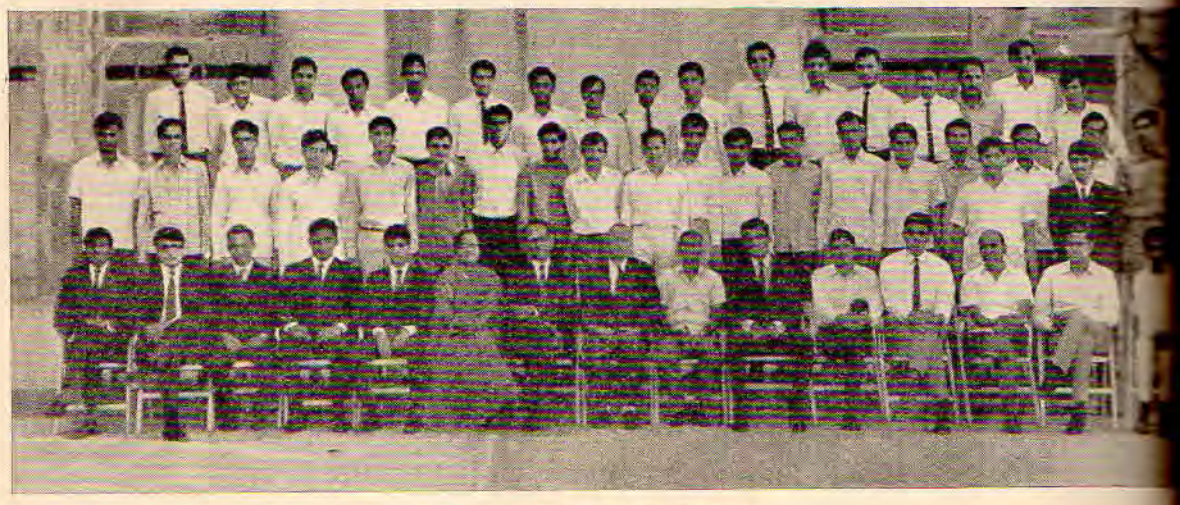
Players in the pavilion



A fine drive
....all the way for....



Prof. Bhirud batting
with.....



B. E. (Civil) Students



B.E. (Elec.) Students

OUTGOING STUDENTS

"Quest - Unending"

V. G. Buch F. E.

"जीवो जीवस्य जीवनम्"*—this terse expression was probably the first expressed statement of the interaction among the lives on this earth (according to H.H. Adi Shankaracharya). It is an expression which depicted the then and the future interactions among the various forms of lives. In its first look it means that whenever a powerful life comes into being, the weaker one is suppressed and the former superimposes, if not dismisses, its own will on the latter. Since creation, it has, until today, satisfactorily explained the various phenomena that have occurred so far. It has depicted one of the basic human instincts.

Human being, since his infancy has wondered at the nature and the numerous natural phenomena that exist and occur around him. After centuries of observations, he tried to put or express them in familiar ways. These were followed by more careful and systematic observations and new ideas and ways of expressing them.

The basic human instinct, expressed in the first paragraph, I would say, should be capable of being stretched as far as its field of application is concerned. I would, having stretched it, apply to the interaction of various schools of thought—which is of the most original human desire and creation. In that case, it follows, more subtle and powerful schools of thought surpass the older, previously accepted but proved to be weak and getting shattered or collapsing while explaining the new, recent observations of nature. Thus, the systems of thought have followed a very rational, convincing and appealing way towards progressive developments and consequently more and more basic, subtle and rigorous schools of thought have born.

With the gradual developments of physical sciences and consequent resort of human race to the ways and means of repeating the natural phenomena under suitably controlled situations, the quest has followed a very rational approach to the basic human instinct of understanding nature. Once this repetition showed success, new ways of doing them and later, even systematic experimentation came up and on this path of systematic experimentation followed by most rigorous possible mathematisation of the accumulated data, the human race has reached the peak of understanding nature by laboratory methods coupled with subsequent mathematisation from early primitive and crude ways of doing the same. Thus, until today, the experimental and theoretical (mathematical) approaches to the understanding of nature and universe have proved boon to the human race. The pace which these methods have given to the physical and human sciences has, also, been fantastic.

But now, the level and height reached have come to a peculiar stage. The new, recent experimental findings, particularly in the world of physics—one of the most fundamental among known sciences (in fact, next only to mathematics in originality), the situation has been such that mere physical interpretations virtually fail to explain and describe them. Something else has to be, so to say, reinforced, with the physical interpretations and understandings to explain the further developments in the human quest of understanding of nature. That something, which in conjunction with the physical interpretations, which shall give an additional vigour to human potentialities and capabi-

* "Life is the life of life"

lities of understanding and reasoning is the reckoning of the basic values of nature, the science of philosophy of values, as I would put it. The deeper understanding of the basic values and behaviour of nature, separately, has proved majestical in the developments of human progress towards perfection.

When introduced in conjunction with the latest experimental setups and sophistications of today, the science of philosophy of values should prove mysterious in attaining the final goal of human race. Both the streams of thought, (the physical and philosophical) are, of course, quite powerful in their own and are very strong in their abilities of explaining the natural phenomena. It, therefore, follows that their rational conjunction (rational in proportion and equally rational in the time of their appearance on the dramatic quest) should prove even more powerful and able. The only thing that remains rather challenging for us all is the rational conjunction. Thus, it is now, that having advanced quite deep, that the conjunction of the two streams of power and vigour is felt very badly.

Einstein, a born genius and a disciple of nature ever since childhood was probably the first successful mathematical physicist to achieve this. To quote him: "Science without religion is lame and, of course, religion without science is blind". By the word religion, he, of course, meant the understanding of basic values of nature. He believed, "spiritual sciences, which ignore and refute physical world, spiritualism, dig their own grave". Thus, on the line of thought which he generated, it was he, who, in the words of a famous author, "shortened the life of physical sciences by at least a century" by philosophical interpretation of nature. Obviously, the solutions which he offered to the problems which remained unsolved and highly puzzling for more than a century, were unique and so powerful that they have not only successfully faced the strong challenges, but also have proved a guideline for the rising generations. He, through his theories of relativity, in which highly abstract ideas and highly sophisticated and materialistic schools of thought have been most successfully reinforced, explained the most puzzling and contradictory results accumulated through various experiments over a span of about thousand years.

Thus, as has been discussed so far, the human quest of understanding nature and accumulating "knowledge" has acquired such a level and potential that it will be the rational conjunction of the materialistic and spiritual sciences, which will show and give a way through the present puzzling state of affairs.

Einstein, through his famous relativistic transformation $E=mc^2$, which has been interpreted to be the relation depicting the equivalence of mass and energy, has, I would say, shown beyond doubt the plausible, first of its kind, relation between the materialistic and the spiritual schools of thought, the mass representing materialistic and energy the spiritualistic views of the universe. It, thus, has opened a new era in the human quest of the understanding of nature. Einstein, in the position of the father of such sciences, shall be a guide for us all in the present rising generation. May this quest, with all its ardent zest continue to overcome the regions of darkness....

* * *

—One who knows not and knows that he knows not is ignorant—teach him.

—One who knows not and knows not that he knows not is a fool—shun him.

—One who knows and knows that he knows is a prophet—follow him.

—Reader's Digest

Numerical Control of Machine Tools

Contributed by : **A. VIJAYA KUMAR, B. E. (Electrical)**
Associate Lecturer in Electrical Engineering

Primitive man used unshaped stones and wooden twings as tools to meet his needs. Time advanced. His needs increased. Tools took the shape of loosely strung bow rotating the wooden piece, pivoted between the toes and he moved a sharp edge along the work piece. And the lathe was born! Man has fastidious tendencies. He stops nowhere. He forges ahead. Machine tools were created. Lathe, milling machine, shaper, gang-planers capstan and turret lathes and other automatic special purpose machine tools took shape. Yet man was not tired! He wanted sophistication and ingenuity to be incorporated into the machine tools. With the help of advancements in physics, electronics, mathematics, control systems, mechanics and (of course electrical engineering!) he set forth to improve the conventional machine-tools. The result was fantastic! A new era of numerically controlled machine tools was ushered in.

Before going into the details of numerical control part, let us brush up our knowledge on machine tools. A machine tool has three mutually perpendicular machine-axes X, Y and Z. Along these axes the jobs or the cutting tools move in a pre-determined manner. See Fig. 1. For a lathe only X and Y axes exist. Z-axis in this case will not have a meaningful existence. For shaping machines etc. all the three axes exist. In the conventional machine tools the job or the tool is moved relatively by motors actuated by hand control or preset programmes operating on trips and stops and relays as in the case of automatic lathes or gangplaners etc. In general the machine tools have built in information. It operates in connection with externally fed information. In numerically controlled machine tools the built in information takes a different shape and external information is pre-programmed making it the most versatile thing.

NC system is broadly classified into (i) Point to point control and (ii) Contouring control systems.

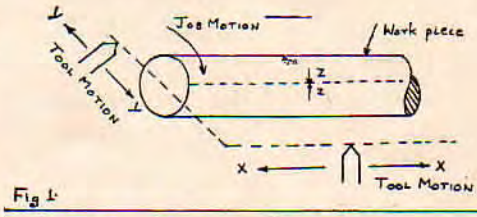


Fig 1.

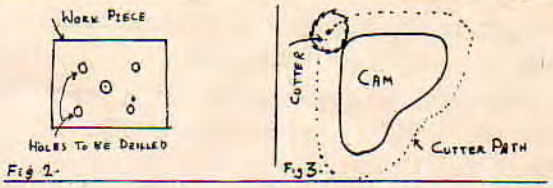


Fig 2. Fig 3.

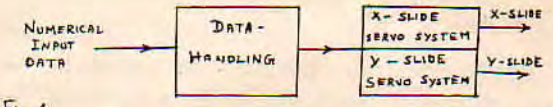


Fig 4.

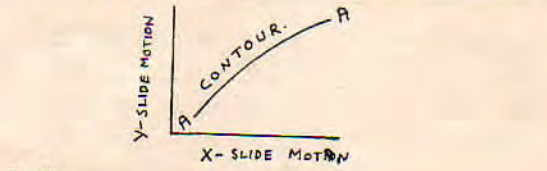


Fig 6.

The first one is a non-continuous process involving a stationary workpiece operated on by a moving tool-head. A fine example will be that of drilling holes on a flat metal plate as shown in Fig 2. The drilling head gets positioned over the job-piece. This is a simple system.

The second system involves a continuous process wherein a workpiece and cutter orient themselves simultaneously with the correct timing. Cutting of a cam will be an excellent example for this system. Velocity of the tool and the job will be different at various points. This system incorporates complex set-ups and are used only in very specialised jobs. Basics of NC systems can be contained in the following heads:

(i) *Data preparation*: This is achieved from dimensional drawings, management instructions etc. obtained in the form of punched tapes or cards.

(ii) *Data processing*: It is realised from the calculations from the original data by employing interpolators or a computer.

(iii) *Data storage*: It is the storing of information in magnetic tapes, relays or switches.

(iv) *Data handling*: It is a generic term for processing, storing and conversion of data into analog or digital form.

Diagramatic representation of a two dimensional NC system is given in Fig. 4. The X and Y slides hold the tools the movement of which are controlled by the X and Y servosystems, actuated by the numerical input data.

Position and displacement measurement systems and servosystems are the constituent components of numerical control system.

Input command is not enough to tell the slides to take up which position. This should be followed up and made sure that the toolslides take up the given position. This is done by measuring the difference between the input and the output of the position measuring device, the required condition being identified by the difference being zero. Position and displacement measurements are realised by mechanico-electric or electro-optic methods. This system is given in Fig 5. The electrical differential gives an output signal equal to the difference of command and output signal from the displacement measuring system. The signal (error) is amplified and is fed to the servomotor, which through proper gear systems drives the m/c tools tables. When the desired position is reached, differential output falls to zero and the motor stops. The tacho generator-feed-back stabilises the system. The system is actually complex, involving stabilising systems and higher order control systems.

The servosystem used in NC system is further divided into digital and analog systems. Both the systems use input data in the form of punched tapes or cards. In digital system the numerical informations derived from drawings in cartesians coordinates can change only in discrete quantities whereas in the analog system it can take values between the set limits. The data handling systems use digital to analog conversion or vice-versa.

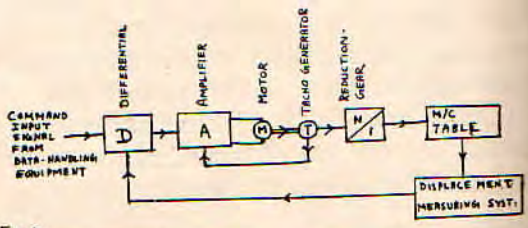


Fig 5

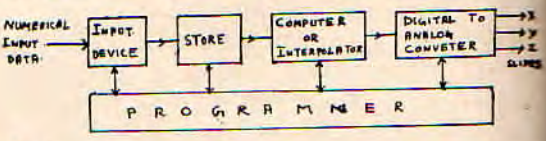


Fig 7.

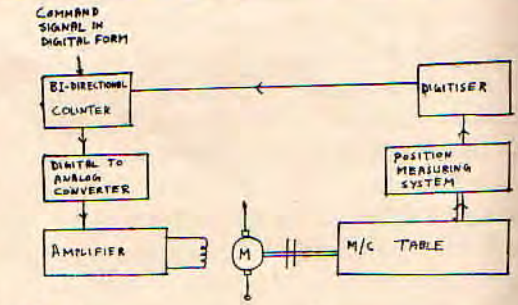


Fig. 9.

See Fig. 6. Consider a contour AA is to be cut. The X and slide motion is plotted on the graph. To get this contour the X and Y slides should move at different feed rates, simultaneously. The digital input data is punched in tapes, the pulse width being predetermined. This is fed into the computer. The computer out put gives a magnetic tape. This is mounted in the tape reader of the unit. This data being explicit no further data processing is required. The pulses from the tape reader actuate the servo-systems driving the slides. The block diagram is in Fig. 7.

Digital and analog systems are further subdivided into incremental and positional control system. In the positional control system the command signal has precise positional information with respect to a predetermined datum. In this system the tools can be retracted with the cutting stopped and can be again brought back to the exact position. In incremental system it contains information in the form of increments from the point where cutting starts. Here a datum is not necessary. But once the machine is switched off, it is very difficult to attain the original state. In digital incremental system, command signal and feed back signal consist of pulses of predetermined proportion. They are compared in a differential, a bidirectional counter, which after being converted into analog form, feeds a servomotor, driving the slides. Systems operating on change in frequency of signals and change in phase of signals are also in use. Here cutter diameter compensation is not realised.

In digital positional system command input is in the form of pulses. There is a differential similar to the above described one. The position measuring device gives analog output which is converted to digital form in a digitiser. See Fig. 8.

Analog incremental systems are not commercially exploited, as the error introduced is cumulative.

Analog positional control uses input in digital form to be converted into analog command signal.

Intermediate dimensions between two points are obtained by interpolation. This process can be classified into three categories.

(i) By a special purpose computer. (ii) By a general purpose computer followed by an interpolator. (iii) By linear circular or parabolic interpolator.

In the first two systems the computer is located in an office away from the machine tool. The output of computer is a magnetic tape to be fed into the tape reader located by the side of the machine tool. In the second system the interpolator is near the machine tool. This is known as the local director.

Interpolation is required only in the case of contouring control systems. If the data fed to the local director is explicit, a non-interpolating system will control the machine tool. If it is implicit a interpolator is required. Non-interpolating system is also termed as curve-generator system. Information about the curves are programmed and fed to the computer. The processed output tape is fed to the local director (See Fig. 7).

Interpolating systems use linear circular or parabolic systems. The curves are sectionalised and equations are formed. The output of interpolators is a tape or card, which feeds the local director. Linear interpolation handles straight cuts and non-linear interpolation handles curved cutting.

The position and displacement measuring instruments can be enumerated as synchro resolvers, helixyns, inductosyns, potentiometers, optical gratings, optical quantiser etc. Their operation and description though simple cannot be given here for want of space requirements. Sensitivity, noise, direction of motion, accuracy, resolution range of measurement, repeatability etc. are their

characterising features. Optical gratings when fed from a light source feeding a photocell gives a sinusoidal signal, depending on the relative motion of the gratings. This signal is shaped and further processed and fed to the servosystems.

Data preparation: This involves punched tapes. From the dimensional drawing a flow chart is made as preliminary programme. Dimensions, management-instructions etc. are coded and punched on to paper tapes or plastic tapes of proper proportions. Tape reading is done by electro-mechanical devices or electro-optical means. In contour system the curve is sectionalised into straight lines, circular arcs etc. Then sections are further subdivided. In digital system the pulse-width is determined from the graphs of contour and resolution of the units involved in the machine tool. Starting and stopping of cutters are done through proper parabolic equations. Blending of the curves is done by smoothing the joints.

The servo systems are designed basing on the mechanics of cutting, which involves velocity displacement curves of the tool movement, starting and stopping of tools etc. Servo-systems incorporate reverse torque system or variable speed system. Feedbacks and compensating networks are incorporated into the servo-systems ensuring stability and smooth operation. A small error may lead to breakage of tool and a spoiled job.

Numerical control system is expensive and is used only when its application is absolutely essential. Certain jobs cannot be done without these systems. Comparison between conventional and NC systems with respect to the cost of production evaluated from the statistical data is still under dispute, though some reports have been published by some firms. These systems introduce flexibility in machine tools to a very great degree.

Pratt and Whiteny, Cincinnati Milling Co. Autonetics, Numill, Airmec, Ferranti etc. are some of the leading manufacturers of numerically controlled machine tools. Though some firms in India (Bombay) have numerically controlled machine tools under their roof they are silent about it!

★



मी बेकार इंजिनीयर आहे हे लोकांना कळू नये म्हणून एम. ओ. करतोच.

A NEWLYD EVELOPING FIELD-RADIO ISOTOPE TECHNOLOGY

R. NARAYANAN, M. E. (HIGHWAYS)

LECTURER IN CIVIL ENGINEERING.

Many scientific discoveries make their way into every day life gradually and unnoticed. It wasn't so long ago that the researches of scientists in atomic physics seemed far removed from practical life. But it was precisely here science harnessed the most powerful force of nature and opened up vast potentialities for perfecting the wide pattern of the present day technology.

Scientists made their first acquaintance with atomic energy at the turn of the century when special radio-active substances were discovered. The atomic nuclei of these substances disintegrate spontaneously, releasing very large quantities of energy. But the energy of radio-active decay is released in small portions over a long period of time.

Science was confronted by a tempting problem, that of finding a way to harness the colossal energy stored up in the atomic nucleus.

One of the peaceful applications of atomic energy is, that of using the radiation of the radio-active substances. This 'Non-energy' field of atomic engineering is beginning to find broad and diverse applications in industry, agriculture, medicine and scientific research. The 'Non-energy' field of atomic engineering is also known as the field of 'Radio Isotopes'.

The range of application of isotopes is now so wide that there is scarcely an industry, profession or occupation into which they have not already found their way, and the variety of applications is rapidly expanding.

Most of the applications are divided into the following groups: 1. Use as tracers. 2. Absorption and Scattering—(a) Direct Transmission and (b) Back Scattering. 3. Ionisation.

This article is intended to review the applications of nuclear methods in the various fields of Highway Engineering.

One of the important uses of the radio isotopes in Highway Engineering is to determine the moisture content and the density of subgrade and base material.

For this there are two main types of equipments in use. 1. Direct transmission and 2. Back scattering. According to the road research laboratory back scatter apparatus gives more accurate results (Fig. 1).

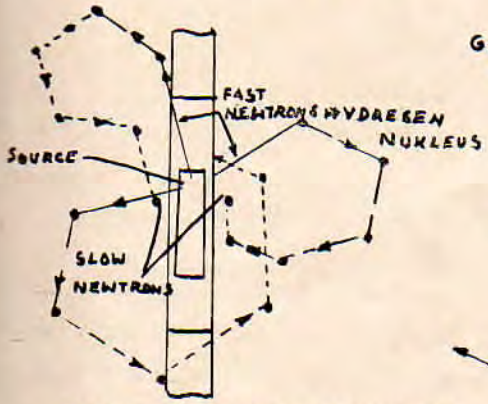


DIAGRAM SHOWING SCATTERING OF SLOW NEWTRONS

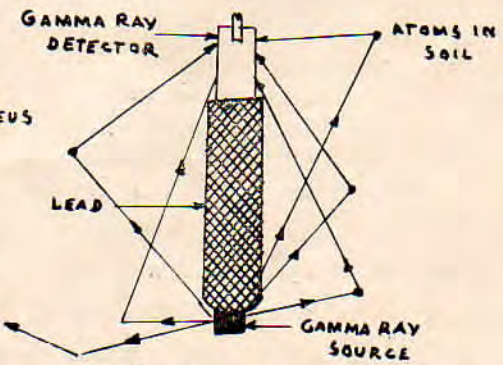


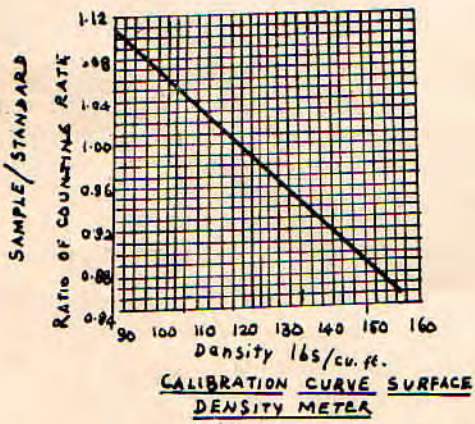
DIAGRAMM SHOWING SCATERING OF GAMMA RAYS

FIG.NO: 1

The main principle of operation of this equipment is, in their decay process, radio isotopes produce a series of radiation including alpha, beta, gamma and neutron emissions. These neutrons are of high energy type. They loose some energy when they come in contact with the hydrogen ions contained in soil particles and become slow or 'thermal neutrons'. These slow neutrons are detected by Boron-Tri-Fluroid Tubes. The mass of the hydrogen is same as the mass of the neutron and any collision which occurs between the two will result in the loss of energy by the neutron. With the heavier elements present in the soil, negligible loss will occur. Thus the measured energy of the slow neutrons will be a function of the slow energy neutrons or in other words amount of hydrogen ions present in the soil mass. This is nothing but the moisture content of the soil itself. This moisture content will be in terms of the weight of the water per unit volume of the soil.

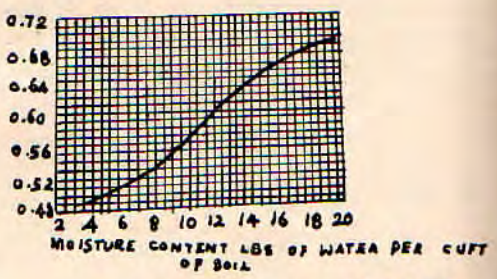
For determination of the bulk density of the soil, gamma radiation is passed through the soil and scattered. They are absorbed by collisions with the electrons of the soil atoms. This intensity of radiation scattered back to the detecter is a function of the bulk density of the soil mass, the intensity decreasing with the increase in the value of the bulk density.

Since the measurements obtained by electronic counters are relative, the apparatus must be calibrated before it can be used successfully. The calibration graph is shown in fig. 2.



CALIBRATION CURVE SURFACE DENSITY METER

FIG. NO: 2



CALIBRATION CURVE SURFACE MOISTURE METER

The second interesting application is the determination of density and moisture content of the surface layers. The engineers of C.A.A. have developed a new method for this. Uptil now probe type of instruments were in use. A sphere of the soil to be surveyed is to be buried below the ground level to get accurate results. If these probes are placed at a shallow depth, in order to measure the surface layers, about 1/3 of the



B.E. (Mech.) Students

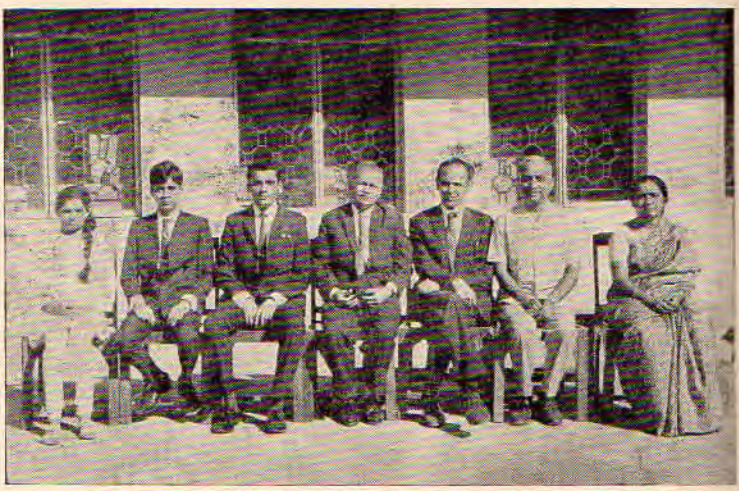
★ ★ ★



Intercollegiate Kabaddi and Kho-Kho Team



Cine-Club Committee

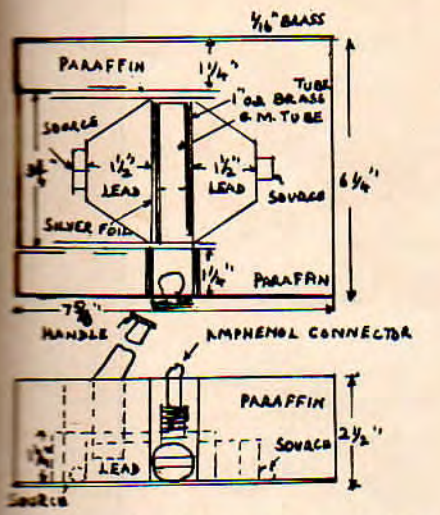


Magazine Committee



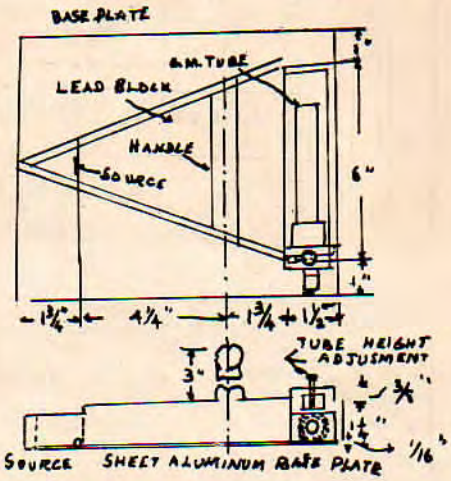
Hostel Committee (1970-71)

sphere of influence will extend over the ground level causing great errors in the results. In pavement construction these layers are very critical and play a major role in designing the thickness of the pavement. In this new method surface moisture and density meters are used. The meters are shown in figs. 3 and 4 respectively.



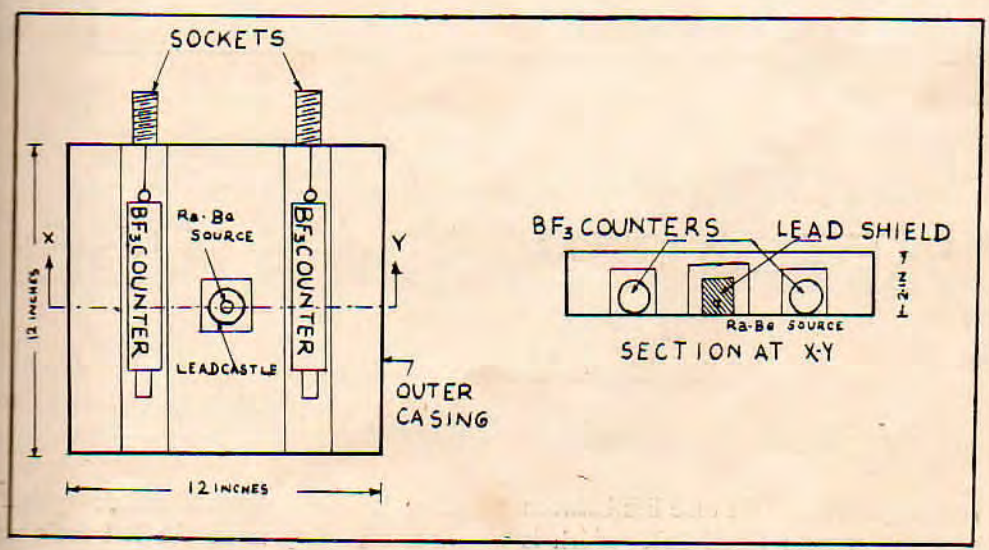
SURFACE MOISTURE METER

FIG. NO: 3(i)



SURFACE DENSITY METER

FIGNO. 4(i)



DETAILS OF NUCLEAR SURFACE PROBE

FIG NO. 3(ii)

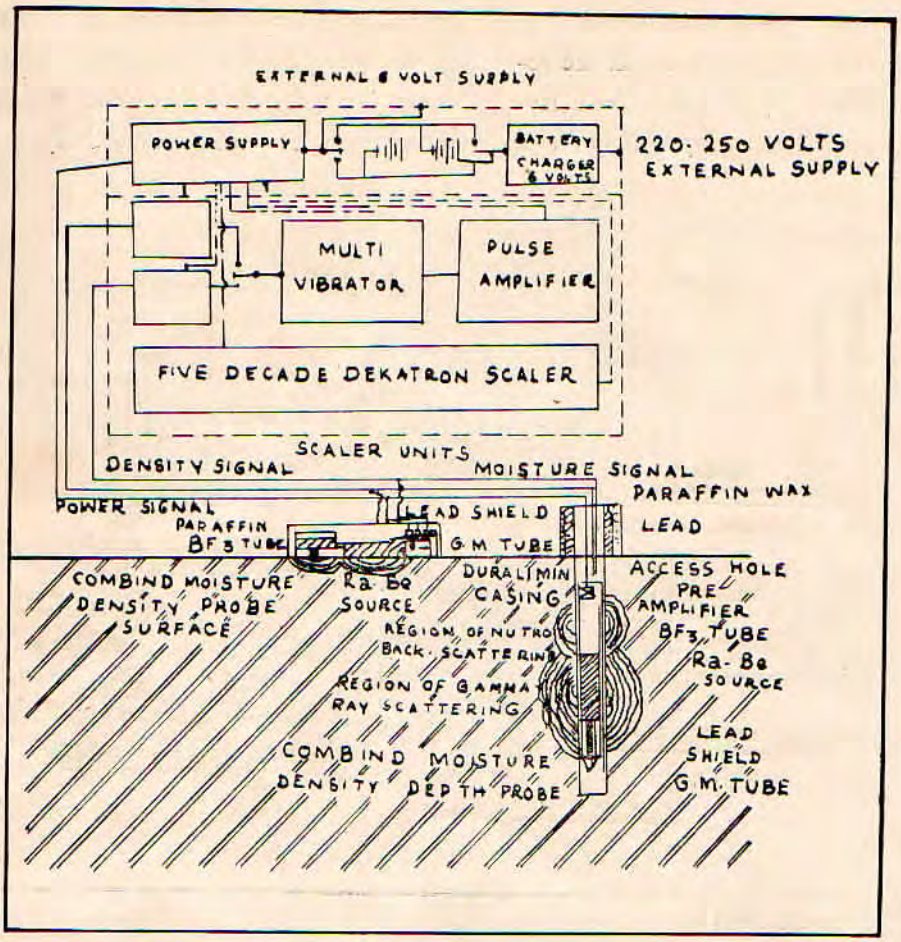


FIG. NO. 3(ii) & 4(ii) DIAGRAMMETRIC SKETCH OF MOISTURE-DENSITY APPARATUS

AFTER PARTRIDGE T.B. AND RIGDEN P.J.

A counting device, G/M tube lies between two neutron sources (RaD-Be), which is separated out from them by sufficient lead to shield out the gamma rays, having less energy, emitted by the source. A silver foil is surrounded on the G/M tube. Thus, when the slow neutrons collide against the silver foil, they make the foil radio-active. Then the beta decay of the silver foil is measured by G/M counter. Fast neutrons emitted by the RaD-Be source penetrate deep into the soil mass, are scattered by the nuclei

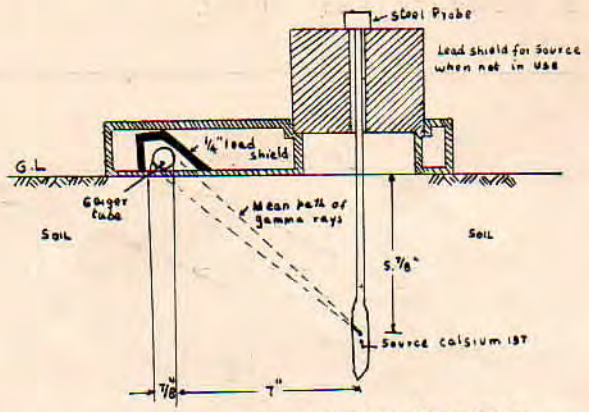


FIG NO 4(ii) DIRECT TRANSMISSION GAMMA RADIATION APPARATUS DIAGRAMETRIC ARRENGEMENT

therein, thus loosing the energy; thus fast neutrons will become slow neutrons. The ratio of the counting rate is obtained when the meter is placed on the surface of a sample of known moisture content to the rate determined for a standard block set up is shown in the fig. 5.

The third interesting application is to determine the amount of Magnesium Oxide present in Portland Cement which is a very harmful substance. This method covers the radiometric determination of MgO2 in Portland Cement in few minutes as against two or three days by using conventional methods.

Basic principle is to precipitate Mg as magnesium ammonium phosphate. Here the ammonium mono hydrogen phosphate precipitating reagent is labelled with phosphorus-32, a radio-active isotope in phosphate form. The difference in the radioactivity before and after precipitation is the measure of the amount of the Mg present in the Portland Cement. This should be done after removing all the interfering cations. Using this method time is saved because the steps of digestion, filtration and ignition are not required. And weighing is totally eliminated. As in other methods in this method also the test has to be calibrated before it can be successfully used.

The next application is very useful in quality control on the construction of bituminous pavements. This method deals with the determination of the asphalt content of the bituminous mixes.

With the proper combination of radioactive isotopes and electronic equipment, it is possible to determine the relative concentration of hydrogen ion in a bituminous mixture. The only source of hydrogen ion in a dry bituminous mixture is the bitumen itself. Thus, it is possible to determine the percentage of the bitumen required in a mix from the curves which are based on tests of standard samples. From these data collected by means of 25 millicurie source of Ra-Be and an enriched Boron Tri Fluroid-10 counting tube, a curve of counts of slow neutrons vs. asphalt content in lbs. per cubic inch is presented for the samples tested.

Figure 6 shows a family of curves relating counts of slow neutrons to percentage of asphalt by weight for various total unit weights of samples. It can be concluded that a quick, reasonable, and accurate technique for determining asphalt content by means of radio-active isotopes has been found.

