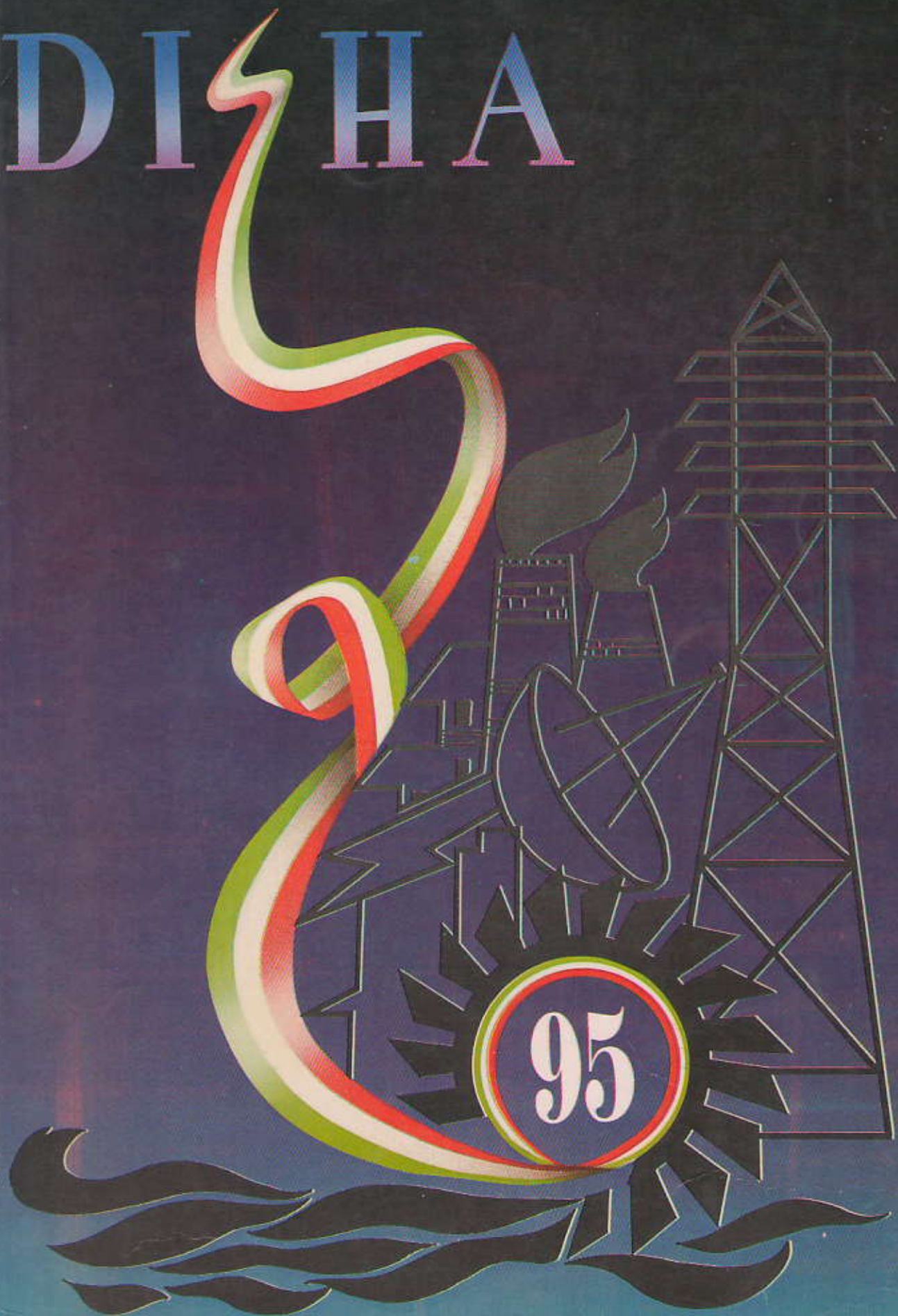


DIHA

ANNUAL

MAGAZINE



Sardar Patel College of Engineering

In Memoriam



Shri Kulapati Dr. K. M. Munshi



Bharatiya Vidya Bhavan's
SARDAR PATEL COLLEGE OF ENGINEERING
BOMBAY

DISHA

(SARJANIKA)



ANNUAL ISSUE

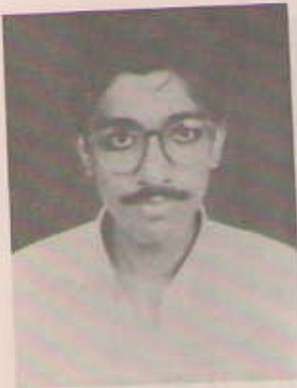
1994 - 95



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THE EDITORIAL



St. John is standing at the entrance to hell while students pour in. A commerce graduate and an Arts graduate come along. "You have been condemned to live in hell", he says and they move on. A doctor and a lawyer come next. "Hell awaits you guys", he blurts. Along comes an engineering student, drafter in hand. "Go there to heaven, son. You've been through hell before". Well, if this apocryphal tale sums up how one perceived an engg. college then let me tell you that in S.P.C.E. nothing could be farther from the truth.

The SPCEite's academic calendar is well-balanced with submissions and exams on one side and participation in fests, organising events and battling it out in the sports field on the other. The magazine incorporates reports on these activities, the year round. They herald, with some degree of exaggeration, the coming of age of the SPCEite. Talent had always been waiting in the wings of opportunity. 1995 lifted the curtains and SPCE is now at the centre stage of activity - academic or otherwise. The college magazine, which chronicles the non-academic achievements of SPCEites among other things, is the final milestone for the year. And this verse by James Elory Flecker (immortalized in J.R.D. Tata's biography), flashes to my mind as I think of the year to come.

*We are the pilgrims master; We should go
Always a little further: it may be
Beyond that last blue mountain barred with snow
Across that angry or glimmering sea.*

And go we will! As is evident in our campus survey on Career avenues after engineering which attempts to gauge the SPCEite's academic plans. As someone has remarked, that with liberalisation here to stay, Indian enterprise just cannot hide its light under a bush for long. If our reforms are an one horse open sleigh our globalisation programme could be thought of as a christmas tree. And on it fairy lights and trinkets can only hang properly if the stems and branches are strong enough to hold them. So it was perhaps for the better that a team from Harvard Business School held up a mirror to the Indian corporate Sector, "Showing its weak commitment of quality, productivity, innovation and working in a competitive environment." As they said "Industry requires a micro-economic Big Bang" and heat of competition forcing Indian companies to restructure themselves for survival. Increasingly it is quality that will matter and the key gap that India must bridge relates to productivity and quality. And as editor of "DISHA" a premier engineering institute's Annual Magazine I can only show this *direction* to every SPCEite- to associate yourself with quality. So to begin with let the quality of this magazine come to the fore, but one thing is for sure, the contributions from students strike you because of their variety and depth: the well researched "Depiction of women in advertisements", a hilarious take off on some of the worlds famous writers, "A novel(?) Idea", "Life is a boar and I am a Guinea Pig", which uses language to generate humour, the satirical, "Different Strokes", and "All About Scams". The sprinkling of poems include Professor Dhaval's "Electrifying" poem and the story in "Crompton Greaves and Bombay's Dyeing". Technical flavour comes from "Avionic Trends", and the report on "Recent Trends in Air Conditioning and Refrigeration". The English section concludes with a fond remembrance of Prof.S.W.Marathe. The Marathi section carries on ahead in the same spirit. The articles, though they vary in style and substance are distinctly upbeat in their mood in keeping with the underlying SPCE flavour.

I conclude here with the confidence that SPCEites will carry on ahead with the momentum of the year that was and seize every opportunity to be themselves, keep the enthu going, the adrenalin running and if I should quote a cliché, "Just Do It".

Yogesh Singh
(TE-M)

FACULTY

SARDAR PATEL COLLEGE OF ENGINEERING



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Vice-Principal : Dr. Shri B. N. Pandya

STRUCTURAL :

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SHRI D.Y. JOSHI
SMT. H.PATHAK
SHRI A.N.BAMBOLE
SMT. UMA RADHA
SHRI. K.N.RAJIV
SMT. M.U.GOKHALE (COMMUNICATION SKILLS)

ELECTRICAL :

SHRI S.C.GOYAL (INCHARGE ELEC. DEPARTMENT)
SHRI I.M.PADARIA
SHRI M.M.SHAH
SMT. P.GHARPURE
DR. SHRI ASHOK OKA
SHRI M.C.CHOTHANI
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SMT. USHA NAIR
SMT. V.P.JOSHI
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KUM C.REMADEVI
KUM MANISHA SINGHAL

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SHRI. S.B.PRASAD
DR. SHRI. R.S.MATE (HEAD OF DEPARTMENT)
SHRI M.L.AHUJA
SHRI D.K.CHAWLA
SHRI N.K.PANICKAR
SHRI S.G.BHATT
SHRI C.S.NERURKAR
SHRI P.V.NATU
SHRI A.S.CHAVAN
SHRI V.D.RAUL
SHRI P.K.MUKADAM
SMT. R.R.EASOW
SHRI R.S.MAURYA
SHRI R.S.GAJGHATE
SHRI LASER PETER

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SHRI V.R.RADDI
SHRI E.M.PEREIRA
SMT. S.P.KANEKAR

CIVIL :

DR. SHRI P.V.PARAMESWARAN (HEAD OF DEPARTMENT)
DR. SHRI S.Y.MHAISKAR
DR. SMT. MEENA BHADURI
SHRI M.M.KULKARNI
SHRI R.H.KULKARNI
SHRI R.M.JOSHI
SHRI P.SRIVASTAVA
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SHRI P.H.SAWANT
SHRI S.L.PENDSE
SMT. S.S.GADVE

WORKSHOP :

SHRI A.V.BHONSALE
SHRI G.K.THAMPI

PHYSICS :

SHRI. A.C.CHOKSEY

CHEMISTRY :

SMT. S.VATSALA
SHRI. R.G.BHATT

Hand in Hand

My experience in SPCE has convinced me of one thing: The people who really work and matter do so without expecting any recognition. While this attitude is indeed praiseworthy, it would be far from futile to acknowledge the efforts of those people because of whom the year was eminently enjoyable and because of whom this presentation comes to you. A footnote in my editorial, if anything, would only have sounded pseudo, and hence I take up my pen to express my sincerest gratitude to these people.

Girija (TE-C), Avadhoot (TE-M) and Swati (FE-C) deserve kudos for their invaluable contribution to the Marathi section. Ruchika (FE-E) too deserves a mention if only for her sheer enthusiasm to help me out in any way she could. So does Hemangi (TE-C) who took time off and scanned the tomes at the British Council Library in search of an idea for the cover page (so what if it didn't materialise because of shortage of time). A significant contribution comes from Mr. Gurav and Mr. Kothale (Computer Centre) who helped us while the magazine was being entered into the computer. In particular Kothale Sir's effort on the 5th day of SE direct admissions, when after a day's tiring work he took time out for us for a crucial job on the computer, deserves a special mention.

A lot of support also came from Vivek (TE-M) who stood by me in difficult times. In the voluminous task of entering the mag. in the comp. I had tremendous help from Ashish, Paresh and Sunil (all TE-M) and above all Dilip who would have considerable work done at extremely short notice.

My sincere thanks, in no small measure, also go out to my ex-officio's Prof. D.K. CHAWLA and Mrs. M.U. GOKHALE whose contribution is too immense to be mentioned here.

And finally two guys about whose contribution I can only say that it was beyond help, support and "contribution". Anand and Sajit's commitment and enthusiasm can perhaps be judged from the fact that I never hesitated in asking them to have a job done, drop in at odd hours or summon them to college for just about anything.

I won't say that bringing this magazine to you has been easy, but it certainly has been an enjoyable and memorable experience (which perhaps spurred me on.) and for that I am indebted to all the people mentioned here.

Yogesh Singh
(TE-M)

THE CULTURAL SECRETARY'S REPORT

"And I am always talking about our activities in college or our preparation for some inter-collegiate festival, each time I meet my friends!" This was what one of my friends had to say and I beamed in delight. What a compliment to the Cultural Secretary of probably the most culturally active engineering college in Bombay! Friends, it gave me great pride in leading budding engineers with flourishing academics through year long activities formulated to add more zest to their otherwise boring schedules. And I found them asking for more and more.

The year began on a promising note when SPCEites performed brilliantly at Malhar and improved on their last year's standing to the 7th position. In fact, our college was the only engineering college among the first 15 colleges ranked there. In the process, we managed to thwart stiff challenges posed by colleges nearly ten times our strength.

The activities in college were triggered off by the FRESHIES WELCOME announcing the arrival of yet another enthusiastic band of juniors, who no doubt will continue to keep the SPCE flag flying high. The freshers put forward an excellent display of talent with probably little or no preparation.

As they got a taste of the things to come we got busy preparing ourselves for TECHNOBREAK about a month in advance. This year we initiated changes in the regular pattern so that students could put forward their best and still maintain healthy competition. These included opportunities for students to form a team constituting of members from different branches of the same year. TECHNOBREAK'94 went a step ahead by hosting the first inter-year Fashion Show and Visual Impact. The Third Year (Mechanical) class was adjudged the 'Best Class' and the 'Third Year' was adjudged the 'Best Year' for Technobreak. The stupendous success of this event was a clear indication of the 'enthu' amongst students and paved the way for active participation in competitions outside our college.

Our semester exams were a welcome break to the group of organisers and we prepared ourselves for the 'action-packed' even semester. The 'Traditional Day' which had the students sporting their colourful ethnic attires (a welcome break from the 'Jeansculture') would have done even the elders proud. A musical housie was also organised as a part of the day's celebrations.