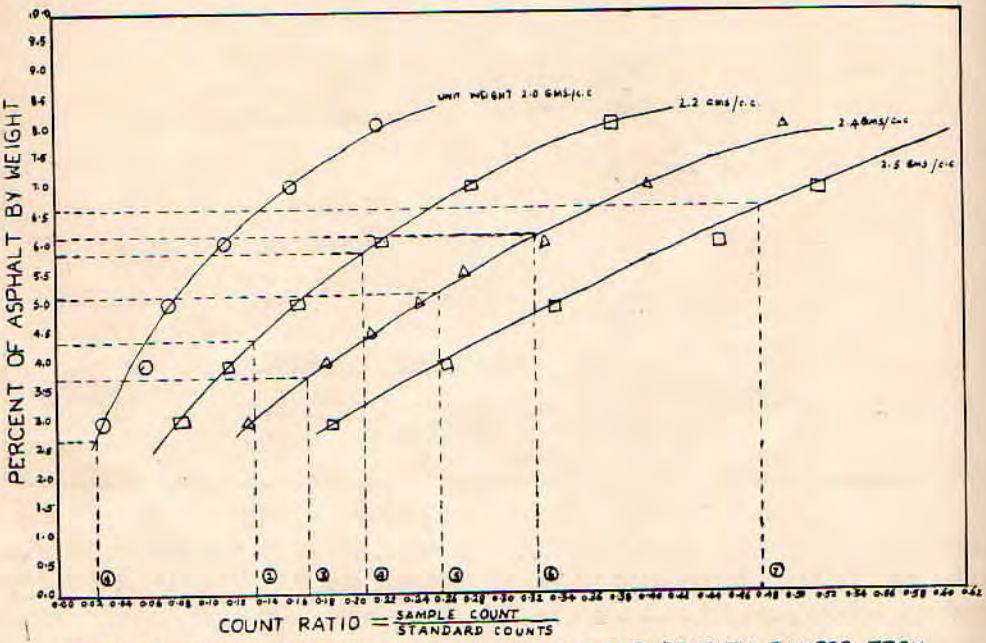


FIG.NO.6 FINAL CALIBRATION CURVES FOR VARIOUS DENSITY RANGES FROM SAMPLE SIZE 11"x11"x2" 2.0 GMS/c.c. TO 2.5 GMS/c.c.

Due to the shortage of the space the author is not in a position to enlist all the applications that have taken place in the field of Highway Engineering.

In concluding this article it can be said that isotope techniques are very important in most of the fields in engineering because of the following reasons.

Nuclear methods of testing are having the following advantages over the conventional methods. 1. Non-destructive method, meaning thereby the samples can be used repeatedly without destructing them. 2. High accuracy. 3. Rapid results. 4. Complete portability. 5. Large volume measure. 6. Economy of the method.

Apart from these advantages it has got more degree of reliability because the human judgement factor is totally eliminated. Every reading comes on the counters. In future the things will be still simpler as this newly developing field is catching everyone's eye. Lots of research is taking place throughout the world.

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COLLEGE NEWS BULLETIN

General Secretary's Report

—: o :—

IT has always been my earnest desire to be a useful member of the student community. I was overwhelmed with the love and confidence of my fellow-students, who elected me as the General Secretary of the College Students' Union for the year 1970-71.

The elections were held on 17th July 1970 for the choice of class-representatives, in an exciting manner. This year the mood for the elections was quite different from other years.

The election of General Secretary was held on 20th July 1970. There was lot of suspense as to the outcome of the election.

For the allround development of the Gymkhana activities, various sub-committees were formed as follows:

Joint Secretary:

Shri J. S. Parab.

Athletics:

Shri D. D. Dixit and
Shri P. B. Kadakia.

Volleyball, Football, Basketball and Hockey:

Shri U.J. Badkar and
Shri S. P. Madkiker.

Badminton:

Shri A. K. Karmarkar and
Shri S. M. Bandekar.

Cricket:

Shri S. V. Gogate and
Shri Kamat P. V.

Tennis:

Shri S. P. Vhatkar and
Shri R. P. Jani.

Indian Games:

Shri J. S. Parab and
Shri V. D. Kamat.

Indoor Games:

Shri Chiplunkar V. V.,
Shri R. K. Shah and
Miss A. D. Dhupkar.

Cultural Activities:

Shri S. B. Rege, and
Shri H. B. Bharucha.

Elocution and Debates:

Shri D.M. Chandvadkar.

Gymnasium:

Shri K. H. Thakur.

Tours:

Shri R. P. Jani.

Students' Library:

Shri B. K. Fafadia.

Magazine:

Shri U.J. Badkar and
Miss A. D. Dhupkar.

Cine Club:

Shri G. P. Joshi and
Shri N. R. Khushlani.

Hobby:

Shri S. B. Rege.

The reports of each of these committees for the year speak for themselves the achievements and I am highly thankful to all the representatives for the devotion and loyalty with which they have worked.

We had the regular meetings of the Gymkhana Committee in which Prin. R. H. Chokhavatia used to take keen interest and guide us in making our Gymkhana more appealing and purposeful to the students. It is my proud privilege to acknowledge the unreserved help, fatherly guidance and co-operation from our principal. I wish him a very happy, healthy and long life.

I must also express my thanks to our Vice-Principal S. S. Dighe, for the guidance and valuable help, he gave me throughout the year.

We had a beautiful teamwork and whatever we could plan and endeavour to achieve, was entirely due to the willing co-operation received from all the respected members of the staff and my fellow-students.

Our college participated in the Inter-Collegiate Dramatic Competition in the Bombay University Youth Festival. We staged a Marathi drama which was declared an excellent one. Shri S. B. Rege's role as doctor, hero of the drama, was very good and impressive. My hearty congratulations to him. Shri D. M. Chandvadkar and Shri Girish Vaidya, have won many trophies and prizes by their outstanding performances in Elocution and Debate.

Our college also participated in the Discussions and Debates in the Youth Festival. Shri V. R. Nadkarni and Shri G. Vaidya secured the second and third prizes respectively. Shri V. E. Kapadia's performance at the Inter-Collegiate Chess Tournament was excellent. I congratulate them for their great success.

Almost all our sportsmen have bagged credit both in sports and in studies.

"August Melody" programme was celebrated on the 19th August 1970, in which many of our talented fellow-students participated. The most interesting programme was given by ventriloquist Shri Ramdas Padhye, a student of V.J.T.I. On 20th, Dr. Parulekar of Mech. Engg. Dept. from I.I.T., Bombay delivered a very interesting lecture in Marathi on the subject "Khandu Patilache Thermodynamics".

We have started a "Cine Club" from last year, which arranges filmshows regularly on Friday evenings.

Shri P. B. Kadakia has been adjudged as the Best Secretary for the year 1970-71. Heartiest Congratulations to him.

The most colourful functions of the year were the Annual day and Social Gathering, fun-fair, annual sports, Staff Vs. Students' Cricket match and mock parliament. Annual Sports were held on the 7th, 8th and 9th Dec., under the supervision of Shri R.H. Kulkarni, Shri P.B. Kadakia and Shri D. D. Dixit. The most interesting event in the history of the Sardar Patel College of Engineering was the Mock Parliament, which was held on the 10th Dec. 1970. Principal Yagnik of Mithibai College was kind enough to accept our invitation to be the speaker of the House.

Thereafter inter-class Cricket matches were held. T. E. Class won the Cricket Shield. Staff Vs. Students' Cricket match was held on the 16th and as usual staff were made to win.

This year we had arranged two film shows instead of the usual single show at Navrang. One of these was at Topiwala and the other at Navrang. The student community very much liked this new practice and wishes that it be continued hereafter.

Our Chief Guest for the Annual Day celebrations was Hon. Sri S.B. Chavan. We had a variety entertainment programme, which included an orchestra programme by the well-known Zankar Music Party and mimicry by Crook and Crack.

Shri Sunil Madkikar, student photographer, spared no exciting moment in

taking the snap shots. Last year Shri Oza executed the similar work.

The success of the Annual Day celebrations was mainly due to the co-operation and zealous efforts of several of my friends and teachers.

Our registrar, Sri E.K. Warrier, had been very helpful to us. I express my sincere thanks to him, on my behalf and on behalf of the other students.

I cannot afford to ignore the services of Shri A. B. Gandhi, Shri J. S. Parab, Shri P.B. Kadakia, Shri R.L. Shankpal and Shri R. B. Kambarkar and others.

We are sure of success in all our efforts, due to the blessings of all our teachers.

Ulhas J. Badkar,
General Secretary.



Report of Cricket Activities During the Academic Year

As usual eighteen players were selected to represent our college in the Inter-collegiate cricket matches. Unfortunately, we could not play any round because the date of the match clashed with the examination date (Part I).

Inter class matches were held during the month of December 1970. T.E. team was adjudged as the Best Cricket Team in the college.

The prizes were distributed on the basis of Best batsman, bowler etc.

The highlight of the year is, the Department of Cricket conducted a festival match of Staff vs. Students, to bring them very close and participate in the college day activities.

Inspite of the students' victory, staff members showed a remarkable performance.

Thanks to all those who helped us in conducting the match and to those who witnessed the game.

My thanks to Prof. Mhaskar and Prof. M.M. Shah and Mr. Gogate for their kind co-operation and guidance in handling the activities of department

Prakash Kamat,
Secretary.

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Report of Debate and Elocution Competitions

This year the College English Debating Team, which consists of Deepak M. Chandvadkar, S.E.(M) and Girish G. Vaidya, S.E.(C) started with a bang. The first competition in which our team took part was organised by R.A. Podar College and held on 9th September, 1970. For this competition Deepak M. Chandvadkar got the Second Individual Prize and Girish G. Vaidya got the Third Prize. The College was awarded the Shield. Incidently this is the second year in succession that our College has won the shield.

The second competition in which our team took part was for the Nana Chudasama Trophy organised by Juhu Junior Chamber, in which Deepak Chandvadkar won the First Prize and Girish Vaidya the Third Prize. Our College also won the above mentioned trophy.

The A.D. Shroff Memorial Elocution Competition was organised for our College students on 15th September, 1970 in which Deepak Chandvadkar stood First, V.R. Nadkarni, T.E., stood Second and A.D. Nadkarni, S.E.(M), stood Third.

Our team also took part in the Debate organised by K.C. Law College, in which Girish Vaidya stood Second and Deepak Chandvadkar stood Third.

Girish Vaidya stood Second in the Elocution Competition organised by World University Service.

Our team also participated in the Debate organised by Lions Club of Worli and in the Elocution Competition organised by S.I.E.S. College. In both we faired creditably.

V.R. Nadkarni, T.E.,Stood Third in the Marathi Debate organised by the Bombay University Youth Festival.

My heartiest congratulations to Deepak Chandvadkar, Girish Vaidya and Nadkarni for having won laurels in Debate and Elocution and for having brought fame to our College.

D.M. Chandvadkar, S.E.(M)
Debating Secretary.

*

STAFF CLUB

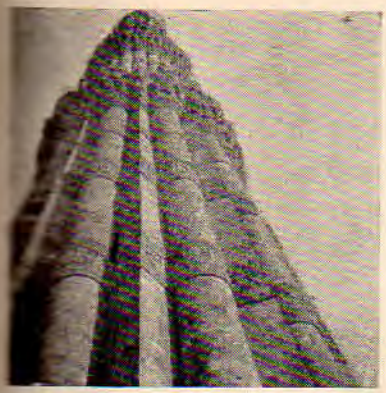
The first meeting of the Staff Club was held during the first term. Prof. V.R. Doiphode, our Secretary then, arranged this meeting, in order to introduce the new staff members to the other members of the staff.

In the same meeting, it was decided to elect a new Secretary, as Prof. V.R. Doiphode wished that there should be a change of Secretary. Miss Thailamani L.E. became the new Secretary.

The second meeting was held on December 8, 1970. Prof. S.R. Sanghani and Prof. K.N. Soni were given a warm send-off, as they were leaving for the U.S.A.

Until now, we were holding the meetings in any hall available in the College. But with the completion of the second storey of the College building, we will have a staff common room. This facility will enable us to meet often and arrange for such useful activities as paper readings, popular lectures.

L.E. Thailamani
Staff Club Secretary.



Kutub Minar



Golden Temple, Amritsar

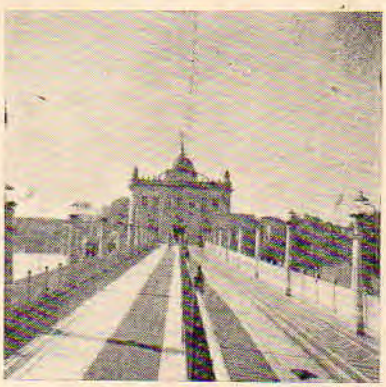


Amber Palace, Jaipur

B.E. (M) &
B.E. (E)
TOUR



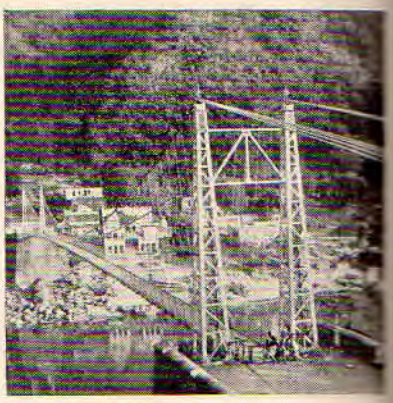
Jallianwalla Baug, Amritsar



Durga Temple, Amritsar



Bhavan's Delhi Kendra



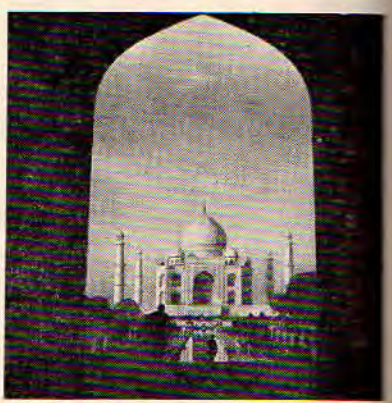
Laxman Joola

B.E. (C)
TOUR



Rajghat—
homage to the Father of the Nation





The Taj Mahal

Cultural Activities This Year

I have great pleasure in mentioning that our College had greater number of cultural and social items this year (Academic Year 1970-71) than in the past.

We opened our account on 19th August, 1970 with August Melody programme. This year's Melody, according to all, was really fabulous. Melody included a few items like Mimicry by V.G. Sardesai, two favourite songs by A.B. Kulkarni, Sitar by Vivek Chiplunkar, (all our College students) and we invited guest artists, amateures and professionals who obliged us by whole heartedly participating in it.

Orchestra of S.N. Telang and Beat group by Mr. Iyer were a bit.

The main attraction in the Melody was Ventriloquism by Mr. Ramdas Padhye, the *Modelling* Ventriloquist of international fame. This item was enjoyed by all.

I shall fail in my duty, if I did not mention the names of Mr. M.M. Vaidya and Mr. N.P. Tarkar who were helpful in preparing the posters for "August Melody".

The very second day, we had a hilarious lecture by Dr. Parulekar—"Khandu Patlache Thermodynamics"—on the two laws of thermodynamics. It was very instructive, besides being hilarious. This lecture was greatly enjoyed by both the students and the staff.

We intend to have the second part of his lecture also (which is based on the subject of entropy and enthalpy) next year.

As usual, our College Day function and orchestra were a success.

It was pleasant to notice that more and more students are attracted towards the item of *Fun Fair,* which was held on 21st December, 1970.

We also had a Mock Parliament. It was enlightening besides being enjoyable.

After a brief gap, due to the December Vacation, we had the Youth Festival.

I congratulate Mr. V.R. Nadkarni, Mr. G.G. Vaidya and Mr. V.G. Sardesai who bagged the prizes in each of the three topics of Marathi discussion. Mr. V.R. Nadkarni also won the prize for Marathi Debate.

Though we were not lucky enough to bag a prize for 'Kalwel' a Marathi one-act play, it needs to be mentioned that it was very much appreciated by those, who witnessed it.

I must mention the names of Mr. H.B. Bharucha, my colleague, Mr. J.S. Parab, Joint Secretary, Mr. U.J. Badkar, General Secretary and other friends for their kind co-operation but for whom, the cultural activities would not have been so much successful.

I have to thank Principal Chokhavatia and Vice-Principal S.S. Dighe, for the guidance and help they rendered to us.

S. B. Rege,
Secretary for Cultural Activities

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"Everything can be sacrificed for truth; but truth cannot be sacrificed for anything."
—*Vivekananda.*

MOCK PARLIAMENT

(Brief Report of the Proceedings)

Speaker of the House	Shri B.M. Yagnik
Prime Minister in charge of General Administration and Home Affairs	Shri R.H. Chokhavatia
Leader of the Opposition	Shri S.S. Dighe
Ministers for various portfolios	Students and Teachers.

With the commencement of Question and Answer Session, pandemonium prevailed: Order from the Speaker to maintain discipline and not to use unparliamentary language.

Over the Kashmir issue, the opposition staged a walk-out.

Shri S.S. Dighe (SSP) to Prime Minister Shri R.H. Chokhavatia.

Q. Will the Hon. Prime Minister give us the figures of deaths by shooting in West Bengal under the President's Rule?

A. There have been no deaths by shooting. Whatever deaths have occurred are due to natural causes. The Government of India is not responsible for such cases.

Shri S.S. Dighe (SSP) to Minister of Education, Dr. S.S. Maneck.

Q. Will the Hon. Minister of Education state the time in which the Sardar Patel College of Engineering will become an University?

A. According to schedule it will take three years, 3 months, 3 days, 3 minutes, 3 seconds, 3 milli-seconds, 3 micro-seconds and 3 nano-seconds from the moment of completion of this statement. This time interval is being measured by the Digital-Clock at Bombay-1.

Shri S.S. Dighe to Prime Minister, Sri R.H. Chokhavatia.

Q. Will the Hon. Prime Minister classify the stand of the Government of India on the strike of Maharashtra Government Employees in last November

A. The policy of the Government of India is very clear. Non-interference in the affairs of the States. The strike of Maharashtra Government Employees was the internal affair of the Maharashtra State Government. It is not fair on the part of the Government of India to intervene in this matter.

Shri S.B. Rege (JS) to Minister in Charge of Social Labour, Shri D.M. Chandvadkar.

Q. May I know for what reason the Government of India has given help of Rs. 1 crore to Pakistan for Relief Fund even though she (Pakistan) has rejected the offer of helicopters.

A. The acceptance of the helicopters by Pakistan is their Government affair and not ours. That does not prevent the Government of India from taking the purely humanitarian point of view and go to the aid of Pakistan who needed the aid very badly on account of such grave calamity. Whatever the aid India has given i.e. Rs. 1 crore is only a symbolic aid which will just be a

fringe help. The people of Pakistan need assistance in clothes, rehabilitation, transport, etc. The cost of help required is collossal i.e. 1,350 crores of rupees. (If the Government of India can reach that amount.)

Shri S.B. Rege (JS) to Deputy Minister of Broadcasting and Publishing, Dr. S.S. Maneck.

Q. May I know why the Editor of the 'Illustrated Weekly of India' has been allowed to publish on communal aspects, a publication like 'Hindu-Muslim Bhai Bhai' which are against the policies of National integration.

A. This slogan of 'Hindu-Muslim Bhai Bhai' is not a communal question. That has been the tradition of the country and always helps in National integration. In this country, there exists a freedom of Press and Government of India cannot restrict the publication of the free expression of the Press. If the Hon. Member feels that what is published in the papers is against communal harmony and against public liberty then he should take up a case in the High Court.

Shri C.D. Agte (CPM) to Minister for Home Affairs, Shri R.H. Chokhavatia.

Q. Is the Hon. Minister of Home Affairs aware that there is an acute shortage of housing accommodation in Bombay and will he be kind enough to give the figure of persons sleeping on the pavements under the sky?

A. Yes. I am aware that there is an acute shortage of housing in Bombay and that there are 7,30,409 persons sleeping on pavements under the sky.

Q. Will the Hon. Minister be pleased to furnish the figures of casualties of students due to lathi-charge in various activities and movement by the students?

A. The question does not make any mention of the period for which information is desired. But during the period this Government is in power the number of casualties is nil.

Shri Girish Vaidya to Minister of Information and Broadcasting, Dr. S.S. Maneck.

Q. Will the Hon. Minister of Education, Information and Broadcasting be pleased to state what is being done by the Government to improve the quality of torturing programmes of Indian Classical Music on AIR.

A. If the Hon. Minister feels the Radio programme torturing, he is requested to switch off his radio.

Q. Is it a fact that the Government is thinking of opening a new radio station "Jahirat Bharati"?

A. The Government of India does not encourage nor desires to open any radio station for advertisement purposes. The Government has simply no time for this purpose. The Government of India is not a Commercial Concern.

ACADEMIC AWARDS

Following students have been awarded Prizes and Medals as shown against their names:

Kulapati's Gold Medals

(1) Shri A.R. Nene, for securing First class and First rank in the University at the B.E. (Civil) Examination, April 1970.

(2) Shri B.C. Mehta, for securing the First rank in the College at B.E. (Mech.) Examination, April 1970, having passed in the First class.

(3) Shri M.B. Rao, for securing the First rank in the College at the B.E. (E) Examination, April 1970, having passed in First class.

Kulapati's Silver Medals

(1) Shri A.Y. Tirodkar, for securing the Second rank from this College, having passed the B.E. (Civil) Examination, April 1970, in First class.

(2) Shri V.S. Kogekar, for securing the First class and Second rank in the College at the B.E. (Mech.) Examination, April 1970.

(3) Shri J.V. Naik, for securing the Second rank in the College at the B.E. (Elec.) Examination, April 1970.

The following students are awarded Merit Prizes:

F.E.

Shri R.S. Sabnis (I)
Shri B.K. Parekh (II)

S.E. (Civil)

Shri S.B. Desai (I)
Shri D.J. Trivedi (II)

S.E. (Mech.)

Shri V.V. Chiplunkar (I)
Shri M.R. Chheda (II)

S.E. (Elect.)

Shri K.A. Chawla (I)
Shri M.P. Shah (II)

T.E. (Civil)

Shri U.D. Kalbag (I)
Shri D.M. Shah (II)

T.E. (Mech.)

Shri R.J. Mody (I)
Shri S.V. Gogate (II)

T.E. (Elect.)

Shri A.B. Kulkarni (I)
Shri Samuel Abraham (II)

B.E. (Civil)

Shri R.P. Jani (I)
Shri P.P. Deshmukh (II)

B.E. (Mech.)

Shri R.M. Parsurampuria (I)
Shri S.H. Mehta (II)

B.E. (Elect.)

Shri B.K. Rupani (I)
Shri K.D. Parikh (II)

Merit Prizes

Shri Pruthvish Narayandas Killawalla Prize

(1) Shri K.A. Chawla, First student in S.E. (Elect.) class, having passed the F.E. Examination in Second class in April 1970. Rs. 120/-.

(2) Shri A.B. Kulkarni, for having secured the highest marks in S.E. (Elect.) Examination in April 1970, and joined T.E. (Elect.) class in this College. Rs. 120/-.

(3) Shri M.B. Rao, for having secured the First rank with First class in the B.E. (Elect.) Examination of April 1970. Rs. 150/-.

Shripadrao Dubhashi Prize

Shripadrao Dubhashi Prize has been awarded to Shri H.M. Doshi for securing the Second rank in the University and First rank in the College in the subject of "Design and Drawing", at T.E. (Civil) Examination, April 1970.

Best Student Award

(1) Sri S.V. Gogate (Kulapati's Gold Medal).

(2) Sri V.V. Chiplunkar (Kulapati's Silver Medal).

(3) Sri D.M. Chandvadkar (Consolation Prize).

Best Secretary Award

Sri P.B. Kadakia, F.E. Class.



A CIVIL ENGINEER

GAMES

Football

Winners: S.E. Team.

1. Sri Tarit Poddar (Captain), S.E.(M)
2. Sri Anil Nadkarni, S.E.(M)
3. Sri Bipin Paul, S.E.(E)
4. Sri Allen Fernandez, S.E.(E)
5. Sri M.R. Malde, S.E.(M)
6. Sri V.L. Shah, S.E.(M)
7. Sri A.R. Venkataraman, S.E.(E)
8. Sri H.D. Vaidya, S.E.(E)
9. Sri J.G. Baliga, S.E.(E)
10. Sri D.S. Sanghvi, S.E.(M)
11. Sri S.N. Pathak, S.E.(E)

Best Football Player

Sri G.S.Z. Pereira, B.E.(E)

2nd Best Football Player

Sri Grinion Fernandez, B.E.(E)

Volleyball

Winners: S.E. Team.

1. Sri V.V. Chiplunkar (Captain), S.E.(M)
2. Sri V.L. Shah (Vice-Captain), S.E.(M)
3. Sri D.M. Chandvadkar, S.E.(M)
4. Sri M.V. Prabhu, S.E.(M)
5. Sri P.D. Rege, S.E.(M)
6. S.M. Rane, S.E.(M)
7. Sri S.M. Bulsara, S.E.(E)
8. Sri V.G. Sirdesai, S.E.(E)

Best Volleyball Player

Sri V.L. Shah, S.E.(M)

2nd Best Volleyball Player

Sri S.V. Gogate, T.E.(M)

Sri V.V. Chiplunkar, S.E.(M)

Badminton

1. Sri H.M. Sawant, T.E.(E)
2. Sri H.B. Bharucha, T.E.(M)
3. Sri P. Bapat, T.E.(E)
4. Sri S.M. Gokhale, F.E.(I)

No Inter class matches were held. Prizes were awarded on the basis of the performance of our players in the Inter-collegiate matches.

Table Tennis Tournament

SINGLES:

Winner:

Sri R.P. Korgaonkar, T.E.(M)

Runner-up:

Sri M.V. Prabhu, S.E.(M)

DOUBLES:

Winners:

Sri M.V. Prabhu, S.E.(M)

Sri R.P. Korgaonkar, T.E.(M)

Runners-up:

Sri J.B. Kamat, B.E.(M)

Sri V.V. Paranjape, B.E.(E)

JUMBLED DOUBLES:

Winners:

Sri M.V. Prabhu, S.E.(M)

Sri J.B. Kamat, B.E.(M)

Runners-up:

Sri R.P. Korgaonkar, T.E. (M)

Sri S.V. Chavan, B.E. (M)

Team Championship Winners

Winners: B.E. (Mech.).

1. Sri V.E. Kapadia
2. Sri J.B. Kamat
3. Sri S.S. Korgaonkar
4. Sri G.P. Joshi

Runners-up: S.E. (Mech.).

1. Sri M.V. Prabhu
2. Sri V.V. Chiplunkar
3. Sri H.P. Shah
4. Sri Anil Kalyanpur

Chess Tournament

1. Sri P.G. Sinkar (Champion) T.E. (M)
2. Sri V.E. Kapadia (Runner-up) B.E. (M)

Carrom

SINGLES:

Winner:

Sri S.G. Sanghvi, S.E. (E)

Runner:

Sri P.R. Dhamale, S.E. (E)

DOUBLES:

Winner:

Sri S.M. Gokhale, F.E. (I)

Sri G.S. Krishnan, F.E. (I)

Runner:

Sri V.K. Mulay, T.E. (M)

Sri R.D. Damle, B.E. (M)

Team Championship

Winner: Third Year Engineering.

1. Sri V.K. Mulay, T.E. (M)
2. Sri S.V. Gogate, T.E. (M)

Runners: Second Year Engineering.

1. Sri M.V. Prabhu, S.E. (M)
2. S.N. Shenoy, S.E. (C)

MAGAZINE PRIZE

(for best contributions to "Sarjanika", 1970)

Sri S.A. Gadag (First Prize)

Sri P.D. Pradhan (Second Prize)

ATHLETIC EVENTS

The College Annual Athletics was held on the 7th, 8th and 9th of December in Bhavan's Ground.

Best Athlete: SHRI SHAH V. L. (S.E.)

The winners of the various events are as under :—

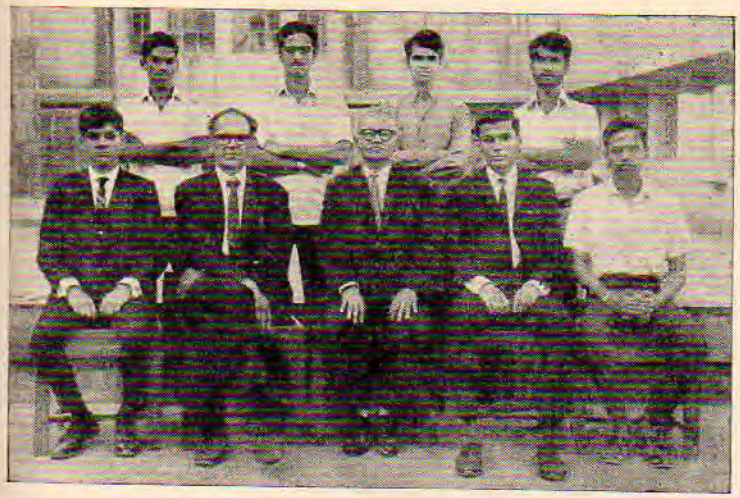
I.	100 METRES RUNNING RACE:	(1)	Shri	Rege S. M.	(T. E. C.)
		(2)	Shri	Shirodkar V. M.	(F. E.)
		(3)	Shri	Gogate S. V.	(T. E. M.)
	200 METRES RUNNING RACE:	(1)	Shri	Sathe M. R.	(F. E.)
		(2)	Shri	Rege S. M.	(T. E. C.)
		(3)	Shri	Shirodkar V. M.	(F. E.)
	400 METRES RUNNING RACE:	(1)	Shri	Sathe M. R.	(F. E.)
		(2)	Shri	Survey P. P.	(T. E. M.)
		(3)	Shri	Shirodkar V. M.	(F. E.)
	800 METRES RUNNING RACE:	(1)	Shri	Survey P. P.	(T. E. M.)
		(2)	Shri	Sathe M. R.	(F. E.)
		(3)	Shri	Fernandes A.	(S. E. E.)
	1,500 METRES RUNNING RACE:	(1)	Shri	Survey P. P.	(T. E. M.)
		(2)	Shri	Bhandare S. H.	(S. E. E.)
		(3)	Shri	Mali V. S.	(T. E. E.)
	5,000 METRES RUNNING RACE:	(1)	Shri	Survey P. P.	(T. E. M.)
		(2)	Shri	Bhandare S. H.	(S. E. E.)
		(3)	Shri	Jani R. P.	(B. E. C.)
II.	LONG JUMP:	(1)	Shri	Pereira G. S. Z.	(17′-8½″)
		(2)	Shri	Shah V. L.	(17′-2″)
		(3)	Shri	Chandvadkar D. M.	(16′-11½″)
	HIGH JUMP:	(1)	Shri	Shirodkar V. M.	(5′ 4″)
		(2)	Shri	Shah V. L.	(5′ 2″)
		(3)	Shri	Sathe M. R.	(5′ 1′)
	TRIPLE JUMP:	(1)	Shri	Pereira G. S. Z.	(35′)
		(2)	Shri	Shah V. L.	(34′ 8″)
		(3)	Shri	Nabar A. B.	(34′ 6″)
III.	JAVELINE THROW:	(1)	Shri	Shah V. L	(130′ 9″)
		(2)	Shri	Nabar A. B.	(123′)
		(3)	Shri	Parekh B. K.	(122′ 11″)
	DICUS THROW:	(1)	Shri	Shah V. L.	(81′)
		(2)	Shri	Pereira G. S. Z.	(80′ 7″)
		(3)	Shri	Chandvadkar D. M.	(66′)
	PUT SHOT:	(1)	Shri	Shah V. L.	(29.5′)
		(2)	Shri	Chandvadkar D. M.	(28.3′)
		(3)	Shri	Pereira G. S. Z.	(26.9′)

IV TUG OF WAR: S. E. TEAM: *Captain*:

(1)	Shri	M. S. Doshi
(2)	Shri	R. Behl
(3)	Shri	M. R. Malde
(4)	Shri	S. M. Bulsara
(5)	Shri	A. Fernandes
(6)	Shri	S. H. Bhandare
(7)	Shri	Kamat V. D.
(8)	Shri	Balega J. G.
(9)	Shri	Anand R. K.

4 × 100 METRES RELAY: T. E. TEAM

(1)	Shri	Rege S. N.
(2)	Shri	Gogate S. V.
(3)	Shri	Parab J. S.
(4)	Shri	Vohra S. T.



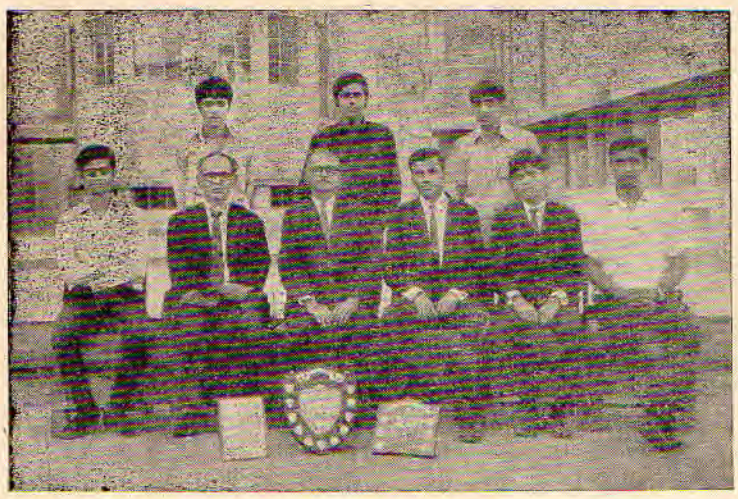
Intercollegiate Team—Swimming



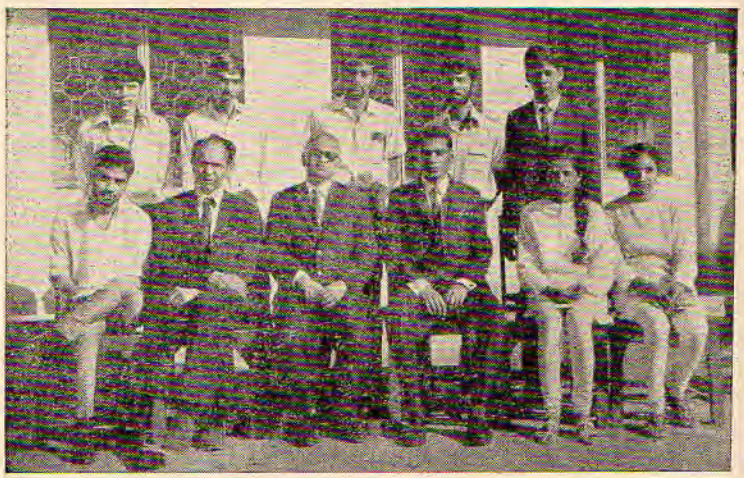
Intercollegiate Badminton



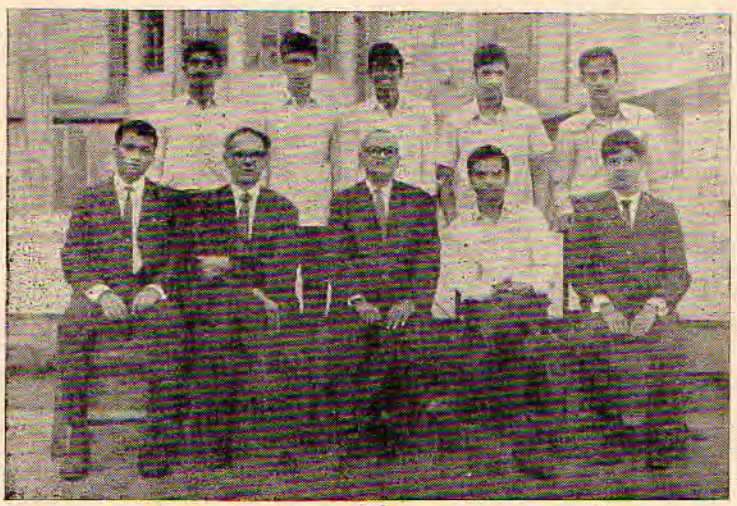
Intercollegiate Athletics



Intercollegiate Elocution and Debating



Intercollegiate Dramatics (Marathi)



Intercollegiate Table Tennis

List of Students who Have passed The Graduation In Engineering Examination

APRIL 1970 (FOUR YEARS COURSE)

B.E. (Civil) First Class

1. Sri Dalia M.S.
2. Sri Nene A.R.
3. Sri Patel M.M.
4. Sri Sabhlok S.N.
5. Sri Shah T.V.
6. Sri Tirodkar A.Y.
7. Sri Iyengar R.S.
8. Sri Parekh P.G.
9. Sri Shah H.J.
10. Sri Doshi D.J.

B.E. (Civil) Second Class

1. Sri Bhende A.A.
2. Sri Contractor R.S.
3. Sri Bhati H.K.
4. Sri Dalia J.M.
5. Sri Kale R.V.
6. Sri Khambhata P.T.
7. Sri Khanderia R.J.
8. Sri Kanani N.L.
9. Sri Naik D.D.
10. Sri Parameswaran H.
11. Sri Udeshi R.P.
12. Sri Shah A.M.
13. Sri Sandhu L.H.
14. Sri Palany N.V.
15. Sri Shah K.N.

B.E. (Civil) Pass Class

1. Sri Chavan K.S.

B.E. (Mech.) First Class

1. Sri Bapat A.R.
2. Sri Daroka D.K.
3. Sri Desai A.H.
4. Sri Gandhi S.
5. Sri Kulkarni S.P.
6. Sri Kogekar V.S.
7. Sri Mahadevan A.
8. Sri Mehta B.C.
9. Sri Paharia I.R.
10. Sri Quaraishi M.M.Y.
11. Sri Shete S.K.
12. Sri Shah P.V.
13. Sri Tikekar A.S.
14. Sri Telang D.J.
15. Sri Pawar P.S.

B.E. (Mech.) II Class

1. Sri Bavishi S.P.
2. Sri Doctor K.N.
3. Sri Desai S.P.
4. Sri Dongre C.V.
5. Sri Gandhi A.N.
6. Sri Gandhi A.B.
7. Sri Gore A.Y.
8. Sri Hegde A.K.
9. Sri Hariharan N.P.
10. Sri Kadakia N.P.
11. Sri Kadakia Y.O.
12. Sri Kelshikar D.G.
13. Sri Mathakia C.K.
14. Sri Mehta A.C.
15. Sri Moknojia M.A.H.
16. Sri Nadkarni S.M.
17. Sri Nandu H.H.
18. Sri Narvekar S.Y.
19. Sri Patel R.D.
20. Sri Parekh S.R.
21. Sri Patel D.H.

22. Sri Patel T.C.
23. Sri Purohit B.H.
24. Sri Raute B.G.
25. Sri Rajadhyaksha Y.N.
26. Sri Shah D.H.
27. Sri Salia Y.T.
28. Sri Shroff A.I.
29. Sri Shah M.R.
30. Sri Shaikh K.M.K.
31. Sri Unwalla J.K.
32. Sri Vagal S.B.
33. Sri Wagh J.P.
34. Sri Sabnis N.K.
35. Sri Lalka Z.J.
36. Sri Trivedi D.D.
37. Sri Trivedi J.N.
38. Sri Natu P.V.
39. Sri Parchure A.S.
40. Sri Vora D.J.

B.E. (Mech.) Pass Class

NIL

B.E. (Elect.) First Class

1. Sri Damle B.W.
2. Sri Fadia N.P.
3. Sri Gadag S.A.
4. Sri Hosing S.D.
5. Sri Joshi V.M.
6. Sri Kamath A.V.
7. Sri Kapnadak A.M.
8. Sri Naik J.Y.
9. Sri Patel J.G.
10. Sri Parekh K.I.
11. Sri Rao M.B.
12. Sri Sukerker A.N.
13. Sri Sangani S.H.
14. Sri Kamble S.D.
15. Sri Trivedi M.V.
16. Sri Shah D.M.
17. Sri Jain P.B.
18. Sri K. Raghunathan

B.E. (Elect.) II Class

1. Sri Boothello S.P.
2. Sri Desai S.T.
3. Sri Gandhi C.J.
4. Sri Gandhi B.N.
5. Sri Kamat A.R.
6. Sri Khichadia K.K.
7. Miss Menon J.V.
8. Sri Mahajan S.D.
9. Sri Modi P.K.
10. Sri Merchant A.A.
11. Sri Patel N.V.
12. Sri Phatak P.V.
13. Sri Shah G.B.
14. Sri Shah S.J.
15. Sri Shah R.M.
16. Sri Shah G.H.
17. Sri Sawant P.P.
18. Sri Uttamsing R.S.
19. Sri Vasaiwala S.T.
20. Sri Sarabjitsingh T.S.
21. Sri Natrajan V.
22. Sri Kothari B.J.
23. Sri Oza P.J.
24. Sri Kenkare S.Y.

B.E. (Elect.) Pass Class

NIL

APRIL 1970 OLD COURSE

B.E. (Civil) II Class

1. Sri Gajjar M.M.

B.E. (Civil) Pass Class

1. Sri Badkar V.J.
2. Sri Rupawate P.M.
3. Sri Sheth G.M.
4. Sri Thakkar H.N.
5. Sri Vyavaharkar S.D.
6. Sri Mehta A.S.
7. Sri Mody A.K.
8. Sri Sharma B.R.

B.E. (Mech.) First Class

1. Sri Deodhar S.B.

B.E. (Mech.) II Class

1. Sri Aras A.A.

2. Sri Bhobe S.T.
3. Sri Jaisinghani S.G.
4. Sri Iyer Padmanabhan S.
5. Sri Bhagvati P.R.
6. Sri Chanchlani P.H.
7. Sri Chaudhary S.C.
8. Sri Gupta B.N.
9. Sri Mahajan S.R.
10. Sri Shah K.N.
11. Sri Thakkar M.M.
12. Sri Vaidya P.S.

B.E. (Mech.) Pass Class

1. Sri Pandit N.A.
2. Sri Kulkarni C.R.
3. Sri Chainani R.K.
4. Sri Dadabhai P.E.
5. Sri Mutwani G.G.
6. Sri Rane A.S.

B.E. (Elec.) First Class

1. Sri Bapat M.N.
2. Sri Rege N.B.

B.E. (Elec.) II Class

1. Sri Kalelkar V.M.
2. Sri Patel J.B.
3. Sri Agrawal B.M.
4. Sri Dhotre S.N.
5. Sri Gadkari J.K.
6. Sri Parikh H.K.
7. Sri Shanbhag P.S.
8. Sri Shiledar P.S.

B.E. (Elec.) Pass Class

1. Sri Philips G.
2. Sri Fernandes M.A.
3. Sri Parikh P.R.

OCTOBER 1970 FOUR YEARS COURSE

B.E. (Civil) Pass Class

1. Sri Bijlani J.B.
2. Sri Lalchandani A.K.
3. Sri Visaria A.K.

B.E. (Mech.) First Class

1. Sri Kishnani R.R.
2. Sri Surve S.M.

B.E. (Mech.) II Class

1. Sri Kelaskar S.A.

B.E. (Elec.) First Class

1. Sri Dhumale V.P.
2. Sri Shevde D.S.

II Class

3. Sri Lotlikar P.A.

OCTOBER 1970 OLD COURSE

B.E. (Civil) Pass Class

1. Sri Mota U.R.

B.E. (Mech.) Pass Class

1. Sri Gadre A.G.
2. Sri Naik M.V.
3. Sri Phanse C.R.
4. Sri Gupta B.G.

B.E. (Elec.) II Class

1. Sri Hingankar P.D.

B.E. (Elec.) Pass Class

1. Sri Merchant G.V.
2. Sri Shinde A.L.
3. Sri Harshe M.S.
4. Sri Jadav A.B.

While leaving the college.....

by PRADEEP D. PRADHAN, (B.E. Elect.)

While leaving the college
I am not feeling sad.
But in my heart deep
It hurts; it's bad.
If defined as that
I am feeling sad.

It is the day I wanted to see;
It is the day I don't want to see.
I am stepping into the world new,
No, world is the same, I am new.
Ney, I am the same and something
is new.

If it is confusing
It is engineering!

Bunking the lectures and going to movies,
(It was a habit than a thrill)
Watching the girls from Arts and Science,
(It was a habit, yet a thrill!)
Beautiful roses with fertilizer's smell.

I will miss them
Or they will miss me ?

Here I learned to be patient with
professors boring,
Here I learned to pretend attention
At the chance of my snoring!
Yet, I learned big words,
All confusing
They call it Engineering!

The lovely campus and college in monsoon!
Oh! cannot be dried off so soon.
My class, my teachers, my friends
(Do they mind for calling them 'my'?)
Just to forget them with a sigh?

I think, I have lost something,
(If not everything!)
I know it's bad
If defined as that
I am feeling sad.

——: o :——

On Fingering The Figures

MANORANJAN R. GANDHI, B. E. (MECH.)

Let us see how interesting results are obtained by additions and subtractions, using the same digit in a particular fashion.

(1)

```
                1
              1 1 +
            1 1 1 +
          1 1 1 1 +
        1 1 1 1 1 +
      1 1 1 1 1 1 +
    1 1 1 1 1 1 1 +
  1 1 1 1 1 1 1 1 +
-------------------
  1 2 3 4 5 6 7 8 9
```

(2)

```
                  1
                1 1 +
              1 1 1 +
            1 1 1 1 +
          1 1 1 1 1 +
        1 1 1 1 1 1 +
      1 1 1 1 1 1 1 +
    1 1 1 1 1 1 1 1 +
  1 1 1 1 1 1 1 1 1
-------------------
  1 2 3 4 5 6 7 9 0 0
```

(3)

```
                  3
                3 3 +
              3 3 3 +
            3 3 3 3
          3 3 3 3 3 +
        3 3 3 3 3 3 +
      3 3 3 3 3 3 3 +
    3 3 3 3 3 3 3 3 +
  3 3 3 3 3 3 3 3 3 +
-------------------
  3 7 0 3 7 0 3 7 0 0
```

Trying with digits 2, 4, 5, 7 in a similar way does not give repetitive *or* in any way similar interesting results.

(4)

```
                  8
                8 8 +
              8 8 8 +
            8 8 8 8 +
          8 8 8 8 8 +
        8 8 8 8 8 8 +
      8 8 8 8 8 8 8 +
    8 8 8 8 8 8 8 8 +
  8 8 8 8 8 8 8 8 8 +
-------------------
  9 8 7 6 5 4 3 2 0 0
```

(5)

```
                  9
                9 9 +
              9 9 9 +
            9 9 9 9
          9 9 9 9 9 +
        9 9 9 9 9 9 +
      9 9 9 9 9 9 9 +
    9 9 9 9 9 9 9 9 +
  9 9 9 9 9 9 9 9 9 +
-------------------
  1 1 1 1 1 1 1 1 1 1
```

Addition & Subtracations :

(1)

```
                  9
                8 8 —
              7 7 7 +
            6 6 6 6 —
          5 5 5 5 5 +
        4 4 4 4 4 4 —
      3 3 3 3 3 3 3 +
    2 2 2 2 2 2 2 2 —
  1 1 1 1 1 1 1 1 1 +
-------------------
  9 1 8 2 7 3 6 5 +
```

(2)

```
                  9 —
                8 8 +
              7 7 7 —
            6 6 6 6 +
          5 5 5 5 5 —
        4 4 4 4 4 4 +
      3 3 3 3 3 3 3 —
    2 2 2 2 2 2 2 2 +
  1 1 1 1 1 1 1 1 1 —
-------------------
  9 1 8 2 7 3 6 5 —
```

(3)

```
                  1 —
                2 2 +
              3 3 3 —
            4 4 4 4 +
          5 5 5 5 5 —
        6 6 6 6 6 6 +
      7 7 7 7 7 7 7 —
    8 8 8 8 8 8 8 8 +
  9 9 9 9 9 9 9 9 9 —
-------------------
  9 1 8 2 7 3 6 4 5 —
```

(4)

```
                  1 +
                2 2 —
              3 3 3 +
            4 4 4 4 —
          5 5 5 5 5 +
        6 6 6 6 6 6 —
      7 7 7 7 7 7 7 +
    8 8 8 8 8 8 8 8 —
  9 9 9 9 9 9 9 9 9 +
-------------------
  9 1 8 2 7 3 6 4 5 +
```

(Comparing (1) — (4) and (2) — (3) We see that the results are same upto seven digits.)

CONSTITUTION

I. The name of the Association will be, Sardar Patel College of Engineering Alumni Association.

II. The headquarters and registered office of the Association will be in the College, Andheri West.

III. The *objects* of the Association are:

(i) To establish and maintain contact among the past students as well as between the past students and the present students and the teaching staff of the SPCE.

(ii) To help to maintain a very high standard of education in our college by giving information regarding the latest developments and requirements of the industries and engineering practices in various fields of engineering.

(iii) To help in establishing the cooperation between industries, business firms, governments and engineering practices in various fields of engineering.

(iv) To receive donations, endowments and loans and to manage them as per terms and conditions confirmed by the Managing Committee.

(v) To extend financial assistance to deserving present and past students for education purposes.

IV. The Association shall consist of Patrons, Honorary Members, Members, and student members.

(a) Members will be grouped as under:—

(i) *Patrons*: The Managing Committee may invite outstanding personalities interested in the promotion of the above objects to join the Association as Patrons.

(ii) *Life Members*: Any member shall be eligible to become a Life Member by compounding his membership subscription to Rs. 50/- by a single payment. The financial year shall be counted from first January to thirty-first December.

(iii) *Members*: Only old students of SPCE shall be entitled to become Members of the Association by paying an annual subscription of Rs. 10/- along with the application for membership. By 'Old student' is meant all those who had once been on the rolls of any class in the SPCE at least for one year.

(b) Members of the teaching staff of SPCE (including tutors and demonstrators), who are not old students, shall be eligible to become Honorary Members.

(c) Any student registered on the SPCE rolls of any class shall be enrolled as a student member of the Association by paying an annual subscription of Re. 1/-.

Every qualified member will have a right to attend any general body meeting of the Association and vote thereat.

V. Authorities:

The affairs of the Association will be managed by the following authorities:—

(1) Chairman

(2) Secretary

(3) Joint Secretary

(4) Treasurer

(5) Managing Committee

(6) Trustee

(7) General Body

(8) Such other members and/or bodies as the Managing Committee may declare to be authorities of the Association.

The Trustee shall be elected from amongst the names suggested by the Managing Committee at the general meeting of the Associa-

tion if necessary by a majority of the votes of the members present and voting. He will be elected for a period of 3 years.

The General Secretary of the College will be the ex-officio Chairman of the Association.

The Secretary (from the staff members) and Joint Secretary (from the Alumni) and Treasurer (from Alumni) will be elected from amongst the elected members of the Managing Committee.

The Managing Committee shall consist of members as Follows:—

1. Chairman.
2. Secretary.
3. Joint Secretary.
4. Treasurer.
5. At least four members from the Alumni.
6. At least two members from the Honorary Members.
7. Not more than two members to be co-opted from the present students by the Managing Committee.

VI. Duties and Powers.

1. General Body

The general body of the association shall consist of members of all categories.

The following business will be transacted at the Annual Meeting of the General Body, to be held sometime in December.

(a) To take note of the annual report of the annual accounts of the Association.

(b) The election of the Trustee and the Managing Committee if necessary.

(c) Approving the minute of the previous meeting.

(d) Any election, if it is a part of the business to be entertained at the meeting.

(e) Considerations of the proposals which have considered and recommended by the Managing Committee and which is on the agenda.

(f) Appointment of the auditors and fixing up their remuneration.

The election at the Annual General Meeting shall be by ballots, if demanded, from amongst the members present and voting.

The Chairman shall appoint two scrutineers from amongst the members, not being candidates, proposers or seconders.

The results of the election shall be declared by the President according to the majority of votes; in case of equality of votes, for two members or more the Chairman shall be entitled to a casting vote.

Fifteen clear days' notice of the meeting of the General Body specifying the time, place and business to be transacted thereat, shall be forwarded to the members of the Association.

The Chairman of the Association, or in his absence the Secretary, or in his absence the Joint Secretary shall preside at such a meeting. In the absence of all the three the members present shall elect a president for the meeting.

The quorum for the Annual General Meeting shall be 25. In the event, there being no quorum, a non-quorum meeting of members present will be held half an hour after the scheduled time.

2. Managing Committee

(a) The Managing Committee shall meet at least twice in a term of the College to see that the objects of the Association are promoted.

(b) The Managing Committee shall direct the office bearers. (Secretary Joint Secretary and Treasurer) of the Association to manage the Association.

(c) The Managing Committee shall have powers to collect the funds for the promotion of the objects of the Association.

(d) The Managing Committee shall keep a control over the finances of the Association.

(e) All the applications for membership and offers for donations received by the secretaries will be presented to the Managing Committee for approval.

(f) The current funds of the Association shall be managed by the Managing Committee.

(g) The quorum for the Managing Committee meetings shall be 6.

3. Trustee

He shall be elected as per the rules laid down in the Constitution. He will keep a close eye on the finances and accounts of the Association. .....

4. Treasurer

(a) It shall be the rule of the Treasurer to keep an up-to-date account of the Association under the instructions from the Trustees and Managing Committee.

(b) Every year some time in October or November he will prepare a budget for the coming year and present it to the Managing Committee for the recommendation to the General Body for approval.

5. Chairman

Chairman will be the executive head of the Association and shall work to promote the objects of the Association under the direction of the Managing Committee with the help of the Secretary and Joint Secretary.

6. Secretary and Joint Secretary

(a) The Secretary and Joint Secretary will maintain all the records required for the information of the Association.

(b) The Secretary and Joint Secretary will assist the Chairman in carrying out the work as directed by the Managing Committee. They will also work under the instructions of the Chairman.

All the funds and properties of the Association shall belong to the Association collectively and no individual shall have any proprietory rights over it.

The office bearers and the authorities of the Association will hold the post for three years and they will be eligible for re-election or re-appointment as the case may be.

7. Interpretation and Amendments

(a) The Chairman shall be authorised to interpret this constitution, and his interpretation shall be final.

(b) A proposal for amendment to any part of the constitution duly approved by the Managing Committee, may be circulated to the members as a part of the business at the Annual General Meeting. The amendment shall be adopted, only if passed by at least two thirds of all those present at the meeting and voting.

8. Extraordinary General Meeting

(a) Extraordinary general meeting may be called by the Managing Committee to transact urgent and important business not laid down in the details of the business to be transacted at the annual General Meeting by giving fifteen days' clear notice to all members.

(b) Extraordinary general meeting shall be called by the Managing Committee within twenty-one days on a requisition signed by one-third of the total number of members or 25 whichever is less. The requisition shall state the objects of the meeting and must be signed by the requisitionists and deposited at the registered office of the Association.

9. Dissolution

If upon winding up or dissolution of the Association there remains after satisfaction of all its debts and liabilities any property or assets whatsoever the same shall be not paid or distributed among the members of the Association but shall become the property of SPCE.

ENROLMENT FORM FOR MEMBERSHIP

To

THE MANAGING COMMITTEE,
SPCE Alumni Association,
Andheri (West).

DEAR FRIENDS,

Please enrol me as a student member/member/Honorary Member/Life Member of the SPCE Alumni Association. I am sending herewith the requisite fee of Rs._____ for membership subscription.

Necessary particulars about myself are filled below. I am also sending a cheque/ M.O. of Rs._____ towards donation for the Association.

Yours faithfully.

Name in full :_____
(*With degrees, Diplomas & Title, etc.*)

Career at the SPCE with dates :_____

Present occupation with details* and address :_____

_____

Permanent Address :_____

_____

Please fill in here addresses of other old students :

1. _____
2. _____
3. _____

*Any Change in addresses should be promptly communicated to the Secretaries. A separate sheet may please be attached describing the details of work you are doing and interested to do in future, your special experience and research work.

Please attach an extra sheet if necessary for the addresses of other old students.

फुलपाखराची फुलें

अशोक सोहोनी.
उपांत्य वर्ष स्थापत्यशास्त्र.

माझ्या अभ्यासिकेंत मी बसलोय समोरच्या उघड्या खिडकींतून बाहेर पहात ! माझे डोळे उघडे आहेत पण समोरच्या दृष्यांची विशेष दखल घेतली जात नाही आहे. मघापासून नुसता सोसाट्याचा वारा सुटलाय आणि समोरच्या निंबोणीखालची सुकली पाने गरकन उडवून नेतोय. अगोदर कमालीचा उकाडा जाणवत होता, वातावरण तापलेलं होतं. वाटत होतं पाऊस यावा ! आणि तसाच तो आला देखिल. तापल्या मातीवर पावसाचे थेंब पडून मोहक सुगंध इतस्ततः पळतोय. पावसाच्या धारा जमिनीवर कोसळताहेत पण मनांत निराळ्याच विचारांच्या धारा मन भिजवून टाकताहेत. सुरवात केलीय एका छोट्याशा उघड्या पुडीतल्या काहीं लांबट काळ्या बियांनी ! तिन्हाईताला त्या कसल्यातरी बिया आहेत एवढंच कळूं शकलं असतं पण माझ्या मनांत मात्र या बिया विचारांचा वळवाचा पाऊस पाडताहेत !

मला आठवताहेत कुण्या एका शाळेंतले शिक्षक म्हणून घालवलेले दिवस; नुकताच ऑनर्स मिळवून मीं बी. एस्सी. झालो होतो. पुढें शिकण्यापूर्वी वर्षभर नोकरी करण्याच ठरवलं होतं. शिक्षकी पेशाला साजेसा मी नव्हतो . पण अगोदरच व्यवस्थित असलेला मी शिक्षकाचं कर्तव्य कसोशीनं पार पाडत होतो . अकरावीची फॉर्म परीक्षा होऊन गेली. अकरावीवर माझे नेहमीचे तास नसत. क्वचित ज्या मुलांना शंका असे तेवढी मुले मला भेटून शंकानिरसन करून जात. तेवढाच त्यांचा आणि माझा संबंध उरला होता.

एके दिवशी नेहमी सारखा शाळा सुटल्यावर मी एका रिकाम्या वर्गात माझ्या पुढच्या अभ्यासाच्या पुस्तकावरून नजर फिरवत होतो. तेवढ्यांत अकरावीच्या माझ्या विद्यार्थीनीने तिथं डोकावून विचारलं, "सर, आंत येऊं ? थोडी गणितं अडली आहेत.

मी काहीं तिच्या वर्गाचा गणिताचा शिक्षक नव्हतो. पण तरीही मी होकारार्थी मान हलवली. ती आत शिरली. एखादं गणित सोडवून झालं असेल नसेल तेवढ्यांत एक नववीतला विद्यार्थी तिथे डोकावला आणि त्यानेही विचारलं, "सर, आंत येऊं ?" मी त्यालाही होकार दिला. त्याचा बावळट पण भाबडा चेहरा पाहिल्यावर सारं काही आठवलं. त्याच दिवशीं वर्गांत शास्त्राच्या तासाला त्याचं लक्ष नव्हतं म्हणून रागावून मी विचारलं. "काय चाललंय तुझं तिकडे ?".

त्यांने भेदरलेल्या चेहेऱ्यानं उत्तर दिलं, "सर, ही फूलं नीट ठेवीत होतो." त्याने हातातली फूलं दाखवली.

दोन निळ्या मखमली पाकळ्यांवर पिवळे-पांढरे ठिपके असलेली ती फूलं पाहून मी रागवायचं विसरलो. त्या फुलांच नांव मला तरी माहीत नव्हतं. शक्य तितका रागाचा सूर कायम ठेवीत मी म्हणालो," ठेव ती फुलं सध्या बाजूला. संध्याकाळी माझ्यासाठी घेऊन ये तसली फुलं." मी मात्र त्याला फुले आणायला सांगितल्याचं विसरून गेलो. आणि आतां ती स्वारी गणितं सोडवीत असतांना फुलं घेऊन आली होती. म्हणूनच चेहेऱ्यावरले एकंदर भाव पाहून त्याला आत येण्याची खूण केली.

"सर, फूलं आणलीत तुम्हाला". त्याच्या आवाजात धिटाई होती.

त्याच्या हातांतली फुलं घेऊन मीं हुंगून पाहिली. गंध नव्हता. मी त्याला विचारलं, "काय रे, नांव काय या तुझ्या फुलांचं ?

"सर, नांव माहीत नाही. आम्ही "फुलपाखरांची फुलं" म्हणतो यांना."

हातातली फुलं निरखतांना खरोखरच फुलपाखराचा भास दाखवून गेली. "हे बघ, या फुलांच्या बिया आणून देशील मला ?" मी विचारलं माझ्याशी जवळीक वाढवण्याची संधी त्याला मिळाली. लगेच होकार देऊन त्याने तडक आपला मोर्चा बाहेर वळवला. "फुलपाखरांची फुलं" त्याच्या पाठमोऱ्या आकृतीकडे बघत मी उद्‌गारलो. त्याच क्षणी अकरावीतली चित्रा नजरेला येऊन मी तिला म्हटलं, "सॉरी हं चित्रा, ही फुलं अशीच व्यत्यय आणताहेत. आज दुपारी मी त्याच्या वर्गांत शिकवीत असतांनादेखिल त्यांनी अडथळा आणला आणि आतां तुझ्या गणितात, कुठं आहेत तुझी उरलेली गणितं ?"

पण त्या फुलपाखराच्या फुलांनी तिच्या मनाचा ठाव घेतला होता. ती उद्‌गारली, "सर, मला खूप आवडली ही फुलं, घेऊन जाऊ ही मी ?" तिला नाही म्हणणं मला जमलं नाही. "उद्या विचारीन उरलेली गणितं". फुलं घेऊन चित्रा निघून गेली.

त्यानंतर दुसऱ्याच दिवशी तो मुलगा मला त्या फुलांच्या बिया घेऊन गेला. त्याही दिवशी शाळा सुटल्यावर तसाच बसलेला असतानां चित्रानं डोकावून विचारलं, "सर आंत येऊं ? गणितं उरली आहेत."

घराशेजारच्या मोकळ्या जागेंत मी त्या बिया रुजत घातल्या. चित्राची गणितं ही नित्याचीच बाब होऊन बसली होती. आंत येण्याची परवानगी देखिल तिला लागत नाहीशी झाली. कधीतरी तिनं विचारलं म्हणून त्या फुलांच्या बिया रुजत घातल्याचं मीं बोलून गेलो. पुढे मधेंच ती चौकशी करी आणि मी वेलांची प्रगति सांगे. अेकदां तिनं विचारलं, "सर, मला द्याल पहिलं फूल ?"

घरी फुलपाखराचा वेळ वाढत होता अन् मनांत चित्राबद्दलचा जिव्हाळा ! फेब्रुवारी सरुन गेला. चित्रा गणितं विचारायला आली नाही तर मी बेचैन होई. रोज तसाच मी तिची वाट पाही. परिक्षेला आठवडा उरला. एक दिवस चित्रा म्हणाली, "चार दिवसांवर परीक्षा आली. थँक्स माझ्या डिफिकल्टीज् सोडवल्याबद्दल ! मी भेटेनच परीक्षा झाल्यावर. तेवढं पहिल्या फुलांच लक्षांत ठेवा हं." एवढं बोलून ती पट्‌कन मागे वळली. जातांना तिनं डोळ्यांना लावलेला रुमाल माझ्या मनात तरंग उठवून गेला. अकारण खिन्नता दाटली. ठरवून टाकलं की चित्रा परीक्षेनंतर भेटली म्हणजे तिच्या मनात 'तस' काही असलं तर तिला कायमची आपली करण्याचं.

अेस्. अेस्. सी ची परीक्षा संपली ! म्हटल्याप्रमाणे चित्रा आली नाही. मनाला एक हूरहूर लागून राहीली. आणि शाळेंत तिचा पत्ता मिळणं कठीण नसलं तरी तिच्या घरी मीं जाणं बरं दिसण्यातल नव्हतं. मोठ्या आशेने मी फुलझाडांना पाणी घालीत होतो. मधेंच कधींतरी तो मुलगा विचारी, "फुलं आली तुमच्या घरी सर ?" मी नकार देई.

एकदा शाळेंतल्या चित्राच्या मैत्रिणीजवळ मी तिची चौकशी केली. तेव्हां तिनं चित्राला कुठंतरी बाहेर जावं लागल्याचं सांगितलं. मी घरी नसतांना आवारात कुठल्याशा बकऱ्या शिरून ते वेल खाऊन गेल्या ! उरले त्या झाडांचे वितभर उंचीचे खालचे भाग . त्यांना पुन्हां कधी पालवी फुटेल अशी वेडी आशा वाटत होती. पण त्या बुंध्यांना पुन्हां पालवी फुटली नाही. आणि चित्राविषयीं मला पुढं काही कळलं नाही.

असंच वर्ष सरुन गेलं ! शाळेतल्या इतर वर्गांच्या वार्षिक परीक्षा आल्या अन् गेल्या. कामाच्या भाऊगर्दीत शाळेंत जास्त वेळ जाऊं लागला. इतर कुणालाही 'यातला' काहीं पत्ता न लागताच माझे शाळेंतले दिवस संपले.

पुढच्या वर्षी मी माझ्या पुढच्या शिक्षणांत स्वत:ला गुंतवून घेतलं ! कधींतरी मला शाळेंतले 'ते' दिवस आठवत आणि मन बेचैन करून जात. कुठेतरी कुणी शाळेंतलं भेटे. असाच एकदां मला तो बावळट, भाबडा चेहेरा रस्त्यात इतर विद्यार्थ्यांच्या घोळक्यात दिसला. त्या सर्वांनी भर रस्त्यात गराडा घातला. कणी विचारलं, "पुन्हां शाळेत येणार ना तुम्ही सर ?" कुणी विचारलं, "सर, तुम्ही कॉलेजात प्रोफेसर होणार का हो ?" या साऱ्यांच्याच प्रश्नाहून निराळा मूकप्रश्न तो

बावटळ चेहरा विचारीत होता. त्याला बोलावून मी म्हटलं, "अरे, तू त्या फुलांच्या बिया दिल्या होत्यास ना त्यांची झाडं फुलं येण्यापूर्वीच मरुन गेली बघ". त्याला बरोबर लक्षात ठेवून त्याच्याजवळ बोलल्याबद्दल कृतकृत्य वाटलं. तो म्हणाला, "सर, मला माहीत आहे तुमचं घर. पुन्हां आणून देईन मी बिया."

खरोखरच मी नसतांना तो माझ्या घरी बियांची पुडी ठेऊन गेला. वहीच्या पानाच्या पुडीवर लिहीलं होतं "फुलपाखराच्या फुलांचं बी".

तिच ठेवलेली पुडी माझ्या समोर उघडी पडली आहे. त्यावर काही काळ्या लांबट बिया आहेत. पाऊस आतां थांबलाय ! तांबड्या डोळ्यांचा पांढरा पारवा निंबोणीच्या फांदीवर बसलाय ! चोचीनं पानांवरून ओघळणारा थेंब पकडतोय. माझ्या मनासमोर मधेच चित्राचा नाहीतर त्या बावळट मुलाचा चेहेरा विचारतोय, "सर, फुलपाखराची फुलं आली तुमच्याकडे ?"

★

गौरव गीत

प्रकाश द. तळकर

वंदन तुजला उषादेवते ।।
वंदन तुजला उषादेवते ।।

वंदुनिया भारतीय विद्या भवन आमुचें
लोकप्रिय होऊ दे, जगते
हीच विनंती तुझिया पायी उषादेवते ।।
वंदन तुजला उषादेवते ।।

विजयश्रीच्या माळा,
येती ललना वरती
उधळूनि गुलाल आम्हीं
गाठू यशाची हाक
वंदन तुजला उषादेवते ।।
वंदन तुजला उषादेवते ।।

★

मीही तसाच एक !

प्रदीप द्वा. प्रधान

(अंतिम वर्ष, अभियांत्रिकी, क्युत विषयक)

मीही तसाच एक
बुरसटल्या मनाचा
ओशटल्या चेहऱ्याचा
स्टँडर्ड उंचीचा
(मनाने देखील !)
वखवखल्या नजरेचा
बिनपॉलीश बुटासारखा
मीही तसाच एक
मीही तसाच एक
लॉटरी घेणारा
कंडक्टरशी भांडणारा
साहेबाचा राग
पोरांवर काढणारा
मेरिलीन मेली तर
हळहळून जाणारा
मीही तसाच एक
मीहि तसाच एक
वितळत्या डांबरासारखा
शेजाऱ्यावर जळणारा
बरबटल्या वासनांनी
सज्जनतेचा खुला
दावा मांडणारा
कॅन्सरला घाबरणारा
मीही तसाच एक
मीही तसाच एक
सोऽहं म्हणणारा
जुनेऱ्या सारखा
पोरगी सासरी जाताना
अश्रू गाळणारा
मीही तसाच एक
तसाच राहणारा
चार-चौघांसाररखा !

★

"गणपतिचे दिवस"

अरविंद वामन जोग
टी. ओ. (इलेक्ट्रिकल)

डोके मरणाच जड झालाय. साडेदहा तरी वाजले असतील, पण वाडीत कशी स्मशान शांतता दिसतेय. बापू आणि शशा उठले कि नाही कोण जाणे ! ते कसले उठतात म्हणा ! प्रेतासारखे पडले असतील ! काल असे जोरात नाचत होते कि बघूनच साला चक्कर यावी! गणपति पोचवायलाच दोन वाजले. मग फिरक्या घेत घेत परत येईस्तोवर साडेतीन ! त्यानंतर मांडव काढा, मखर काढा, ताडपत्र्या बांधून ठेवा, हे होईस्तोवर पांच तरी वाजले. शेवटी वासूअण्णाकडे चहा घेतला तेव्हां सहा वाजले होते. त्यानंतर सुद्धा मध्या वाशा किती-तरी वेळ वासुअण्णाची फिरकी घेत होते. मी स्ट्रेट घरी आलो आणि अंग टाकलं.

चला संपल एकदाच सगळ ! दहा दिवस नुसती धम्माल ! मला तर असा वैताग आला होता कि पुछो मत ! तुम्ही म्हणाल वैताग कायका ? आता काय सांगू ? मी, सुरेश आत्माराम तावडे राहणार गोरा गांधी चाळ खेतवाडी १०वी लेन आपली व्यथा तुम्हाला सांगत आहे.

तुम्ही आमची चाळ पाहिली आहे ? चाळीला दोन विंग्स् ! समोरासमोर अशा आठ खोल्यांच्या दोन रांगा. प्रत्येक घरात किमान तिन पोरी बहुशा सर्व चालू. आता आमच्या खोलीसमोर शैला सावंत राहाते. सिद्धार्थ-लाच आहे. एफ्. वाय्. आर्टस्ला. कॉलेजला जायला लागल्यापासून स्वत:ला एकदम ग्रेट समजते ! नी आम-च्याच कॉलेजला असल्यामुळे मला झक मारत फ्रेंडशिप ठेवावी लागते. चाळीत राहायच म्हणजे स्मार्टपणें वागाव लागत. नाहीतर बाकीची पोरे फिरकी घ्यायला सुरवात करणार. ही शैला रोज कुणालातरी कॉलेजमधल्या मैत्रिणीला बोलावते आणि गप्पा मारत नाक्यावर उभी राहाते. आता वाडीतले पब्लिक तिला जरी इतका भाव देत नसले तरी मैत्रिण चिक् निघाली की मध्या आणि शशा माझ्या नावानि बोंब मारतात नि मग मी जर्नल लिहीत असलो तरी मला उठाव लागत. म्हणे एवढी चिक् पोरगी आलीय् तर चान्स् घ्यायचा सोडून घरात काय बसतोस ? मग मी उसन हसूं आणून रुबाबात बाहेर पडतो आणि त्याना जॉइन होतो. शैला माझ्याच कॉलेजची ! त्यामुळें ती मला तिच्या मैत्रीणीशी ओळख करून देते. मध्या, वाशा मग टाँटींग सुरू करत राहा-तात आणि मी मोफत टाईमपास करीत राहातो.