SPCE hosted SPACE'95 on the 26th and 27th of January, which, without doubt, can be considered as the 'Event of the SPCE Year'. 6 months of untiring efforts of all the enthusiasts finally bore fruit as 38 colleges participated in this 'Cultural Extravaganza' which brought out the best in talent. This event will go down memory lane as a sound, light and literary bonanza for students from all over Bombay. Engineered excellence, no doubt! We the organizers of

SPACE'95 paused to take a breath, while a few enthusiastic students came together and helped us organize the 'Rose Day'-the perfect occasion for SPCEites to endorse their relationship and probably get a bit romantic! And they did not let go of this chance!

Marathi Vangmai Mandal as a part of their activities invited Shri V.P. Kale for a 'Kathakathan' program which exposed SPCEites to his oratory prowess. His wit and humour coupled with sarcasm had the audience enthralled for almost 3 hours.

THE ANNUAL DAY marked the end of cultural activities in this year. We were honoured by the presence of Mr. S.D. Limaye (Chief Engineer- Konkan Railways) who graced the occasion as the Chief Guest. It promised to be a fun-filled event for 2 days. But 'submission fever' gripped students and the celebrations were lacklustre during the day. The Talent Nite and the Orchestra Evening however resulted in a heavy turnout and had students dancing to foot tapping numbers.

The Farewell Party for the BE students was clubbed as a part of the Annual Day celebrations. It was a fun-filled evening, probably the last for a batch which has done SPCE proud. And as we bid adieu to our seniors, we realized it was time for our group of organizers to do the same to the year of cultural activities.

Friends, as I look back at the year that was I gain immense satisfaction in successfully completing my tenure and justifying the faith that the students of this college have reposed in me. It was a year where our students as usual excelled in the literary and quizzical fields, but the greatest discovery this year was the talent that was exhibited in dances and fashion shows. I am grateful to the professors in the Gymkhana Committee for the cooperation they have extended in making every activity in college a success. The same goes for the sincere efforts put forward by our General Secretary and my close associates and friends who have always supported and guided me along this difficult yet satisfying trail.

I sign off here, hoping that you, the students of our college continue the good work initiated in SPCE and go still further in projecting SPCE as a college which boasts of students who are talented in every aspect.

Vivekanand Subramanian
(TE-M)



SPACE REPORT

20th June 1994, a group of students met in the G.S. room to form the nucleus of a team which was to organise SPACE'95. Students, who were greenhorns and would learn through trials and tribulations (sounds a bit heavy but after an aborted SPACE'94 what else could one expect). But then we are SPCEites, aren't we?



Gen. Secretary
Jitesh Jogani

They say 'The more you sweat in peace the less you bleed in War'. A SPACE exemplifies this (except the blood and gore). Suddenly there was work to be done. SPACE was no longer a concept in someone's fertile imagination; it was now taking shape as we and circumstances (not necessarily in that order) moulded it towards a definite form. Soon our world centred around sponsorship packages, companies, contacts, printing presses *et al*. The first presentation was made on 27th June and the sponsorship process was on it's way under the charge of Anand Bhatia and Sajit Nair. Honestly, it was hard back breaking work, yet we enjoyed it.

They say 'If something has to go wrong, it will'. For us probably every second thing went wrong. From July to December 19th inspite of every effort we made all our sponsorship offers went awry. No finance was forthcoming. Finally on the 19th of December the flood gates opened and our accounts in-charge Sunil Purushothaman began drowning!

While we were sans finance we weren't napping. Technobreak was organised on the lines of the future SPACE. SPCE saw it's first inter-year Fashion show and Visual Impact. We even tested out innovations and organisers and not to mention our organising skills in this full scale dress rehearsal of SPACE. Now even the organisers and volunteers and our fantastic events co-ordinator Yogesh Singh, were ready. Probably all was in place except money.

19th December 1994- The day it all began. The first cheque rolled in. All the hard work was now paying off. As the finances improved our spirits soared. It was now time to get out the invites and the posters. The art department headed by Paresch Manjrekar worked overtime to get things

ready on time. In all this we had not reckoned for capricious printers and the printers devil. At every stage of the fest. We were plagued by problems with printers. Right from spelling mistakes in the posters to serious grammatical errors in the pre-invites, we faced it all. The ultimate problem arose with poorly printed invites and then fly-by-night operations became the order of the day. For all these covert operations Aniket Kulkarni's computer was godsend. On the night of 19th Jan. We sat up fighting the

sandman as we gave finishing touches to the invites. The invites were thus ready on the 20th of Jan. In true SPCE tradition SPCEites responded magnificently as they fanned out to each and every college distributing invites. All this to ensure a successful 26th and 27th Jan.

Aha! The dates 26th and 27th Jan. were arrived at after what looked like events out of a movie. Thanks to the chances of a clash with a festival of another college, we had to arrange for a secret rendezvous in an underground meeting place (our G.S room of course!). It resembled a superpower summit and the stakes were high. After much speculation we decided to take a chance with 26th and 27th Jan. and it proved to be a wise decision.

25th Jan- So after nearly 6 months of toil, SPACE was just 24 hours away. One can still remember last minute jobs, contingent leaders trooping in and out of our G.S room. That magical moment when our lights were installed, the blast of our music system, the excitement that rent the air, and all this without our Chairman who was stranded in distant Madras.

26th Jan- The big day finally dawned and with hundreds of participants at the venues the stage was set for the inauguration of SPACE'95. The inauguration was done by Dr.R.S Mate (H.O.D - Mechanical). The inauguration was preceded by a flag hoisting ceremony. And then it all began. We at SPCE have prided ourselves on our capabilities in literary events and the quizzes. True to form our events were of a very high standard. Hats off to Harshad Awasare for the brilliant organisation of the quizzes. It

Aware for the brilliant organisation of the quizzes. It was a treat to see participants squirm uncomfortably in their seats as they faced questions of a really high calibre. In fact the level was so high that the juniors were wondering if it could be followed up by them.

They say that in Japan trains run exactly on schedule. In SPACE too the events ran with the same brilliant timings. In fact participants who were used to tardiness in festivals missed a couple of events because they started on time, full marks to Yogesh and the event organisers. The first day of SPACE saw the eliminations in various events. Teams slugged it out to reach the finals in the various events where fabulous prizes awaited them. It was a treat to watch the crowd as they ran from venue to venue to savour all that SPACE had to offer. The quizzes and literary events saw phenomenal entries. The Maths quiz (a novelty quiz) attracted over 120 teams filling almost 3 class rooms. As the day went by the enthusiasm just kept on increasing and the spirits of the organisers kept soaring. The quad was the focal point of all musical and stage events and witness to a duel of tunes and clash of notes as an action packed day gave way to an evening that heralded a sizzling Visual Impact. When security arrangements were being made impromptu Informals were organized and were well received, as colleges put forth their best foot (or was it dancing feet) forward to impress the judges.

It was as if Prabhu Deva and his gang had descended on SPCE (need we say more about the level of competence) Surprisingly the Visual Impact got over in time !Sacrilege! Some festival veterans would put it, but we at SPCE were proud at the clock work precision that we had displayed. As the last tunes died out, the hundreds crammed in our quad spilled out and were gone, the peace of night descended on SPCE once again, but not for long.....

27th Jan- The day dawned clear. In fact we feared SPCE to be clear of some participants, the day being the first day of a rival festival. But our doubts were soon cleared as we saw hundreds of participants come ambling in. They say 'the bold doesn't fear the flame and SPCE's SPACE doesn't fear any other festival' Even if other festivals orchestrate together (like a Symphony !) our quality and excellence will shine through. Even if any other festival looms large on the horizon

in future we are sure our juniors will rise to the occasion as we had. 27th Jan was the day of the finals. One can still recollect the chants that rent the air as contingents cheered their teams. Edgy finalists for events like debate would be seen muttering last minute prayers- after all our topics were such that they sent shivers down the spines of even the most seasoned speakers. The quad was a host to musical luminaries like Manhar Udhas (judge for the duets) Bharti Achrekar, etc. The finale of SPACE'95 was a scintillating fashion show- a bevy of beauties sashaying to A.R.Rehman's melodies. It was a fashion show of contrasting styles and flaming torches. Indeed a night to remember. Unfortunately this fashion show went a little awry in timing, blame it on the overwhelming response from the colleges across Bombay.

Reminisces :- As we think back of those days memories come flooding back. Through the mist of time we can see enthusiastic FE-Civil guys willing to go around night after night sticking posters and banners, or Rama (BE-C) who climbed up trees in simian fashion so that our banners could occupy a prominent position. What can be said about Gautam Chari? He was a true friend philosopher and guide. And there was our Chairman Vivek- excitable, quick thinking and frankly noisy-perhaps the model chairman. One of the moments worth cherishing was the glow on Juzer's face as the lights and sound gave us an idea of their power and a Jitesh Jogani whose sullen look on the post-SPACE morning hangover told us that our days at the helm of affairs was over.

We would be downright ungrateful if we did not mention the whole-hearted support and co-operation extended by Prof. Raul and Prof. Raddi without whom we would never have cut through the swathe of bureaucracy and time consuming formalities that have to be followed on such occasions.

This is hopefully the last job of SPACE'95 and now the committee can sit back and relax. After all what we have done may have been the most successful SPACE. Years down the line we shall remember that camaraderie, the fellow-ship, the spirit and the sheer joy. Isn't that enough incentive for SPACE'96.

*Compiled by
Anand Bhatia (TE-C)*

SPORTS SECRETARY'S REPORT



Hi, friends, this is Narottam Puri.... oops sorry, Nikhilesh Amonkar from the S.P.C.E. sports field (I know there isn't one, just imagine there is) with my expert comments on the "sporting" year that was.

Let me begin with the universal favourite-cricket of course. Hats off to the T.E. team which won the Inter year season ball tournament against the S.E. with an impressive margin of 80 runs backed by a whopping performance from JAY SAMPAT with 65 runs and KETAN PIMPUTKAR who captained the team.

The soft-ball tournament sprang a surprise in the form of the valiant F.E. CIVIL team which, after putting the scalps of T.E. ELECTRICAL and T.E. CIVIL under their belts, put up a spirited fight against S.E. ELECT till the last ball and lost. S.E.(E) went on to lose against the more experienced B.E.(M) team in the finals. HEMANT MOHITE of the winning team was adjudged 'Player of the tournament' for his consistent match winning performances.

Our badminton team made up of Sameer, Shridhar R. and Amar N.(mens) and Sonali Kimsen, Shobha S., Smita S. and Devangi S. participated in the Inter-College badminton tournament. The college put up a spirited fight before losing in the third round.

Indoor Games attracted greater crowds than we expected and the student's enthusiasm surpassed our wildest imaginations.

The college Table-tennis team comprising Girish S., Durgesh M., Animesh S., and yours truly reached the third round in the inter-collegiate tournament before losing to M.L.Dahanukar. The participation by the ladies in the form of a team made up by Manisha M., Samyukta B., and Shobha S. was a welcome surprise. We also held an intra collegiate and inter-class tournament and the winners were

- Singles: 1) Nikhil S. (FE-E)
2) Mahesh S. (FE-M)

- Doubles: 1) Girish S & Nikhilesh A (TE-E)
2) Mahesh S & Makarand N. (FE-M)

Indoor games are incomplete without the game of Bold Strikers i.e.. carrom. Joyous news for carrom lovers-We purchased new coin sets for this year's tournament and have renovated the Gym. Happy striking ahead! The results of the intra-collegiate carrom tournament are:

- Singles: 1) Mahesh S. (SE-C)
2) Prasanna T (BE-M)
Doubles: 1) Santosh Iyer & Prasanna T (BE-M)
2) Hemant Mohite & Satish D (BE-M)

We revived an ancient favourite of the indoor game enthusiasts after a lapse of two years-CHESS! A new star has emerged in the gymkhana portals and has put to test the grey cells of engineering students-RAVISHAKHAR S. of S.E.(C) who after scoring 8 wins out of 9 in the inter-collegiate chess tournament was selected for the university team tryouts. Smart move Ravishekhar!

The results of the chess tournament are :

- 1) Ravishekhar K (SE-C)
2) Avadhoot D (TE-M)

With apologies to our proverb-makers I would rephrase an ancient saying and say "All studies and no sports makes S.P.C.E. a dull place". I am grateful to the various Ex-officios incharge, Mr.A.S.Chavan (cricket) Mr.P. K.Mukadam (cricket), Mr.D.Y.Joshi (table tennis), Mr.C.S.Nerurkar (outdoor games), and Mr. R.G.Bhat (Gymnasium) for their constant support and co-operation. I also thank the student organisers who helped make all intra-collegiate events successful. S.P.C.E. students have proved the importance of participation in sports as necessary for success in life and developing a sportsmanlike attitude! I wish the next Sports Secretary all the best in his endeavours.

NIKHILESH AMONKAR
T.E.(E)



Willowed Wonder
Hemant Mohite

LOVE 30!

Why that unusual way of keeping scores in tennis?

Love, of course is derived from the French l'oeuf for egg, denoting zero or no score.

15,30,40 are a consequence of keeping scores on a clock dial in the early days, with the hands moving one quarter of an hour for every point scored, starting from a position of zero (12 o'clock). As points were scored, the hands moved to 15, 30 and then to 45 minutes. Somewhere down the line 45 was changed to 40.