गणपतित तर बघायलाच नको. एक महिना आधिपासून वातावरण तयार व्हायला सुरवात होते. या वर्षीं आम्ही आमच्याच वाडीतल्या एका 'तरुण (म्हणजे काय आम्ही तरुण नाहीं ?) आणि उमद्या' (पुन्हा तेच !) विनायक पिंपळे नावाच्या लेखकाने लिह-लेले 'सरहद्द' नांवाचे नाटक बसवत आहोत. नाटकांत दोन स्त्रीपार्टी. एक शांता सावंत आणि दुसरी गुलाब काटे ! ही गुलाब एकदम आगावू आहे ! माझ्याशी तर सॉलीड आगावूगिरी करायची. त्यावर मी तिला एकदा जिन्याच्या अंधारात धरली होती. तेव्हापासून मला टरकून असते. नाटकांत मला पण छोटासा रोल होताच. नाटकाच्या तालमीच काय तर विचारू नका ! साला चार तास गप्पा आणि पंधरा मिनिटे तालिम. गप्पा हाणतांना मजा यायची; पण रात्री एकला झोपून सकाळी सातला केमिस्ट्री लॅब अॅटेंड करताना ब्रह्मांड आठवायच ! जर्नलसुद्धा कसतरी अर्ध ट्रेनमध्यें, अर्ध कॉमनरुममध्यें कंप्लीट् करायला लागायच नि मग राऊतच्या (आमचा डेमॉन्स्ट्रेटर) शिव्या खायला लागा-यच्या त्या वेगळ्याच .

चार तारखेला गणपती आणला. दुपारी दोनला ! आदल्या रात्री कंप्लीट् जागरण, मखर आणि मांडव

करायला. सकाळी भुलेश्वरला राऊंड मारून पावभाजी खाऊन आलो. वीस एक पाब्लिक् होते बरोबर! मग वासूअण्णाच्या दुकानाच्या पायरीवर गप्पा हाणित बसलो. गणपतीची स्थापना होईस्तो तीन वाजले. मग जेवण. माझ डोकं तर दिवसभर गरगरत होतें. जेवण होईस्तो सहा वाजले, मग चला राऊंड मारायला. इतर दिवशी रात्री साडेआठला जेवण झाल की लगेच तालीम, दहा वाजेस्तोवर, मग चला बाहेर कुठे काय आहे ते बघायला! घरी परत येईस्तो दोन ठरलेले. मग मिळेल तेवढी झोप आणि सकाळी घाईघाईने कॉलिजला जायच! त्यातून एन्. सी. सी ची परेड असली की मरण! मला बहुतेक क्रॉस मैदानाभोवती राऊंड मारायची शिक्षा मिळायची! एकदा तर मी चक्कर येऊन पडलो होतो. डोकं तर रोज गरगरायच! अस दहा दिवस चालले. दहा दिवसांत एक पुस्तक उघडल नाहीं. यंदाच इंटर-सायन्स म्हणजे एकदम महत्त्वाच वर्ष अस वागून मी इंजिनिअरिंगला काय जाणार कप्पाळ? पण करता काय, वाडीत राहायच म्हणजे झक् मारत मिक्स् व्हाव लागत.

पूर्वी अस नव्हत! पूर्वी म्हणजे अण्णा होते तेव्हां वाडीतल्या मुलांशी मी एवढा कॉन्टॅक्ट ठेवत नसे. आपण बर आणि आपला अभ्यास बरा असा मी वागत असे. पण अण्णा गेल्यापासून सगळ चित्र बदलल आहे. घरातला कर्ता नसलो तरी मोठा माणूस म्हणून मला बघाव लागत! तसा घरातला कर्ता खरा दिन्याच आहे. दिना माझा धाकटा भाऊ. दोन वर्षांनी लहान आहे. आठवी झाल्यावर शाळा सोडून दिली. पुढली दोन वर्षं अशीच काढली. हल्ली अलंकारशी ब्लॅकने तिकीटे विकत असतो. दिवसाला तीस एक रूपये कमावतो. त्यांतले निम्मे हप्त्यावाटे जातात. घरांत दोनशे रूपये देतो. म्हणून घरात त्याचाच आवाज चालतो. तसे माझे काका आहेत पण ते सर्वांपासून अलिप्त असतात घरांत पगार देतात आणि स्वस्थ बसतात. दिन्या तर काय जेवणापुरता घरात असतो. नाही तर अलंकारच्या जवळ असलेल्या (कॅफे पंजाब) मध्यें त्याचा मुक्काम असतो. वाडीत त्याला इंटरेस्ट नाही. हे असें असल्यामुळें वाडीतल्या गणपति वगैरे सांस्कृतिक ॲक्टिव्हिटीजमध्यें मलाच बघाव लागतं! त्यातून गणपति म्हणजे मरण असत! पण काय करणार? काही इलाज आहे काय?

★

पत्नी....

–प्रा. वि. रा. डोइफोडे

तोच पति, तिच पत्नी, सदा सर्वकाळी
पण वाटे 'वेगवेगळी' वेगवेगळ्यावेळी ।।१।।

लग्ना आधी लाडली, अप्सरा, नयनरमणी
नंतर सून लाडकी, घरची शोभा, थोरली राणी ।।२।।

'ते' झाल्यावर प्रेम संपले, उरल्या आठवणी
अन् 'तीन' झाल्यावर, मग जीवन अळणी ।।३।।

लेक संपली, बहिण दूरावली, माता होवून वर्षे लोटली
कालचक्र फिरले, अन् भांडखोर
शेजारीण शांत झाली ।।४।।

जावा, नंदा, भावजया, नातीहि इतस्ततः विखूरली
झाली मग सेक्रेटरी अति विशाल महिला मंडळी ।।५।।

माते नंतर झाली सासू, अन् आजी नंतर आजे सासू
भूत अंतरला, वर्तमानातील रस आटला,
भविष्य लागला आकसू ।।६।।

अशा भूमिका सर्व संपल्या, निर्मिती झाली पोकळीची
तिच्या असह्य जाणीवेने,
आठवण तिला झाली पतीची ।।७।।

पत्नी हे कोडे, न उलगडे पतीला या जन्मी
म्हणूनच सप्तपदी, अन् सबंध जन्मोजन्मी ।।८।।

★

भारती

व्ही. डी. आठल्ये

किती सुंदर! किती सुंदर! एक मुलगी भारती
तिच्यासारखी नाही दुसरी या भूमिवरती ।। धृ ।।

तिच्या सुन्दर रूपाची मी काय गाऊ महती
नाजुक तिची छबी दिसता मला येते स्फुरती ।।१।।

शुभांगी ती, मृगाक्षी ती, मनमोहक युवती
सौंदर्याची देवता ती जणू भूमिवरची ।।२।।

नाजुक पदांनी ती चाले जेव्हां धरेवरती
वाटते फुले पसरावी तिच्या वाटेवरती ।।३।।

रूपागुणांची नाना, ती सोज्ज्वल मूर्ती
मला नेहेमी देत राहील अंतरीची तृप्ती ।।४।।

★

अरे वेड्या मना तळमळसी!

विजय र. नाडकर्णी
तृतीय वर्ष सिव्हिल

मला कोणीतरी वेडा म्हटले ना की अगदी गुदगुल्या होतात....पिसाने गालाला नाजुकपणे स्पर्श केला की होतात ना....तश्याच! आत्ता हेच पहा ना! मी हे इतके सांगतोय पण तुम्ही मात्र माझ्याकडे बघून डोळे मिचकावित आहात. पण तुमच्या त्या डोळ्यांमधील भाव न ओळखण्याइतका काही मी वेडा नाही. ....तुमच्या डोळ्यामधून डोकावणारी माझी टिंगल मी वाचतोय म्हटलं! पण खरंच, वेडात काय मजा आहे नाही? कां कोण जाणे पण खूप जणांना वेडे म्हटलेले आवडत नाही. खूपखूप रागावतात.... टोमॅटोसारखे लालबुंद होतात ... ताडताड ओरडतात. वेडेच आहेत! मला तर 'वेडा' ही एक पदवीच वाटते.

नाहीतरी आपल्या जगाच्या इतिहासात वेडे काय थोडे होऊन गेले? माझ्या डोळ्यांसमोर कधी कधी तरळतात आर्यावर्तातील ते ऋषीमुनी....परमेश्वराच्या चिंतनासाठी आयुष्याचे क्षण चंदनासारखे झिजविणारे; मोह, लोभ आणि वासनांची आहुति त्यागाच्या यज्ञात देऊन विरक्ततेची वस्त्रे आयुष्यभर वापरणे ते भारतीय संस्कृतीचे आद्यदीप! किती वेडे वाटतात आपल्याला आज नाही? कुठला तो परमेश्वर! दिसत नाही, अस्तित्वाचा ठाव नाही....अनादी अनंत वगैरे शब्दांनी म्हणे त्याचे वर्णन होते. हेच शब्दच कळत नाहीत....कळले तरी वळत नाहीत! त्याच्यामागे वेड्यासारखे धावणारे ते ऋषी, ...त्याची कवने करीत ... त्याचा शोध घेत ... तहानभूक विसरून धावणारे! आणि वेडा वाल्मिकी. त्याने म्हणे अंगावर वारुळे वाढेपर्यंत तप केले आणि मिळविले काय....रामायणासारखे एक महाकाव्य लिहीले. फक्त एकच? वेडाच होता. अहो आपल्याकडचे आजचे लेखक वर्षात सहा-सहा गुलाबी कादंबऱ्या लिहीतात. ए वन् .... पानापानांवर ...! जाऊ द्या! मी कशाला सांगू? तुम्हाला माहीतच आहे!

आणि भीष्म .... हो तोच पितामह भीष्म! किती वेडा होता तो? निव्वळ वडिलांच्या स्वार्थी सुखासाठी आपल्या तारुण्याची होळी करणारा भीष्म! आपण म्हणतोच ना, "कमाल आहे यार! अरे साला फादरचं ऐकायचं म्हणजे तरी किती? अगदीच भोटमामासारखा वागला! मॅडनेस .... शिअर मॅडनेस! खरेच भीष्म, कशाला पेटविलास आयुष्याचा वणवा! अरे ब्रह्मचर्याच्या निखाऱ्यांनी कां यौवनाची चिता पेटविलीस? अरे वेड्या, आयुष्यभर स्वतःच्या अंतःकरणाच्या भावनांचे पाश शपथेच्या तेजाने जाळलेस आणि ह्या त्यागाचे फळ म्हणूनच की काय अंबाअंबिका अंबालिकांचे शापच माथ्यावर आले ना तुझ्या? अरे ज्या देशामध्ये तू ब्रह्मचर्याचा आदर्श घातलास त्या देशामध्ये गल्लीबोळात चालेणारे कुंटणखाने बघून आत्ता कशाला तडफडतोस? अरे कशासाठी तत्त्वांच्या आदर्शाचा कस ह्या नकली जगावर लावण्याचा प्रयत्न केलास? भीष्मा, तुझे नाव देवव्रत! पण तू ब्रह्मचर्याची कठोर प्रतिज्ञा केल्यानंतर देववाणी झाली, "भीष्म .... भीष्म!" आज आसमंतात भटकणाऱ्या तुझ्या आत्म्याला पुन्हा तीच प्रतिज्ञा उच्चारावयास सांग! तुझ्या आत्म्याला धाडस होणार नाही! कारण ... कारण तुझ्या कानात घुमत आहेत रविंद्रसरोवराच्या काठावरील आयाबहिणींच्या आर्त किंकाळ्या! तुझ्या नजरेसमोर उरली फक्त त्यांच्या विटलेल्या अब्रूची लक्तरे! कां डोळे झाकतोस? अरे इतका भावनाविवश होऊं नकोस हे जग तुझे नाही! अरे महात्यागी भीष्मा, आज जगामध्ये कोणी रूपगर्विता लक्ष्मीधराच्या गळ्यात वरमाला घालते आणि तडफडत राहातात मात्र तुझ्यासारखे वेडे भीष्म....हृदयातील व्यथेच्या काटेरी शय्येवर! वेडा कुठला?

नाही तरी लैला-मजनू काय किंवा रोमिओ-ज्युलिएट काय, इष्काने धुंद झालेले वेडेच नाहीत काय? अरे लेको, "प्यार किया तो डरना क्या?" हे जरी खरे असले तरी ह्या व्यवहारी जगात, "प्यार के लिए फोकट में

मरना क्या?" हे तितकेच खरे नाही काय? तुम्ही कुठले तरी विरहगीत गात गळचांत गळे घालून इष्काचे प्याले डोळ्यांनी रिते केलेत आणि आयुष्याच्या अस्तावेळी-देखिल एकमेकाबरोबरच मृत्युलादेखिल कवटाळलेत! पण कां? निव्वळ प्रेमाची महती सांगण्यासाठी सोन्यासारखा जीव कां गमावलात्? आजचे कॉलेजकुमार-कुमारिका काय कमी प्रेम करतात? आकंठ प्रेम करतात! कँटीनमध्ये सँडविचचे लचके तोडताना प्रेम, रस्त्यावरून चालताना प्रेम, थिएटरात प्रेम, गाडीत प्रेम, घरात प्रेम, विद्यापीठात प्रेम.....यार, ह्या लोकांनी सारी दुनियाच प्रेममय करून टाकली आहे. अरे लैला-मजनू, तुम्ही वेडयासारखे प्रेमगीत गात व्याकुळ होऊन प्रेम केले होते. बावळट कुठले! प्रेमाच्या गोळ्या घेतल्या होत्या काय? त्या देखील माहीत नाहीत? आमच्या प्रेमवंत कॉलेज कुमारांना सांगा अफु गोळी द्यायला! एक घेतली की डोळ्यांसमोर गुलाबी प्रेम...प्रेमच प्रेम....याऽहुऽ! आता तुमच्या प्रेमातील निष्ठा वगैरे सर्व विसरा. अरे शेवटी शब्द हे नेहमीच विसरायचे असतात. तुमची निष्ठा आम्हाला आज भातातल्या खड्यासारखी अचानक बोचते! प्रेम कसे पाहिजे?....सोशल! वाटले करावे, तर केले! चार तास नाहीतर चार वर्षे! कंटाळा आल्यावर बंद केले. तुमच्यासारखी कुर्बानी वगैरे फक्त सिनेमात दिसेल आज....हंबग साला!

"जग हा वेडयांचा बाजार आहे" असे कोणीसे म्हटले आहे ते काही खोटे नाही. नेपोलियन काय आणि सिकंदर काय....दोघेही वेडेच! आपल्या तळव्यावर जग उचलू पहाणारे वेडे! अहो काहीजण म्हणतात, "बालकवि ठोमरेदेखिल वेडपटच होते!" माझ्याकडे असे डोळे वटारून बघू नका. म्हणणारे म्हणतातच की नाही, "ज्या काळामध्ये सावरकरांसारखे राष्ट्रपुरुष अंदमानामध्ये कणखर कविता करीत होते तेव्हा हा वेडा, "लपत-छपत हिरवाळीमधुनी" वगैरे-वगैरे लिहीत असे. खरंच, पण त्यांना वेडे म्हणणाऱ्यांना साहित्य आणि काव्याचा आत्माच समजलेला नाही. अहो सावरकरांनी राष्ट्राला जागविले आणि बालकवीनी भावनांना....हे कोण सांगणार ह्या शहाण्यांना? गीतारहस्य लिहीणारे लोकमान्य टिळक काय किंवा तुतारी फुंकणारे केशवसुत काय, उदात्त ध्येयाने प्रेरित झालेले वेडेच नव्हते काय?

आणि म्हणूनच मला 'वेडा' म्हटलेले आवडते. याच वेडामध्ये आहे ध्येयपूर्तीची अनामिक ओढ..... अंतर्मनाची तळमळ आणि निःस्वार्थी त्यागाची भावना! अज्ञाताचा, शोध घेण्यासाठी तडफडणाऱ्या गॉलिलिओने दूरदर्शकाचा शोध लावून जगाला 'दूरदृष्टीच' दिली ना? कोपर्निकसने 'पृथ्वी गोल आहे' हे पटवून देण्याच्या वेडापायी किती शरीरकष्ट भोगले. पोपच्या सत्तेवर लाथ मारणारा मार्टीन ल्यूथर काय वेडा नव्हता? आणि स्वतःला शरीरदंड देणाऱ्यानां क्षमा कर म्हणून परमेश्वराची करुणा भाकत सूळी जाणाऱ्या येशूला शहाणा कोण म्हणेल? आज रेशनमध्ये जरा जाड तांदूळ मिळाला तर आमचा जीव कासाविस होतो पण वर्षानुवर्षे कंदमुळे भक्षण करून निःस्वार्थी, निरपेक्ष जीवनाचा आदर्श घालून देणाऱ्या ऋषीमुनींना आपण वेडेच म्हणतो ना? चराचराला विसरून काव्याच्या मस्तीमध्ये बुडून जाणारे कवी शेवटी वेडेच ठरतात...कारण पैश्याच्या दुनियेमध्ये ते काव्याची विक्री करीत नाहीत. अहो, कोणीतरी तारा छेडल्या की अंतरंगातील कुठल्याश्या भावनेची तारदेखिल कंपित होते. पण तरीदेखिल तासन् तास गायनात तल्लीन होऊन पथ्थरालादेखिल पाझर फोडणाऱ्या बैजु बावराची गोष्ट मात्र आपल्याला वेडगळपणाचीच वाटते नाही काय?

आपल्या जगाचा इतिहासच असा आहे..... रक्तलांछित कट, खून आणि कारस्थानांनी बरबटलेला! त्या इतिहासाच्या पुस्तकात ज्ञानोबा तुकारामाच्या अभंगाला आणि कबिराच्या दोह्यांना एखाद्या कोपऱ्यातल्या पानावर स्थान मिळते परंतु चंगिझखान आणि औरंगजेबाची सैतानी कृत्ये पानापानावर चितारलेली दिसतात. पण असे असले तरी जग मात्र ह्या वेडयांनीच घडविलेले आहे यात संशय नाही. कारण याच निरपेक्ष आणि ध्येयस्फूर्त वेडातूनच जगन्महात्मे उदयास आले. म्हणूनच मी माझ्या मनाला वारंवार म्हणतो, "अरे वेड्या मना, हीच तळमळ तुलादेखिल लागू दे!"

दिव्यत्वाच्या साक्षात्कारासाठी असा हळहळसी,
अरे वेडया मना तळमळसी!
काय...पटलं ना? द्या मग टाळी!

★



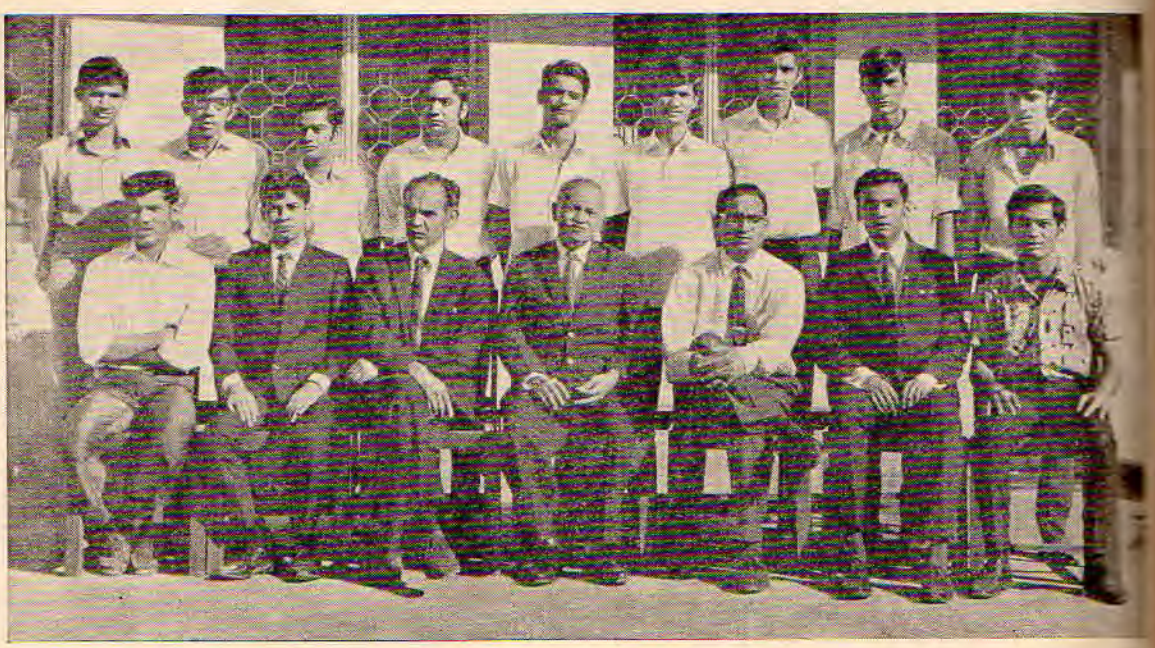
Tug of War Winners—S.E. Class



Interclass Cricket Team: Winners—T.E.



Intercollegiate Volleyball Team



Intercollegiate Football Team

प्रा य: श्चि त

धैर्यधर मांजरेकर
फिजिक्स डिपार्टमेन्ट

केवळ ध्येयासाठी जगायचे, मग ते ध्येय कसलेही असो–कशाही प्रकारचे असो, ते एक ध्येय आहे. हे एक, आणि मानव जन्म मिळाला म्हणून केवळ जगण्यासाठी जगायचे. हे दुसरे, म्हणजे जगण्याचे दोन प्रकार. पहिला कठीण–दुसरा सोपा.

असाच एक ध्येयवादी माणूस आपले नशीब काढण्याच्या इराद्याने प्रवासाला निघाला. बराच प्रवास केल्यानंतर तो एका अशा ठिकाणी येऊन पोहोचला कि, ज्या ठिकाणी एक निसर्गाने नटलेली, नयनरम्य अशी झाडवळ पसरलेली होती. फळांनी ओथंबलेले वृक्षराज आणि फुलांनी बहरलेल्या लतिका, आगंतुकाचे हर्षभराने स्वागत करीत होत्या. जवळच अतिनिर्मल आणि मधुर अशा पाण्याने परिपूर्ण भरलेला एक जलप्रवाह एकाद्या सौंदर्यवती रमणीच्या चालीने खळखळ वहात होता.

प्रवाशाने परमेश्वर निर्मित असे ते निसर्ग सौंदर्य डोळे भरून पाहिले, एकाद्या निरागस बालिकेप्रमाणे मधुर-हास्य करणाऱ्या त्या जलाशयाचे पाणी तो अगदी तृप्त होईपर्यंत प्याला. अमृताप्रमाणे असलेले ते पाणी पोटात जाताच आपण धन्य झालो असे त्याला वाटले. कृतज्ञतेने त्याने त्या जलाशयाकडे पाहिले आणि सारखा तो त्या पाण्याकडे पहातच राहिला. त्याने निश्चय केला, आपण येथेच रहायचे, या जलाशयाला आपल्यापरीने सुन्दर असा आकार द्यायचा, त्याला बंद करून आपल्या अंकीत करायचे आणि त्याच्या आधाराने, त्याच्या आसऱ्याने या परमेश्वर निर्मित परिसरात एक वेगळे मानवी नंदनवन–सौंदर्य निर्माण करायचे ज्याच्यावर आपला ठसा उमटलेला असेल, असे एक अप्रतिम जग निर्माण करायचे. बस्स् ! हेच आपले ध्येय, हेच आपले जीवन आणि त्यातच आपले नशीब.

खरोखरच तो माणूस भाग्यवान होता. परमेश्वराने निर्मिलेले ते निसर्गसौंदर्य, तो जलाशय फक्त त्याचा होता. त्या निर्मितीचा तो हवा तसा उपभोग घेऊ शकत होता. आपल्या इच्छेप्रमाणे त्यात परिवर्तन घडवू शकत होता. एका वेगळ्या तृप्तीचा आनंद तो लुटू शकत होता. खरेंच तो अतिशय सुखी आणि समाधानी असा जगातील एकमात्र मानव होणार होता.

तो सुखी होता. पण मानवजीवन, मानवीस्वभावधर्मच मुळी असा आहे कि तो स्वस्थ बसू शकत नाही. मिळालेल्या सुखात तो समाधान मानीत नाही. आणखी काहीतरी नवे शोधण्याचा तो सारखा प्रयत्न करीत रहातो, संशोधन करू पहातो. कधी तो त्या शोधात यशस्वी होतो तर कधी स्वत:चे अस्तित्वच गमावून बसतो.

असेच काही दिवस निघून गेले आणि त्या प्रवाशाच्या मनात आले कि, या जलाशयाच्या, या परिसाराच्या दूरवर जाऊन निसर्गाने आणखी काय काय चमत्कार निर्मुन ठेवले आहेत ते आपण पाहून येऊया. प्रवासी त्या ठिकाणापासून दूर जाऊ लागला.

बरेच अंतर चालून गेल्यावर त्याने पाहिले एक विस्तृत अशी नदी समोरून आडवी वहात आहे. तिच्यापलिकडे काय आहे हे समाजायला मार्ग नाही कारण झाडवळ नाही सर्व सपाट आहे. त्याने विचार केला "आता काय करावे? पलिकडे जावे कि माघारी फिरून जलाशयाच्या सान्निध्यातले सुख लुटावे, आपले जग बसवावे. पण ते तर आपलेच आहे. परत आपण तिथे जाऊच. थोडे कुतुहल, थोडी करमणूक म्हणून नदीपार करायला काय हरकत आहे ?"

गमतीने एखादा खेळ करावा आणि तो खेळ जीवनमरणाचा खेळ होईल याची खेळणाराला जरासुद्धा कल्पना

नसावी किंवा दैवात काय लिहिले आहे, याची माणसाला त्याच्या अंतापर्यंत जाणीव नसावी आणि तरीही त्याने काहीतरी शोधीत रहावे हा जणू जीवनाचा नियमच झाला आहे.

नदी काठावर पडलेला एक लाकडाचा ओंडका आणि बाजूच्या झाडीतून साधारण मजबूत अशी काठी घेऊन प्रवाशाने त्यांच्या सहाय्याने नदीपार केली. नदीपार करतेवेळीसुद्धा त्याच्या हृदयात त्या मधुर जलाशयाबद्दलचे आणि आपल्या नवनिर्मितीबद्दलचे स्वप्न तरंगत होतेच. त्याची ओढ त्या जलाशयाकडेच अधिक होती. पण ही एक गंमत होती, एक खेळ होता, फक्त करमणूक होती.

नदीच्या पैलतीराला पाय लागताच प्रवाशाने सोबत आणलेला ओंडका आणि काठी पाण्यातच सोडली आणि एकाद्या विजयी वीराप्रमाणे तो पलिकडे धावत सुटला. आणि भटकता-भटकता बऱ्याच वेळाने त्याला तहान लागली. तो इकडे तिकडे पाणी शोधू लागला. दूरवर त्याने नजर टाकली. पाण्याचा थांगपत्ता कुठेच लागत नव्हता तो परत मागे फिरून नदीच्या काठावर आला. त्याला समाधान वाटले. ती अति विशाल नदी त्याची तहान भागवू शकत होती. प्रवासी नदीच्या पात्रात उतरला, ओंजळी भरून पाणी घेऊन ते तोंडाजवळ नेले आणि तोंडाला लावले मात्र..... त्याची फार-फार निराशा झाली. कारण.....कारण ते पाणी खार होते, कधी तोंडात घेऊ नये असे.

प्रवाशाने हताशपणे चहुबाजूला पाहिले. आता पाणी कोठून मिळणार आपली तहान कशी मिटणार कि, पाण्यावाचून आपण मरणार. आणि मग ते आपले सुन्दर स्वप्न–आपले ध्येय. त्याचे काय? त्या पवित्र-निर्मल जलाशयाची त्याला आठवण झाली आणि आनंदाने त्याचे डोळे चमकले. जलशयाकडे जाण्यासाठी तो मार्ग शोधू लागला नदी पार करण्याची साधने शोधू लागला. पण हाय रे दैवा ! ज्या साधनानी त्याने नदी पार केली होती. ती तशीच नदीत सोडल्यामुळे नदीने आपल्या प्रवाहाबरोबर ती गडप केली होती. दुसरे कसले साधन त्याला सांपडेना. फक्त सुके गवत आणि दगड याशिवाय काहीसुद्धा नजरेस पडेना. प्रवासी आता नदीला कुठे उतार मिळतो का ? हे पाहाण्यासाठी काठाने सैरावैरा धाऊ लागला पण त्याची निराशा झाली. तो जसा जसा पुढे जाई तसतसा त्याला अनुभव येई कि, इथे नदी अति विस्तृत आणि खोल आहे. त्याने पलिकडे दृष्टी टाकली, दूरवर ती हिरवळ, तो जलाशयाचा परिसर त्याच्या दृष्टीस पडला. ती जागा, ती हिरवळ, तो जलाशय त्याला आपल्याकडे बोलावत होता. प्रवाशाने हताशपणे एकदा त्या रम्य ठिकाणाच्या दिशेने पाहिले आणि डोक्यावर हात मारून तो नदीच्या काठावर जलाशयाच्या दिशेने नजर लावून बसून राहिला.

आणि त्याला भास झाला. ती नदी मृदू आवाजात त्याला सांगत होती, 'तू माझ्यापर्यंत आलास, मला पार केलस, आता तुला माझा आधार, माझी संगत. तू माझे पाणी पी. तृप्त हो ! अरे वेड्या ! जरा माझ्याकडे नीट पहा ! तुला आयुष्य भर पुरून उरेल एवढे पाणी माझ्यात समावले आहे. तुला फक्त जीवच जगवायचा आहे ना? मग पहातोस काय असा? विचार कसला करतोस? कोणाची आराधना चालविली आहेस? तुला फक्त मीच जगवीन. माझीच साथ आहे तुला. परमेश्वर तुझ्या सहाय्याला येणार नाही.

प्रवाशाने नदीला उत्तर दिले, "तुझ्यात मला जन्मभर पुरून उरण्याएवढे पाणी आहे. इतकेच नाही तर मनात आणल्यास हा परिसर बुडवून नष्ट करण्याची ताकद तुझ्या पाण्यात आहे, पण माझी ही तहान भागविण्याची शक्ति तुझ्या पाण्यात नाही, तुला ते शक्य होणार नाही. आणि परत त्याला भास झाला दाहि दिशा. आजूबाजूचा शुष्क परिसर त्याला ओरडून सांगत होता. "हट्टी आणि अविचारी माणसा हा वेडेपणा सोड, तुला आता दुसरा मार्गच राहिला नाही. जगायचे असेल तर या पाण्यावरच तुला जगले पाहिजे. तुला फक्त जगायचेच आहे ना? मग हे पाणी तुझे जीवन जगवायला उपयुक्त आहे. आणि जरी ते उपयुक्त नसले तरी त्याचा तू उपयोग केला पाहिजे. कारण तुला जगायचे आहे."

कोठूनतरी एक मंजुळ आवाज त्या प्रवाशाच्या कानी पडला "तू मला सोडून जायला नको होते. आज तू माझी आठवण काढीत बसला आहेस. खरेंच मला कळतेय कि तुला माझी गरज आहे आणि मलाही वाटतेय

अगदी अतःकरणापासून वाटतेय कि तुला जगवावे. माझ्यातील सर्वच पाणी तुझ्या स्वाधीन करावे. पण मी तरी काय करू? तुझ्यापर्यंत मी येऊ शकत नाही कारण मी परावलंबी आहे. तू माझ्यापर्यंत येऊ शकला असतास पण अविचाराने तू मला सोडून गेलास आणि ती नदी पार करून येण्याचा मार्ग–साधनेही तू स्वतःच्याच मुर्खपणाने गमावून बसलास, अगदी कायमचा अडकलास तू तिकडे. आता तुला तेथेच रहाणे प्राप्त आहे आणि त्याच पाण्यावर तू आपले जीवन जगविले पाहिजेस. माझे ऐक ! मिळालेल्या सुखात समाधान मान. आणि मला विसरून जा अगदी कायमचा विसरून जा.

होय! तो मंजुळ आवाज त्या पवित्र जलाशयाचा होता. त्या पाणवठ्याचा होता. प्रवाशाच्या डोळ्यांत अश्रू दाटले. एक करुण हुंदका त्याच्या गळ्यात आला. पण क्षण-भरच. मग तो निश्चयाने म्हणाला,

"नाही! मी हे पाणी पिणार नाही. कारण मला फक्त जगायचे नाही. मला एक सृष्टि निर्माण करायची होती. माझे एक स्वप्न होते. आणि ते फक्त तुझ्या अमृततुल्य पाण्यातूनच साकार होणार होते. मला या पाण्यातून ते स्वप्न साकार करता येणार नाही. माझे ध्येय मला गाठता येणार नाही. आणि म्हणून मी इथे रहाणार नाही. हे पाणी पिणार नाही. तुझे महत्त्व ओळखूनही तुला सोडून मी इथे आलो. त्या चुकीचे प्रायश्चित मला घेतलेच पाहिजे माझ्या. ह्या हट्टीपणाचा तू राग करू नकोस. तुला सोडून आल्याबद्दल मला क्षमा कर..... मला क्षमा कर.

परमेश्वरा! एका लहानशा चुकीची एवढी मोठी शिक्षा तू मला दिलीस. आणि अशी ही तुझी दुनिया आहे तर ह्या तुझ्या दुनियेचा मी त्याग करतो.

आणि काही दिवसांनी प्रवाशाने त्या नदीकाठी, जलाशयाच्या आठवणीने, पाण्याविना तडफडून-तडफडून ह्या जगाचा कायमचा-कायमचा निरोप घेतला.

एक ध्येयवादी माणूस ध्येय साध्य होण्यापूर्वी त्याच्याच कृतीने अनंतात विलीन झाला.

★

ती गेली पण.....

प्रदीप द्वा. प्रधान
(अंतिम वर्ष, अभीयांत्रिकी, विद्युत विषयक)

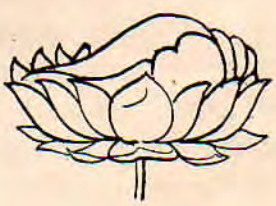
सुगंधाची जशी लहर
अचानक येऊन
मनात उमलवते
अतृप्त आनंदाचा बहर,
मनाच्या वाळवंटाला
क्षणिक का होईना
ओलावा देते.

किंवा ते मृगजळ
क्षणिक का होईना
भासविते जळ
तशी ती आली
आणि गेली ;
झाली दृष्टीआड.

पण आनंद अगाध
ठेवून तर गेली
तोच आनंद पुष्कळ आहे.

त्या सुखाची जखम
ओलीच ठेवायचीय;
तीच थंड करतेय मनाला.

आणि लोक म्हणतात
ती गेली पण दुःख नाही याला.



बाजीराव-मस्तानी

प्रकाश व. कामत
द्वितीय-वर्ष (यांत्रिक)

आजमितीला अनेक काल्पनिक प्रेमीयुगुलांनी कथा-लेखकांना, नाटककारांना खाद्य पुरविले आहे. पण आपल्या अलौकिक प्रेमकथेने या सर्व काल्पनिक आणि क्वचित् अतिशयोक्तिपूर्ण प्रेमकथांवर मात करणारी 'बाजीराव-मस्तानी' ही जोडी मराठ्यांच्या इतिहासांत होऊन गेली. इतिहास फक्त शूरांच्या कर्तबगारीची, विद्वानांच्या बुद्धीची व उदारांच्या उदारतेची दखल घेतो पण आपल्या असामान्य प्रेमाने या जोडीने इतिहास-कारांनाही आपला चोखंदळ मार्ग काही काळ बदलायला लावला.

पहिल्या बाजीरावाच्या शूरत्वाची व कर्तृत्वाची बाखाणणी इतिहासांत पानापानावर वाचायला मिळते, पण समरांगणावर प्रथम प्रतीचा योद्धा व राजकारणां-तील उत्कृष्ट नेता असलेला हा बाजीराव प्रेमाच्या भूमीतही प्रथम प्रतीचा नायक ठरावा हे कौतुकास्पद आहे. त्याचे सौंदर्य निर्विवाद होते. तसेच मस्तानीच्या सौंदर्याची वर्णनेही विपुल आहेत. पानाचा विडा खाल्ल्यावर त्याचा रसही जिच्या गळयातून जाताना दिसत असे अशी ही नाजूक मुसलमान-कन्या बाजीरावाच्या मदन-सौंदर्यावर व शूरत्वावर भाळली आणि रसिक बाजी-रावानेही जगाची व मस्तानीच्या जातीची पर्वा न करतां तिच्या हृदयाला उत्तर दिले.

मस्तानी ही खरी मुसलमान जातीची ! पूर्वीच्या काळी थोर पाहुण्यांचा सत्कार करताना नृत्यगायनादि कलांत निपुण असलेल्या मुली त्यांना देण्याचा प्रघात होता. तसाच बाजीरावाचा सत्कार करताना छत्रसालाने ती त्याला दिली. मस्तानी बाजीरावाकडे आली तेव्हा तिचे वय केवळ चौदा ते पंधरा वर्षांचे होते व तिचा बाजीरावाला दहा वर्षे सहवास लाभला. ती बाजीरावाची जरी मुसलमानी कंचनी असली तरी पुण्याला ब्राह्मणी घरात राहीली व पोषाख, भाषा व अन्न वगैरे सर्व व्यवहार तिने ब्राह्मणांचे स्विकारले आणि संस्कृतीने हिंदु बनली.

बाजीरावाची पत्नी काशीबाई प्रकृतीने नाजूक व अधू असल्याने बाजीरावाचे लक्ष मस्तानीकडे अधिक वेधले असण्याचा संभव आहे ! बाजीराव मस्तानीच्या नादी लागला असा त्या काळी त्याच्यावर आरोप करण्यांत आला पण म्हणून बाजीराव मस्तानीपासून दूर झाला नाही किंवा त्याने तिला कंचनी सारखेही वागविले नाही. कदाचित् बाजीराव मस्तानीच्या ठायी रमला, याचे तिच्या सौंदर्याइतकेच गुणांनाही श्रेय आहे. तारीखी-महंमद-शाहीतील उल्लेखानुसार 'मस्तानी' अश्वारोहणांत विशेष कुशल होती. बाजीरावप्रमाणेच तलवार, भाला घेऊन ती त्याजबरोबर भरधाव घोडदौड करी. त्या तीव्र वेगांत उभयतांच्या रिकिबी यत्किंचित् मागेपुढे होत नसत. मोहिमांत ती बाजीरावाबरोबर हजर असे.

बाजीराव व मस्तानी यांचे एकमेकांवरील प्रेम इतके अलौकिक होते की, बाजीरावाच्या आप्तमंडळींनी केलेल्या छळाला मस्तानीने केवळ बाजीरावावरील प्रेमाखातर तोंड दिले व बाजीरावानेही आपल्या या प्रेमिकेला त्रास पडूं नये म्हणून गृहकलहांना कंटाळून शनिवार वाड्यात तिला 'मस्तानी महाल' बांधून दिला. वे जेव्हा-जेव्हा विचारानी डोके सैरवैर धावू लागे किंवा कामाने शरीर शिणे तेव्हा-तेव्हा तो शिणलेल्या मनाचे किंवा शरीराचे सांत्वन करण्यासाठी मस्तानीकडे धाव घेई व मस्तानीही बाकीची कामे बाजूला टाकून आपल्या या शूर प्रियकराला नाना उपायांनी रिझवी. अशावेळी ती आपल्या त्रासांचा त्याच्यापूढे पाढा न वाचता प्रफुल्ल चेहऱ्याने त्याला सामोरी जाई कदाचित् तिच्या याच गुणाचा बाजीरावावर जास्त पगडा बसला असावा.

बाजीराव व मस्तानी यांच्या प्रेमांत खो घालण्याचा बाजीरावाच्या घरच्या लोकांनी, शाहूराजांच्या दरबारी

लोकांनी जसा प्रयत्न केला तसाच काही धर्ममार्तंडांनीहि केला. मस्तानी व बाजीरावाचा पुत्र समशेर याची मुंज करण्याचा विचार बाजीरावाने केला कारण बाजीराव हा मस्तानीला कंचनी न समजता तिला आपली पत्नी-प्रेयसी समजत होता. पण बाजीरावाचा उत्कर्ष व प्रेममार्ग न रुचणाऱ्या सरदारांनी, बाजीराव हा मस्तानीच्या नादी लागून अब्राह्मणाप्रमाणे मद्य-मांस भक्षण करतो व मुसलमान कंचनीपासून झालेल्या मुलाची मुंज करून धर्म बुडवतो या आरोपाखाली ब्रह्मवृंदातील ब्राह्मणाकडून त्याला वाळीत टाकण्याची दहशत घातली किंवा प्रायश्चित घेऊन मस्तानीपासून दूर होण्याची सूट दिली. पण बाजीराव जसा समरांगणावर निधड्या छातीचा म्हणून ओळखला जात होता तसाच तो खाजगी व्यवहारातही निधड्या छातीचा होता. त्याचे मस्तानीवरील प्रेम इतके उत्कट होते की कोण-त्याही धमक्यांना बळी पडून त्याने तिचा त्याग केला नाही.

बाजीरावाचे मस्तानीवर जसे उत्कट प्रेम होते तसेच किंबहुना त्याहूनही अधिक मस्तानीचे बाजीरावर प्रेम होते. बाजीराव साताऱ्याहून किंवा इतर कामगिरी-हून आल्यावर प्रथम "मस्तानी महालांत" येतो या गोष्टीची मस्तानीला पूर्ण कल्पना होती. म्हणूनच बाजीराव शनिवार वाड्यात परत आल्याची बातमी ऐकताच ती त्याच्या स्वागतास स्नानाच्या गरम व सुगंधी पाण्यापासून ते विडा व पुष्पशय्येपर्यंत सर्व साहित्यांनी सुसज्ज होत असे व अशावेळी जर काही घरगुती अडचणी अगर भानगडीमुळे बाजीरावाचे येणे लांबले तर मस्तानी नाना शंकानी व्याकुळ होत असे. आपल्यापायी बाजीरावावर–बाजीरावाच्या चारित्र्यावर ठपका येतो व बरेचसे स्नेही त्याला विरोध करतात याची मस्तानीला पूर्ण कल्पना होती व त्यासाठी बाजीरावा-पासून दूर होण्याचा विचारही कित्येकदा तिच्या मनात येई पण ती नुसती कल्पनाही तिला असह्य होत असे ज्या बाजीरावाच्या स्पर्शाने ती सुखावत होती त्याच्या साध्या दर्शनालाही मुकण्याची कल्पना तिचे काळीज चिरे व बाजीराव तर काय ? त्याला तर मस्तानीच्या प्रेमापुढे सारे जग फिके होते. गादीच्या सेवेचे कर्तव्य बजावल्यावर आपल्या प्रेमाआड येण्याचे कोणाला कारणच काय? त्याची बेपर्वा-वृत्ति होती. तांबुलरस मस्तानीच्या कंठातून उतरताना पहाण्याचा आणि मस्तानीचे नाजूक मुखकमल व लांबसडक कुंतल कुरवाळायचा त्याला जगा-आगळा छंद होता. अशा एकमेकांवरील उत्कट प्रेमामुळे जगाच्या विरोधाला तोंड द्यायचे असामान्य धैर्य दोघांच्या अंगी आले होते.

अखेर मस्तानी– बाजीराव वेगळे होणे शक्य नाहीं असे पाहून बाजीराव जेव्हा, निजामाने बांद्याची खाजगी जहागिरी कबूल करूनही दिली नाही ती वसूल करण्यासाठी व त्याला शरण आणण्यासाठी केलेल्या युद्धावर गेला, तेव्हा बाजीरावाच्या आप्तस्वकीयांनी मस्तानीला शनिवार वाड्यांत कैद करून ठेवले व बाजी-रावाकडे तिला जाण्यास बंदी केली. पण जेव्हा लढाई सुरू केली– तेव्हा बाजीरावाला या कैदेची हकीकत समजली व त्याबद्दल नापसंती म्हणून तो आपल्या काशी-बाईपासून झालेल्या मुलाच्या मुंजीला हजर राहीला नाही. बांद्याची जहागिरी त्याने मस्तानीच्या वंशाच्या नावे केली. पण मस्तानीचा विरह त्याला सहन झाला नाही व लढाई संपल्यावर तेथील तळावर तो आजारी पडला. त्याला हलविणेही अशक्य झाले त्याचा आजार दिवसेंदिवस वाढत चालला. त्याचा भाऊ चिमाजीअप्पा याला मस्तानी-बाजीरावाची ताटातूट केल्याचा पश्चाताप झाला पण फारच उशीरा ! मस्तानीची अखेरची भेट न होताच बाजीरावाने प्राण सोडला.

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मस्तानीच्या मृत्यूसंबंधी अनेक आख्यायिका प्रसिद्ध आहेत. काहींच्या म्हणण्याप्रमाणे बाजीरावाच्या मृत्युची बातमी कळताच त्याच्या कायमच्या विरहाच्या असह्य कल्पनेने तिने विष प्राशन केले. तर काहींच्या मते बाजीरावाचा आजार वाढल्यावर त्याच्या आप्तांनी, मस्तानीच्या भेटीने त्याची प्रकृति सुधारण्याची आशा वाटून त्यानी, तिला बाजीरावाकडे जाण्याची परवानगी दिली पण बांदा येथील सीमेवर तिला बाजीरावाच्या मृत्युची बातमी कळली व आपल्या प्रियकराच्या आत्म्याशी मीलन होण्यासाठी मस्तानीने अति दुःखाने प्राण सोडला.

तर जे बाजीराव-मस्तानीच्या प्रेमकथेने भारले गेले ते मस्तानीचे चारित्र्य उज्ज्वल करण्यासाठी म्हणतात, "बाजीरावाच्या प्रेताबरोबर मस्तानी सती गेली." कोणतीही आख्यायिका खरी असली तरी एवढे खरे की, एकमेकांचा विरह सहन न होऊन, एकमेकांच्या प्रेमाच्या साथीशिवाय जगण्याची कल्पना सहन न होऊन या स्वार्थी व एकमार्गी जगाला कंटाळून ते दोघेही प्रेमिक कायमचे एकत्र रहाण्यासाठी एकदमच मृत्यूला सामोरे गेले.

आणि नाटकाचा मुडदा पडला....

रमेश शंकर सबनीस
एफ्. ई. ३

[पौराणिक नाटकाचे काही सामान उदा. धनुष्ये वगैरे स्टेजवर प्रेक्षकांना दिसेल असे. दोन टेबले आणि तीन चार खुर्च्या. एका टेबलावर लेखक बसला आहे. खुर्च्यांवर एक-दोन नट. एका खुर्चीवर एका माणसाला दोऱ्यांनी बांधून ठेवला आहे. दुसरा माणूस सगळ्या गोष्टी हात लावून बारकाइने तपासत आहे. डायरेक्टर येरझारा घालत आहे.]

डायरेक्टर : (फेऱ्या घालत) हे नाटक निवडावे का ते नाटक निवडावे? (हॅम्लेटच्या आवेशात), प्रश्नच आहे मोठा! या शेटजींच घ्याव का या बुलंद बाबूलकराच घ्याव? (थोडा विचार करून स्वगत) आधी ऐकू या तर खर या शेटजींच नाटक! (उघड हसतो) काय मग शेटजी, कोणते नाटक लिहीलय तुम्ही, बघू तरी! तुमच्या हातून नोटा पडण्याऐवजी शब्द पडू लागले म्हणजे कमाल आहे!

शेटजी : (हसतात) आमचे नाटक ना, लिवलेना मी! एकदम क्लास. कोन ऐकेल तो पयल्या झटक्याला फ्रीजमदला पानी मागेल! एकदम आताच्या काळातला, तरी बी जुन्यात मोडणारा, असा एकदम ब्येश! भाषा बी काय हाय!

डायरेक्टर : ते कळल शेटजी पण कथानक सांगा.

शेटजी : अरे कथा आपली ती हीच समाद्याना मालूम हाय ती आपली रामाची, रामायणातली! हां, पण तसा जुना माल नाही. आमी ते स्टोरीला एकदम फिरवून टाकले बघ!

डायरेक्टर : रामायणाला?

शेटजी : हां, हां, रामायणाला! आमचे नाटका-मंदी राम हाच कारोबार मंत्री.

डायरेक्टर : कारभार मंत्री? कुठला?

शेटजी : अरे काय मंदी मंदी पिरपिर करते. कुठला काय, राम यानि अयोध्येचा! पुर्वीचे टायमाला काय असते जे राजपुत्र असते ते कारोबार मंत्री म्हणून असते. गेलेच तिथीला आमाला मिळालेल्या चोपडीत लिवलय असा! तो राम भी तसाच असते. म्हणजे काय करायचा बस सगळे लोक बराबर काम करतात का नाय ते बघायच, बस्!

डायरेक्टर : अस्स!

शेटजी : तो आता एक-एकदा काय झाला, सगळ्या नोकरांनी अयोध्येत कट केला अन एक दिवस एकदम 'शीक लिव्ह' घेतली. रामाला बी न कळवता. आता हे रामाचा अपमान झाला. तो दशरथाने रामाला काय सांगितले–

डायरेक्टर : काय सांगितले?

शेटजी : की तू तुझी सद्सदविवेकबुद्धी (अडखळतो) अनुसरून राजीनामा दे.

एक नट : सद्सदविवेकबुद्धि?

शेटजी : अरे नाय समजते का तुला मराठी असून. तेचा अर्थ म्हणजे... आता असा बघ आमी दोन रुपयानी तूप घेतला तो आमी चार रुपयाच्या वर भावाने गिऱ्हाइकाला देइल काय? कवाच नाय. आमाला बी गिऱ्हाइकाची काळजी हाय ना. तो अशी ती सद्सदविवेकबुद्धी, समजला काय?

नट : हां, छानच समजले!

शेटजी : तो राम असते एकवचनी. मंत्री होताना घेतलेल्या शपथेला जागते आणि ताड्कन राजीनामा देते. बघ काय प्रसंग आला तेच्यावर! (रुमलाने डोळे पुसतात).

डायरेक्टर : .....!

शेटजी : 'तो आता रामाला कुठे काम द्यायचा तो त्याला दशरथ पाठवून देते–"

डायरेक्टर : ते आणि कुठे?

शेटजी : लंकेत! रावणाकडे आपला वकील म्हणून पाठवून देते काय समजलेस? तो असा राम लंकेत जाते. एक नाय दोन नाय पुरा चौदा साल राहते राजकीय वनवास भोगते आणि लास्टला अयोध्येला येते. सगळ्यास्नी फ्रेश वाटते तोच तो आपला धोबी–

नट : धोबी ?

शेटजी : हा आपला एक लायनीतला धोबी बोलता-बोलता बकवास करते के रामाने लंकेत चौदा साल राहून आपल्या अयोध्येतल्या प्रॉपर्टी वरचा टॅक्स चुकवले तो राम ते ऐकते आणि तिनताड उडते आणि परागंदा होते आणि.....

डायरेक्टर : (वैतागून) बस्, बस, बस ! शेटजी पुरे ! हे असल नाटक केल तर आमच हौशी मंडळ असूनही सरकार डबल टॅक्स बसवेल, समजल का ?"

शेटजी : पण आमी देणगी देते ना–

डायरेक्टर : ती निम्म्यावर आणली तरी चालेल पण हे नाटक नको. आपण परत कधीतरी बघू तुमच्या नाटकाच. मंडळाच्या पहिल्याच प्रयोगाला असल नाटक नको. काय हो (नटाला उद्देशून) डफळे, बरोबर आहे ना ?

नट : (नाटकीपणाने) कितीतरी बरोबर !

डायरेक्टर : मग काय बुलंद बाबुलकर ! तुमच कोणत नाटक आहे ?

बाबुलकर : कां ? का ? का कचकड्याच्या किल्लीच्या कुत्र्यासारखी कळ काढून क्यांव क्यांव करता ? माझ्या मधुर मितभाषणाने, मितभाषेने मराठी मनाचा मानबिंदू ठरण्याची ठाम शक्यता असलेल्या माझ्या निरंतरनिपुण नाटकाची पुन्हापुन्हा नाव विचारून अयोग्य उपेक्षा का करता ? मी आपल्याला केव्हाच नाव सांगितले आहे.

डायरेक्टर : पण मिस्टर बाबुलनाथ–सॉरी बाबुलकर, आम्हाला नुसत नाव नकोय कथानक हवय !

बाबुलकर : आधी नाव ! किती अक्षरी हव बोला. तीन ? नऊ ? अकरा ? तेरा ? ज्योतिष्याला विचारलत ? तुम्ही तर अकरा बोलला होतात मग घ्या हे नाटक, दणदणीत नाटक "भीमकाय भिष्माचा भाग्योदय' !"

डायरेक्टर : हं, बोला, पुढे बोला !

बाबुलकर : काय बोला ? डायरेक्टर, सुरुवात करा नाटक बसवायला. हे घ्या पुस्तक थांबू नका.

डायरेक्टर : बर, तसच करूंया. डफळे घ्या हे पुस्तक-पहिल्या प्रयोगातील पात्रे बघू. अं अं.... भीष्म, मंडेश्वर..... बर मग अस करा डफळे, तुम्ही हे धनुष्य हातात घ्या आणि भीष्म व्हा. बाबूराव (दुसऱ्या नटाला) तुम्ही हे इथ असे उभे रहा.

समीक्षक : (मघापासून सर्व वस्तू काकदृष्टीने तपासत असलेला) मी आत्तापासूनच अभिप्राय द्यायला हरकत नाही ना !

डायरेक्टर : मुळीच नाही समीक्षक, त्यासाठीच तर तुम्हाला बोलावलय !

समीक्षक : हे डफळे म्हणजे ऑफीस सुटल्यावर सहा दोन च्या लोकलमध्ये बसायला जागा न मिळाल्यामुळे उभे राहिलेले भीष्म वाटताहेत.

डायरेक्टर : ते बाकीच नंतर पाहू. पण समीक्षक, नाटकाचे सामान तपासून कस वाटल या बाबतीतही आपला अभिप्राय हवा.

समीक्षक : पाहिल म्हणा सगळ ! धनुष्याच्या वरच्या कडेचा बांक हा पोक आल्यासारखा दिसतोय आणि दोरी जरा जास्तच सैल असल्यासारखी वाटतीय. आणि पोषाख खरोखरीच त्यावेळचे म्हणजे इसवीसनाच्या पुर्वीचे असावेत अशी दाट शंका येते. अर्थात् प्रत्येक गोष्ट सापेक्ष असते हे मी इथेच नमूद करतो.

डायरेक्टर : या वाक्यावरच तुम्ही जगता आहात लेको ! बर ते राहूदे, डफळे आपण आपली सुरुवात करुया. हं हे घ्या पुस्तक ! प्रथम संवाद स्वतःशी वाचा आणि मग म्हणा.

डफळे : (पॅट सावरतात, आधी स्वतःशी वाचून मग) तर मग अस म्हणतोस मंडेश्वरा, ठीक, ठीक. तुझ्या मतलबी मनाप्रमाणे होऊन जाऊ दे. पण लक्ष्यात ठेव. जर बोलता-बोलता या बलवान बाहुबलाची बाजू बळकावण्याचे बुर्ज्वा विचार बाळगून बसशील तर मात्र बाभळीच्या बनातील बुजलेल्या बारशिंगाप्रमाणे मी तुझी अवस्था करावयास मागेपुढे पाहणार नाहीं !

डायरेक्टर: अरेच्या ! हा मंडेश्वर कोण ?

बाबुलकर : हे बघा डायरेक्टर, माझ नाटक थोडस पौराणिक आणि बरचस सामाजिक आहे. माझी

तर अशी इच्छा आहे की पुढल्या पिढीतील लोकांनी म्हणाव की भीष्म ही व्यक्ति झालीच नव्हती. बुलंद बाबुलकरांच्या कल्पनेचा तो एक विलास होता !

डायरेक्टर : वाहवा ! काय जिद्द आहे, असा जिद्दीचा लेखक आम्हाला हवा !

डफळे : पण डायरेक्टर तुम्हीही यावेळी जिद्दीन नाटक बसवा नाहीतर नेहमीप्रमाणे आमचे पैसे बुडायचे !

डायरेक्टर : त्याची काळजी नको ! आतापर्यंतचा सगळा हिशेब दिलेला असतांना अस बोलण शोभत नाही तुम्हाला !

डफळे : अहो कसला हिशोब तो ! ह्याच्या विडीतंबाखूचा इतका खर्च आणि नाटकाच्या तालमीची जागा झाडायला आणलेल्या झाडूचा इतका खर्च ! हयॅं ! नाटकाच्या प्रयोगाचा काही पत्ताच नाहीं !

डायरेक्टर : पण आता बसतोय ना प्रयोग मग का ?

संगीत दिग्दर्शक, गायक इ. इ. : (आत येत) "प्रयोग, वा ! (एक तान मारून गातो.) नाटकाऽऽचा प्रयोग ! वा ! कोठेही नाटक असल की मला अगदी घरच कार्य असल्यासारख वाटत ! डायरेक्टर मी बघतोय गेले काही दिवस तुम्ही अगदी जिद्दीन काम चालवलय. तुम्ही विनंती करायच्या आधीच सांगतो, या नाटकाला संगीत-दिग्दर्शन माझ !

बाबुलकर : पण त्याचा काही एवढा प्रश्न नाही.

सं. दिग्. : तुम्हाला कोणी विचारलय ?

बाबुलकर : (चिडून) मी या नाटकाचा लेखक आहे. बुलंद बाबुलकर !

सं. दिग्. : अस होय, मग तुमच्याशीच बोलतो. किती शंभराच्या आसपास पद असतील ना ?

बाबुलकर : न्.-न्.-नाही पण–

सं. दिग्. : "असू दे असू दे, पन्नासच आहेत म्हणून संकोचू नका, चालवून घेऊ।

बाबुलकर : तस नाही–

सं. दिग्. : हे बघा पंचवीस तरी नक्की आहेत ना मग झाल तर !

बाबुलकर : तस नाही हो–

सं. दिग्. : माझी खात्री आहे. दहाच्या खाली नक्कीच नाहीत.

बाबुलकर : नाही हो. या नाटकात एकसुद्धा पद नाही.

सं. दिग्. : (रागाने) काय ? (ओरडून) हा माझा अपमान आहे ! हा प्रेक्षकांवर जुलूम आहे. मी तो सहन करणार नाही. (आवाज टिपेला नेऊन) कोण आहे रे तिकडे ? सखाराम–

सखाराम : (नोकर, घाबरत घाबरत आत येतो) कु.-कु.-काय ?

सं. दिग् : (शांतपणे) एक सिगल चहा सांग, जा ! (जातो) हे असच होत माझा आवाज तापला की तापतो–

डफळे : आणि थंड झाला की थंड होतो असच ना ?

सं. दिग् : (चिडून) तस नाही ! माझा आवाज तापला की तापतो, पण त्यावर थोड चहाच पाणी ओतल की तो थंड होतो. आणि हे ज्यांना चांगल माहित आहे असेच लोक माझा स्नेह टिकवू शकतात.

डायरेक्टर : म्हणजे आपल्या स्नेहासाठी चहाचे पैसे आम्ही द्यावेत असच ना ?

सं. दिग् : तसही असेल ! पण मी सांगतो, संगीतावाचून नाटक म्हणजे सारखेवाचून चहा ! ऐका, ऐका (आवेशाने गातो) माऽऽता दिसली–

सगळे एकदम : हां, हां। थांबा ! तो बघा आला, चहा आला.

सं. दिग् : आला का छान ! (चहा पितो) बर मग डायरेक्टर गाणी नाहीच म्हणता तर नाईलाज आहे. मलाही दुसरीकडे कामे आहेतच. बर, येतो मी ! (जातो).

डायरेक्टर : बघा, बघा हिशेब मागताय ! या रिकामटेकड्या संगीतरत्नापायी आतापर्यंत चहाचे चोवीस कप खर्च आला. मी तरी काय करूं ?

डफळे : नाटकाला सुरुवात !

डायरेक्टर : काय ?

डफळे : नाही म्हटल नाटकाला सुरुवात होऊन जाऊ द्या !

डायरेक्टर : ते आहेच हो. प्रेक्षकवर्ग आणलात ना ?

नट : वर्ग नाही पण प्रेक्षक आणलाय. (खुर्चीत बांधून ठेवलेल्या इसमाकडे बोट दाखवून) तो बघा. शिवाजी पार्कवर भटकत होता, आणला पकडून ! (खूर्चीत प्रेक्षकाला जाम बांधून ठेवलेला, मुर्तिमंत गरीब अशी ही असामी, पाय अवघडून चेहरा रडवेला झालेला).

डायरेक्टर : काहो, तुम्ही एवढे केविलवाणे का ?

प्रेक्षक : (घाबरून) : क-काही नाही, काही नाही अजून नाटक नाही ना सुरू झाल त्यामुळे !

डायरेक्टर : (मोठमोठ्याने हसत) काळजी नको आत्ता सुरु होतय, अगदी नांदीसकट ! मंडळी उठा आणि घसे साफ करा, अरे ते पुस्तक आणा रे हं–

नमन नटवरा, नमन नटेश्वरा
नमन नवे हे नमन नटेश्वरा –

(एकेकाचे आवाज मोठे होऊन कानठळ्या बसू लागतात.)

(एकदम बायकांचा घोळका आत शिरतो.)

नटाची बायको : अय्या ! प्रमिलाबाईची कमालच आहे, अगदी बरोबर हुडकन काढलीन की जागा !

लेखकाची बायको : हो ! कमाल कसली त्यात, त्यांच्या मिस्टरांचा भसाडा आवाज एवढ्या मोठ्याने येत असतांना गावाबाहेरची एखादी जागासुद्धा यानी ओळखली असती चटकन्.....

प्रमिलाबाई : (डायरेक्टरची बायको.) एवढ काही हिणवायला नको. टाचा वर करून पुस्तकात डोकावणाऱ्या त्या तुमच्या त्या त्या मिस्टरांपेक्षा खूप बरा, मी म्हणते.....

लेखकाची बायको : पण एवढा दुस्वास का मी म्हणते ?

प्रमिलाबाई : तुम्ही तरी आधी कुरापत का काढावी ? (दोघी कडाकाड भांडू लागतात. आणि बाकीच्या भांडण मिटविण्यासाठी सवाई ओरडू लागतात. त्यामुळे नांदीपेक्षा यांचा आवाज मोठा होतो. पुरुष नाटचवर्ग मागे वळून पाहतो आणि झुंझार स्त्रीवर्गाला पाहून नांदी बंद पडते आणि दोन्ही बाजुला युध्दापुर्वीची शांतता पसरते.)

(मी नको, तुम्ही ..... अशी कुजबुज, शेवटी प्रमिलाबाई पुढे होतात.)

प्रमिलाबाई : (डारेक्टर ना उद्देशून) पण मी म्हणते कसली नाटक करताय ? घरी का काम कमी पडली आहेत ? चंदूला दोन दिवस शिकवा म्हटल ते जमत नाही आणि नाटकाच डायरेक्शन करताहेत !

डायरेक्टर : (उत्तराची जुळवाजुळव करण्यासाठी ओठ हलतात.)

प्रेक्षक : (हाताने ढोसून) झाली वाटत नाटकाला सुरुवात ?

डायरेक्टर : तुम्ही गप्प बसा हो ! (प्रमिलाबाई ना उद्देशून, गुळमळीतपणे) काहीतरी छंद म्हणून आपल.

प्रमिलाबाई : घरी का थोडी नाटक होतात ?

डायरेक्टर : पण त्या सगळ्याच डायरेक्शन तूच करतेस ! मला संधी मिळावी म्हणून .....

प्रमिलाबाई : काही बोलू नका.....आता तुम्ही पुढ व्हा मंदाताई !

मंदाताई : (लेखक मिस्टराना उद्देशून) तुम्ही नाटक लिहीता काय ? तरी म्हटल कीचनमधले हाती धरायचे कागद हल्ली नाहीसे का व्हायला लागले ? नाटक म्हणजे काय बुंदी पाडण्याइतक सोप वाटल तुम्हाला ?

लेखक : माझ्या लालित्यपुर्ण खवचट कुचेष्टा करण्याच्या भरीस पडू नकोस. नाहीतर मी माझे चौथे आमरण उपोषण सुरु करीन ! पण त्याआधी एक गोष्ट सांगून ठेवतो. माझे हे लोण्यासारखे शब्द घणाघाती आहेत घणाघाती ! माझे शब्द म्हणजे शब्दसाहित्य घुसळून काढलेल लोणी ! अहाहा–

मंदाताई : (मध्येच थांबवून) म्हणे लोणी, लोणी अस मिळत असत तर दारापुढे म्हैस बांधण्याची गरज काय पडली होती ? –आम्ही साफ सांगतो आम्हीं

तुम्हाला नाटक करू देणार नाहीं. घरी, संसारात कामाचे एवढे ढीग पडलेले असतांना तुम्हाला नाटक सुचतात तरी कशी ? तुम्ही जर आमच ऐकल नाहीत तर आम्ही सरळ ऑफिसात जाऊन तुमच्या साहेबांना सांगू की तुमची रजा डोकेदुखीसाठी नसून नाटकासाठी होती—.

(हा घाव वर्मी बसून निघायला तयार होतात.)

डायरेक्टर, लेखक वगैरे : मग चला तर. . . . .

बायका : चला नाही, तुम्ही पुढ व्हा. तुमच हे सामान, हा पसारा आवरून मग आम्ही येतो. (सर्व पुरुषवर्ग (बांधलेला प्रेक्षक सोडून) जातो.)

प्रमिलाबाई : पहा सगळे गेले का ?

एक बाई : हो !

(सगळ्याजणी हसतात)

मंदाताई : इतक्या सहजासहजी काम होईल अस वाटल नव्हत !

प्रमिलाबाई : अय्या, पण हे खुर्चीत कोण बसलेत ?

प्रेक्षक : अहो मला प्रेक्षक म्हणून त्यानी बांधून ठेवले हो ! मी फिरत होतो शिवाजी पार्कवर एखादी सभा असेल म्हणून ! आता तूम्हीच मला सोडवा !

प्रमिलाबाई : अहो तुम्हाला नाटक बघायला मिळेलच की ! फक्त त्यांच्या ऐवजी आमच (हसून) आमच्या नाटक कंपनीला तालीम करता यावी म्हणून आम्ही हा डाव केला . शिवाय हे सगळ नाटकाच सामान मिळाल ते वेगळच ! आमचही 'महिला नाटिका मंडळ' आहे.

मंदाताई : अगोबाई ! यांच्या पिशवीत चप्पल !

प्रमिलाबाई : सभेला पिशवीत चप्पल ? भलतेच संतापी दिसता तुम्ही !

श्रीयुत प्रेक्षक : नाही हो ! हरवते म्हणून पिशवीत ठेवली होती !

प्रमिलाबाई : अस होय, पण ते जाऊ दे ! आता तुम्ही आमचं नाटक पहा (येथे श्री. प्रेक्षक एक भला मोठा दीर्घ सुस्कारा सोडतात.) मंदाताई काय हो नाव त्याच ? चांगल तीन तासाच नाटक पण मेलं नावच लक्ष्यात रहात नाही !

मंदाताई : "अहो तेच की आपल कर्नल भिश्यानी लिहीलेल, "आणि नाटकाचा मुडदा पडला !"

(उपस्थित तीन चार महिला फिदीफिदी हसतात आणि पडदा पडतो.)

★

"हुरहुर"

अशोक सोहोनी
उपांत्य वर्ष, स्थापत्यशास्त्र

मनांत वाटे एकच हुरहुर
अपुरे माझे गीत रहाते
कधी न जमतील सूर आता ते
मनांत होती एक 'परी' ती
तिला एक ती सखी कल्पिली
स्वप्नी तिजला फुलें अर्पिली
सारे परी अव्यक्त राहीले
दोन मनांतील अनंत अंतर

वखर आता व्यथा न उरली
परी जखम ती ओली आहे .
गत काळांतील एक मूसाफिर
अजुन काही याचित आहे .
वसंत आता मुळी न उरला
तरी "कुहु" ची आर्त साद ती
सुसाट वारा कापीत आहे .

बहर आता सरुन गेला .
थोडा मोहर उरुन आहे
मनांत धरुनी वेडी आशा
एक जीव हा झुरुनी राहे

★

डफळे : नाटकाला सुरुवात !

डायरेक्टर : काय ?

डफळे : नाही म्हटल नाटकाला सुरुवात होऊन जाऊ द्या !

डायरेक्टर : ते आहेच हो. प्रेक्षकवर्ग आणलात ना ?

नट : वर्ग नाही पण प्रेक्षक आणलाय. (खुर्चीत बांधून ठेवलेल्या इसमाकडे बोट दाखवून) तो बघा. शिवाजी पार्कवर भटकत होता, आणला पकडून ! (खूर्चीत प्रेक्षकाला जाम बांधून ठेवलेला, मुर्तिमंत गरीब अशी ही असामी, पाय अवघडून चेहरा रडवेला झालेला).

डायरेक्टर : काहो, तुम्ही एवढे केविलवाणे का ?

प्रेक्षक : (घाबरून) : क-काही नाही, काही नाही अजून नाटक नाही ना सुरू झाल त्यामुळे !

डायरेक्टर : (मोठमोठ्याने हसत) काळजी नको आत्ता सुरु होतय, अगदी नांदीसकट ! मंडळी उठा आणि घसे साफ करा, अरे ते पुस्तक आणा रे हं–

नमन नटवरा, नमन नटेश्वरा
नमन नवे हे नमन नटेश्वरा –

(एकेकाचे आवाज मोठे होऊन कानठळ्या बसू लागतात.)

(एकदम बायकांचा घोळका आत शिरतो.)

नटाची बायको : अय्या ! प्रमिलाबाईंची कमालच आहे, अगदी बरोबर हुडकन काढलीन की जागा !

लेखकाची बायको : हो ! कमाल कसली त्यात, त्यांच्या मिस्टरांचा भसाडा आवाज एवढ्या मोठ्याने येत असतांना गावाबाहेरची एखादी जागासुद्धा यानी ओळखली असती चटकन्.....

प्रमिलाबाई : (डायरेक्टरची बायको.) एवढ काही हिणवायला नको. टाचा वर करून पुस्तकात डोकावणाऱ्या त्या तुमच्या त्या त्या मिस्टरांपेक्षा खूप बरा, मी म्हणते.....

लेखकाची बायको : पण एवढा दुस्वास का मी म्हणते ?

प्रमिलाबाई : तुम्ही तरी आधी कुरापत का काढावी ? (दोघी कडाकाड भांडू लागतात. आणि बाकीच्या भांडण मिटविण्यासाठी सवाई ओरडू लागतात. त्यामुळे नांदीपेक्षा यांचा आवाज मोठा होतो. पुरुष नाट्यवर्ग मागे वळून पाहतो आणि झुंझार स्त्रीवर्गाला पाहून नांदी बंद पडते आणि दोन्ही बाजुला युध्दापुर्वीची शांतता पसरते.)

(मी नको, तुम्ही ..... अशी कुजबुज, शेवटी प्रमिलाबाई पुढे होतात.)

प्रमिलाबाई : (डारेक्टर ना उद्देशून) पण मी म्हणते कसली नाटक करताय ? घरी का काम कमी पडली आहेत ? चंदूला दोन दिवस शिकवा म्हटल ते जमत नाही आणि नाटकाच डायरेक्शन करताहेत !