Festival Winners

MALHAR:

1. India Quiz - Winners
 - Abhijit Dey (BE-M)
 - Anand Bhatia (TE-C)
2. What's The Good Word? - Runners up
 - Sameer Shah (BE-C)
 - Francis D'souza (BE-C)
3. Hindi Debate - Runners up
 - Juzer Rangoonwala (SE-M)
 - Amit Bahura (SE-M)
4. Market Moves - 3rd.
 - Nikhil Mhapankar (BE-M)
 - Rohit Malkani (BE-M)
 - Nikhil Patil (TE-M)
5. Group Dance - 3rd.
 - Anand Kabra (TE-M)
 - Ashish Shinde (TE-M)
 - Durgesh Manjure (SE-E)
 - Samyukta Bhide (SE-E)
 - Smita Sampat (TE-E)
 - Meghana Joglekar (SE-E)
6. Limerick Writing - 3rd.
 - Saikiran Krishnamurthy (SE-C)
7. Carrom - 3rd.
 - Santosh Iyer (BE-M)
 - Prasanna Trimbakkar (BE-M)

AARAMBH:

1. What's the good word? - Winner
 - Sameer Shah (BE-C)
 - Francis D'souza (BE-C)
2. Dumb Charades - Winner
 - Sujit Narayanan (TE-M)
 - S. Vinay (TE-M)
 - Hemanshu Mehta (TE-M)
3. G.K. Quiz - Runners up
 - Abhijit Dey (BE-M)
 - Anand Bhatia (TE-C)
 - Harshad Awasare (TE-C)
4. Pictionary - 3rd
 - Sujit Narayanan (TE-M)
 - S. Vinay (TE-M)
 - Hemanshu Mehta (TE-M)

Astitva:

1. Portrait making - runner up
 - Hemendra Chonkar (SE-E)

Aavishkar:

1. Pictionary - Winners
 - Hemant Gandhi (BE-M)
 - Malkani Rohit (BE-M)
 - Kedar Nigudkar (BE-M)
 - Santosh Iyer (BE-M)
2. Pictionary - 3rd
 - Sujit Narayanan (TE-M)
 - S. Vinay (TE-M)
 - Hemanshu Mehta (TE-M)
 - Shyam Chittal (TE-M)

Pratibimb:

1. Pictionary + what go + 20 questions -
 - Hemanshu Mehta (TE-M)
 - S. Vinay (TE-M)
 - Sujit Narayanan (TE-M)
2. JAM - Runner up
 - Santosh Iyer (BE-M)

Horizons:

1. Crossword - Winners
 - Francis D'souza (BE-C)
 - Santosh Iyer (BE-M)
2. Logic Quiz - Winners
 - Santosh Iyer (BE-M)
 - Sameer Shah (BE-C)
3. Sports Quiz - Winners
 - V. Venkatesh (BE-M)
 - Kedar Nigudkar (BE-M)
4. What's the good word - Runners up
 - Rohit Malkani (BE-M)
 - Santosh Iyer (BE-M)
5. Pot Painting - Runner up
 - Hemendra Chonkar (SE-E)
6. Landscape - 3rd.
 - Hemendra Chonkar (SE-E)

Euphoria:

1. Charcoal Painting - Runner up
 - Wahid Shaikh (BE-C)
2. Dumb Charades - Runners up
 - Sujit Narayanan (TE-M)
 - S. Vinay (TE-M)
 - Hemanshu Mehta (TE-M)

STAR PERFORMERS



FRANCIS D'SOUZA



SAMEER SHAH

FOUND ON A GRAFFITI BOARD AT AAVISHKAR- 'God bless ATHEISM'

CAREER AVENUES AFTER ENGINEERING

With increasing dynamism in the Indian industry career avenues for engineers are aplenty. As compared to the scene 5 or 6 years ago, greener pastures are beckoning today's engineer. Hence to gauge in what direction the SPCEite planned to go after the convocation, we took up this survey. 50 SPCEites comprising students from the four years and three branches were interviewed.

To gauge awareness amongst students we asked them to come out with the options*, they had the day they stepped out of the portals of their Alma Mater. Expectedly awareness about management (Mgmt henceforth) studies and going in for post-graduation (PG henceforth) was high, above 80%. Awareness levels for studying abroad stood lower at 60%. Taking up a job as a Graduate Engineering Trainee (GET henceforth) had an awareness level of 60%. While it does seem a bit queer that awareness of being a GET is low, it could be rationalised if the statistic is taken as a top of the mind reaction or in light of the fact that a sizeable number did not mention it because of the obvious nature of the choice. By top of the mind reaction we mean that while working as a GET is a known option it is not an acceptable option to many because they realise the need to study further, and is thus sub-consciously revealed. As expected awareness levels were close to 100% (on prompting) even in fields other than those mentioned above (like the Civil and Defence services or getting into software).

Coming to overall trends, a sizeable 35% of all respondents said they would like to go in for MGMT. studies while those opting to be GET's or going for PG were a smaller group at 23% each. Interestingly the bunch of students striving for a M.S. degree abroad comprised only 19% of the respondents. A point made by a good number of students who said they would be taking up a job deserves to be mentioned: they were doing so because a year or two's experience would stand them in good stead when they desired to get into a MGMT. institute or because they wished to be financially independent, at least to some extent. A little more in-depth probing had to be done to ascertain why MGMT. caught the student's imagination. A general viewpoint that emerged was that jobs in the MGMT. field, besides being challenging, offered an engineer his worth and at the same time did not entail doing away with his technical knowledge entirely.

The viewpoint of those who said they would go in for

PG could be summed up by this verse :

A little learning is a dangerous thing;
Drink deep, or taste not the Pierian spring;
Their shallow draughts intoxicate the brain,
And drinking largely sobers us again.

In consonance with the general view, they felt that a graduate degree was not enough and it was worthwhile carrying on with the same momentum to a ME/MTech. degree.

The split up of the four years also provided good insights. The statistics read like this

	MGMT	GET.	PG	STUDY ABROAD
BE	4%	80%	4%	10%
TE	35%	25%	4%	30%
SE	32%	21%	26%	16%
FE	37%	19%	25%	6%

Among the visible swings are:

1. A huge swing against MGMT studies (35% to 4%) in BE after remaining stagnated till TE.
2. A heavy swing in favour of students wanting to be GETs (25% to 80%) after being levelled at around 20% from FE to TE.

The two trends combined indicate that till TE, while the strong desire for MGMT. studies remains, in BE perhaps because of the realisation that the premier MGMT institutes are looking for people with experience, students do not wish to let go of excellent campus placements.

3. A swing against students interested in doing PG (25% to 4%). The reason attributed to this downward going graph is that the industry does not place a post-graduate at an advantage as compared to a graduate with 2 years experience in the industry (except that on being chosen, a post-graduate starts off at a higher pay scale)

To gauge shifts in choices in the same student from FE to TE/BE we also quizzed the TE/BE students about their choice (if any) when they entered the college. The change in the students choice could be assessed from knowledge of the fact that a considerable 25% of the TE &

BE students when in FE thought they would go in for PG while only 14% of them said they had thought of MGMT studies then. Also comparing this 14% figure 3-4 years back with the 37% of the FE's planning to go in for MGMT studies today indicates an increasing inclination towards this field.

A branch wise analysis indicated the top priorities in the three branches as

Civil	Post Graduation	(30%)
Electrical	Mgmt studies	(40%)
Mechanical	Working as GETs	(30%)

The figures indicate that while the need to study beyond graduation was being felt by all students, it was particularly true of the Civil and Electrical students.

The next part of the survey involved ascertaining the influences on students that made them opt for a particular field. One half of the respondents said they were influenced by their family (consciously or otherwise) but a little strangely only 60% of the respondents said they were influenced by their individual choice. Perhaps it is an indicator of the fact that while sentiments exhorted students to go one way, future prospects and satisfaction compelled them to move another way. Peer pressure, hearteningly, affected less than 1/3rd. of the respondents.

To get an idea of the priorities in minds of students we asked them to rank money, scope, satisfaction, status and power in the order in which they thought of them when they reached their individual choice. Scope and satisfaction ranked high at 36% each while money came in second at 32%. The rest took a backseat.

One thing that emanates from the facts, analysis and views in this report is that the SPCEite is not just trying to be a high achiever, he is moving in the right direction. He is spreading out of the conventional fields and contributing in other areas towards proper and optimum utilisation of resources (tangible or otherwise). His decision apart from reflecting his individual choice more than accounts for the ground realities. While he is 'practical' (pun not intended) he is uncompromising on his personal ethics.

In this scenario we are, more than ever realising the need for quality (which ultimately affects quantity) in our industrial produce to compete globally. The report ends with the confidence that with the spirit and attitude cultivated here, the SPCEite will not be found lacking in commitment and diligence whatever field he chooses.

COMPILED BY
YOGESH SINGH
(TE-M)

TO BE OR NOT TO BE

A friend of mine was asked if given a second chance who he would like to be reborn as. His reply was

I would like to be

But

Brian Lara

I'd always be on the RUN.

Adolf Hitler

it'd create a HAILstorm.

Michael Douglas

that'd be against my INSTINCT.

Saddam Hussein

I can't beat around the BUSH.

Amitabh Bachhan

it'd be a TALL order.

Elvis Presley

my life'd be on the ROCKS

Fussing with Proverbs

Old is Sold!

Slow and Steady shuns the race.

Confusion is the mother of Tension.

Where there is a Kill there is a Prey.

Homeliness is next to Loneliness.

All that Weathers is not old.

Man proposes Woman opposes.

A fly in hand is worth two in the soup.

Hemanshu Mehta (TE-M)
Shyam Chittal (TE-M)

SPCE Penmen (Winners of Disha'95 literary competition)

DEPICTION OF INDIAN WOMEN IN ADVERTISEMENTS



"GHAR TO SONA, TO KUDI BHI SONI". These are the last lines of the Ariel Washing powder advertisement, which just about says it all when it comes to the depiction of women in commercials.

A concerned mother that a blemished piece of tablecloth will close the doors of conjugal bliss for her daughter, chances upon Ariel powder which makes the tablecloth spotlessly clean and eventually fixes the marriage of the girl. MORAL: Prospective daughter-in-laws should first clean their surroundings before presenting them for evaluation! And all that crap we hear about women's equality in the media.....

Well, these are the stereotypes on offer by our numerous ad-agencies who constantly boast of an ever increasing clientele. In this era, where liberalization and liberation have become buzzwords, wonder why women are not liberated from this constant stereotyping of their images?

It is a fact, beyond doubt, that in this age of multifarious media channels, be it the print, audio, or visual, we are constantly bombarded by, what sociologist Noam Chomsky calls "manufactured information", which directly affects the sub-conscious stratum of our mind. Buoyed by consumerist mores and values and having lost it's discerning power, the society feeds itself with media imagery and in turn sustains it.

With every passing day, a new product (not necessarily better) is introduced in the market and with it is launched a slick campaign to sell it. But the basic premise or dimension within which a woman is shown in an advertisement remains the same. She is always the suprema, when it comes to housekeeping. For example, in the Trupty oil advertisement, upwardly mobile women-executives have to choose the right edible oil and also manage the kitchen because their husbands do not know how to knead flour! At the end, she smilingly says "Life is TRUPTY bhari". A fine example of distorted media imagery obfuscating the truth. Truth, which is bitter and also ugly. She is burdened with the twin responsibilities of her job and home which demands both mental and physical exertion, which is not always fulfilling, to say the least. Yet such advertisements have the temerity to convince us otherwise.

When it comes to exploiting a women's physical attributes, cosmetics, liquor, and shaving cream advertisements leave no stone unturned. What we observe is that only a woman gets the sole privilege of using soaps and cold creams. She is so dim-witted that she is easily overwhelmed by the fragrance of a freshly shaven face while her skimpily

clad counterpart purveys alcoholic beverages. This kind of media imagery only serves to titillate rather than convey anything worthwhile.

Turning one's attention to another range of advertisements concerning energy rich foods and drinks, one finds that their so called nourishing potential only benefit the boys and the girls remain cheerful spectators, standing on the sidelines. Remember the Complan campaign, in which the boy proudly declares that he is a "Complan Boy" while his sister has to nudge him and remind the viewer that she at least gets a chance in sharing the same drink. After all it is only the boys who have to pick up 4 kgs. of school books and then after drinking Maltova he has the distinction of becoming a champion much to the pleasure of his proud mother. And why not? Well, after all it was she herself who gave Lipton butter to her energetic son Rahul.

As we enter the 21st century, we find that on the one hand we are busy inventing new goods of capitalism while on the other, retrograde tendencies are still endemic in our collective consciousness. Certainly what is going to happen is that a women's image in advertisements will be subjected to the conflicting pulls of the other two. So what will be the result?

Whenever such questions are raised in the relevant foras, the argument advanced is, that there are even more bigger problems confronting Indian women and this is only a trivial matter. But what one forgets in the course of such an argument, is that by repeatedly depicting women in a contorted manner, what we serve to do is only desensitize the society about the grave dimensions of this problem.

So, can the present state of affairs be redeemed?

A solution can only come if the government and society at large applies it's mind. If there is no voice of protest emanating from our people, then there is not much one can do to overcome the inertia. Organizations such as the National Commission Of Women and other NGO's should form a pressure group and force the government to evolve a comprehensive advertising policy for the media. Media sociologists, with the help of NGO's and government agencies, should try to make the public aware of the fact that, it is necessary to separate the grain from the chaff, to distinguish between truths and untruths. Public awareness helps in moulding an opinion, which our advertising agencies, sooner or later, have to take note of.

Unless some initiative is taken in this direction, her credentials will simply remain as a "kapde dhone ki specialist".