डायरेक्टर : (उत्तराची जुळवाजुळव करण्यासाठी ओठ हलतात.)

प्रेक्षक : (हाताने ढोसून) झाली वाटत नाटकाला सुरुवात ?

डायरेक्टर : तुम्ही गप्प बसा हो ! (प्रमिलाबाई ना उद्देशून, गुळमळीतपणे) काहीतरी छंद म्हणून आपल.

प्रमिलाबाई : घरी का थोडी नाटक होतात ?

डायरेक्टर : पण त्या सगळ्याच डायरेक्शन तूच करतेस ! मला संधी मिळावी म्हणून .....

प्रमिलाबाई : काही बोलू नका.....आता तुम्ही पुढ व्हा मंदाताई !

मंदाताई : (लेखक मिस्टराना उद्देशून) तुम्ही नाटक लिहीता काय ? तरी म्हटल कीचनमधले हाती धरायचे कागद हल्ली नाहीसे का व्हायला लागले ? नाटक म्हणजे काय बुंदी पाडण्याइतक सोप वाटल तुम्हाला ?

लेखक : माझ्या लालित्यपुर्ण खवचट कुचेष्टा करण्याच्या भरीस पडू नकोस. नाहीतर मी माझे चौथे आमरण उपोषण सुरु करीन ! पण त्याआधी एक गोष्ट सांगून ठेवतो. माझे हे लोण्यासारखे शब्द घणाघाती आहेत घणाघाती ! माझे शब्द म्हणजे शब्दसाहित्य घुसळून काढलेल लोणी ! अहाहा–

मंदाताई : (मध्येच थांबवून) म्हणे लोणी, लोणी अस मिळत असत तर दारापुढे म्हैस बांधण्याची गरज काय पडली होती ? –आम्ही साफ सांगतो आम्हीं

तुम्हाला नाटक करू देणार नाहीं. घरी, संसारात कामाचे एवढे ढीग पडलेले असतांना तुम्हाला नाटक सुचतात तरी कशी ? तुम्ही जर आमच ऐकल नाहीत तर आम्ही सरळ ऑफिसात जाऊन तुमच्या साहेबांना सांगू की तुमची रजा डोकेदुखीसाठी नसून नाटकासाठी होती—.

(हा घाव वर्मी बसून निघायला तयार होतात.)

डायरेक्टर, लेखक वगैरे : मग चला तर. . . . .

बायका : चला नाही, तुम्ही पुढ व्हा. तुमच हे सामान, हा पसारा आवरून मग आम्ही येतो. (सर्व पुरुषवर्ग (बांधलेला प्रेक्षक सोडून) जातो.)

प्रमिलाबाई : पहा सगळे गेले का ?

एक बाई : हो !

(सगळ्याजणी हसतात)

मंदाताई : इतक्या सहजासहजी काम होईल अस वाटल नव्हत !

प्रमिलाबाई : अय्या, पण हे खुर्चीत कोण बसलेत ?

प्रेक्षक : अहो मला प्रेक्षक म्हणून त्यानी बांधून ठेवले हो ! मी फिरत होतो शिवाजी पार्कवर एखादी सभा असेल म्हणून ! आता तूम्हीच मला सोडवा !

प्रमिलाबाई : अहो तुम्हाला नाटक बघायला मिळेलच की ! फक्त त्यांच्या ऐवजी आमच (हसून) आमच्या नाटक कंपनीला तालीम करता यावी म्हणून आम्हो हा डाव केला. शिवाय हे सगळ नाटकाच सामान मिळाल ते वेगळच ! आमचही 'महिला नाटिका मंडळ' आहे.

मंदाताई : अगोबाई ! यांच्या पिशवीत चप्पल !

प्रमिलाबाई : सभेला पिशवीत चप्पल ? भलतेच संतापी दिसता तुम्ही !

श्रीयुत प्रेक्षक : नाही हो ! हरवते म्हणून पिशवीत ठेवली होती !

प्रमिलाबाई : अस होय, पण ते जाऊ दे ! आता तुम्ही आमचं नाटक पहा (येथे श्री. प्रेक्षक एक भला मोठा दीर्घ सुस्कारा सोडतात.) मंदाताई काय हो नाव त्याच ? चांगल तीन तासाच नाटक पण मेलं नावच लक्ष्यात रहात नाही !

मंदाताई : "अहो तेच की आपल कर्नल भिश्यानी लिहीलेल, "आणि नाटकाचा मुडदा पडला !"

(उपस्थित तीन चार महिला फिदीफिदी हसतात आणि पडदा पडतो.)

★

"हुरहुर"

अशोक सोहोनी
उपांत्य वर्ष, स्थापत्यशास्त्र

मनांत वाटे एकच हुरहुर
अपुरे माझे गीत रहाते
कधी न जमतील सूर आता ते
मनांत होती एक 'परी' ती
तिला एक ती सखी कल्पिली
स्वप्नी तिजला फुलें अर्पिली
सारे परी अव्यक्त राहीले
दोन मनांतील अनंत अंतर

वखर आता व्यथा न उरली
परी जखम ती ओली आहे.
गत काळांतील एक मूसाफिर
अजुन काही याचित आहे.
वसंत आता मुळी न उरला
तरी "कुहु" ची आर्त साद ती
सुसाट वारा कापीत आहे.

बहर आता सरुन गेला.
थोडा मोहर उरुन आहे
मनांत धरुनी वेडी आशा
एक जीव हा झुरुनी राहे

★

आधुनिक शिक्षा प्रणाली

उमा शंकर मिस्त्री

विद्यार्थी, जो देश का भावी नागरिक है, जिस पर देश की उन्नती निर्भर है, जो अपनी सुबुद्धि और अपने ज्ञानद्वारा जातीय भेद भावों तथा सामाजिक कुरीतियों का अंत कर एकता का प्रचार कर सकता है। देश की सर्वमुखी उन्नति में सहायक हो सकता है। औद्योगिक, राजनैतिक तथा विज्ञान, तकनीकि और शक्ति के क्षेत्र में देश को आगे बढा सकता है। ऐसे भावी भारत के कर्णधारों को ज्ञान के क्षेत्र में कहाँ तक बढ़ा होना चाहिये, उसमें किन गुणों का समावेश होना चाहिये, तथा आवश्यक बुद्धि और शिक्षा का कहाँ तक विकास होना चाहिये : ये प्रश्न विचारणीय है। इन प्रश्नों के समाधानार्थ हमें छात्रों के गुण-दोषों और विशेषतया आधुनिक शिक्षा-प्रणाली पर गौर करना होगा।

निश्चित रूप से शिक्षा प्रणाली तथा दैनिक वातावरण का प्रभाव छात्रों पर पूर्णतया पडता है, यदि हम आधुनिक शिक्षा प्रणाली पर विचार करें तो इसे दो पक्षों में विभक्त कर सकते हैं–शिक्षा प्रणाली का कृष्ण पक्ष तथा शुक्ल पक्ष। चूँकि भारत में शिक्षा प्रणाली का पक्ष शुक्ल पक्ष की अपेक्षा अधिक प्रबल है, इसलिये यहाँ का स्तर गिरा हुआ है और छात्रों का पतन हो रहा है–यह सर्व विदित है।

वर्तमान शिक्षा–प्रणाली अंग्रेजों की देन है। परतन्त्रता के समय जब अंग्रेजों को बाबुओं (क्लार्कों) की आवश्यकता हुई, तो उन्होंने वर्तमान शिक्षा–पद्धति आरम्भ की जो लगभग आजभी है, इस प्रणाली से पूर्ण रूपेण शिक्षित विद्वान, नेता, इंजिनियर, देशभक्त, वक्ता श्रेष्ठ अध्यापक आदि देश निर्माणकों का उत्पादन न होकर, उत्पादन होता है केवल बाबुओं का–जो अफिसों में नौकरी करने में ही अपनी शान समझते हैं। यदि अपवाद है भी तो वह नगण्य है, इस शिक्षा-प्रणाली में गुण तो गिने चुने हैं–किंतु दोषों की प्रधानता है। भयंकर दोष वर्तमान शिक्षा-प्रणाली है जो छात्र के वर्ष भर के परिश्रम और भाग्य का निर्णय केवल तीन घंटे देती है। इसमें छान के अनुशासन, आचरण गुणों अथवा उसकी रुचि आदि के लिये कोई स्थान नहीं होता, और यह वार्षिक परीक्षा का निर्णय अंतिम और सर्वमान्य होता है। इससे छात्र का मनोबल गिरे न तो और क्या हो? अवश्य, इससे उसका मनोबल गिरेगा और विविध प्रकार की बुराईयाँ पनपेगीं जिसका दोषी भी छात्र को ही ठहराया जाता है।

शिक्षा प्रणाली में दूसरी भयंकरता और जादू है "लक्ष्मी का प्रभाव यह बिल्कुल ही सच है कि धन के लोभ में लोग ऊँची-ऊँची शिक्षाओं की कल्पना करते हैं। मानवीय योग्यता, यश और उसके महत्व को लोग धन की मदमत्तता में लोग भूल जाते हैं। विद्यालयों में प्रायः देखा जाता है, क परिश्रमी, अनुशासित और आचरण शील छात्र तो किसी साधारण सी त्रुटी के लिये अध्यापकों का कोपभाजक बन जाता है–दण्ड का भोगी होता है, किंतु दूसरी और कोई उद्दण्ड, शरारती और अपने विषयों में कमजोर छात्र अध्यापक की नजरों में सम्माननीय होता है। सर्व दोषों के लिये वह क्षमा-भोगी होता है। परीक्षा में उत्तीर्ण छात्रों में उसका प्रमुख स्थान रहता है। इस विचित्रता और असमानता का प्रधान कारण है–धन। धन के लोभ में शिक्षक और विद्यालय के संचालक भी प्रायः अपने कर्तव्यों को भुला बैठते है।

यह शिक्षा–प्रणाली लकवामार के समान है। उच्च शिक्षित नवयुवक, प्रायः जब अपनी शिक्षा समाप्त

कर समाज में अपने जीवन-यापन में जीविका का साधन खोजने आता है। जहाँ उसका सम्मन होना चाहिये, उसके शिक्षा के मूल्यों को आँकते हुये उसकी योग्यता को देखते हुये, उसे उचित स्थान मिलना चाहिये, जहाँ उसका महत्त्व होना चाहिये। वहाँ होता कुछ और है। प्राय: 'ऐसे डिग्री धारी' लोगों को भटकते फिरना पडता है। कार्यालयों के दरवाजे खटखटाने फिरते पडते हैं और उसे दर-दर की ठोकरें खानी पडती है। यह सब आखिर क्यों? इसलिये कि उसे कहीं उचित स्थान ही नहीं मिलता।

इस दोष पूर्ण प्रणाली के अनुसार छात्र अपनीरुचि के विषय नहीं चुन सकते। यदि छात्र गणित या विज्ञान में विशेष रुचि रखता है, तो उसे अन्य कुछ विषय भी, कुछ भाषायें भी अवश्य सीखनी पड़ेगी। यदि विद्यार्थी शिक्षा बोर्ड या यूनिवसिटी के नियमों को नहीं मानता तो उसे शिक्षा से वंचित होना पड़ेगा और उसकी योग्यता का ह्रास होगा। वर्तमान छात्र समुदाय विनयशील नहीं होता, उसके हृदय में शिक्षकों के प्रति आदरभाव नहीं होता, वह आज्ञाकारी अथवा अनुशासित नहीं होता, उसमें जिज्ञासु प्रवृति नहीं होती, बल्कि वह अनेकानेक दुर्गुणों और बुराईयों में फँस कर अपने व्यक्तित्त्व का नाश कर देता है–जिसके लिये दोषी, शिक्षण को पद्धति ठहराया जा सकता है।

इस शिक्षा-प्रणाली में मौलिक रूप से परिवर्तन की आवश्यकता है। इसमें छात्र को अध्ययन के साथ आजीविका कमाने के साधन और तरीकों के बारे में भी सिखाना चाहिये, जिससे वह अपने स्वतंत्र जीवन में अपने पैरों पर खडा होसके और राष्ट्र तथा समाज के लिये एक "बोझ" न बन जाय। ऐसी शिक्षा प्रणाली राष्ट्र के निर्माण में योग दे सकती है। शिक्षा-प्रणाली इस प्रकार की होनी चाहिये कि एक नवयुवक अपने छात्र-जीवन में जो कलायें या विद्या ग्रहण करता है। व्यवहारिक जीवन में वह उसका उपयोग कर सके और तभी शिक्षा का वास्तविक उद्देश्य पूरा हो सकता है। अत: भारत के सर्वांगीण विकास के लिये वर्तमान शिक्षण पद्धति में क्रान्तिकारी परिवर्तन की आवश्यकता है।

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"जिन्दगी"

श्रीनिवास मिश्र
तृतीय वर्ष, सिविल

जिन्दगी दरिया है, मचलता हुआ तूफान
जिन्दगी शोला है, सुलगते हुये अरमान
जिन्दगी विशाल है, जैसे फैला आसमान
जिन्दगी भंगुर है, मौत कि अजान
जिन्दगी दौलत है, सोच रहे धनवान
जिन्दगी मूख है, तड़पता हुआ इंसान
जिन्दगी आग है, सूर्य को है गुमान
जिन्दगी शीतल है, चांद के समान
जिन्दगी त्याग है, ऋषियों को अभिमान
जिन्दगी गौरव है, वीरों सी महान
जिन्दगी फूल है, सृष्टि का वरदान
जिन्दगी मूल है, कह रही संतान
जिन्दगी बोझ है, कहता अनजान
जिन्दगी ठोकर है, राही की पहचान
जिन्दगी मौत है, कैदी का अनुमान
जिन्दगी वक्त है, मस्जिदों की अजान
जिन्दगी पाप है, वैश्याओं की सिसकन
जिन्दगी पुन्य है, पैसों की खन्-खन,
जिन्दगी मदिरा है, डुबा हुआ हैवान,
जिन्दगी अमृत है, देवताओं का जीवन
जिन्दगी शर्मिन्दगी है, बेहयाओं के मकान
जिन्दगी निन्दा है, धूर्त की जबान
जिन्दगी प्रीत है, प्रेमियों की वासना
जिन्दगी नफरत है, बेसिरों की भावना,
जिन्दगी बकवास है, सबपर एहसान
जिन्दगी धोका है, हंस रहा भगवान ।।



"महल"

श्रीनिवास मिश्र
तृतीय वर्ष, सिविल

सुना है एक बादशाह ने
प्रेमिका की याद में खड़ा किया ऊँचा महल
जिसकी खूबसूरती ताजगी का चर्चा आज भी है।

मैं भी खड़ा करूंगा एक महल
हाँ महल! ताजमहल से भी ऊँचा

जिसमें–
भूखे नंगे इंसानों की चीखें ईंट बनकर सँवरेंगी
दफन की जायगी इन्सानियत की नंगी लाश
नक्काशी कर उभारी जायेंगी–चोरी बदमाशी,
और भ्रष्टाचारी और
दरवाजों पर दिये जायेगें आदर्शों के बडे पोस्टर
फर्श पर बिछा दिये जायेंगे शब्दजाल भाषणों के लंबे
कालीन इतिहास में जोड़ दिया जायेगा नया पन्ना,
सुख सम्पन्नता हमारी मंगेतर है किसी अन्य की
ब्याहता नहीं।

मैं कहाँ जा रहा हूँ?

परमार जयन्तीलाल एम्.
एम. टी. ई. सिविल

मैं चला जा रहा हूँ, चला जा रहा हूँ,
न जाने कहाँ, मैं चला जा रहा हूँ।

दिल में तड़पन
मन में चुभन,
आह और गम लिये

मैं चला जा रहा हूँ, चला जा रहा हूँ,
न जाने कहाँ, मैं चला जा रहा हूँ।

साँसों में आस,
मिलन की प्यास,
होकर निराश,

मैं चला जा रहा हूँ, चला जा रहा हूँ,
न जाने कहाँ, मैं चला जा रहा हूँ।

किस्मत है आवारा,
न कोई किनारा,
मौत का सहारा, लिये

मैं चला जा रहा हूँ, चला जा रहा हूँ,
न जाने कहाँ मैं चला जा रहा हूँ।



કૉલેજ જતાં.....

સંકલન,
બીનેશ પારેખ, પ્ર. ઈ.

યુવાની મહોબ્બતનાં દમ લઈ રહી છે,
મને દિલની ધડકન ખબર દઈ રહે છે,
પ્રણય રૂપના રંગ જોવાને માટે,
બધાની નજર તે તરફ જઈ રહી છે,
જુઓ લીલા કૉલેજ જઈ રહી છે...

કલમ જેવા કરમાં એ પુસ્તક ઉઠાવી,
પ્રણય ઊર્મિઓ મનની મનમાં સમાવી,
મનો ભાવ મુખ પર ન દેખાય તેથી,
અદાથી જરા ડોક નીચે નમાવી,
મને અવનવી પ્રેરણા દઈ રહી છે...

છે લાલિત્યમાં જે લચકતી લલિતા,
ગતિ એવી જાણે સરકતી સરિતા,
કલાથી વિભૂષિત કલાકાર માટે,
કવિ કાજ સુંદર બનીને કવિતા,
પ્રભુની પ્રભાની ઝલક દઈ રહી છે...

ન સુરમો, ન કાજલ, ન પાવડર, ન લાલી,
છતાં એની રંગત છે સહુમા નિરાળી,
બધી ફેશનેબલ સખીઓની વચ્ચે,
છે સાદાઈમાં એની જાહોજલાલી,
શું ખાદીની સાડી મઝા દઈ રહી છે...

સરળથી ય સરળ છે એની સરળતા,
નથી શબ્દ સમજાવવાં મળતાં,
લખું તોય લખતાં ન કાંઈ લખાયે,
થમી જાય છે ભાવો હૈયે ઉછળતાં,
અજબ મારા મનની દશા થઈ રહી છે...

કરે છે જાણે અજાણે એ દૃષ્ટિ,
નિહાળું છું એમાં પરમ પ્રેમ-સૃષ્ટિ,
મધુરો, મનોરમ્ય, મલકાટ એનો,
છે કળીઓની ઝરમર, છે પુષ્પોની વૃષ્ટિ,
નજરથી પ્રણય ગોઠડી થઈ રહી છે...

બદલાય તો સારું.....

પ્રદીપ એમ. વૈદ્ય,
એફ. ઈ. થર્ડ

થયેલા દિલ તણા ટુકડા હવે સંધાય તો સારું,
પ્રણયનો દોર પાછો ક્યાં ય જઈ બંધાય તો સારું,
હકીકતમાં હું ખાલી હાથ જવાને નથી આવ્યો,
અમારી આરઝૂ થોડીક પુરી થાય તો સારું,
સલામત રહી શકે એવા નથી સંજોગ દેખાતા,
જિગર આ મુકત જંજીરે હવે જકડાય તો સારું
સપાટી પર ઉભેલી કો' ઈમારત ક્યાં સુધી ટકશે?
નીચે ઊંડો વધુ પાયો જરા નંખાય તો સારું,
જીવનમાં સૌને હોયે છે રહસ્યો કૈં ને કૈં જેની-
જગતના ચોકમાં વાતો નહિ ચર્ચાય તો સારું.
નીરસ ને એકધારી જિંદગીથી થાક લાગ્યો છે,
જીવનના રંગ અહીં કયારેક પણ બદલાય તો સારું.
કિનારા પર કસોટીનો નથી અવકાશ સાંપડતો,
અમારી કિસ્તી મઝધારે જઈ ડોલાય તો સારું.
અષાઢી વાદળી આ ક્યાં સુધી જલ-ભાર જીરવશે?
હિમાલય-ટોચ સાથે એ બધી અથડાય તો સારું,
તમારાં દર્શની વખતે સમય ઓછો જ પડવાનો,
મિલનની હર પળો થોડી વધુ લંબાય તો સારું.

★

ભલા! કોણ જાણે કે કોને રીઝવવા?
અને કોના દિલની કળીને ખીલવવા?
રે, દરરોજ બે-ચાર સખીઓની સાથે,
એ જાય છે ભણવા કે ઉંઠા ભણાવવા?
ન સમજાય તેવી કલા થઈ રહી છે...

કોઈ કે' છે કે જાય છે ચિત્રો ચિતરવા,
કહે છે કોઈ જ્ઞાન-ભંડાર ભરવા,
કોઈ કેમ સમજે આ બાબતને 'આસિમ,'
અધૂરા પ્રણય પાઠ ને પૂર્ણ કરવા,
એ દરરોજ ભણતરમાં શ્રમ લઈ રહી છે
જુઓ લીલા કૉલેજ જઈ રહી છે.

★

સ્વતન્ત્રતા પછી ?

ચૌલાંકી ડી. એસ.
ટી. ઈ. સીવ્હીલ

આપણાં દેશ ભારતને સ્વતંત્રતા મળ્યાંને ત્રેવીસ વર્ષ પૂરાં થયાં. પરંતુ આ ત્રેવીસ વર્ષનો ગાળો યાદ રાખતાં, અને આપણી દરેક ક્ષેત્રની હાલની પરિસ્થિતિ નિહાળતાં આપણે સમય સાથે તાલ મીલાવી શકયાં નથી, એમ કહ્યાં વગર ચાલે તેમ નથી.

કારણો ગમે તે હોય, પરંતુ આટલાં જ વર્ષોમાં જાપાન, જે બીજા વિશ્વયુદ્ધમાં લગભગ વિનાશને આરે જ ઊભું હતું, તે કરોડોનું દેવું ચૂકવીને ફરી પાછું આજે વિશ્વનાં વ્યાપાર બજારમાં બીજા નંબરે આવી ગયું છે. એ જ રીતે યુગોસ્લાવિયા પણ આપણાં કરતાં ઘણું જ આગળ છે. અલબત્ત, ભાષાના પ્રશ્નો ત્યાં પણ છે જ, પરંતુ તેને ગૌણ બનાવી દેવાયાં છે. નાનું એવું સિંગાપોર પણ આપણી હરીફાઈ કરવાની તૈયારીમાં ઊભું છે.

પરંતુ આપણી વાત જુદી છે. સ્વતંત્રતા મળ્યાં પછી પ્રગતિનો જુવાળ, એ ધગશ, એ ભાવના સઘળું ધીમે ધીમે ઓછું થતું ગયું. સામાન્ય પ્રજાને કોંગ્રેસમાં જ દેશની પ્રગતિ દેખાઈ. તેમાં થોડો વધારો પડતો વિશ્વાસ પણ મૂકી દીધો. દેશ નેહરુના વ્યકિતત્ત્વથી અંજાઈ ગયો. પરિણામે ભાષાવાર પ્રાંત રચનાની ભૂલ થવા પામી. એક એવી ભૂલ જેમાંથી હવે પાછી પાની થઈ શકે તેમ નથી.

ભાષાવાર પ્રાંત રચનાને લીધે પ્રાદેશિક વિકાસ અને શૈક્ષણિક વિકાસ ઝડપથી થશે એમ કહેવામાં આવતું હતું. પરંતુ એ ધારણાં અર્ધ-સત્ય પૂરવાર થઈ છે.

અત્યારે તો દરેક રાજ્ય બીજા રાજ્યોને ભોગે પણ પોતાનો વિકાસ સાધવા માગે છે. વિદ્યાર્થીઓને ઉચ્ચ અભ્યાસ માટે એક રાજ્યમાંથી બીજા રાજ્યમાં જવાની સવલતો જતી કરવી પડી છે. અને કૂપ મંડૂકની સ્થિતિ સ્વીકારી લેવી પડે છે. વાવાઝોડાં, પૂર વગેરે દુર્ઘટનાનાં સમયે પણ વેપારીઓ બીજા રાજ્યની પ્રજાનું, ભાવ વધારો કરી, શોષણ કરવાનું ચૂકતાં નથી. આમ સંકુચિતવાદને અનાયાસે ઉત્તેજન મળ્યું છે. અન્નની આયાત-નિકાસ પર રાજ્યોનો અંકુશ હોય છે. આથી આવા સમયે દેખીતી રીતે જ લાંચ-રુશ્વતનું પ્રમાણ વધી જાય છે.

દારૂ નિષેધ, જેવા નીતિને લગતાં કાયદા વિષે પણ દરેક રાજ્યમાં જુદી પરિસ્થિતિ છે. અને મોટાં ભાગનાં રાજ્યોએ તો ફકત પૈસા મેળવવાનાં લોભે તેને ફગાવી દીધી છે. રાજ્યો-રાજ્યો વચ્ચેનાં સરહદી ઝઘડાઓ પણ એટલાં જ છે. સારું છે કે, રાજ્યોને લશ્કર આપવામાં નથી આવ્યાં, નહીંતર તેઓ તેનો ઉકેલ લશ્કર વડે લાવવાનો પ્રયાસ જરૂર કરતે.

ધર્મનાં પ્રશ્ને હિંદમાં બેટુકડાં કરાવ્યા. હવે ભાષાનાં પ્રશ્ને દેશ છિન્ન-ભિન્ન થઈ ગયો છે. પ્રાન્તિયતાનો જુવાળ એવો છે કે, તેના જુસ્સા નીચે દેશાભિમાન ક્યડાઈ જશે. અને હિંદની સંસ્કૃતિનાં, સાહિત્ય અને શૈક્ષણિક વિકાસના બહાને ટુકડાં થતાં જ રહેશે.

ત્રેવીસ વર્ષનાં વહાણાં વાઈ ગયાં, છતાં આપણાં ખેતી-પ્રધાન દેશને અન્ન માટે સ્વાભિમાનને ભોગે પણ બીજાં દેશો પ્રત્યે જોવું પડે, એ ઓછી કરુણતા નથી. આમાં દોષ ફકત સરકારનો નથી. ખેડૂતો પણ રોકડિયાં પાક મેળવવાં અધીરાં હોય છે. અને આમ કરી પોતાની જાતને પોતે જ અન્ન તંગીના ખપ્પરમાં હોમી દે છે. સરકારે પણ આ પ્રત્યે દુર્લક્ષ કર્યું છે. આધુનિક સાધનોનો ઉપયોગ કરવા પર, અને સામૂહિક ખેતી કરવા પર ખાસ ધ્યાન આપ્યું નથી.

આ બધાં કારણોથી દેખીતી રીતે જ આર્થિક નીતિ પણ છાશવારે બદલાયા જ કરે છે. નેહરુનાં સમયમાં ઔદ્યોગિક સ્પર્ધાને સારું એવું સ્થાન હતું. પરંતુ હવે તેવી પરિસ્થિતિ રહી નથી.

સમાજવાદને વરેલી આપણી સરકારે ચૌદ મોટી બેન્કોનું (પ્રજાનાં ભલા માટે ?) રાષ્ટ્રીયકરણ કરી નાખ્યું છે. રાજાઓને અપાયેલાં વચનો તોડીને, તેઓની માન્યતા પાછી ખેંચી લીધી છે. અને સાલીયાણાંની રકમ પણ

સાચો પરમાર્થ

શાહ કાર્તિકેય મ.
એફ. ઈ. થર્ડ

સૂર્ય શા માટે તપે છે?
સૂર્યને ચોવીસે કલાક પરિભ્રમણ કરવા
સિવાય બીજું શું મળવાનું છે?
પાણીનું રૂપાંતર શા માટે થાય છે?
પાણીને દાહનું કષ્ટ સહન કરવા
સિવાય બીજું શું મળવાનું છે?
વરસાદ શા માટે વરસે છે?
વરસાદને આભથી જમીન પર પડવા
સિવાય બીજું શું મળવાનું છે?
વૃક્ષો આટઆટલી ઠંડી અને ગરમી શા માટે સહન કરે છે?
ઝાડોને પોતાના અંગ ઉપર કુહાડાના
ઘા ખમી અગ્નિથી ખાખ થવા
સિવાય બીજું શું મળવાનું છે?
નદીઓ શા માટે વહે છે?
નદીઓને ખીણો, પર્વતો, પત્થરો
અને જંગલોને પોતાના દેહને જોખમમાં મૂકવા
સિવાય બીજું શું મળવાનું છે?
દરિયો શા માટે ઘુઘવે છે?
દરિયાને પોતાનું મુખ પઠવવા
સિવાય બીજું શું મળવાનું છે?
પવન શા માટે વાય છે?
પવનને પછડાયા ખાવા
સિવાય બીજું શું મળવાનું છે?
પર્વતો શા માટે ઊભા છે?
પર્વતોને આઠે પહોર ઊભા-પગે પાણી ઉતારવા
સિવાય બીજું શું મળવાનું છે?
જમીન ખંજરના ઘા શા માટે સહન કરે છે?
જમીનને પરાર્થે પાક ઉગાડી પોતાનું પેટ ચીરવા
સિવાય બીજું શું મળવાનું છે?

છતાં આ સઘળી વસ્તુઓ કશા પણ બદલાની આશા વગર અણનમ આઠે પહોર પોતાનું સર્વસ્વ બલિદાન આપી નિરંતર સૃષ્ટિના જીવોનું પોષણ કરી રહેલ છે. શુશ્રુષા કરવાની ખરી ધગશ, નિસ્વાર્થ સેવા અને પરોપકાર તે આનું નામ.

★

ટીમ, ટીમ, ટમકે રે તારા...

શ્રી હિમાંશુ શાહ
એફ. ઈ. થર્ડ

પ્રીતિ વિશે...

બે સંપૂર્ણ માનવીઓને એકબીજામાં ભળી જઈને પોતાને સંપૂર્ણ બનાવવાની જે અદમ્ય તાલાવેલી થાય છે –તેનું નામ પ્રીત.

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પ્રીતિ જીવનમાં આવશ્યક છે પરંતુ પ્રીતિ જ માનવ-જીવનનું સાર-સર્વસ્વ ન હોઈ શકે.

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પ્રીતિના પુષ્પકુંજના મૌન જેવું મૃદુ અને સુગંધી ફૂલ જેવું મોહક બીજું કોઈ નથી.

× × ×

પ્રીતિ જેટલી મોહક હોય છે તેટલી જ દાહક પણ હોય છે.

× × ×

પ્રીતિએ કેવળ સુગંધી પુષ્પ નથી, પ્રજાળે એવો ભારેલો અગ્નિ પણ છે.

★

રડી લઉં છું

સોલંકી ડી. એસ.
ટી. ઈ. સિવિલ

જલ સભર વાદળીને ડોલતી હું જોઉં છું.
ટહેલતી સરકતી ક્ષિતિજ પરે જતી જોઉં છું.
પલકમાં અગોચર બનતી હું જોઉં છું.
વર્ષા વિના જતી જોઈને તને સ્મરી લઉં છું.

રવિ કિરણોનાં મૃદુ સ્પર્શે ખીલે જ ફૂલ સોળે કળાએ
પણ પ્રસરાવી સુવાસ એ કુસુમ નથી રહેતું.
પગ તળે ચગદાઈ જતા અનીમેષ જોઈ લઉં છું.
સ્મરતાં વને પ્રિયે, વિરહ વિષાદ સતાવે છે.

સુમધુર યાદ આવતાં તારી પ્રિયે,
નયનોમાં નીર ભરીને રડી લઉં છું.

★

કહો કથી ?

શાહુ કાર્તિકેય મ. એફ્. ઈ. થર્ડ

માન નથી સન્માન નથી
અંતરનો જ્યાં ચાહ નથી
આદર નથી સત્કાર નથી
ઉરના જ્યાં ઊંડાણ નથી
શુદ્ધિ નથી વિશુદ્ધિ નથી
મનની મેલાશ જ્યાં મટતી નથી
સંત નથી સંતાન નથી
વાણીની જ્યાં મીઠાશ નથી
વિવેક નથી વિચાર નથી
દિલની જ્યાં આર્જવના નથી
આવ નથી આવકાર નથી
દૃષ્ટિ દ્વેષમય જ્યાં ટળતી નથી
શાન નથી ઈન્સાન નથી
તામસ તત્વ જ્યાં ખસતું નથી
નેક નથી જ્યાં ટેક નથી
પરમેશ્વરની જ્યાં બીક નથી
ધર્મ નથી જ્યાં શર્મ નથી
મિત્રની જ્યાં વ્હાલપ નથી
પ્રશ્નો તમે પૂછો બધાં
ત્યાં તમો કેમ જાતા નથી
પ્રશ્ન હું પૂછું તમોને
ત્યાં જાઉ કેમ, કહો કથી.

★

ટ્રેકટર બની જાશું.....

પ્રદીપ એમ. વૈદ્ય, એફ્. ઈ. થર્ડ

'દિલીપ કટ' વાળ રાખીને
અમે એકટર બની જાશું,
પ્રણય-કૉલેજ ખૂલશે તો
અમે રેકટર બની જાશું,
ભલે દિલનું મળ્યું ખેતર,
સદંતર શુષ્ક વણખેડ્યું,
પ્રીતિનો પાક મેળવવા
અમે ટ્રેકટર બની જાશું.

★

લોકલ ગાડી જાય દોડી.

શાહુ કાર્તિકેય મ. એફ્. ઈ. થર્ડ

લોકલ ગાડી, લોકલ ગાડી
મુંબઈની એ વિજળી ગાડી
જાય દોડી, જાયદોડી, જાય દોડી,
માથા વિનાના ધડની સાથે
લોખંડની એ લાંબી વાટે
ઉપડી જાણે તેજલ ઘોડી
જાય દોડી, જાય દોડી, જાય દોડી,
આડુ અવળુ જુએ નહીં
મારગમાં તે રુકે નહીં
છુટી જાણે બંદુક ગોળી
જાય દોડી, જાય દોડી, જાય દોડી,
કે'વાય એ તો મહાપાપી
હડફટ આવે નાખે કાપી
એવી તો છે એ અવળચંડી
જાય દોડી, જાય દોડી, જાય દોડી.
પડખે પડખે મેલ ચાલે
જોવા જેવી રેસ જામે
છોકરાવને ગમ્મત પડી
જાય દોડી, જાય દોડી, જાય દોડી.
ધીમી ગાડી ધીમી ચાલે
સ્ટેશને સ્ટેશને વિરામ પામે
જામે ત્યાં તો ધક્કા મુક્કી,
જાય દોડી, જાય દોડી, જાય દોડી.
પરાવાસી નિત નિત પૂજે
કારણ તેના પેટ ભરે
મુંબઈની છે એ જીવા દોરી
જાય દોડી, જાય દોડી, જાય દોડી.

★

થોડી તકરાર કરીને થોડો પ્યાર કરી લઈશું,
તમે જોતા રહેશો અદાથી, આંખો ચાર કરી લઈશું,
સાગરમાં ઝૂકાવીને પણ ડુબ્યાનો ડર નથી અમને,
અરે! ડુબશું તો લાશ બની કિનારો પાર કરી લઈશું.
જામ પીવડાવી દીધો મને સખી, તુજ નશીલી આંખોએ,
જ્યોત પ્રણયની જલાવી દીધી, મુકત તુજ હાસ્ય પુષ્પોએ,
ખબર છે મુજને તુજ જીવનમાં, વસંત! આવશે જરૂર,
છતા બની પાનખર ઉભો, તુજ પથ પર થઈ મગરૂર.

★

મારી ચંદ્રયાત્રા!.....

પારેખ બી. કે.
પ્રથમ વર્ષ ઈજનેર, ૧૨૪.

જતો હતો હું મારી 'સ્પીડ-કીંગ' પર,
વિદ્યા ભવનમાં કહો કે પ્રેમ ભવનમાં,
આર્મ-સ્ટ્રોંગની અદાથી ઈગલનું,
સુકાન સાચવતો મનમાં મલકાતો હતો:
ગજબનું જાદુ હતું ટ્રાફીકનાં ઘોંઘાટમાં,
સુણી 'બિસ્ટ' નું હોર્ન આવી ગયો હું તાનમાં,
લોકો કહેતા હતાં, ન હતો હું ભાનમાં,
કેમ કરીને સમજાવું કે હતો હું એના ધ્યાનમાં,
ત્યાં તો કોમ્પ્યુટર સમ લાલ બત્તીઓ,
ભયની ચેતવણી આપતા ઉવાચ,
'ઉતરાણ મુલતવી રાખો,'
આર્મસ્ટ્રોંગ કરતા પણ અનેરી અદાથી,
સાયકલનું ગવર્નર સંભાળી, કૉલેજ
પહોંચ્યો, પાર ઉતારી,
'ચન્દ્રની ધરતી' સમા રસ્તા 'મુંબઈ નગર પાલિકાનાં.

★

સંકલન,
બીનેશ પારેખ, પ્ર.ઈ.

મરનારની ચિતા ઉપર ચાહનાર કોઈ ચઢતું નથી,
કહે છે મરીશ પણ કોઈ મરતું નથી,
બળતી જોઈને આગને આગમાં કોઈ પડતું નથી,
અરે આગમાં શું પડે, કોઈ શબને જોતું નથી.
અરેરે! ક્રોધ આવો શું, જુલમ તું ગુજારે છે,
મનુષ્યનાં પુનર્જન્મો, મલિનતામાં ઝબોળે છે,
નથી જોતો જરાયે તું, બનીને અંધ આવે છે,
અરેરે! તું સહોદરને, લડાવીને રડાવે છે.
સર્વને રક્ષણ મળે એવી કુમક મળતી નથી.
સર્વને વ્યકિતત્વની સાચી ઝલક મળતી નથી,
સિન્ધુમાં જળ થઈ જનાર બિન્દુઓને શું ખબર?
કે સર્વને મોતી બની જવાની તક મળતી નથી,

Look not for beauty nor whiteness of skin,
But for the heart that is loyal within,
For beauty may fade and skin may grow old,
But a hert that is loyal will never grow old:

★

શાને ?

સુર્યકાન્ત કાનજી ગાલા

તૂટેલી વીણાના, તૂટેલા તારો પર, આ સંગીતનો નાદ શાને?
નીરસ માનવીના બહેરા કાનો પર, મધુર ધ્વનિનો સાદ શાને?

કુદરતની કુમાશના, પ્રીતની પુકારના, આ કાવ્યોનો આલાપ શાને?
જડ માનવીના, ઉજજડ મનડા પર, મધુરા ગીતોના ગુંજન શાને?

ફાટેલાં કેનવાસને, તૂટેલી તકતીઓ પર, આ ચિત્રોતણો શણગાર શાને?
અબુધ માનવીના, મીણ જેવા હૈયા પર, કલામય આલેખન શાને?

ઉજજડ રણના વેરાન બાગમાં, સ્નેહની શીતલ વીરડી શાને?
મૃત માનવીની મૃત કાય પર, આ પક્ષીઓનાં કિલકિલાટ શાને?

સાહિત્ય વિહોણા, સુકા દિલ પર, અલંકૃત ભાષા તણો ભાર શાને?
થીજેલા માનવીના, વાર્તામય જીવન પર, નવલોની ઉષ્મા શાને?

સૂકાયેલાં છોડનાં કરમાયેલાં ફૂલો પર, સ્નેહ વારિનું સિંચન શાને?
ક્રૂર માનવીના કાતિલ હાથો પર, નાજુક આ બંધનો શાને

ઉમંગ વિનાના, નિષ્ક્રિય મન પર, કોમળ સ્મૃતિઓના સૂર શાને?
નાદાન માનવીના પથ્થર દિલ પર, 'સ્નેહ પુષ્પો'નાં પમરાટ શાને?

★

કોણ ? કોને કહે ?

વસંત એસ. માંડવિયા
'વસુંધરા.'
ટી. ઈ. (મેક)

તમને ખબર છે? આજે મારા લગ્ન છે. ના, ના, તરલા સાથે નહીં, પણ મીના સાથે. નસીબ આગળ બધું નકામું. તમને નવાઈ લાગશે પણ તરલાની તો માત્ર યાદ જ મારી પાસે રહી છે. તે સાચું છે કે, અમે બંને એકબીજાને ચાહતા હતા. લગ્નના કોલ આપેલાં. પણ... ખેર, જે બની ગયું તે બની ગયું. નારી તો ગોટાળાભર્યું ગણિત છે. જેમ તેમ કરીને મનને મનાવવાના પ્રયત્ન કરું છું. પણ એમ મનાવેલાં મન માનતા હોત તો દુઃખ જ ક્યાં હતું? મારા લગ્ન મીના સાથે થઈ ગયા. બધું પતી ગયું.

આમ તો મારી સ્થિતિ સારી હતી. વળી બાપ-દાદાનો વારસો પણ સારો મળ્યો હતો. ફક્ત શોખ ખાતર જ ઓફિસે જતો. ડ્રાઈવ હું પોતે જ કરતો. મારી પત્ની મીના પણ ઓફિસે જતી. રાતનાં અમને એક-બીજાના મોં જોવાનો સમય મળતો. અચાનક એક દિવસ ફ્લોરા-ફાઉન્ટન પર તરલાની મુલાકાત થઈ ગઈ. મુલાકાત પણ કેવી આકસ્મિક હતી! ફાઉન્ટન પરના ફેરિયા પાસેથી વસ્તુ ખરીદતાં ભેટો થઈ ગયો. પહેલાં તો ભ્રમ થયો. પણ ના એ હકીકત જ હતી. તે તરલા જ હતી. પહેલાં કરતા અધિક સુંદર.

તેના મેરેજ તરુણ નામના ગ્રેજ્યુએટ સાથે થઈ ગયા હતા. તે પણ મીનાની જેમ ઓફિસે જતી. તેઓની સ્થિતિ અમારા જેવી સારી ન હતી. અમારી મુલાકાત દિન-પ્રતિદિન વધતી જ ચાલી. કોઈ પણ પરણેલાં પુરુષના મગજ પર એક ખૂબ-સુરત-લાવણ્યમય સ્ત્રી ઘૂમતી જ હોય છે. અને મારા મગજ પર તરલા.

તે જાણીને આનંદ થયો કે, તેઓ પણ અમારી જેમ લાલ-ત્રિકોણને અનુસર્યા હતા. દરરોજ સાંજે અમે 'સત્કાર'માં મળતાં. ફરતાં અને છૂટાં પડતાં, મને નવી નવી વસ્તુઓ ખરીદવાનો ખૂબ જ શોખ. ફાઉન્ટન પર કોઈ નવી ચીજ જોઉં અને બીજે દિવસે તે તરલા પાસે હોય. કોઈકવાર લીપસ્ટીક, પાવડર, કોઈવાર, પાત્રા, ગોટી, ઈન્ટીમેટ પરફ્યુમસ્. ઘરે મીના સાથે અને બહાર તરલા સાથે મારું જીવન, ગાડીના સમાંતર પાટાની જેમ એકધારું વહ્યા કરતું હતું. આવા યાંત્રિક યુગમાં આવું ચાલ્યા જ કરતું હોય છે. અપવાદ મળે ખરા!

તરલાનો જન્મ-દિવસ નજદીક આવતો જાણીને મેં તેને માટે એક ઊંચી કિંમતની ભરેલી સાડી લીધી. તરલાનો જન્મ દિવસ રવિવારે હતો તેથી મેં તેને શનિવારે જ સાડી આપી દીધી. માનવી ગમે તેટલો મહાન હોય પણ તે ભાવિનો માલિક નથી બની શકતો. તેનો વાંચો આગળ.

તરલાની સ્થિતિ તો સૂડી વચ્ચે સોપારીના જેવી થઈ. મોંઘી સાડી વિશે તરુણ પૂછશે તો શું જવાબ આપીશ? મારા વિષે શું ધારશે? તેણે તે સાડી એક 'આપ-લે'નો ધંધો કરતાં શાહુકારને ત્યાં ગીરવી મૂકી. ઘણી જ ઓછી કિંમતમાં. બીજાના નામની એક કાચી રશીદ બનાવી- લખાવી લીધી.

'કાલે મારો જન્મ દિવસ છે તો તું મને શું આપવાનો?' તરલાએ તરુણને પૂછ્યું. 'પ્યાર.' એ તો દરરોજ આપે છે. આજે હું કહું છું તે મને આપીશ ને? ચોક્કસ, એમાં તે વળી પૂછવાનું હોય? શનિવારની રાત પસાર થઈ ગઈ. રવિવારે તરલાના જણાવ્યા મુજબ એક 'સાદી' સાડી લેવા તે શાહુકારની દુકાને ગયો. રવિવાર હોવાથી દુકાન બંધ હતી. બીજે દિવસે સોમવારે ઓફીસે જતાં તરુણ ત્યાં ગયો. સાડીને જોઈને તે તો છક્ક જ રહી ગયો! આટલી મોંઘી સાડી! તરલા તો સાદી સાડીની વાત કરતી હતી ને! શાહુકારની ભૂલ થતી લાગે છે! શાહુકાર તો એ જ લાગનો છે. જે થાય તે સારા માટે!!!

સાંજે તરલાએ તરુણે આપેલું પેકેટ ઉત્સાહથી ખોલ્યું.. પણ તે તો સાદી ભરત વગરની સાડી જોઈને દિગ્મૂઢ જ થઈ ગઈ. તે શું બોલે? મૂંગી ઠુઠી મનમાં જ સમજે.

[અનુસંધાન પૃ.: ૨૯]

નામની જ રહેવા પામી છે. આંતર-રાષ્ટ્રીય બેન્ક, અમેરિકા અને બ્રીટન પાસેથી આપણે કરોડોની લોન લીધી છે. અને આથી તેમનાં દબાણથી આપણને રૂપિયાનું અવમૂલ્યન (Devaluation) કરવું પડે છે.

રાજકારણમાં રચ્યાં પચ્યાં રહેવાની નીતિથી દેશમાં ગરીબી વધી છે. વધતા શિક્ષણ સાથે ઔદ્યોગિક વિકાસ ઓછો થયો છે. આથી બેકારી વધી છે. આને લઈને શિક્ષિત લોકોમાં અસંતોષ વધ્યો છે. પરિણામે બેકાર યુવાનો રોજી રોટી રળવા તોફાનોને રાહે ચડી જાય છે. જેમ કલકત્તામાં બન્યું છે તેમ પેટે પાટાં બાંધીને પોતાનાં પુત્રોને ભણાવતાં મા-બાપ લાચાર થઈ, ભાગ્યને દોષ દઈ આ બધું જોઈ રહે છે.

આમાં વળી સરકારની મજુરવાદી નીતિને લઈને મજૂરો અને કામદારો નજીવાં કારણોસર હડતાળ પાડે છે. રાષ્ટ્રીય ઉત્પાદનને ખોરંભે પાડી કરોડોનું નુકસાન કરે છે. આમાં સામ્યવાદ પણ મજૂરો વડે તેનો ભાગ ભજવી જાય છે.

ઉત્પાદન ઘટતાં માપબંધી આવે છે. તરત જ વેપારીઓ કૃત્રિમ અછત ઊભી કરી, કાળાં-બજાર કરવા માંડી જાય છે. આનાથી ઉદ્‌ભવતી અને પ્રજા વડે ન ચાલતી લાંચ-રુશ્વતને કોઈ રોકી શકતું નથી. પરિણામે મોંઘવારી વધતી જ જાય છે.

આમ ગરીબી, અસંતોષ, બેકારી, હડતાળ, માપબંધી અને મોંઘવારીનું આ વિષચક્ર આગળ વધ્યાં જ કરે છે.

કોમવાદની આગ આ દેશમાં હજુ પણ એટલી જ જલદ છે. કોમવાદનો બહુમુખ જ્વાળામુખી ક્યારે, ક્યાં ફાટી નીકળશે, એ કળવું મુશ્કેલ છે. નાનો તણખો પણ મોટી આગ ફેલાવી જાય છે. મોર્લી-મિન્ટો સુધારાથી જન્મેલો આ રાક્ષસ ભારતમાં જ રહ્યો છે. અને વર્ષો સુધી ભારતને સતાવ્યાં જ કરશે, એમ લાગે છે.

ધાર્મિક વિશાળ દ્રષ્ટિ અને રાજકીય પક્ષોનાં સહકાર વિનાં, તેમ જ ઉદારતાં વિનાં આ પ્રશ્નનો કોઈ પણ ઉકેલ આવે તેમ નથી. જ્યાં સુધી કોમવાદનો લાભ રાજકીય પક્ષો લેતાં રહેશે, ત્યાં સુધી તેને કાબૂમાં લેવો અશક્ય જ છે.

સાંસ્કૃતિક ક્ષેત્રે પણ રાજકારણ ઘૂસી ગયું છે. અમેરિકાનાં ભારતમાંના સાંસ્કૃતિક કેન્દ્રોને બંધ કરાવવામાં આવ્યાં. જ્યારે રશિયન કેન્દ્રો પ્રત્યે કશાં જ પગલાં ન લેવાયાં. બી. બી. સી. ની વિદેશોમાં અવળી રજૂઆત કરવાનાં બહાનાં હેઠળ હકાલપટ્ટી કરવામાં આવી. જેથી ભારતની ગરીબીની અને સરકારી નીષ્ક્રિયતાની બહારનાં દેશોને જાણ ન થાય.

રાજકિય પક્ષો તો ચોમાસામાં ફૂટતાં ટોપની માફક ફૂટી નીકળે છે. મોટાં ભાગનાં પક્ષો પોતાનું સ્થાન જમાવવા કોમવાદ, મજૂરો અને વિદ્યાર્થીઓને હાથાં તરીકે ઉપયોગ કરી રાષ્ટ્રનું અહિત કરે છે. સરકારી પક્ષની નીતિનો... તે સાચી હોય તો પણ... વિરોધ કરે છે.

વધારામાં હાલમાં પક્ષ-પલ્ટાંનો રોગ ફાટી નીકળ્યો છે. આથી રાજ્ય સરકારો ભયમાં આવી પડી છે. ત્રણ કે ચાર રાજ્યો સિવાય કોઈ રાજ્ય સરકાર આ ભયથી મુકત નથી. આથી દરેક રાજ્યનો સત્તાધારી પક્ષ યેન કેન પ્રકારેણ પોતાનું સ્થાન જાળવી રાખવા પ્રયાસ કરે છે. રાજ્યની પ્રગતિની કોઈને જ પડી નથી હોતી. પક્ષીય સભ્યો આર્થિક લાભ ખાતર પોતાની જાતને વેંચે છે. પોતાનાં સિદ્ધાંતોને— જો હોય તો નેવે મૂકે છે., પોતાનાં આત્માને હણે છે, અને દેશને અવગતિની ખીણમાં ધકેલે છે.

આપણી વિદેશ નીતિ— જે તટસ્થ નીતિ કહેવાય છે— વિદેશોમાં અત્યંત હાસ્યાસ્પદ બની ગઈ છે.

આપણે આરબ રાજ્યો સાથે મૈત્રી કેળવી. પરંતુ જ્યારે પાકિસ્તાને આપણાં કાશ્મીર પર ૧૯૬૬ માં હિચકારો હુમલો કર્યો, ત્યારે તે બધાં પાકિસ્તાનનો પક્ષ લઈ બેઠાં. 'પાકિસ્તાન આક્રમક છે.' એમ કહેનાર એક માત્ર મલયેસીયા જ નીકળ્યું. બીજા કોઈ દેશે આપણી જરા પણ તરફદારી ન કરી.

ઈઝરાયેલનું નામ-નિશાન મીટાવી દેવાનાં આશયથી જ્યારે સઘળાં આરબ રાજ્યોએ તેનાપર હુમલો કર્યો, ત્યારે આપણે નીતિમત્તા ભૂલી જઈને આરબોનો પક્ષ લીધો. શું આપણી સરકાર એમ ઈચ્છતી હતી કે, ઈઝરાયેલ પોતાના દેશનું નિકંદન કાઢવા ઈચ્છનારાંઓનાં શસ્ત્રોના ઢગ સામે હાથ જોડી બેસી રહે, અને પોતાનાં સર્વનાશને નોતરે?

વિયેતનામ, કંબોજ અને ઈઝરાયેલનાં પ્રશ્નને આપણે અમેરિકાને દોષી લેખીએ છીએ. જ્યારે કોરિયાનાં કારમાં

દમન વિશે, ઝેકોસ્લોવેકિયાનાં રશિયન આક્રમણ વિષે અને રશિયાનાં આપણાં દેશ પરનાં નકશાકીય આક્રમણ વિશે કશું બોલતાં નથી. કેવળ મૌન સેવીએ છીએ. કારણ કે આપણી વિદેશ-નીતિ તટસ્થ છે?

ચીન આંતરરાષ્ટ્રીય કાયદાઓને માન આપતું નથી. મૂડીવાદી દેશોનો તેનાં યુનો-પ્રવેશ સામે વિરોધ છે. જે દેશે મિત્રત્વનાં અંચળા હેઠળ આપણાં પ્રદેશો પડાવી લીધાં, એ ચીનને આપણે ધરાર યુનો-પ્રવેશ કરાવવા માંગીએ છીએ, અને તે પણ વિનાકારણ બ્રીટન અમેરિકા વગેરેનો રોષ વહોરીને.

દરેક દેશની વિદેશ નીતિ પોતાનાં રાષ્ટ્રીય હિતો લક્ષમાં રાખીને જ નક્કી કરાવી હોય છે. અને એમાં કોઈ શાશ્વત મૈત્રીને સ્થાન હોતું નથી. લાગણીવેડાં હોતાં નથી, એ બધું કેમ ભૂલી જવાય છે?

વિદેશ-પ્રચાર ખાતામાં પણ એ જ શિથિલતા છે. આફ્રો-એશીયન દેશોમાં ચીનનાં પ્રચારનાં જોરે ભારતીય લોકો તરફ શંકાની નજરે જોવાય છે. અને તેની હકાલપટ્ટી પણ કરાય છે. આપણી લશ્કરી તાકાત વિશે પણ ત્યાં ભ્રામક ખ્યાલો જ પ્રવર્તે છે. આપણાં દેશને ગરીબ, લાંચ રુશ્વતખોર, લશ્કરી રીતે નબળો દેશ જ ચીતરવામાં આવ્યો છે. પાકિસ્તાન આરબ દેશોમાં એ પ્રચાર કરાવવામાં સફળ નિવડ્યું છે કે, ભારતનાં મુસ્લિમોનો ધર્મ ભયમાં છે. આપણી તટસ્થતાની નીતિ એક પક્ષીય બનતી ચાલી છે. કોઈ પણ પ્રશ્ને આપણી સરકાર સામ્યવાદી રશિયાની તરફેણમાં કરતાં અચકાતી નથી. રશિયન રેડિયો આપણી આંતરીક બાબતમાં દરમિયાનગીરી કરે, તો પણ આપણે એ અંગે કશું કરવાની જરૂર જોતાં નથી.

અને આ રશિયા તરફથી વળગણનો બદલો શું મળે છે? તાશ્કંદ કરાર– જે કરાર અનુસાર, આપણાં જવાનોએ પોતાનું લોહી રેડી, સરહદ રક્ષવા માટે ૩૦ (ત્રીસ) માઈલ પાકિસ્તાની વિસ્તાર પર કબજો મેળવ્યો હતો તે શાંતિનાં નામે બદલામાં આપણે ગુમાવેલું કાશ્મીર ન માગવાં... કશી પૂર્વ શરત વિના પાછો સોંપી દીધો. આપણો લશ્કરી વિજય રાજકીય પરાજયમાં પરીણમ્યો. રશિયા આટલેથી અટક્યું નહીં. પાકિસ્તાનને બચાવનાં બહાનાં હેઠળ શસ્ત્રો આપ્યાં. પોતાના નકશાઓમાં આપણાં વિસ્તારોને ચીન અને પાકિસ્તાનના વિસ્તારો તરીકે ઓળખાવ્યાં. અને છેલ્લે પોતાની નીતિમાં ગુલાંટ મારીને, કાશ્મીરને પણ વિવાદાસ્પદ વિસ્તાર તરીકે સ્વીકાર્યો છે. આપણી વિદેશ નીતિ સામે પાકિસ્તાનની વિદેશ નીતિ સરખાવવા જેવી છે. તે–પાકિસ્તાન–બીન જરૂરી વાદવિવાદમાં ક્યારે ય ઉતરતું નથી. ચીન, અમેરિકા અને રશિયા આગળથી વિપૂલ પ્રમાણમાં આર્થિક અને લશ્કરી સહાય મેળવે છે. જ્યારે આપણે આંતરરાષ્ટ્રીય ક્ષેત્રે બધાંથી અલગ પડી ગયાં છીએ. ઈઝરાયેલ અને મલયેસિયા સાથે આપણને સંબંધ વિકસાવવાની મળેલી તક આપણે વેડફી નાખી.

સંરક્ષણની દ્રષ્ટિએ જોઈએ તો આપણાં જવાનોનો જુસ્સો કોઈને પણ પ્રભાવિત કરી દે એવો છે. પરંતુ આટલું જ પૂરતું નથી. જ્યારે બાજુનાં બે દુશ્મન દેશો આણુ-શસ્ત્રોથી સજ્જ હોય અથવા થવાની તૈયારીમાં હોય ત્યારે આપણો પણ આણુ બોમ્બ બનાવ્યા વિના છૂટકો થવાનો નથી. શાંતિમય નીતિના નામે અને આર્થિક બોજો ન વધારવાનાં ભયે આપણી સરકાર તે બનાવવા નથી માંગતી.

સમગ્રતયા જોતાં, આપણી સરકારનો સમાજવાદ અત્યારે તો સામ્યવાદનાં બીજા સ્વરુપનો જ આભાસ કરાવે છે. રાજાઓની માન્યતા દૂર કરતો ઠરાવ, સાલિયાણાં નાબૂદી ખરડો, બેંકોનું વટહુકમથી રાષ્ટ્રિયકરણ કલકત્તામાં નક્સલવાદીઓનાં તોફાનો સામે આંખ-મિચામણાં વગેરે તેનાં સૂચક હોય તેમ લાગે છે.

કલકત્તામાં અરાજકતા તેની પરાકાષ્ઠાએ છે. ખૂન, બળાત્કાર, લૂંટ, ગૂંડાગીરી, હડતાળ વગેરે તેની ચરમ સીમાએ છે. ત્યાંનાં સામ્યવાદીઓ તેને મનફાવે તે કરવા મુક્ત છે. પરિસ્થિતિ આવી હોવાં છતાં કેંન્દ્ર સરકાર ત્યાં લશ્કર મોકલવા રાજી નથી. સંભવતઃ તેને ભય છે કે, લશ્કર કડક હાથે કામ લઈને ત્યાં વ્યવસ્થા સ્થાપી શકશે. આમ થાય તો લશ્કરની પ્રતિષ્ઠા વધે. સરાકારનો દોષ ઉઘાડો પડી જાય. તેને નીચા જોણું થાય. સામ્યવાદનો પ્રચાર પણ ન થઈ શકે.

કેરલમાં સરકારી પક્ષે સામ્યવાદ સાથે હાથ મિલાવી આ શંકાને અનુમોદન આપ્યું છે.

લશ્કરનો પ્રભાવ ન વધે તે જોવા સરકાર આતુર છે. આથી લશ્કરની ત્રણે પાંખનાં વડાઓની મુખ્ય ઓફીસો જુદાં જુદાં રાજ્યોમાં રાખી છે. એટલું જ નહીં, તેઓની વગ ન વધે એ માટે ટૂંકા ગાળામાં તેઓને નિવૃત્ત કરાતા હોય છે. કોઈ માજી-અધિકારી રાજકારણ વિષે પોતાનાં વિચારો પ્રગટ કરે તેની પણ તે વિરુદ્ધ છે. જનરલ કરીઅપ્પાનાં નિવેદનનો અવળો અર્થ ઘટાવવામાં... એટલે કે ભારતમાં લશ્કરી રાજની જરૂર છે. એવો અર્થ તારવવામાં... સરકારી એજન્ટો જવાબદાર હતાં. જેમની રાષ્ટ્રભક્તિ સામે આંગળી પણ ન ઉઠાવી શકાય તેવી એ વ્યકિત સામે સામાન્ય પ્રજા પણ શંકાની નજરે જુએ, એ ઘણું જ શોચનીય છે.

જો પરિસ્થિતિ આવી જ રહે તો એમ લાગ્યા વિના નથી રહેતું કે, ભારત કદાચ લોકશાહીને જાળવી નહીં શકે.

જેમ બીજી દરેક બાબતોનો તેમ આનો ઉપાય પણ છે જ. ઉચ્ચ સ્થાને બિરાજતી વ્યકિતઓની ચૂંટણી પક્ષથી પર રહીને કરવી જોઈએ. લોકશાહીને મજબૂત કરવા શિક્ષિત લોકોએ કેળવણીકારોએ અને સાહિત્યકારોએ પોતાનો સક્રિય ફાળો આપવો જ જોઈએ. વધુ પક્ષો બનાવવા પર અને કોમી પક્ષોપર પ્રતિબંધ હોવો ખાસ જરૂરી છે જેમ અમેરિકા, બ્રિટન વગેરેમાં છે. તેમ દેશમાં બેથી ત્રણ જ મોટાં પક્ષ હોવા જરૂરી છે. સામાન્ય પ્રજાએ પણ સરકારનાં દરેક કાર્યની, નાના નાના મંડળો ઊભા કરી, તટસ્થ સમીક્ષા કરવી જોઈએ, અને નિર્ભીક રીતે પોતાનાં અભિપ્રાયો આપવા જોઈએ.

જો આમ નહીં થાય તો મહામહેનતે મેળવેલી આપણી આઝાદીની ઘોર આપણે જ ખોદીશું. આપણાં હાથ, હાથે કરીને ઝંઝીરમાં જકડી દઈશું. ભાવિનાં ગર્ભમાં શું છુપાયું છે, એ તો કોઈ ન કહી શકે, પરંતુ એટલું તો ચોક્કસ કે આપણે આંધાધૂંધીને, સર્વનાશને આપણાં જ દેશમાં નોતરીશું.

★

[કોણ ? કોને કહે ? પૃ. ૨૫ થી ચાલુ]

બીજે દિવસે શાહુકાર પાસે જઈને તપાસ કરી તો ખબર પડી કે તેણે તો તે ભરેલી સાડી જ તે માણસને આપી હતી.

મને જ્યારે આ વાતની ખબર પડી ત્યારે હું હેબતાઈ જ ગયો.

'મૃગેશ, માય ડીઅર આજે સાંજે પાર્ટીમાં તું સીધો જ આવવાનો છે ને?' મીનાએ મૃગેશને યાદ દેવડાવ્યું. મીનાએ મૃગેશને પાર્ટીમાં એક સરપ્રાઈઝ આપવાનું નક્કી કર્યું.

સાંજે મૃગેશ તરલાને ન મળી શક્યો. પાર્ટીમાં જવાનું હતું ને? તેનાં વિચારોમાં તે પાર્ટીના સ્થળે પહોંચ્યો. મીના હજી આવી નહોતી. ટાપટીપમાંથી ઊંચી આવે તો ઝટ નીકળે ને!

તેવામાં તેની નજર તરલા પર પડી. પતિ પણ સાથે હતો. સ્મિતની આપ-લે થઈ. ઈશારાથી વાતો થઈ. તેવામાં મીના દાખલ થઈ. સુતારનું ચિત બાવળીએ અને સ્ત્રીનું ચિત્ત સાડીએ. તરલાની નજર મીનાએ પહેરેલી ભરતવાળી સાડી પર પડી. મૃગેશ અને તરુણની નજર તેના પર પડી. તરલાને તો ચક્કર જ આવી ગયા. મૃગેશને આવતાં રહી ગયા! આવે જ ને? હા, આ તે જ ભરતવાળી સાડી હતી જે મૃગેશે તરલાને જન્મ-દિવસ નિમિત્તે આપી હતી. વધારે શું કહું?

Everything is fair in war & love.

★

પ્રીતિ પહેલી વાર તો રમત જ લાગે છે. પરંતુ એ જ રમતમાં કેટલીક વાર એકને મન રમત થાય છે જ્યારે બીજાનો જીવ જાય છે.

× × ×

પ્રીતિ એ માત્ર ખેલ નથી, એ ખેલમાં શિકારની ભીષણતા પણ છે.

'સ્ત્રી'ના સૌજન્યથી

★

શૂન્ય

અનેક નામધારી શૂન્ય-વિવિધ, વિશિષ્ટ અર્થ અને ઉપયોગવાળું શૂન્ય-આમ છતાં યે દરેક ક્ષેત્રમાં પોતાનું અનોખું રૂપ અને અસ્તિત્ત્વ ટકાવી રાખતું શૂન્ય-અતિ-આવશ્યક હોવા છતાં સમાજની નજરે સામાન્ય ગણાતું શૂન્ય-સૃષ્ટિનું ઉત્પત્તિસ્થાન શૂન્ય. એટલે માત્ર એક મીંડું, પણ એ મીંડા પર જ સ્વામી વિવેકાનંદે ચાર કલાકનું પ્રવચન આપી દીધું હતું, ખરું ને! ત્યારે અહીં પાંચસો-છસો શબ્દો શૂન્ય વિશે લખવાનું, બહુ મુશ્કેલ કાર્ય તો ન જ કહેવાય!! અને લખવાનું એટલે વિચારોના વમળમાં જાણી જોઈને સપડાવાનું અને ઉશેટદધિના ઊંડાણમાં ગરક થવાનું, પછી કંઈક નિશ્ચિત કલ્પનાઓનાં મુકતક બહાર ખેંચી લાવવાના, એ કપરું કામ તો ખરું જ! વળી વમળો પણ 'શૂન્ય' આકારના જ... એટલે તો એમાં ઘૂમ્યા જ કરવાનું, ગોથા ખાધા જ કરવાના, કારણકે શૂન્યને છેડો છે જ નહીં. શૂન્ય તો અનંત છે. એનો માર્ગ પૂરો થાય જ નહીં. શૂન્યને ગુજરાતી સાહિત્યની જીભ 'મીંડું' કહીને બોલાવે અને વળી ભૂમિતિની રચનાત્મક જીભ તો વર્તુળ જ કહે ત્યારે ભૂગોળિયા જિહ્વા પૃથ્વીને જ શૂન્ય કહી દે. આવાં જુદાં જૂદાં નામ ધારણ કર્યા પછી પણ એ અસામાન્ય શૂન્ય તો પોતાનું આગવું અસ્તિત્વ જ ટકાવે છે. શૂન્યનો આકાર તો બદલાય જ નહીં, એકરૂપ જ રહે. હા, એ ખરું કે, તે ક્યારેક લઘુરૂપ ધારણ કરે તો ક્યારેક ગુરુરૂપ પણ સમરૂપ તો ખરું જ. આમ પોતાનું મૂળ રૂપ ટકાવી રાખતું શૂન્ય જાણ્યે અજાણ્યે, વગર બોલ્યે જીવન જીવવાનો ઉત્તમ માર્ગ નથી ચીંધતું? જીવનમાં ગમે તેવા ઝંઝાવાતો આવે, પરંતુ પોતાનું રુપ ન જ બદલવું એવો ઉપદેશ એ શૂન્ય આપે છે, અને 'संपत्तौ च विपत्तौ च महताम् एकरूपता।' 'સંપત્તિમાં કે વિપત્તિમાં મહાન એકરૂપ રહે છે.' એવી વાતો ઈતિહાસ કહે છે. બન્નેનો અર્થ એક જ છે.

શૂન્ય એક વર્તુળ છે. વર્તુળના પરિધ પર ચાલ્યા કરીએ... ચાલ્યા કરીએ, પણ તેનો કદી અંત આવે છે ખરો? શૂન્યની રાહને કોઈ મંજિલ નથી. શૂન્ય કાળની ગતિનું પ્રતિબિંબ પણ આ રીતે જ બને છે. કાળની પણ અવિરત ગતિ છે, તેનો પણ અસ્ખલિત પ્રવાહ છે, તેમ શૂન્યનો પણ એવો કદી પૂરો નહીં થનારો માર્ગ છે, જીવન પણ એક વર્તુળ છે. જીવનનો અંત એટલે જીવનનો નાશ નહીં, પરતુ નવા જીવનનો આરંભ! મૃત્યુ એ તો પૂર્વજીવન અને ઉત્તર જીવનને સાંધનારી શૃંખલા છે. આ જીવન-નૃત્યનો ક્રમ પણ અખંડ રીતે, વણભાંગ્યો આગેકૂચ કર્યા કરે છે.

શૂન્યની શોધ ગણિતમાં મોટામાં મોટી છે. ગણિતમાં શૂન્યની... એકડા વિનાના શૂન્યની... આંકડાવિહોણા શૂન્યની કિંમત 'શૂન્ય' છે, પણ એ જ 'ઝીરો' ન્યાયાલયને કેટલો વકરો કરાવે છે, કેટલાયે વેપારીઓની આવકમાં ઘરખમ વધારો કે ઘટાડો કરી દે છે અને કેટલાયે રૂપિયાની અદલાબદલી કરાવી નાખે છે, એ બધું તો 'પડદા-પાછળ' રહે એ જ ઈચ્છનીય છે!

સાહિત્યમાં ઉક્તિ છે "શૂન્યમાંથી સૃષ્ટિ ઉત્પન્ન કરવી' હવે જરા વિચારો કે શૂન્યનું કેટલું મહત્ત્વ છે અહીં! જો શૂન્ય ન હોત તો સૃષ્ટિ ઉત્પન્ન કરવાની વાત કરી શકાત ખરી? શૂન્ય છે માટે જ સૃષ્ટિનું અસ્તિત્વ છે, મૂલ્ય છે, તેની ઝંખના છે. શૂન્યમાંથી સૃષ્ટિ ઉત્પન્ન કરવી એ એક ભગીરથ કાર્ય છે, સાચું છે. પણ એ ભગીરથ કાર્યની જનેતા તે શૂન્ય જ છે. સારા-નરસા તત્ત્વોની બાબતમાં નરસુ તત્ત્વ જ સારા તત્ત્વને મળતા માનનું કારણ છે. આજની અરાજકતા જ શાંતિની ઝંખના પ્રતિ આપણને દોરી જાય છે... શાંતિના પ્રસાદ તરફ લઈ જાય છે. અને હા, પૃથ્વી પણ એક

શૂન્ય છે, અને તેમાંથી પ્રકૃતિ અને સૃષ્ટિનું સર્જન થયું જ છે ને!

માનવીના જીવનમાં એકલતા જ્યારે છવાઈ જાય છે, ત્યારે જ માનવી પોતાની જાત તરફ જોઈ શકે છે. શૂન્યતા માનવીનો તેની જાત સાથે મેળાપ કરાવનારું તત્ત્વ છે. આ શૂન્યતા એ શૂન્યનું ભાવવાચક નામ થયું. (સાહિત્યમાં) આમ શૂન્ય દરેક સ્વરૂપે કોઈને કોઈ રીતે તો ઉપયોગી છે જ. શૂન્યનો માનવી વિચાર કરે તો એમાંથી જ એ સૃષ્ટિ ખડી કરી શકે તેમ છે. શૂન્યના પાયા ઉપર જ એ બુલંદ, અદ્‌ભૂત ઈમારત રચી શકે છે. માનવીમાં સર્જન-શક્તિ તો છે જ. ગમે તેમ તોયે સર્જનકારનો બેટોને! પણ એ માટે તેણે શૂન્યને જોવાની જરૂર છે, એને સમજવાની જરૂર છે અને એનો સાથ લેવાની જરૂર છે. સૂર્ય પોતે શૂન્ય છે, અને એમાંથી આ ગ્રહસૃષ્ટિ જન્મી. ગમે તેમ તોયે શૂન્યને નિહાળવાથી, એનું નેતૃત્ત્વ સ્વીકારવાથી અને એનો ટાંકણાં તરીકે ઉપયોગ કરવાથી તેના વડે દરેક પ્રકારના આંકડાઓની પ્રતિમાઓ કંડારી શકાય છે. શૂન્યને આંખથી નીરખવું છે, પણ હકીકતમાં તો આંખની કીકી પોતે જ શૂન્ય છે, આંખ અમૂલ્ય છે, એવું બધાં સ્વીકારશે પણ કોઈ એ ઉપરથી એવું નહીં સ્વીકારે કે, શૂન્ય અમૂલ્ય છે. આમ પ્રત્યેક વસ્તુમાં, તત્ત્વમાં પોતાના અંગ-પ્રત્યંત ફેલાવીને વિસ્તૃત થઈને બેઠેલું શૂન્ય પોતે પોતાનું વ્યકિતત્ત્વ જાળવી બેઠું છે...,

છું શૂન્ય પરંતુ એ ન ભૂલ, ઓ અસ્તિત્ત્વના પ્રભુ!