Abhijit Dey
BE-M

A Novel (?) IDEA.



I was walking down the road with my girlfriend, well at least what was left of it. The road, that is. We could barely manage to talk, as most of our efforts were directed towards maintaining our balance. I realised the significance of the line "the path of love is tough" and of course traced its origin to "Bombay roads".

Well, you must be cursing my romantic sense. For here I have the most beautiful girl in the world besides me, and all I can think of is "Bombay roads". Speaking of beauty why don't I describe my girlfriend in a typical M & B style: "She was so young and tender, her skin, fair, soft and smooth, just like the morning cream, and her beautiful, blue eyes with that gentle, innocent look sandwiched between those creamy eyelashes, her long straight nose like honey flowing over apple pie,...". I think this is beginning to sound more like an Enid Blyton lunch pack. Of course there are those lips like marmalade, I haven't forgotten those.

As we turned round the corner, we came to a lonely section of the town. It was totally deserted. The moonlight glinted off the window pane of a nearby house. The night cast an eerie shadow over the cold cobblestone. The wind whistled passed by us, caressing the nape of my neck ever so slightly. As I peered through the darkness with my bloodshot eyes, something appeared to move in the vicinity. A strange sound pierced the silence and the dull, grey and damp surroundings were lit up by two powerful lights (courtesy Stephen King). Not the lights, the paragraph.

A black limousine could be seen approaching us from a distance. It zeroed in towards us silently, cutting through the night. It pulled up next to us. As I took a defensive karate stance, a black-belt that I was, at least that is what I generally lead myself to believe. The door opened and a familiar face peeped out. That round, hairless, bald, clean, smooth, shining, fair and well nourished head, was none other than my butler. "A phone call for you, sir!", he said, handing my cellular phone to me. I somehow managed to change my karate

stance and modify it to appear to take the phone, as if I had planned to do it all the time. Not that it mattered. But when it comes to girlfriends, you never know.

The voice from the 'Other side of the Phone', "Hello, this is agent 20XYZ. I got your message. The arrival is confirmed. Be there at 12:40 hrs tomorrow. Over"

Actually that was my computer repair man. Obviously inspired by an absolutely memorable and emotional performance by Arnold.S in True Lies, he got carried away a little.

We got into the limo: actually I had had enough antics for one night. As I sat in the car, I noticed something very strange about the driver. There wasn't any! Oh! All right, call it a chauffeur, but the fact was, there wasn't any!!

So how was the car moving ??? send your entries to "ME", address can be found from a phone book corresponding to the no. 712324726 (courtesy Star T.V. quiz). (Who said anything about the car moving?) Well the chauffeur got in and then the car began to move.

It took us about an hour to get home, and start packing. Packing for what? Well I'll be !! haven't you heard of a concept called "TRIP"? Well yes! Mr. Yash Chopra's favourite past time in life and in movies, a trip to Switzerland. I had asked Jeeves to get new bags for packing. (I selected that name because it obviously indicates a butler) and sure enough, there they were. I took a good look at the bags. The bags had been purchased not far from a biscuit factory. The owner of the shop was not a very well-to-do man. He loved to smoke. He had two wives and five children. The eldest child was seventeen and the youngest was three months old. They lived in a flat in a sidey location. Well, that's a lot of information about someone, considering I have not met or seen him/her before in my life. So how do I know so many things? Please refer to "Case book of Sherlock Holmes" for such queries.

Anyway, we packed our bags and went to Bombay V.T. The trip to the marriage bureau was short. We had a civil marriage and went on to the airport. Why? Whoever heard

of a pre-marital honeymoon? The limo pulled in at the airport and we immediately rushed to the reporting desk. Reason..... Late, as usual of course. We hurried through the entire procedure, breezing through the security checks. I had got contacts, you know!

It appears that I have not named my ex-girlfriend and current wife. Well, what better time then now, right after marriage. I hereby name thou "SHE". Mmm.....that's a nice name. She and I walked up the stairs and boarded the plane. After stashing the luggage we had a look around. There were two air-hostesses at each door, one near the cock-pit entrance, two near the food section. There wasn't any security guard in the plane. I walked over to the toilet and surprisingly, went in. I also closed the door. Next, I locked it. This is the standard procedure to be adopted when going to the loo. (Please refer to the loo-handbook, Version 9.0) I went to the wash-basin, reached under it and pulled out two Smith & Wensons and a couple of hand grenades *(An Uzi, AK-56, a rocket launcher, a mobile SAM, a fully armed tank, and lastly a MIG 29) oh! well that was a bit of exaggeration.

I hid the ammunition under my coat and walked over to She. She took one gun and a grenade. Flashing a sweet smile at the air-hostess she walked over to the food counter. Suddenly she pulled out the gun and grabbed one of them and put the gun to her head. An announcement crackled over the speaker, "Emirates Air Flight ALKHABIZ II ready for take off to New York". I knocked on the cockpit door. The door opened and guess who should be in there? Yes, the pilot! Fancy seeing him inside. Anyway, I put the gun to his head and told him to shut up.

The passengers were ordered to evacuate. Only the crew and She were on the plane with me. The radio beeped. On my instructions, the pilot said, "they want a million dollars in unmarked bills, not in serial order, and all used notes. The amount should not be in any large denominations. Moreover, if you can afford to buy a briefcase, it would be advisable to get the cash in it as it would be inconvenient to carry so much cash in your hands. This is their suggestion. They also want this plane fuelled; I do not see the point, we are already fuelled anyway. What the heck! The deadline is 47 minutes and 23 seconds after which there will be a

committee meeting and further fate of the crew will be decided. Also it should be stated at this stage that they are heavily armed with all those things mentioned in the previous brackets* and they will blow this plane up."

Within a span of 36 minutes and 17 seconds everything was set.

An unarmed man in plain clothes came and handed over the cash and went back. The plane was also fuelled, and the runway cleared. "Hey, hey, hey! No need to get bugged if everything is going smoothly. This ain't a movie, man! And I ain't buying no shit from no one. Hey, man, I ain't done nothing, yet. Sorry about that!!! But I just had to do it. A slight negro touch to the story. But I meant what I said. This is real life. There is no Bruce Willis and no Rambo in the real world. There is just the airport security who are just as scared as you, probably more. So no heroics to be expected.

You seem to be angry with me. Why didn't I tell before that I was a Hijacker and that I planned to do this? Why did I mislead you? Why did I lie? Hey!!! Hold it, one at a time, O.K. First of all let me make it clear that this is neither a James Bond movie, nor a Hardy Boys novel where the villain, mmm.... or let's say the opposition gives a written confession to you. I most definitely did not want to be chased by cops right from the start of the story. I mean it's highly immature. Now, for the next query: Why did I do it? If you remember, I have a beautiful girlfriend, a limousine, a chauffeur, a large house, etc....You didn't expect the Government of India to give me pension for maintaining all these rare commodities. And having justified my point, my dear comrades, I take your leave. She ordered the pilot to start the engine. The plane slowly taxied to the runway. Before I go I must say one thing. Atleast I didn't lie about the destination. The plane picked up speed and zooooommm.....,our plane took off for SWITZERLAND. (To find out what happened next, refer any Harold Robbins novel.)

PARESH MANJREKAR.
T.E.(MECH)

Life is a Boar and I am the Guinea Pig



Those were the days of The Great Cleanliness Drive. Families were being uprooted, homes wrecked and thousands were migrating in search of filthier garbage. Our city Pen was going to the dogs; even we had to shift to Winnipeg after being reduced to a state of utter penury.

My new neighbourhood was a thick jungle, denser than the deepest Hamazon forest. All that greenery and fresh garbage, that pleasant fragrance of stink! Heaven! Those stupid men, obsessed with spoiling the place with their cleanliness had not yet laid their hands on this virgin land. Mosquitoes and flies, buzzing and hovering above stagnated pools of sewage water and rotten vegetables- Winnipeg seemed to us like a second paradise! But even this city, replete with scenic beauty and abounding in natural resources had its own share of predators. Every now and then, there would pop out a mean-looking Municipalitywalla out to catch his quotidian quota of boars. One such peaceful morning, I was lolling in luxury in the loveliest muck in town, when a jet of high speed water ended my blissful marination. I was yanked out of my cosy bed by a rough hand, which I saw, belonged to the dirt-hating representative of the Municipal Sanitation Department. I was subjected to the most hated and clean bath I ever had in my life.

But before my discomfiture could reach newer heights, came an army of boars, swooping down on the enemy. It was raining pigs and boars. It was reminiscent of The Great Boer War. Leading the charge was a boar in a shining armour. Before I could say "supercalifragilisticexpalidocious," I was free!

I later went to thank him for saving my life. "What is your name", he asked. "Madhuri Pigshit. What's yours?", I asked. "Hogjeevan Mishra, but you can call me Life for short", he replied. "I can't thank you enough. I don't know how to repay this obligation; I will remain indebted to you lifelong", I said. "Oh, It was nothing, this was only my farz."

I was falling snout over heels in love with him. I am certainly no Empress Of Blandings, but I am not just any sow-sow either. The glint in his eyes confirmed that he was reciprocating my feelings. It was Love at first sight! He had the most pink-complexioned cheeks I had ever seen, and grunts that would have put Monica Seles to shame. Indeed he was the perfect paradigm of porcine pulchritude! As for me, well, 'Life' was never the same again.

At first, the meetings were few and far between. But slowly we began to meet regularly at nearby 'Lover's Park'. Before long, I was seeing dreams of us being pronounced 'pig and wife'. But there was a big barrier to be overcome: our

parent's consent. I approached my father with a lump in my throat. He was sitting in one corner, hogging away to glory. There was litter all around the room. Between munches, he grunted condescendingly, concentrating continuously on my case.

"Bring him over tomorrow", was all he said. Early next morning, he was standing in front of our house. Life was short, though not exactly the pygmy kind, but very robust-looking and rubicund. My father asked me to leave them alone, which I promptly did. I don't know the finer details, but the upshot was that I saw Life coming out, livid with rage.

"What does he think of himself, the swine," he was muttering. "Do you know, he offered me a blank cheque of The Bank of Humbug... err.... Hamburg to disappear from your life for good. I told him plainly that nothing, not even 3 cartloads of the creamiest muck could wean me away from you". Saying that, he left, panting and fuming furiously. I started towards my father, who tried to explain, "You see, he hails from a lower caste, The Boars of Boarivli whereas we come from the family of The Royal Pigs of Hamsterdam. How could you possibly marry? What about our family izzat?"

I was totally stymied by this denouement. This was the last thing I had expected from my father, whom I had worshipped ever since I was small. There had been others, who had hurled mud at him, even branded him a M.C.P. (male chauvinist pig), but that was because, I thought, they were jealous of him. Now his true nature stood bared in front of me. After all, caste, creed, race, colour, these are but pig made barriers. Surely love was above them! But my father was unable to shake off his orthodox pig-headedness. He himself had been prevented from marrying someone of his choice by his father; yet he could not catholicize his narrow outlook. As you sow so shall you reap, I guess! All my dreams of becoming a 'sowbhagyawati' were turning into dust. No!

I swallowed the lump in my throat. I burped. I wasn't going to watch my dreams turn into another Hamletesque tragedy. I gave my father an ultimatum, "Unless you relent, I will have no choice but to elope".

"Elope? Over my dead body! For the life of me, you won't do it. You will do exactly as I say- you will marry Life! Yes, dear, I was just gauging the depth of your love; how strongly you feel about Life; how you would react to being separated from him. You've made me proud, baby!"

I was confused and angry all at once. Well, 'Life is a boar and I'm the Guinea Pig'.

Sameer Shah
B.E. CIVIL

AVIONIC TRENDS -FBW/FBL

THE CHANGING AVIATION SCENARIO

THE CHANGE: *Ab initio* of aviation, pilots relied entirely on mechanical systems for controlling the flight. For instance, if the pilot wanted to climb, he moved a joystick in the cockpit. The joystick was connected to the 'elevator' of the aeroplane located at the tail end through a metal wire. When the joystick moved, it pulled the wire, which in turn lifted the elevators, causing the aeroplane to climb. Similarly, for other flight controls also, such as banking to the left or right, the pilot had to move wires and chains connected to ailerons located on the wings with the help of a joystick. In a later age aeroplane, however, the joystick was replaced by a control wheel which was more like steering a motor car, but the chains and wires remained. Similarly for giving a yawing movement to the aeroplane the pilot had to press on the rudder pedals, which operated the rudders located at the tail. Thus there used to be a number of metal wires, pulleys, and chains passing from cockpit to the wings and to the tail portion. This is still the state-of-affairs in small flying club aircrafts. The mechanical control operations were to the aircrafts what the rods and levers connected to the steering wheels were to an automobile. For example, if the car driver turns the steering, the wheels are turned by means of iron rods or axles. Similarly for changing gears or applying handbrakes, rods and levers are used.

CONTROL-CIVIL: Gradually the aeroplanes acquired improved hydraulic, pneumatic and electrical systems. Controlling the new generation giant aeroplanes like Boeing 747, Airbus (A-300), DC-10 and so on became easier with these systems. In a way it was inevitable too. For the huge control surfaces such as elevators, ailerons, rudders and flaps of an aeroplane are so heavy that it is impossible to raise or move them by mechanical means. Hence additional systems were needed to complement the conventional mechanical systems for operating the flight controls of such huge aeroplanes. Most of these aeroplanes, in fact, are equipped not with a single system but with multiple systems for operation of any particular control. For example, for extending the huge landing gears of a B-747 aircraft, a hydraulic system is

primarily used. However, in case of failure of the hydraulic system, these landing gears can be extended by mechanical means. So much so that in an extreme case of failure of both hydraulic and mechanical systems, it can even be operated manually or with the help of the earth's gravitational force. Similarly, the brakes of a Boeing 707 aircraft, normally operated electrically, can also be operated manually in case of failure of the electrical system.