તું તો હશે કે કેમ? પણ હું તો જરુર છું.



આંખોની ભેટ

સુર્યકાન્ત કાનજી ગાલા
ટી. ઈ. (મેક.)

ટ્રેન અકસ્માતમાં ઈજા પામેલાંઓને હોસ્પિટલમાં ભાવનામાં આવ્યા ત્યારે ડૉ. સુશીલ ડ્યુટી પર હતો. વારાફરતી તે દરદીઓને તપાસતો જતો હતો. નર્સને યોગ્ય સૂચનો આપી આગળ વધતો હતો. ત્યાં તે એક દરદી પાસે આવ્યો જેને માથામાં ખૂબ જ વાગ્યું હતું. અને પુષ્કળ લોહી વહી ગયું હતું. પણ આ શું? ડૉક્ટરના હાથ અચાનક થંભી ગયા.

લોહીથી ખરડાયેલી આંખો! આ એ જ આંખો કે જે આંખોમાં આંખ પરોવી તે કલાકો સુધી જુહુના કિનારે બેસી રહેતો. અને આ લોહી નીતરતા કેશ! કે જેમાં તે આંગળીઓને રમાડ્યા કરતો. સમય ક્યાં વહ્યો જતો એનું ય ભાન નહીં રહેતું. આ કોણ? એજ નિવેદીતા... નિવી!

સુશીલ શ્રીમંત કુટુંબનો નબીરો હતો. કૉલેજમાં હતો ત્યારે કૉલેજમાં બોલબોલા હતી. મિત્રોનું ઝુંડ હમેશાં તેની આસપાસ ફર્યા કરતું. નિવેદીતા મધ્યમ વર્ગની આર્ટસમાં ભણતી નમણી યુવતી હતી. એની માસીની દીકરી- મીનાની બર્થ-ડે પાર્ટીમાં સુશીલ સાથે ઓળખાણ થઈ. સુશીલ અને મીના એક જ વર્ગમાં ભણતા હતા.

નિવેદીતાની સાદગી, ઢળેલાં નયનો અને મધુર-ભાષા પર સુશીલ મોહી પડ્યો. ઓળખાણ મૈત્રીમાં અને મૈત્રી પ્રણયમાં પરિણમી. સુશીલ ઘણી ય વાર કહેતો "નિવી તારી આ આંખોમાં શું ભર્યું છે? બસ, તારી આ આંખોમાં હમેશને માટે ખોવાઈ જાઉં.' ભોળી નિવેદીતા એ સુશીલને જીવનસાથી માની લીધો. સુશીલ માટે સર્વસ્વ ન્યોચ્છવાર કરવા તે તૈયાર હતી.

પણ...

નિવીના સ્વપ્નની ઈમારતો ઝાઝા સમય સુધી ન ટકી. સુશીલ અભ્યાસ પૂરો થતાં ગોવિન્દશેઠની એકની એક દીકરી માયા સાથે લગ્નના સૂતરે બંધાઈ ગયો.

નિવીને માટે આ અસહ્ય હતું. નિવી સુશીલને ન ભૂલી શકી. નિવીને હવે લગ્નનો વિચાર સુદ્ધાં ન આવતો. સદાય વિચારોમાં ખોવાઈ જતી નિવી વડીલો માટે ચિંતાનો વિષય બની ગઈ. નિવીએ આ જોયું. એણે દૂર એક ગામડામાં શિક્ષિકા તરીકેની નોકરી સ્વીકારી લીધી.

આ વાતને વર્ષોના વહાણાં વાયાં. નિવીના સરળ સ્વભાવે ગ્રામવાસીઓના દિલ જીતી લીધાં. અત્યારે તેણી શાળામાં પ્રિન્સીપાલ હતી. દશ વર્ષની નિસ્વાર્થ સેવાને લક્ષમાં લઈ ગ્રામવાસીઓએ તેને તેને માનપત્ર આપ્યું. મેળાવડો યોજાયો. લોકો માટે જેણે જીવન સમર્પિત કર્યું હતું એને આ કશાની જરૂર નહોતી. એણે ગદ્‌ગદ્ સ્વરે ગ્રામ-જનોનો આભાર માન્યો. અને જીવન-પર્યંત એ જ ગામમાં સેવા બજાવવાની ઈચ્છા વ્યકત કરી. બીજ દિવસે ઉનાળાની રજાઓમાં ઘર તરફ વિદાય થઈ.

કોને ખબર? આ એની છેલ્લી વિદાય હશે!

ટ્રેન ધસમસતી મુંબઈ તરફ આવી રહી હતી. અચાનક ટ્રેનને અકસ્માત નડ્યો. ટ્રેનના પહેલાં ચાર ડબાં ખડી ગયાં. જેમાં નિવી પણ હતી. નિવી સખત રીતે ઘાયલ થઈ. માથામાં ખૂબ જ વાગ્યું હતું. છતાં હજુ થોડા ભાનમાં હતી.

અન્ય દરદીઓ સાથે એને પણ અહીં લાવવામાં આવી હતી. એની આંખોએ સુશીલને... ડૉ. શુશીલને ઓળખી લીધો. ડૉ. સુશીલના હાથ પણ ઘડી ભર થંભી ગયા. ભૂતકાળ આંખો સમક્ષ આવી સરકી ગયો અને યંત્રવત ડૉકટર તરીકેની ફરજ બજાવી જલદીથી પોતાની કેબીનમાં જતો રહ્યો.

નિવીની નાડી ધીમે ધીમે મંદ થતી જતી હતી. અચાનક તેને એક વિચાર સ્ફૂર્યો. મારો અંત નજીક છે; સુશીલને મારી આંખો ખૂબ જ પ્રિય હતી. સુશીલ ડૉકટર છે, મારી આ આંખો દ્વારા કોઈ અંધને પ્રકાશ આપી શકશે. અને તેણે સિસ્ટર પાસેથી કાગળ-પેન મંગાવ્યાં, ધ્રુજતાં હાતે લખવા માંડી.

"ડૉ. સુશીલ,

લગ્નનું આમંત્રણ મળ્યું હતું પણ આવી શકી નહીં. યાદ હશે આ આંખો આપને બહુ જ પ્રિય હતી. મારી આ આંખોની 'લગ્નની ભેટ' તરીકે સ્વીકાર કરશો અને કોઈ અંધને 'નેત્ર-જ્યોતિ' અર્પજો મારી આ અંતિમ ઈચ્છા....."

વાક્ય પૂરું કરે તે પહેલાં નીવિ ઢળી પડી.

અને નર્સના મોઢામાંથી ચીસ નીકળી ગઈ. ડૉકટર.....

સુશીલ દોડતો આવ્યો નાડી જોઈ... પણ...!

કાગળ હાથમાં લઈ ધ્રુજતાં હાથે પકડી વાંચવા લાગ્યો ત્યારે એની આંખમાંથી દડદડ આંસુ પડી રહ્યાં હતાં.....!

પાણીની સગવડતાવાળા ગ્રામ્ય વિસ્તારો માટે પ્રવાહી કચરાના નિકાલનો પ્રશ્ન

પ્રા. દિલીપકુમાર ડાહ્યાભાઇ દેસાઈ
સિવીલ એન્જીનીઅરીંગ વિભાગ.

આપણા દેશની આબાદી દિનપ્રતિદિન વધતી જ જાય છે. આજે ૫૫ કરોડની વસ્તી છે. આવતી કાલે કેટલી થશે, એ ઉપરવાળો જ જાણે. ભારતમાં ત્રણ પ્રવૃત્તિઓએ ખૂબ જોર પકડ્યું છે. ભણતરની, એટલે કે, અભ્યાસને લગતી, ચણતરની એટલે કે, બાંધકામની અને ત્રીજી છે જણતરની એટલે કે, વસ્તિ-વધારાની! આ બધી પ્રવૃત્તિઓ કયાં જઈ અટકશે, એની આજે કોઈને જ ખબર નથી, અને જે ખબરો કાળા અક્ષરે લખાયેલી છે, એમાં સત્ય કેટલી, એ સૌના મન જ જાણે. આપણી ત્રીજી અને આખરી પ્રવૃત્તિએ હવા, પાણી અને અન્ન, જે કુદરતીરૂપે ખૂબ જ શુદ્ધ હતાં, એને ઘણી જ ખતરનાક રીતે અશુદ્ધ કર્યા છે. આપણે અનેક ગામડાંઓ ભાંગીને શહેરો બનાવ્યાં, આ શહેરોની ઔદ્યોગીક પ્રવૃત્તિઓએ અનેક નિર્મળ નદીઓના પાણીને મલિન બનાવ્યા છે. આ મલીન પાણી આજે ગ્રામ્ય વિસ્તારોમાં થઈને વહી રહ્યાં છે. આ પાણીએ ગ્રામ્ય જનતાના આરોગ્યને જોખમમાં મૂકી દીધું છે.'

આપણા દેશભાં લગભગ સાતલાખ ગામડાં છે. એ બધામાંથી સ્વ. રમણલાલ વસંતલાલ દેસાઈએ વર્ણવેલી ગ્રામ્ય-લક્ષ્મીના દર્શન અતિશય જૂજ પ્રમાણમાં થાય છે. આજે કેટલાક ગ્રામ્ય અને શહેરી વિસ્તારો અપૂરતા પાણીને લઈને ખૂબ જ ગંદા બની ચૂક્યાં છે. કલકત્તા જેવા શહેરની ગંદકી અવર્ણનીય-અસહ્ય છે. ત્યાંની ગંદકીનો વિચાર કરતાં ત્રાસ છૂટે છે, તો જ્યાં માનવીઓ વસે છે, તેમનું શું થતું હશે? ભારતવાસીઓ અનેક રીતે કુદરતી આપત્તિ-ઓનો ભોગ બને છે. પ્રત્યેક વર્ષે અસંખ્ય લોકો અતિ-વૃષ્ટિથી કે પછી અનાવૃષ્ટિથી, અતિશય ઠંડીથી કે, પછી અતિશય ગરમીથી મૃત્યુ પામે છે. હવે લોકો અશુદ્ધ હવા, પાણી અને અન્નથી મૃત્યુને શરણે જવા માંડ્યાં છે.

આપણા રોજિન્દા વ્યવહારમાં દેહ અને ઘરની શુદ્ધિ માટે અનેક પ્રવૃત્તિઓ કરીએ છીએ, જેવી કે મળ વિસર્જન, સ્નાન કરવું, કપડાં ધોવાં, વાસણો માંજવાં, ઘર અને શેરીની સફાઈ કરવી વિ. વિ. આ પ્રવૃત્તિઓ ઘન અને પ્રવાહી કચરો પેદા કરે છે. ઔદ્યોગિક અને ઉત્પાદક પ્રવૃત્તિઓને લઈને પણ ઘન તેમ જ પ્રવાહી કચરો ઉત્પન્ન થાય છે. શહેરમાં ઉત્પન્ન થયેલો આ કચરો અનેક રીતે શુદ્ધ કરવામાં આવેલો હોય છે, અને ત્યારબાદ નદી, નાળાઓમાં ફેંકી દેવામાં આવે છે. આ કચરામાં કાર્બોનિક અને અકાર્બોનિક પદાર્થોનું મિશ્રણ હોય છે. લાંબા ગાળે કાર્બોનિક પદાર્થોનું કહોવાટને લઈને વિભાજન થાય છે. આમ થવાથી અતિશય દુર્ગંધ મારતો હાઈડ્રોજન સલ્ફાઈડ નામનો વાયુ ઉત્પન્ન થાય છે. જે વાતાવરણમાં ભળે છે. અને જાહેર આરોગ્યને ભયમાં મૂકી દે છે. અને શહેરીઓને માનસિક ત્રાસ આપે છે. પ્રવાહી કચરામાં રહેલાં કાર્બોનિક જથ્થાનું પ્રમાણ, પ્રવાહી કચરાની પાણીને મલિન બનાવવાની શકિત સૂચવે છે. નદીઓમાં ફેંકાયેલો ઘન તેમ જ પ્રવાહી કચરો, વહેતો ગામડાઓ તરફ પ્રવાસ કરે છે. શહેર અને ગ્રામ વિસ્તારોનું અંતર જો વધુ હોય તો, નદીના મલીનપાણી આપ-મેળે પાછા શુદ્ધ થઈ જાય છે. અને ગામડાંના પાદરે થઈને વહેતી નદી ફરી નિર્મળ-રૂપ ધારણ કરે છે. આ ક્રિયામાં નદીની કુદરતી સફાઈ માટે નદીના પાણીમાં મિશ્રણ-રૂપે રહેલો પ્રાણવાયુ તેમ જ વાતાવરણમાંથી શોષાતો પ્રાણવાયુ કારણભૂત બને છે, અને નદીના પાણી સ્વપ્રયત્ને શુદ્ધ થાય છે.

નિર્મળ રીતે વહેતી નદીમાં કેટલો ઘન યા પ્રવાહી કચરો ફેંકી શકાય એનો આધાર, નદીમાં વહેતો પાણીનો જથ્થો મિશ્રણ-રૂપે રહેલો પ્રાણવાયુ પ્રવાહની ગતિ વગેરે પર હોય છે. સામાન્ય રીતે જો નદીના પાણીને મલિન બનતું અટકાવવું હોય તો નદીમાં વહેતા પાણીના જથ્થાના ૧/૪૦ થી ૧/૨૦ ભાગ જેટલો જ પ્રવાહી કચરો ફેંકવો જોઈએ. શકય હોય ત્યાં સુધી ઘન કચરો, જેવો કે કાગળ અને કપડાંના ડૂચા, ચીંથરાં, સડેલાં શાકભાજી, અને ફળો,

મૃતપ્રાણીઓના શરીરો, પાંદડાં, ડાખળાં, કાચ અને ધાતુના ટુકડાંઓ, માંસ-મચ્છી જેવાં ખાદ્ય પદાર્થોના હાંડકાં અને માંસના ટુકડાં, રસ્તે રખડતાં ઢોરોની લાદ, રાખ, કોલસાના ટુકડાં, ઈત્યાદિનો પ્રવાહી કચરાં સાથે નિકાલ કરવા કરતાં જુદી રીતે કરવો જોઈએ. આ ઘન કચરો નદીના પાણીમાં ફેંકવામાં આવે તો ક્યાં તરતો રહે છે, અથવા તો નદી કિનારાની આજુબાજુની જમીન પર ઠરે છે. આ કચરો નદીના પાણી લાંબા ગાળે, કાળા અને દુર્ગંધમય બની જાય છે. આ ઘન કચરામાંથી કેટલોક ભારે, વજનદાર કચરો નદીના તળમાં જઈને ઠરે છે. અને નૌકા માર્ગોને અંતરાયરૂપ બને છે, જો ગ્રામ્ય વિસ્તારમાંથી વહેતી નદીના ઉપરવાસમાં વસતી શહેરી જનતા અને ઔદ્યોગિક સંસ્થા, ઘન તેમ જ પ્રવાહી કચરો કોઈ પણ જાતના શુદ્ધિકરણ વિના, વગર વિચાર્યે ફેંકવામાંડે તો ગ્રામ્ય જનતાનું આરોગ્ય ખૂબ જ ભયમાં મૂકાય જાય. ગ્રામ્ય-વિસ્તારમાંથી વહી જતી નદીનું નૈસર્ગિક સૌંદર્ય આમ નષ્ટ પામે છે.

કેટલાંક ગામડાંઓમાં નદીના પાણીનો બહોળો ઉપયોગ થતો હોય છે. મલીન થયેલા પાણીમાં અનેક પ્રકારના રોગોનો ફેલાવો કરનાર સુક્ષ્મ જંતુઓ હોય છે. આ પાણીના ઉપયોગથી ગ્રામ્ય જનતા કમળો, ટાઈફોઈડ, પેરા-ટાઈફોઈડ, ઝાડા, ઉલટી, વાળો, ક્ષય વિગેરે જેવાં અનેક પ્રકારના રોગોનો ભોગ થઈ પડે છે. આવા ગંદા પાણીમાં સ્નાન કરવું, વાસણો માંજવાં, કપડાં ધોવાં, ઢોરોને પાણી પાવું કે, સ્નાન કરાવવું વિગેરે ઘણું જ હાનીકારક છે. આ ક્રિયાઓ નદીના પાણી વડે કરવામાં આવે તો ઉપરના રોગો જરૂરથી ફેલાવો પામે જ. આમ નદીના પાણીને શુદ્ધિકરણ યોજના વડે શુદ્ધ કરી જંતુનાશક દવાઓથી જંતુરહિત કરી, ગ્રામ્ય જનતાને પહોંચાડવામાં આવે તો ગ્રામ્ય જનતા સ્વાસ્થ્ય અને સુખનું સામ્રાજ્ય ભોગવી શકે.

નાની વસ્તિવાળા શહેરો અને ગ્રામ્ય વિસ્તારોમાં, નદી, કુવા, વાવ, તળાવ, સરોવર વિગેરેનાં પાણીને અનેક પ્રકારે ગંદાં થતાં બચાવી શકાય છે. આ માટે ઘન અને પ્રવાહી કચરાને ખૂબ જ કાળજીપૂર્વક, એવી રીતે શુદ્ધ કરવો જોઈએ કે, જેથી પીવાનું પાણી જ્યાંથી લેવામાં આવતું હોય, એ સ્થળો હમેશાં સ્વચ્છ અને નિર્મળ પાણીના જથ્થાવાળા બને. આ માટે નીચે વર્ણવેલી રીતો નાના વિસ્તારો માટે અપનાવી શકાય, આમ થાય તો એ વિસ્તારોનું આરોગ્ય ખૂબ જ સારી રીતે જળવાશે. અને પૂરતા પ્રમાણમાં રોજિંદા ઉપયોગ માટે શુદ્ધિકરણ પામેલું નિર્મળ અને જંતુરહિત પાણી ગ્રામ્ય જનતાને પહોંચાડી શકાશે.

(૧) પ્રત્યેક ઘરોમાં અને ઔદ્યોગિક પ્રવૃત્તિઓમાં ઉત્પન્ન થતાં ઘન કચરાને 'ઘન કચરાને દળવાની ઘંટી' વડે દળી નાખી ૧/૧૬" થી ૧/૮" જેવડા નાના કણોમાં રૂપાંતર કરવો. આ માટે વિજળી-શકિત જરૂરી છે. ઘન કચરાને દળવાની ઘંટી નાની હોઈ, થોડી જગ્યા જ રોકે છે, અને પ્રત્યેક ઘરમાં વસાવી શકાય છે. આમ રૂપાંતર પામેલા ઘન કચરાને પ્રવાહી કચરા સાથે મિશ્રા કરી દઈ, ગંદાપાણી વહન કરતી નાલીકાઓમાં વહેવડાવી દઈ શકાય છે. આ પદ્ધતિ જો કે, શરૂઆતના તબક્કે મોંઘી નિવડે, પણ આગળ જતાં એનાથી થતાં ફાયદા જરૂર જણાશે. જો ઘન કચરાને દળવાની ઘંટીનુ મોટા પાયા પર ઉત્પાદન કરવામાં આવે તો, પ્રત્યેક નંગની કિમત ઘટાડી શકાય, આમ ઘન કચરાને ઘંટીમાં દળી નાખવાથી ઘરની પાછળની બારી યા બારણામાંથી ફેંકાતો અને શેરીઓમાં અને મુખ્ય રસ્તાઓ પર ઉડતો રખડતો, કચરો યોગ્ય દિશામાં વળી જશે, અને શહેર તેમ જ ગ્રામ્ય વિસ્તારોની ગલી-કૂંચીઓ સ્વચ્છ અને સ્વાસ્થ્ય ભરપૂર બનશે. આપણે હાલના તબક્કે ગામડે ગામડે વિજળી પહોંચાડવા માંગીએ છીએ, શું એ વિજ-પ્રકાશમાં મહાત્માજીએ વર્ણવિલા વિચારો મુજબનું ગ્રામ્ય-દર્શન જોવાની આશા આપણે ન રાખી શકીએ? આ પ્રકારની ઘન કચરાના નિકાલની દિશામાં પ્રયત્નો થવાં જોઈએ.

(૨) ઘન કચરાને ગ્રામ્ય અથવા શહેરી વિસ્તારથી ઘણે દૂર લઈ જઈ, જમીનમાં દાટી દઈ ખાતર પણ બનાવી શકાય. આ માટે પૂરતી તકેદારી રાખવી જોઈએ. મુખ્યત્વે એવી પૂરાણની જમીનો પર થઈને ફૂંકાતાં પવનની દિશા ગ્રામ્ય તથા શહેરી વિસ્તારોની વિરુદ્ધ હોવી જોઈએ. આમ થવાથી હવાની અશુદ્ધિ થતી અટકશે. કચરામાં રહેલાં કાર્બનિક તેમ જ અકાર્બનિક તત્ત્વો છૂટાં પાડવામાં

આવે તો ધાતુના ટુકડાં, કાચના ટુકડાં, કાગળના ડૂચા, ચીંથરા વગેરે જેવી નિર્માલ્ય ગણાતી વસ્તુઓમાંથી થોડું દ્રવ્ય ઉપાર્જન પણ કરી શકાય. બાકી રહેલો કચરો ખાસ પ્રકારના ભઠ્ઠીઓમાં બાળી નાંખવો. એમાંથી ઉત્પન્ન થતી ગરમીથી વરાળ શકિત ઉત્પન્ન કરી શકાય અને યંત્રો ચલાવી શકાય. ભઠ્ઠીઓમાંથી નિકળતી રાખને નીચાણવાળા વિસ્તારોના પૂરાણ માટે ઉપયોગમાં લાવી શકાય.

(૩) ગ્રામ્ય, તેમ જ શહેરી વિસ્તારોમાં ઉત્પન્ન થતો પ્રવાહી કચરો કે, જેમાં ઘન કચરાનો પણ બારીક કરી મિશ્ર કરી દેવામાં આવેલો હોય છે. એને નળાઓ વાટે શુદ્ધિકરણની જગ્યાએ લઈ જઈ શુદ્ધ કરવો જોઈએ. જો આ નાળાઓને યોગ્ય ઢાળ આપવામાં ન આવ્યો હોય તો, અપૂરતા પ્રવાહી કચરાના વેગને લઈને કેટલોક કચરો નાળાઓમાં જ ઠરી જઈ કહોવાવા માંડે છે અને હાઈડ્રોજન સલફાઈડ નામનો વાયુ ઉત્પન્ન થાય છે. અને નાળાઓની સફાઈ માટે રાખવામાં આવેલાં બાકોરાંઓમાંથી હવામાં ભળે છે. આ વાયુ શહેરી તેમ જ ગ્રામ્ય જનતાને ખૂબ જ શારીરિક અને માનસિક ત્રાસ આપે છે. આમ થતું અટકાવવા માટે, યોગ્ય સમયના અંતરે નાળાઓની સાફસૂફી થવી જરૂરી છે, અને જમીનમાં દટાયેલા નાળાઓને યોગ્ય ઢાળ આપવો ખૂબ જ જરૂરી છે. નાળાઓમાં વહીને આ પાણી જ્યારે શુદ્ધિકરણ માટે એક સ્થળે એકઠું થાય છે, ત્યારે એને યોગ્ય શુદ્ધિકરણ ક્રિયાઓ વડે શુદ્ધ કરી નાખવામાં આવે છે. આ ક્રિયાઓમાંથી પસાર થયેલા પ્રવાહી કચરામાં કાર્બનિક તેમ જ અકાર્બનિક તત્ત્વોનું પ્રમાણ ખૂબ જ થોડું થઈ ગયું હોય છે. આમ શુદ્ધ થયેલા પ્રવાહી કચરાને વિશાળ જળ-રાશીઓમાં યોગ્ય જગ્યામાં ફેંકવામાં આવે તો, જળ-રાશીઓ મલીન થતી અટકશે અને નદીના નૈસર્ગિક સૌંદર્ય નષ્ટ થતાં અટકશે. જળ-રાશીઓમાં ગંદા પાણીનો નિકાલ કરતાં પહેલાં સ્થાનિક આરોગ્ય ખાતાની મંજૂરી અને સલાહ મેળવી લેવી જરૂરી છે.

(૪) ગ્રામ્ય વિસ્તારોમાં પ્રત્યેક ઘરની પાછળના ભાગમાં ખાળ-કુવાઓ ખોદવામાં આવે અને પ્રવાહી તેમ જ દળી નાખવામાં આવેલા ઘન કચરાને એમાં એકઠો કરવામાં આવે તો, સુગમ અને સસ્તી રીતે પ્રવાહી કચરાનો નિકાલ લાવી શકાય. આ પ્રકારના ખાળ-કુવાઓ ધાતુ અથવા લાકડાંના ઢાંકણ વડે બંધ કરવા જરૂરી છે, જેથી માખી, મચ્છર વગેરેને ત્રાસમાંથી મુકિત મળી શકે, અને નાના છોકરાંઓ રમતાં-રમતાં ખાળ-કુવામાં પડી ન જાય. આ ખાળ-કૂવાઓનું બાંધકામ ખૂબ જ પાકું અને મજબૂત કરવામાં આવે છે. કેટલીક વાર ખાળ-કૂવાની દિવાલો એવી રીતે ચણવામાં આવતી હોય છે કે, જેથી પ્રવાહી કચરાનું ગંદુ પાણી જમીનમાં શોષાતું જાય. આવા ખાળ-કૂવાઓ કયાં તો ગોળ, લંબ-ચોરસ અથવા ચોરસ આકારમાં ખોદવામાં આવે છે. આ ખાળ-કૂવાની ગ્રહણ-શકિત સામાન્ય રીતે વ્યકિત દીઠ ૪૦૮ લીટર જેટલી ગણવામાં આવે છે. અને દર છ: મહીને સાફ કરવાં પડે છે. શોષક બાળ-કૂવાઓ સામાન્ય રીતે ૯૦ સે.મી. વ્યાસના ખોદવા પડે છે, આવા ખાળકૂવાઓ સામાન્ય રીતે પાણી ચૂસતી જમીનોમાં બાંધવામાં આવે છે, અને ખૂબ જ સારું કામ આપે છે. લાંબે ગાળે પ્રવાહી કચરામાં રહેલો ઘન પદાર્થ, જમીનની શોષક શકિત નષ્ટ કરી નાખે છે. સામાન્યપણે આવા ખાળ-કૂવા અને પીવાના પાણીના કૂવા વચ્ચેનું અંતર ૧૫ મીટર જેટલું હોવું જોઈએ, જો ખાળ-કૂવો ઉપરવાસમાં હોય તો ૪૫ મીટર જેટલું અંતર કૂવાના પાણીને અશુદ્ધ થતાં અટકાવશે. ખાળ-કૂવાની આજુબાજુની જમીનની શોષક-શકિત જ્યારે બિલકુલ ઓછી થઈ જાય છે. ત્યારે ખાળ-કૂવાનું પાણી જમીન પર ફેલાવા માંડે છે, અને ગંદકી થાય છે. આ ફેલાવો અટકાવવા માટે વહેતાં પાણીને યોગ્ય રીતો વડે નળાઓ વાટે શોષક ખાડાઓ તરફ લઈ જવામાં આવે છે.

(૫) પાંચમી રીતમાં ખાળ-કૂવા તેમ જ સેપ્ટીક ટેંકમાંથી નિતરતા મલીન પાણીને ચૂસક ખાડામાં ભેગું કરવામાં આવે છે. તદ્‌ઉપરાંત કપડાં ધોવાની દુકાનોનું ગંદુ પાણી તથા સ્નાન ઘર, સંડાસ, રસોડું વગેરેમાં ઉત્પન્ન થતાં પ્રવાહી કચરાને પણ

આવા ચૂસક ખાડામાં ફેંકી શકાય છે. આવા ખાડાંઓ સામાન્યપણે ૧.૮ મીટર ઊંડાં અને ૧ થી ૨.૧ મીટર વ્યાસના હોય છે. આવા ખાડાઓને ખૂબ જ ચૂસ્ત ઢાંકણો વડે બંધ કરવા જરૂરી છે. જેથી માખી, મચ્છરનો ત્રાસ ન થાય. જો ખૂબ જ સારી અને ચૂષક જમીનમાં આવા ખાડાં ખોદાયાં હોય તો લગભગ ૬ થી ૧૦ વર્ષ સુધી સારું કામ આપે છે. એક ખાડાની કાર્યક્ષમતા ઘટી ગયા બાદ ઘણાં દૂરના સ્થળે બીજો ખાડો ખોદવો જરૂરી છે. જ્યારે પીવાનું પાણી મુખ્યત્વે કૂવાઓમાંથી મેળવવામાં આવે છે ત્યારે જાહેર આરોગ્ય ખાતું આ પ્રકારના ચૂષક ખાડાઓ ખોદવાની મનાઈ ફરમાવતું હોય છે. આવા સંજોગોમાં સેપ્ટીક ટેંક જેવી બીજી સુધરેલી રીતો અપનાવવામાં આવે છે.

(૬) ગામડાંની શાળાઓ, છૂટાં-છવાયાં મકાનો, નાના જૂથમાં રચાયેલાં મકાનો, વિગેરેમાંથી ઉત્પન્ન થતાં પ્રવાહી કચરાને સામાન્ય રીતે સેપ્ટીક ટેંકમાં એકઠો કરવામાં આવે તો ઘણીજ સરળતાથી અને કોઈ પણ જાતની તકલીફ વગર નિકાલનો પ્રશ્ન હલ કરી શકાય. સેપ્ટીક ટેંકમાં રોજિન્દા પ્રવાહી કચરાને ૨૪ કલાક સુધી રાખવામાં આવવો હોય છે. પ્રવાહી કચરામાં રહેલો ઘન બારીક કચરો ગંદા કીચડરૂપે ટાંકીમાં ઠરે છે, ટાંકીના ઉપરના ભાગમાં પ્રમાણમાં શુદ્ધિ પામેલો પ્રવાહી કચરો હોય છે, જેને રેતી અને નાના પથ્થરોથી ભરેલી ગાળણ ટાંકીઓમાંથી પસાર કરવામાં આવે છે. આમ ગળાઈને, શુદ્ધ થઈને નીકળતો પ્રવાહી કચરો ખેતીના ઉપયોગમાં લઈ શકાય છે. ટાંકીમાં ઠરેલો ગંદો કીચડ નાઈટ્રોજન, ફોસ્ફરસ અને પોટેશીયમ-યુકત હોય છે. જેનો ઉપયોગ સૂર્યની ગરમીથી સૂકવી ખાતર તરીકે કરવામાં આવે છે. સામાન્ય રીતે સેપ્ટીક, ટાંકીઓ બે થી ત્રણ વર્ષે સાફ કરવી જરૂરી છે, આ સમય માટે ટાંકીનું કદ કેટલું હોવું જોઈએ એ નક્કી કરવા માટે કુટુંબની વ્યકિત દીઠ ૧૯૦ લીટર જેટલા પ્રવાહી કચરાનું ઉત્પાદન ધારવામાં આવે છે, અને ટાંકીનું કદ નક્કી કરાય છે. સેપ્ટીક ટાંકીથી શુદ્ધ થયેલા પાણી વડે શું ઉગાડવું. એ માટે સ્થાનિક આરોગ્ય કચેરીની સલાહ લેવી જરૂરી છે. સામાન્ય રીતે ગુલાબ, મોગરા જેવાં ફૂલોના છોડ, ટામેટાં, મૂળા, ગાજર, કોબી-ફલાવર, જેવાં શાકભાજીનું ઘોડાનું ઘાસ વગેરે ઉગાડી શકાય. આ શાકભાજીનું વેચાણ સારી આવક પેદા કરે છે. આમ આવક મેળવવા સાથે પ્રવાહી કચરાનો નિકાલ કરવા માટે સેપ્ટીક ટાંકીઓ ખૂબ જ જાણીતી છે. આ ઉપરાંત બીજી ઘણી રીતોથી ધન તેમ જ પ્રવાહી કચરાનો નિકાલ લાવી શકાય છે, પરંતુ એ બધી રીતોની ચર્ચા અત્રે અસ્થાને લેખાશે.

છેવટે એટલું કહેવું જરૂરી છે કે, પ્રવાહી કચરાનો નિકાલ શી રીતે થાય, એ જાણવાથી જ કઈ આપણો ઉદ્ધાર નથી. પ્રત્યેક વ્યકિતની ફરજ, શહેર અને ગ્રામ્ય વિસ્તારને સ્વચ્છ રાખવાની છે. આ માટે પ્રત્યેક નાગરિકમાં નાગરિકત્વનું ભાન જાગ્રત થવું જોઈએ. ભણેલી અને આગળ પડતી વ્યકિત એ વ્યકિત-માત્રનો સ્વચ્છતા પ્રત્યે પ્રેમ અને રસ જાગ્રત કરવો જોઈએ. જાહેર આરોગ્યનો પ્રશ્ન વ્યકિતગત, કૌટુંબિક તેમ જ સમગ્ર વિસ્તારની માનસિક સુધારણાથી હલ થઈ શકે. સારા પ્રકારની ટેવો અને કયા પ્રકારની સુધારણા જરૂરી છે એ માટેનું જ્ઞાન આપવામાં આવે તો ઘણાં પ્રશ્નો હલ થઈ જાય. જાહેર આરોગ્યના વિષયનું જ્ઞાન ધરાવતી વ્યકિતઓએ, પ્રજાને આપમેળે સુધારણા કેમ કરવી એનું જ્ઞાન આપવું જોઈએ. આ કાર્યક્રમ માટે સ્થાનિક, પ્રાંતીય કે, રાષ્ટ્રીય તબકકે મળતી તાંત્રીક વિદ્યાનો અને અનુભવનો સદ્‌ઉપયોગ થવો જોઈએ. ચલચિત્રો, પ્રદર્શનો, સભાઓ જેવા કાર્યક્રમો ગોઠવી આરોગ્યના નિયમોનું પાલન કેમ કરવું જોઈએ એની કાળજીપૂર્વકની સમજ આપવી જોઈએ. જાહેર જગ્યાઓ જેવી કે, બાગબગીચા, ચલચિત્રગૃહો, બસ, ગાડી, રસ્તાઓ, રેલવે પ્લેટફોર્મો, ફૂટપાથો વિગેરે જેવાં સ્થળોએ આદર્શ નાગરિક તરીકેનું વર્તન કેવું હોવું જોઈએ, એની ઊંડી સમજણ આપવી જોઈએ. આમ પ્રજા આપ-બળે, આપમેળે જાગ્રત થાય તો હવા, પાણી અને અન્નની અશુદ્ધિ જે હરણેજ વધતી જાય છે, એ અટકી જશે અને ભારતના ગામડાં અને શહેરો સ્વચ્છ બનશે. વધતી જતી વસ્તિ નિરોગી અને સુખી જીવન જીવી શકશે... અસ્તુ!

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