CONTROL-DEFENCE: In Defence, the systems used to control a modern war plane can be classified effectively into two broad categories; those designed to 'fly' the aeroplane and those intended to monitor and control the sub-systems which go to make up the whole system. Originally, the aircraft designer's job was to produce a machine which would become airborne and be controllable and stable in flight. By accident, military aircraft designers discovered the advantages inherent in a combat aircraft being unstable in flight; witness the success of the Sopwith Camel in the First World War which was largely due to the pilots mastering the alarming engine torque induced when it turned at short notice. Manoeuvrability and instability go together: the problem being, that until relatively recently, there was no way for a pilot to manage an inherently unstable design and thereby gain the advantages of ultimate combat manoeuvrability. *Enter the digital computer which has now provided a means of controlling the uncontrollable.*

FBW: FLY-BY-WIRE

Fly-by-wire is defined as a pilot-command of aircraft motion rather than pilot-command of control surface position. FBW systems use motion sensors to generate data for computer processing and the further generation of command signals to the aircraft's control surface actuators. This is not the same as electrical signalling in which electrical links replace conventional mechanical links between pilot and control surface. In FBW, while the pilot still tells the system what he wants the aircraft to do, it is its processor which really 'flies' the aeroplane, both setting up the desired control

surface response and constantly monitoring and altering it in relation to the changing external environment in order to optimise the required manoeuvre.

FBW: FLY-BY-LIGHT

Fly-by-light systems differ from FBW in that it substitutes fibre optics for the FBW's signal wires and offer the advantage of being able to handle greater amounts of data.

ADVANTAGES

1. The first and foremost is the reduction in the weight of the aircraft. The conventional aeroplane using plenty of mechanical wires, pulleys, levers, chains, rods, tubings and other metallic objects is pretty heavier than a FBW plane. This is because the FBW system uses thin and light weight electrical wires, subsequently reducing the overall weight of the aeroplane. Thus not only can fuel be saved but more passengers can be accommodated in each flight.

2. Further, in a conventional hydraulic or pneumatic system, liquid or air under heavy pressure is used. As a matter of fact, a special liquid known as 'skydrol' is used at a pressure of 3000psi. (which is some 200 times more than the atmospheric pressure) in the hydraulic systems. Due to such high pressures there is a possibility of loss of all the liquid if there occurs a small crack or cut in the tubing. With the use of electrical wires such problems can however be avoided.

3. The greatest advantage is that all the calculations related to the flight are made by the computer. Suitable instructions based on the calculations are also issued by the computer making it possible for the flight to be conducted in a safe and fuel saving manner. For example, the computer operated Electronic Centralised Aircraft Monitoring (ECAM) system of A-320 aircrafts conducts more than 50,000 calculations every second, something impossible for even the best of human minds. It also issues suitable instructions to update and correct the height and speed of the aircraft so as to get the best mileage.

4. Further, if by any chance the instruments or any part of the aircraft malfunctions, the computer issues warnings to the cockpit crew alerting them to take action. As a matter of

fact these computers even display the relevant procedure required to be followed. Thus the pilot can avoid referring to bulky manuals and see parts of them on the screen.

5. A-320 is based on FBW technology which is another first to its credit. With FBW system the conventional control wheel or control column in the cockpit has been replaced by a small side-stick controller giving the pilot an unobstructed view of the instrument panel. The side stick controller is more like an electrical switch, and has enabled manufacturers to reduce the weight of the aircraft considerably.

6. The cockpit of a FBW aircraft is normally termed as 'clean cockpit' or 'glass cockpit' because the numerous instruments and dials seen in the cockpit of a conventional aircraft are absent here. The cockpit of an A-320 has only six CRTs on which all instruments and their readings are clearly displayed. The incorporation of entire primary data on the Electronic Centralised Aircraft Monitor (ECAM) display has further reduced cluttering of the instruments in the cockpit.

7. It is not that computers cannot fail; they can also falter and FBW technology takes this into account. In FBW technology more than one electronic system is available for any control. For example, the A-320 aircraft has 4 systems available to enable navigation and operation in trying situations.

DISADVANTAGES

Whereas in the past catastrophic over-stressing of an airframe was a relatively rare occurrence, FBW allows the flight regime to be stretched to the limit on every occasion. Preventing this calls for extremely complex control laws to be built into the software driving the FBW processor. Look no further than what happened to the JAS39 Gripen prototype to see what faulty software control laws can do!

PRAKASH KAPADIA

TE(M)

You Can If You Think You Can

To start the discussion, I would like to narrate a short story of Mr. Edwin Barnes. He was a gentleman who wanted to work as a business associate of the great inventor Mr. Thomas Alva Edison. He was nothing but a perfect tramp, with no qualifications, no experience, no background, but still he thought himself fit to be in a position which anybody else wouldn't have dreamt of. But he believed in his ideas, he was firmly committed to his thoughts and he knew that 'Where there is a will, there is a way'. Needless to say he did achieve his goal!

The moral of the above story is that success depends on how badly you want it. It is rightly said that probably the greatest discovery in the history of mankind was that of the power of his thoughts. If a certain idea is registered in one's mind and one's subconscious mind accepts it, the brain automatically starts working on it. The idea may sound irrational, impossible or even ridiculous. But thinking of an idea, with a certain state of mind so that it becomes an obsession, and then planning definite ways and means to acquire one's goal which does not recognise failure, will surely bring success.

One more example is of the famous Ford V-8 motor. Henry Ford had directed his engineers to build an engine with all eight cylinders cast in one block. On paper the design was ready, but none of the engineers agreed to the practical existence of the engine. But Ford said "Produce it anyway. Go on and stay on the job until you succeed, no matter how much time you take." Well the engineers did continue their research and they did succeed. Ford's dream did become a reality. Ford could visualise something which his peers could not. He had faith in his beliefs and was confident of his ideas. He knew that success comes only to those who are success-conscious. These are the virtues which made Henry Ford, Henry Ford.

To revise the 'fundas' of success or failure one must always remember that, "No one is ever defeated until defeat has been accepted as a reality". A major problem arises because of man's familiarity with the word 'impossible'. It has been observed that the common man has his outlook bound by certain false notions that categorise his ideas as possible or impossible. Maintain a spirit of open-mindedness. If you are sure of your ideas you can be sure of their possibility and history is witness to this. It should be well remembered "Whatever the mind of a man can conceive, and believe, it can Achieve". Thus a conclusion can be drawn that we are the masters of our fates, and we only need to think, desire and act accordingly to be successful.

Parag Damle
(TE-E)

Happiness

A farmer had just finished his work and was settling down to have his meal. For him, just the thought of taking food was itself very refreshing after toiling hard the whole day in the fields. Just as he was about to put the first morsel in his mouth, a trembling voice uttered, "Brother, I am very hungry, could I have something to eat?" The quiver in the voice immediately made the farmer to look up. There stood a grief-stricken man clad shabbily. The sulky face of the man revealed his hunger more evidently than anything. The farmer gave away all his food to the man, drank water and started walking towards his field again. A surprised passer-by who was observing all this, asked the farmer, "You were also very hungry, then what did you gain by losing your food?" With a glimmer in his eyes, the farmer replied, "happiness".

But what is happiness? And how does it come to us?

Happiness in this world, when it comes, comes incidentally. Make it the object of your pursuit and it leads us to a wild goose chase and is never attained. In other words, happiness is the inevitable product of unselfish living. When self is forgotten in the service of others, happiness is discovered in the most unlikely places. It awaits us at every turn of the road when we make the road much easier for others. It must never be forgotten that happiness is a state of mind. It is not something outside of ourselves. It is not a robe to be donned or discarded in response to our whims. It is not a gem to be purchased, whatever price we are willing to pay. If it is not in our heart, it is nowhere, no matter how long and how honestly it is sought. There can be no enduring happiness unless love is the ruling motive of life. The man whose daily life is an expression of his love for his fellowmen is the man who has found the secret of true happiness. It is often said, "Of all the forms of caution, being miserly in love is most fatal to true happiness. It is that inner peace of mind that always comes to those whose object of life is to bring happiness to others!"

- Manisha Singhal
Lecturer (Elect. Engg. Dept.)

TREK TREATS

Not very far from the hustle-bustle of the metropolises are situated the sprawling Sahyadris. Tall, majestic, rugged and awe-inspiring. Numerous forts and temples add to their charm. We living in Bombay are blessed by their proximity. Easily accessible by road and rail, they are within the reach of any enthusiast who wishes to luxuriate in nature before returning to the tedium of city life.



This in ancient times was a strategic pass-Toll was collected, and hence the name Naneghat; 'Nane' in Marathi meaning coin. It is easy to climb and provides good accommodation (a sheltered place to stay, usually a cave or temple). Naneghat has a good cave cut into the rock and water is no problem. The best time to go there is in the monsoon. You literally walk through ankle deep water on the final climb, right to the top.

I don't know what exactly made me go trekking. Maybe it was the descriptions my sister used to give me after each trek she undertook or maybe it was the pure, "If-she-can-I-can-too" feeling. Anyway I went to my first trek and I was hooked. To say that I physically enjoyed my experience would be stretching the truth, because my legs pained like hell for the next few days. But then no pains, no gains. And what gains! The scenery was just fantastic. A forest cover so thick that even rain drops did not reach the lushly carpeted forest floor, waterfalls, rainshowers and foggy woods (The 'KAHIN DEEP JALE, KAHIN DIL' type) and more than anything the infinite peace of mind when you reach your destination. I was sore in body but in mind I could take on a Sigmund Freud. It was here that I finally understood the axiom 'Mind over Matter'. In every trek comes a point when you feel like saying Stop!! (With a capital 's') Overcome this, and you have reached the top.

Naneghat is easily accessible. Take a bus from Kalyan station to Vaishakhare. Any bus going through the Malshej Ghat will do. Walk along the road till you come to a milestone saying "Otur, 54km" on your right. At this point get off the road into the bordering scrubland. You can easily see the sheer cliff of Naneghat from this location. A broad path leads right upto the base. You cross two or three streams on the way. The final climb is paved with small stones. The cave is at the base of the cliff. An ancient track leads you to the adjacent plateau and the top of the cliff. The fort of Jivdan is nearby. The cliff summit offers an excellent view of the sunset. Naneghat is an ideal place I would recommend for the neophyte.

HARISHCHANDRAGAD:

This towering sentinel is one of the mightiest forts in the region. It too lies in the Malshej Ghat region, about 2 hrs. further from Naneghat, by S.T. The fort does not actually have any walls standing. On the top is an ancient temple and four caves which are your housing and boarding. The temple is the abode of a neo-spiritual sadhu who speaks decent English and forbids alcohol, Non-veg. food and firearms on the fort. Just adjacent to the temple is a half-submerged 'SHIVLING' in another cave. Just two km. NW is the famous 'Konkan Kada'. It is a huge semi-circular rock wall which drops about 400 mts. into the Konkan and is an awesome sight. Another place worth seeing is the Taramati Point and the Balekilla or the citadel.

From the Malshej Ghat this fort is easy to approach. Get down at Khubi and take the bifurcation to Khireshwar which is where the rough bit starts. A modestly steep incline goes up a forested gully to a place called 'Tolar Khind'. A rock face is overcome by railings driven into the wall and you are on the top... well almost. Then begins a sort of a monotonous trek where you climb up and down about 7 hillocks. Then suddenly you see the temple lying some distance below you and your fatigue disappears.

A word of caution: as far as possible don't attempt this fort in the monsoon. The climb to Tolar Khind and the rock face can be very treacherous. By any standards, Harishchandragad is a tough and gruelling trek so fitness and stamina is a must (not to mention enthusiasm). Next time you think of roughing it out in the countryside give Harishchandra gadh a try and reap the trekkers real dividend-sheer fun!!

Trekking is like a drug. Say yes to it the first time, say yes every time. For all those who trek and for those to-be trekkers (supposedly enthused by my article!) here is a short list of do's and don'ts which I hope you will find helpful.

1. Plan your trek well. Gather as much information of the place you intend to visit. Always leave behind at home the details of the routes you intend to follow in case of an emergency. Books like 'Trek the Sahyadris' by Harish Kapadia are very informative on the subject.

2. Good company and like-minded trekkers keep the atmosphere congenial enhancing the pleasure of trekking.

3. Trekking aids :a modern rucksack, a sturdy pair of shoes and proper clothing make a trek more enjoyable. The hills provide enough challenges and for star-gazers, the sky is beautifully clear at night and binoculars would be very helpful. They can also be used for bird watching (the flying type). Carry a means of identification along with you.

4. As far as fitness goes average fitness and a lot of enthu helps.

5. Climb slowly and steadily and take rest regularly. Our aim is not just to reach the top or to reach quickly but also to enjoy the walk itself.

6. Keep a diary of every trek. Photographs go a long way in recalling the fond memories of a trek.

For all those whose appetite has been suitably whetted here are two places which are my personal favourites.

NANEGHAT:

Different Strokes

A rather well-known artist of his time, or so the story goes, having completed his latest canvas, asked his house-maid to have it delivered to the city's most prestigious art gallery. The next day most of the leading newspapers carried in their art's section, 'critical appraisal' of the revolutionary and pathbreaking 'work' of the maestro. His bold strokes, said critics, take us away from the mundane world (that most of us 'lesser mortals' are pre-destined to rut in) to forgotten territories where time loses its relevance and past and present merge into future. The contrapuntal images, they said, clearly reflect the inner conflict within the artist. According to them, even if it was tempting to bracket the brilliant fresco as a stunning example of realism as there ever was, the unburdening of senses in so effusive a manner, meant that the outcome was at the same time both analytical and intuitive, explicit and confusing, thereby leaving it open to several interpretations. All in all they averred that it was a transcendental experience, forcing the viewer through a wide gamut of emotions. The artist, as goes without saying, was elated. Later he deigned to visit the gallery when it was thrown open to the 'hoi polloi'. In came the maestro, chomping on a cigar and signing away autographs with élan. Imagine his shock on seeing before himself, not the painting that was supposed to be there, but the adjacent canvas he had used to try out various colour combinations. The 'painting' over which the critics had gone gaga was nothing but incoherent, insensible splashing of various colours. The artist, informed sources insist, stopped wasting time on painting and all such trivial things. In future whenever he received a multimillion dollar contract from an avant garde art gallery he supplied a canvas and gallons of colours to his eight year old son! I leave it to the discerning readers to decide whether the story is true or apocryphal. What cannot be denied, however, is that the increasingly elitist world of modern art (which to my mind includes abstractism, surrealism, cubism and any other 'isms' that men with over-fertile imaginations can conjure) is ruled by a group of know-all critics whose very existence is based on the premise that the world is made up of, on the one hand, this enlightened few and on the other billions of us not-so-lucky ones. The burden of educating us and performing the herculean task of lifting us from the morass of plebeianism that we have sunk in, rests on them. Most of us uncultured louts, they insist, are so devoid of any aesthetic sense as to make us utterly incapable of comprehending the subtleties, the nuances and the underlying emotional undercurrents gnawing at the hearts of tortured geniuses, much in the same way as our abject failure to understand the marvels of modern science viz.- The super computers, the satellites, the ballistic missiles etc. There is a vital difference although. All the above mentioned things FUNCTION. And although

a layman may not understand anything about their working, he can see the results. The satellite enables him to see live a baseball match in Toronto or a beauty pageant in Manila, the computer does in seconds, a work that took him days to complete and a jet takes him to places at speeds faster than sound. The same, unfortunately cannot be said about the canvases with blotches of colour on them. We must believe in their special powers, the 'unique experiences', the 'unburdening of senses', the 'glorification of mental freedom' and all such assorted mumbo-jumbo, because critics insist that **THEY EXPERIENCE ALL THESE THINGS!!!** Rather like an aeroplane by which they alone can travel or a supercomputer which they alone can use, I must say. And in order that their claims do not ring hollow, they inundate our minds with high sounding bombastic language. Thus, if I mix up cool and warm colour schemes, I flunk in drawing, but if M.F.Hussain does it, it is a 'breathtaking juxtaposition of Straussian oppositions'. If I pour half a dozen colour bottles on a canvas, I have wasted both the canvas and the colours, but done by Picasso, it represents 'symphonies of silence in the interstices of his forceful strokes' or perhaps viewed from a holistic perspective, his ability to 'confront the many-sided truth, with a rare clarity of vision'. In the same way we also have 'yearnings of a trapped soul', 'profound self-absorptions', 'panoply of panoramic profligacy' etc. the list is endless. Just as these critics fall over each other to heap encomiums on all that is obscure and 'ununderstandable', they are united in derogating with utter disdain what we find beautiful and realistic. Thus the likes of Raja Ravi Verma (arguably one of the greatest artist India has produced) whose stunning portraits look as if they would come alive any minute, find themselves relegated to the category of a "minor artist". The rationale being, if the masses like his work and identify with it, it cannot be so good after all.

The biggest beneficiaries of this phenomenon are the artists with excellent PR (modern art does not require any other qualification) who earn fabulous commissions by devoting a tiny fraction of their time (that too if they are childless) and ofcourse the critics themselves who have grown in stature to become icons and are in a position to make or break reputations.

So my friends, if you are disillusioned with engineering (you are, aren't you) remember, there is a bright alternative career begging to be taken up. If you don't find a degree in engineering lucrative enough, greener pastures are beckoning. After all engineering has already acquainted you with concepts such as abstractism and obscurantism.

KEDAR NIGUDKAR
B.E.(Mech)

Again..... !!

I gazed in a hypnotic trance at those mind boggling figures and those well rounded curves Hold it guys I wasn't gazing into the eyes of the most beautiful girl in S.P.C.E and saying "Your eyes are like limpid pools". I was simply trying to figure out the concepts of Applied Hydraulics when a class mate dragged himself into the Reading-Room and slumped into the chair next to me.

A bleary look in his eye told me it was probably a night long GT maro session or a late night "Ghasugiri" session but I could have been wrong.

"It's all over" he mumbled.

"Yeah! I know " I replied softly as I conjured up images of this poor soul slugging with voluminous tonnes trying to get his fundas right. But when you spend the semester freaking out on... He! He! well you know what...the outcome is not entirely unpredictable

Well to get on with the tale...

"It was a total rout "

As I followed the bead of sweat that rode down his forehead as imperiously as an Aishwarya Rai cavalcade only to be mopped up by a sloppy twist of a tired wrist, I could imagine him feeling totally lost in the *cul-de-sac* of Civil engineering. He must have simply lost his bearings (magnetic as well as directional). Perhaps he had believed in the saying:

*"The height of man was not achieved in a single flight,
When others were sleeping, they were toiling upward in the night"*

But alas his late night "Ghasugin" had left him physically

and emotionally drained as a high permeability C- ϕ soil in the lateritic belt of the Konkan region (Got it!)

" Even the most reliable of chaps failed".

Aha! I got it, test papers were being given out and this Anu Malik of our class (a copy cat that is) copied the problems from the bigwig to learn that Mr. Bigwig was as funda-gol as he was and that all answers were wrong. I tried to console him....

" Yaar! It's ok! These things don't mean a damn. There will always be another".

" There is no hope in this world. We are a bunch of good for nothing chaps "

That was enough! I spoke in a firm manner "Look here I don't care a thing about what you are saying. I am least bothered about what ails you and now shut up! (strong words I imagine)

"What?" He blurted out in a grief stricken tone that soon increased in pitch and timbre to an admonish. " You just sit there you slob! What do you know whats happening around? All you can do is pour over text books" (Me! Pour over text books! And I thought I was being inundated with a 'hajar' things) " What do you care about the plight of thousands of Indians who suffer in silence, who try to put up a brave front when confronted with this ghastly news".

Bang! Gash! Thud!..... Its okay that's not me being pulverised, but the chair doing cart wheels on the floor as he stormed out of the Reading Room with my bewildered gaze escorting him to the door. A kind soul seated near by had to inform me that we had lost yet another match in Sharjah to Pakistan.

Anand Bhatia (TE-C)

The cabinet minister was on his deathbed and the priest was administering the last rites.

"Do you renounce the devil and all his works ", he asked.

"Look here ", said the cabinet minister, "I've always been one for compromise rather than confrontation. Couldn't we achieve some measure of consensus instead?"

Kennedy goes to God and says: "Tell me, God, how many years before my people will be happy?"

"Fifty years," God replies.

Kennedy weeps and leaves.

De Gaulle comes to God and asks: "Tell me, God, how many years before my people are happy?"

"A hundred years," replies God.

De Gaulle weeps and leaves.

Khrushchev comes to God and says, "Tell me, God, how many years before my people will be happy?"

God weeps and leaves.

Eisenhower: "I'm a little worried about the tension in Berlin, John."

Dulles (alarmed): "Why? Is it relaxing?"

Hungary's interior minister calls the head of state.

"Thieves have broken into the ministry this evening."

"Have they stolen something?"

"Alas, yes. All the results of the next elections."

ALL ABOUT SCAMS

In the 21st century scams and corruption may become a fashion. To be merely involved in a scam will become a cause to feel proud about. In such circumstances, it is just possible that a commission under the leadership of Hershesh Mehta be constituted and may submit its report as follows:

RECOMMENDATIONS OF HERSHESH COMMISSION HEADED BY HERSHESH MEHTA THE BIG BULL

A) 1) All persons irrespective of caste/colour/creed/religion involved in scams and corruption cases above Rs. 10 crores should not be prosecuted in any court of law. They should be considered above the law.

However in view of the Mandal commissions report, the limit in case of citizens belonging to the SC/ST/DNT/OBC should be lowered to Rs.5 crores.

2) A general title, 'Big Scamster' should be conferred on all persons mentioned above.

B) AWARDS AND CONCESSIONS FOR SCAMSTERS

1) Every year, the people involved in the biggest scam should be honoured on Republic Day and should be conferred the title 'Bharat ka ratna'

2) Other such suitable awards and prizes should be instituted for successful scamsters.

3) Nationalised banks should give preference to scamsters in giving loans. Preferably a separate bank only for scamsters should be established to enable them to carry out their operations smoothly.

4) Talking against people involved in scams is foolish and should be strictly prohibited under the law. Such fools should be severely punished.

5) All individuals irrespective of caste/colour/creed/religion not involved in scams should be severely condemned. These inept people are a shame to our country.

C) SPECIAL COMMISSION

1) A minority commission should be formed to look into the grievances of the minorities. The commission should study and take suitable remedial action if they are found to

be lagging in major scams.

D) ESTABLISHMENT OF A SPECIAL UNIVERSITY

1) A special 'UNIVERSITY OF SCAMS' with all ultra modern facilities should be established to teach the students all about scams, in particular, how to engineer a scam successfully.

2) Preference in key govt. ministries such as finance and commerce should be given to people involved in big scams and who have graduated from the 'UNIVERSITY OF SCAMS.'

3) The foreign minister's post should be exclusively filled by a graduate of the 'UNIVERSITY OF SCAMS'. Those with B.Tech (scam engineers degree) must be preferred. This will help him to engineer scams in other countries too.

Finally a 3 point programme to encourage people to get involved into major scams should be implemented and is as follows:

1) A subject on scams should be made a part of formal education of every child.

2) National Media like Doordarshan should be used to telecast programmes on scams with a view to encourage people. Preferably a separate channel should be dedicated for this purpose

3) Special attention should be given to women as they are lagging in involvement in major scams. This will be helpful in the long term as children will grow up in an atmosphere of scams.

CONCLUSION

On following up the above recommendations and programmes, India will gain fame as the land of expert scamsters. Experts in scams can be deputed to foreign firms to assist them to engineer major scams in their countries. Also foreign countries will be interested in sponsoring their secret agents to the 'UNIVERSITY OF SCAMS' to learn more about scams and methods to curb it. Apart from getting more foreign exchange, these policies will make our bilateral relations with other countries stronger.

VIJAY NICHOLAS (SE-M)

Three Bulgarian crocodiles were lying on the river bank sunning themselves. "I'm hungry", said one. "I could just do with a nice young child".

"I'm hungry too", said the second. "I rather fancy a nice young lady". The third croc. grunted, opened one eye and said: "I'll settle for a top Party official".

"Why?"

"Nice and fat, and no backbone".

Picasso is summoned by the Nazi commandant of Paris who shows him a reproduction of his famous painting of Guernica's destruction by German bombers in the Spanish Civil war. "Did you do that?" the commandant asks the artist in a menacing tone.

"No", replies Picasso. "You did".

Changing Scenario of the Automobile Industry

The economy of any nation depends upon strong infrastructural facilities like power transportation and communication. In fact, the development of any nation can be judged by roads and facilities available. India has taken rapid strides in this arena during the last 15 years, providing effective mobility to men and materials and is ambitiously approaching further growth in the next 10 years. A study was therefore undertaken to review the growth of various sectors in the industry in the recent past. The turn of the century is only a few years away. We therefore felt it to be within the realm of reality to discuss what this near future has in store for the automobile industry in India.

The automobile industry has gone through many ups and downs during the last two decades. The Industry, right from the 70's, was struggling because of non-availability of developed technology and started looking up during the last decade while undergoing a process of metamorphosis, finally emerging during the mid-80's into a developed industry. The advent of Maruti saw the demand of cars rising and exotic two-wheeler models with up-graded technology won the hearts of the Indians. The Automobile Industry was going through a recessionary period during the years 1991-1993. The ailing industry was successfully revived by the government's Trade liberalisation policies and the globalisation of the Indian economy. India is gauged as a potential Asian market by foreign Automobile manufacturers. Thus the automobile industry flooring the accelerator of progress is now expected to compete in the World automobile scenario.

PROCEDURE :

1. QUESTIONNAIRE :

A questionnaire was distributed among 30 people from different walks of life to collect popular opinions.

2. PERSONAL INTERVIEWS :

2.1 Mr. VINOD KONDURKAR, Sales Executive-Kotak Mahindra Finance was interviewed, keeping in mind, the financial aspect of this extremely complicated topic.

2.2 Mr. RANGAM BIR, a keen enthusiast of automobiles and a regular writer for AUTO INDIA WAS ALSO CONSULTED.

2.3 The opinion of Mr. HORMAZD SORABJEE, Associate editor of AUTO INDIA was sought.

2.4 Mr. K.K. AGARWAL, Ph.D(Cambridge), Marketing controller -SM DYE CHEM was also interviewed.

2.5 Mr. S.K. MILIND, Marketing Executive of Resham Motors, Chembur, was also consulted.

2.6 Mr. RANJAN KUMAR, Statistical Executive-AIAM

was also interviewed.

3. REFERENCE FROM EARLIER PUBLISHED DATA

Excerpts from auto magazines 'AUTO INDIA', 'THE TIMES OF INDIA' and publications of personal interviews of high level executives of major automobile organisations were used for collecting data and information.

AUTOMOBILE INDUSTRY STEPS INTO FORWARD GEAR

2.1 GENERAL OVERVIEW OF PRODUCTION OF VEHICLES DURING 1984-1992:

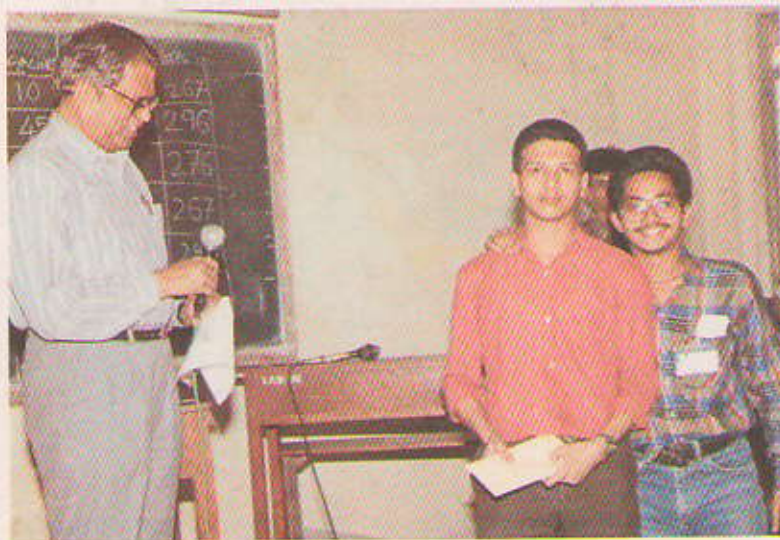
After a steady growth in the 70's, the Automobile industry witnessed a phenomenal growth at an average of 13.5% to achieve a production level of 2.5 million vehicles in 1990, from a mere million vehicles in 1983. Cars, Jeeps, Scooters and motorcycles witnessed high growth, the LCV's and 3 wheelers medium growth and mopeds witnessed lowest growth. The industry was severely jolted by recession at the beginning of this decade (Sept. 1991-1993) which saw the production going down by about half a million vehicles in just 2 years. The reasons for this recession may be quoted as :

- 1) State of economy : Indian economy was going through a rough time which discouraged potential buyers.
- 2) Indifferent attitude of government : The Janata Dal Government (1991-1993) did not make suitable reforms so as to help the Automobile Industry.

3. MAJOR CONSTRAINTS IN THE AUTOMOBILE INDUSTRY : 3.1 Major constraints in the automobile industry led to failure in the management of production of vehicles as per the growing demand on behalf of the manufacturers. Some valid reasons, as quoted by Mr. Abhay Firodia - Executive Director of AIAM (1990) are: "The passenger car continues to grow under an excise burden of 66.2 %. This extraordinary level of taxation is unparalleled anywhere in the world. Excise duty on jeeps which are advantageously used for passenger and goods transport in the frontier environment and project sites is also 65%. Jeeps and utility vehicles play a significant and essential role in a large, developing country like India, with only a rudimentary road infrastructure particularly in the interiors. Another area of concern is heavy custom duties."

3.2 Apart from these constraints, the Automobile Industry was faced by the difficulty of investment in modernisation (modernising its technology to cope with imperatives of fuel efficiency, emission control, safety, higher quality). To make products export worthy, cost of capital and building high quality infrastructure were major hindrances which further aggravated the misery of the Indian Automobile

The duet winner collects a memento for life



A "first" for SPACE - the winners of the Marathi debate with Suresh Khare



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Mohan Bhandari and Prabha Sinha



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Picking up the gauntlet-winners of the Knowing you



Principal Dr. J.V.N.Rao accepting
a floral tribute from Shubhra of F.E Civil



House full with Manhar Udhas and Dr. A Prabhavalkar
judging Dhiktana-Dhiktana



Chief Guest Shri.S.D.Limaye addressing
the Annual Day audience



Dr. R.S.Mate inaugurates SPACE accompanied
by Prof. Raul & Prof. Shah



Amateur professionals of the Annual Day Talent Nite!



The astronauts who made it happen!



STOP! SPCE hunks and beauties in the traditional catwalk to the fore

Touchdown - the unsung "Parde Ke Peeche Ke Kalakar"!



The fate of the Fashion Show being decided as one judge peers into SPACE for an answer

Manufacturers.

4. SPEEDY RECOVERY BY THE AILING AUTOMOBILE INDUSTRY

After having braced storms of recessionary years (1990-91 to 1992-93) an encouraging Government policy and the advent of finance companies pulled the automobile industry back from recession.

A response feature written by General Manager, Finance, Mahindra & Mahindra Finance Services Limited brought into limelight the factors responsible for putting the industry on the right track.

4.1 RELIEF IN EXCISE & CUSTOMS DUTY:

The excise cuts introduced by the Government in the budget for the year 1993-1994 gave a boost to the automobile industry. The duty was reduced from 55% to 40% for passenger cars.

4.1 (a) IMPACT ON SALES - As a result of this, market for automobiles has shot up by 19% for the year 1993-1994 indicating speedy recovery for this recession-ridden industry. Sale of cars increased by 31%, Four wheelers by 23%, three wheelers by 28% and two wheelers by 18%.

4.2 ROLE OF AUTO FINANCE COMPANIES:

It is widely believed that Finance Companies and Banks providing car finance pulled the Automobile Industry out of trouble. Nearly 95% of people to whom we distributed the questionnaires were of this opinion. It were these finance companies who started offering Indians a means to own these vehicles by way of hire-purchase. Companies offer vehicles as perks to get people to work for them. The number of companies offering their version of Hire Purchase/Lease naturally went up.

4.2 (a) IMPACT ON SALES

An estimated 45 to 50% of vehicles were sold by means of finance companies.

4.3 LIBERALISATION OF INDIAN ECONOMY

Another factor which increased the demand of two wheelers is the liberalisation of Indian Economy. The economy is moving towards capitalism thus leading to an expanding business class and a rising standard of living. Entry of multinational companies in all fields from consumer items to infrastructural industry such as power and telecom will lead to hiked wages in India.

4.4 DELICENSING OF PASSENGER CARS

Finally, the Government of India has delicensed passenger car manufacturers. After more than 4 years of Licence that stifled the growth of the indigenous automobile industry, foreign collaborators will be entering the market with a wide range of choices, along with upgraded technology.

5. LIKELY IMPACT OF THESE (LIBERALISED) POLICY DECISIONS

Four things are likely to happen now:-

- * First, foreign companies that have long been waiting in the wings may decide to set up car export plants in free trade zones, with capacities as large as half a million as has been done in southeast Asian and Latin American countries.

- * Second, some of these foreign collaborators already committed to Indian LCV makers may diversify into the domestic car sector

- * Third, French microcar-style four-seaters requiring very small car assembly plants may be set up by enterprising NRIs (young Indian technologists/professionals) And, lastly, large business houses, influential NRIs and existing automobile giants may enter the low-priced, small-car sector. Each of these moves will have a consequence of its own. The new, small, low-priced cars may command a total annual market of half-a-million, provided they are fuel efficient and give 20 to 30 kpl of petrol or diesel (30 to 49 kpl in test results). They will also provide larger volumes to India's regenerating auto components sector. We should soon witness a great multiple effect within the automobile industry, with the promotion of new skills, larger incomes, Government revenues and employment.

6. PRESENT SCENE IN THE AUTOMOBILE INDUSTRY:

6.1 NEW ENTRANTS IN THE MARKET: "Cielo is coming to India", "Mercedes Benz to make an impact in the Indian Auto scene" etc. These cars of foreign origin are to be assembled in India with the collaboration of India's leading car manufacturers with major international players like Mercedes, Ford, VW General Motors, Peugeot, etc.

6.2 POTENTIAL MARKET SEGMENT PRESENTLY: Leaving the cars which are yet to make their presence felt, we focus on the cars, jeeps, Light Commercial Vehicles presently existing in the market. According to the opinions based on the questionnaires, the most dominant car in the Indian Automobile scene is undoubtedly the Maruti 800. This confirms the fact that the market in India, for small cars is broad enough to woo foreign collaboration. TELCO, the Indian indigenous vehicle manufacturer plans to unveil a small car somewhere around 1997. Utility vehicles may continue along their path of progress.

6.3 COMPETITIVENESS AND CONSUMER SATISFACTION. With the advent of new cars with superior technology, the Indian domestic market is overwhelmed. The main reasons for attraction to these new cars as obtained from the opinions expressed in the questionnaires are:

6.3.1 Superiority in each and every field right from the light systems to the engines.

6.3.2. Elite and upper middle class consider it as a status symbol to travel in such cars.

6.3.3. Fuel efficiency Talking about fuel efficiency, even

Indian manufacturers are now paying more attention to fuel efficient vehicles and promoting a greener environment. The talk of the day is about unleaded petrol which is available at 135 petrol pumps in Bombay from April 1, 1995. The collaborations have brought cars along with competition in the Indian Automobile Industry. This is mainly due to the globalisation of the Indian Automobile market. In order to survive this raging competition, the Automobile manufacturers will give predominance to the policy of consumer satisfaction bearing the motto "The Consumer is the king". With so many models to choose from, the buyer will enjoy the luxury of comparing cars in terms of appearance, price and, of course performance.

6.4 FACTORS WHICH RULE THE SURVIVABILITY OF AUTO MANUFACTURERS

6.4.1 PRICE: A car placed in the 2-3 lakhs segment will generate more demand, as now a car is no longer seen as a luxury item, but it is perceived as a necessity. Hence Maruti Udyog Ltd., will enjoy a cost advantage over all others, atleast in the short run.

6.4.2. QUALITY: Some of the newcomers will use quality as a weapon. Both Mercedes and Volkswagon are expected to stress the quality of their cars, which are renowned for their engineering excellence. The emphasis on quality could embarrass Maruti Udyog.

6.4.3. SPEED: The firm which will adequately maintain the supply for the demand will have an edge over the other manufacturers.

6.4.4. COMMITMENT : The new player's chances of survival can also be measured by their commitment to the Indian Market which in turn may be gauged by indigenization levels they attain.

7. ENVISAGING THE FUTURE OF THE AUTOMOBILE INDUSTRY:

* The automobile industry will see sales of vehicles rising from an estimated 2.4 million in 1994-1995 to 4.2 million in 2000-2001.

* Vehicle population is set to be around 49 million vehicles at the end of the century.

* The concept of eco-friendly cars is bound to become a reality in the near future. The industry will turn out ultralow emission vehicles by the year 2001 to promote a cleaner and greener environment.

* India will see several new passenger cars, new engines, new two & three wheeler technologies. The export of vehicles and components will surge. There will be a noticeable boost in R & D efforts towards new fuels, new materials etc. With the entry of new products and technologies India is now poised to be a major player in the world automobile scenario.

8. **CONCLUSION:** As a consequence of an indepth

research based report, we conclude the following facts:

1) The automobile industry witnessed significant expansion both quantitatively and qualitatively.

2) In the past few years, the Indian automobile market has seen a drastic change from basically a seller's market to a buyer's market.

3) A wide range of choice of vehicles was thrown open to the consumer to suit his requirements.

4) Govt's. trade policy liberalisation decisions and timely help offered by the Auto Finance companies brought the Indian automobile industry on the fast track of success.

9. VALUABLE SUGGESTIONS:

9.1 EARNING FOREIGN EXCHANGE:-

A substantial domestic manufacturing base is essential for the Automobile Industry to project its power beyond national borders as was suggested by Mr. Abhay Firodia, an executive of Kinetic Engineering.

9.2 INFRASTRUCTURAL UPGRADATION

According to a rough estimate about Rs. 15000 crores wasted annually by way of wastage of fuel owing to poor quality of roads and bridges which constitute the network of an efficient communication by transportation should be improved. An estimated 27 lakh Kms. of road length are required, but only 20 lakh km. road length exists constituting a majority of poor quality roads.

9.3 PROMOTING INDIGENISATION :

Rather than depending upon foreign collaborators, Indian manufacturers should go for complete indigenisation following the example of TELCO, which is the most successful automobile company in India.

9.4 UPGRADATION OF TECHNOLOGY :

A number of policy initiatives are therefore necessary to improve the technology, productivity, competitiveness and quality of the Automobile Industry. To achieve both, the internal objectives of producing high quality, fuel efficient, environment friendly and safe vehicles in keeping with the current international standards, and also the external objective of becoming a foreign exchange surplus industry capable of exporting in the highly competitive global market place, a national policy consensus on the Automobile Industry and, with it, for the component Industry is thus called for.

Compiled by

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INCREASING DEPICTION OF VIOLENCE IN INDIAN CINEMA....

Cinema is the most powerful medium of audio-visual mass communication. With a mind boggling output of over 800 films per year, cinema has almost come to be accepted as a part of the cultural ethos of the people in India. The year 1995 is historic as the Indian film industry completes its 100 years of existence. Bollywood (Hindi film industry) forms a major part of Indian cinema. Right from the first film "RAJA HARISHCHANDRA" upto the recent hit "HUM AAPKE HAIN KAUN" hindi films have undergone a sea-change. Shades of emotions such as love, anger and vengeance have been portrayed in the films right from the beginning. The depiction of anger and frustration in the form of violence has been the key factor which our film makers have used in their films. The depiction of violence in films has changed drastically over the years. The late 60's saw violence being depicted in a subtle way with not much intensity in it. The late 70 's saw it being depicted in a far more intense manner. But the 90 's saw violence being revolutionised with the usage of lethal weapons such as AK47's and bombs.

This report presents the reasons and the facts as to why violence in films has become so brutal that one has to think twice before going to see any film. It also discusses remedies for the problem.

METHODS OF COLLECTING DATA :

1. QUESTIONNAIRES :

A set of 30 questionnaires were distributed amongst a cross-section of society to obtain statistical data.

2. INTERVIEWS :

2.1 Telephonic interviews of the popular cine-stars Mr.Dev Anand and Mr.Vikram Gokhale were taken.

2.2 A personal interview of the manager and the door-keeper of "Satyam" was conducted.

3. REFERENCE :

Detailed information for the report was obtained from film-magazines, newspapers and periodicals like "The Sunday Observer" & "CSR".

FACTS :

1. INFLUENCE OF VIOLENCE ON CHILDREN AND TEENAGERS : It was found that a majority (80 %) of respondents in the age group 30 and above felt that the increasing depiction of violence in Hindi movies had a negative effect on the minds of the children and teenagers. The respondents opined that viewing of excessive

violence makes the teenagers and children, who are the most vulnerable in any society, short-tempered and impatient because of which they try to get everything they want, by terrorising people and do not think twice before using violent means. It was also felt that the language as well as the general attitude of the children gets distorted because of viewing excessive violence. As one housewife Mrs. Modi pointed out that we often hear kids, two and three years of age, saying, "I will hit you" and "I will kill you". These sentences are not spoken at home and it is obvious that they have learnt these from the violence-laden Hindi movies. Mr.R.V.Shah, a respondent noted that after seeing their favourite film-stars with guns and bombs and acting as superheroes children love to imitate them in their daily playful activities and nowadays they also prefer playing with real-life video-games which destroy their creativity. He felt that the parents are unable to check their children, considering their pranks to be momentary but they fail to assess that their carelessness may lead the child towards self-destruction.

Another respondent Mrs. Daswani felt that the depiction of police being hand in glove with anti-social elements and viewing of third degree violence resorted to by the police in hindi films creates a negative image of the police. A fear of the police was created in the minds of small children which she felt was very harmful for the society and the nation. However there were a few (3%) respondents who felt that the violence shown in films was not completely unjustified, as Mr. Gandhi said that the violence shown in films makes the teenagers aware of the kind of society in which we live and brings them closer to the reality. He also felt that violence, seen upto some extent, makes children brave and courageous and therefore a better citizen of our society. However, according to the report, there is a general consensus that excessive violence in Hindi films has a negative effect on the youth

2. OPINION OF MIDDLE-AGED PEOPLE ABOUT VIOLENCE SHOWN IN FILMS

Ms Mandeep Kaur in her essay in "CSR" opines that the censor board of Indian cinema seems to have forgotten its duty. It witnesses the excessive violence but does nothing to control it. It has also been alleged that the underworld influences the decisions of the censor-board. Mr.S.K.Adhikari (age 42) opined that the hero's character is deteriorating and is neither that of Ram or Ravan but that of a person who fights his own battle for survival in a cruel world, out to destroy him mentally and physically. He also opined that today's

man prefers a Sunil Shetty (as in Mohra) than an Aamir Khan (as in Hum Hain Rahi Pyar Ke) as he feels that in the modern world a muscle man is needed to tackle a problem rather than a hero with a chocolate-boy image who would take a longer time to set things right. The hero has literally become an anti-hero who can kill if it comes to that (Shah Rukh Khan in Baazigar) a muscled youth who turns out to be a terrorist (Sunjay Dutt in Khalnayak) and a deranged lover (Shah Rukh Khan in Anjaam). Nowadays violence is not only restricted to the heroes but has spread to heroines who are depicted as vindictive killing machines. Films like "Khoon bharimaang" & "Zakhmi Aurat" have portrayed women being possessed by the desire for bloody revenge. Even the villains have changed their stereo-typed roles and appear as cruel, blood-sucking, violent men obsessed with a kind of madness. From the polished styles of Pran whose only job was to keep the hero and heroine apart till the last reel, the face of today's villain has changed altogether - it has turned into that of a vicious and blood thirsty human who thinks of nothing but hacking people to death with the butcher's knife or pushing them under speeding trains (or even throwing them as food to dangerous reptiles). Even the child-artists have not been spared and have been shown carrying out acts of violence. The door-keeper who was interviewed at the "Satyam" theatre added that whenever a violent sequence was being shown, the crowd was glued to their seats and watched the scene with considerable interest whereas when a comedy scene or a song sequence was on, people preferred to go out and get refreshments.

CONCLUSION :

A well made film like "Kabhi haan kabhi naa" took three years to release because of the unwillingness of the distributors to accept it as it lacked violence (unwarranted or otherwise). But there is still a ray of hope from movies such as "Hum aapke hain kaun" and "Dil hai ke maanta nahin" which scored a great success in the box-office. But even then violence has become an unseparable part of our life, by affecting the minds of the children and teenagers.

It is unfortunate that today's film-makers who hold such a powerful medium of communication in their hands, lack social commitment and without such commitment the medium is slowly degenerating into a means of cheap entertainment which seeks to gratify the sensual desires of the viewers rather than make them ponder upon over the problems of the society.

RECOMMENDATIONS :

1. Censorship

The censor board of Indian cinema witnesses the excessive violence in films but does nothing to control it. It should object not only to the kisses shown in films but to the mindless usage of weapons too. Rules should be altered so that there are at least 50% women members on the censor board and the censor board should be given more powers making it more effective and as Mr. Dev Anand pointed out films should be classified according to different categories like General Viewing, Parental Guidance, Adult Viewing, Teenage Viewing etc. A NON-GOVERNMENTAL ORGANISATION (NGO) should be appointed to censor the film along with the existing censor board. Not only the films but the posters displaying excessive violence should be censored.

2. SELF-CENSORSHIP

The producers should have some sense of morality and responsibility towards the society and refrain from displaying brutal violence and even if such films are made they should be boycotted by the society. The Social Workers and NGO should ask the cable operators not to show such films and the video cassette library owners should not hand over such cassettes to children.

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Harshad S
Bhumil S
Dipen S

A few facts that are not so : or Subbu's believe it or not !

FRANKENSTEIN: A common misconception is that the name of the monster in Mary Shelley's book "Frankenstien" or "The modern Prometheus", is Frankenstein. Frankenstein is however not the name of the monster, but the name of the person who created it.

SAMSON & DELILAH: It may be hard to believe, but Delilah was not the person who removed Samson's locks by whatever means. According to the Bible, Delilah made Samson

"sleep upon her knees; and she called for a man and caused him to shave off the seven locks of his head" Actually Samson succumbed because Delilah nagged him until his "soul was vexed to death."

SIGNING OF THE MAGNA CARTA: The event which so many hail as the first step in English democracy did not take place. The Magna Carta was not signed; it is even a matter of considerable doubt whether King John could write! It was however sealed.

A REPORT ON SEMINAR ON IMPORTANCE OF PEDAGOGICAL TRAINING FOR TECHNICAL TEACHERS

Our college had organised and conducted an All India seminar on 'Importance of Pedagogical Training for Technical Teachers' on 25th January 1995. Principal Dr. J.V.N.Rao acted as the co-ordinator of the seminar. The following is a brief resume of the proceedings.

The purpose of organising the seminar was to deliberate and recommend to the decision-making authorities, a suitable methodology for imparting pedagogical training for fresh engineering graduates who are recruited as lecturers in most of the engineering colleges so as to arrest the deterioration in the quality of technical education. Prof. Dr.R.S.Ayyar-Retired Professor of Civil Engineering, I.I.T Bombay, in his inaugural address cautioned that unless we take steps to improve the quality of teaching in technical institutes, we will be producing unemployable personnel in large numbers increasing the suffering of the masses. Prof.S.DKhare-Deputy Director of Technical Education assured the participants of all support from the Directorate of Technical Education for the recommendations emerging out of the deliberations of the seminar for improving the quality of technical education. Prof.S.M.Parekh, Jt. Director of

Education delivering the Presidential address hoped that the seminar will come out with practical recommendations for improving the quality of technical education.

The seminar was divided into two sessions. The first on "THE IMPORTANCE OF PEDAGOGICAL TRAINING FOR TECHNICAL TEACHERS" was chaired by Dr.R.S.Ayyar. Dr.S.S.Padhye Principal, K.J.Somaiya college of Engineering, Bombay, was the rapporteur for the session. Eight papers were presented in this session. The second session on "Design of Suitable Pedagogical training for Technical Teachers" was chaired by Dr.S.Krishna Murthy, Professor of Mech.Engg.V.J.T.I., Bombay. Prof.Kranti Kumar, Principal, Thadomal Shahani college of engineering was the rapporteur for the session. Ten papers were presented in this session.

At the end of both the sessions, the recommendations emerging out of various papers presented were summarized by Dr.Krishna Murthy and were unanimously approved by the participants. Forty five participants from various institutes in India attended the seminar. The seminar concluded with a vote of thanks by Prof. Dr.J.V.N.Rao, Principal of S.P.C.E.

REPORT ON SEMINAR ON RECENT DEVELOPMENTS IN REFRIGERATION AND AIR-CONDITIONING ENGINEERING

A seminar on Recent Developments in Refrigeration and Air-conditioning Engineering was organised on 18th February 1995 by the college as part of the Tri-decennial celebrations. The following is a brief report. Air-conditioning has become an essential requirement in industry because of usage of sophisticated electronic control systems, automated machines, computers requiring controlled temperatures and humidity and for better operational efficiency of personnel. It is a common feature in residences, restaurants and cars. The recent changes in the Government's fiscal policy has opened the floodgates for multinationals. It is pertinent to ask at this stage whether our industries are ready for the imminent trends and the competition in quality and quantity against these giants? With the approaching ban on CFCs in developing countries, how well equipped are we to face this challenge?

Is industry already moving in this direction?

We invited speakers from industries and well-known companies to deliver a series of lectures on the above challenges and recent developments in refrigeration and air-conditioning in India and abroad.

Mr.S.B.Dixit, Vice-President AC&R (Manufacturing), Blue Star Ltd. Bombay inaugurated the seminar. The speakers and the topics for the first technical session were as follows:-

1) Prof. K.G.Narayankhedkar of I.I.T Bombay delivered a lecture on 'Stirling cycle refrigeration system for domestic refrigeration application'. He described prototypes being developed and presently under trial working on Stirling cycle. The unit uses a linear motor drive as against conventional crank and connecting rod mechanism. The refrigerant used is helium. The machine is compact, almost silent and almost vibration free in operation. It is possible to achieve the overall performance as 35% of Carnot which is comparable to today's vapour compression refrigerators.

2) Mr. D.Ravindra, General Manager, R&D, Blue Star Ltd, delivered a lecture on the developments in heat exchangers and compressors used in Refrigeration and Air-conditioning. He explained how use of enhanced heat transfer surfaces by providing internal fins in condensers and evaporator tubes results in compact units, saving cost and space. Use of scroll compressors instead of conventional reciprocating compressors will have a number of advantages such as higher volumetric efficiency, higher reliability, ability to handle liquid refrigerant, low noise and vibration. Desiccant cooling system which removes latent heat load in conditioned space by use of a desiccant wheel, followed by sensible heat removal by conventional mechanical refrigeration results in 50% reduction in capacity and power

consumption.

3) Dr. D.R. Bongirwar, Head, Food Engineering Services section, B.A.R.C. Bombay spoke on 'Freeze Drying of foods'. Freeze drying is a unique food preservation method that removes moisture from frozen foods without appreciably changing the shape and taste of the product. Reconstitution is accomplished by adding water. Basically, it is changing frozen foods (either cooked or uncooked) to the dry state by sublimation. This means that ice in the frozen product goes directly from solid to vapour, bypassing the liquid phase. This process takes place in a vacuum chamber at a very low pressure and with controlled input of heat. Food emerges sponge like, and the resulting voids aid in rehydration. Since only distilled water leaves the product the oils and other carriers of flavour remain. Although the technique is not new, processing innovation in recent years have lowered costs sufficiently so that now it is being considered as a food preservation method. It has been in use for many years in the medical and drug fields with blood plasma as a prime example.

The speakers and the topics for the second technical session were as follows :

1) Dr. S. Devotta, Head, Engineering Services - National Chemical Laboratory Pune, delivered a lecture on 'Alternatives to CFC's for Air-conditioning and Refrigeration'. Chlorine based chemicals like chlorofluorocarbons (CFC's) are being extensively used as refrigerants in refrigeration and air-conditioning plants. It is well known that the stratospheric ozone layer acts as a protective umbrella for the earth against the harmful ultra-violet radiation from the sun. Recent studies have indicated that there has been significant depletion of the ozone layer due to a chain reaction between the CFC's and ozone. The ozone layer depletion has become a global issue. The Montreal Protocol on curtailing the production and phasing out the use of CFC's on a global scale has been signed by more than 100 countries including India. There is a tremendous effort to develop CFC alternatives. The alternative should have zero ozone depletion potential (ODP) and low global warming potential (GWP). HCFC-134a is considered to be the most potential substitute for CFC-12 and HCFC-123 is the most promising alternative to CFC-11 used in large size refrigeration and air-conditioning plants. Attempts are being made to use other non-halocarbon refrigerants such as ammonia and hydrocarbons.

2) Mr. A.K. Sharma, Senior engineer, Engineering Training Division, Air India, spoke on 'Air-conditioning systems in Modern Jet Transport Aircraft'. Air-conditioning is necessary due to extreme temperatures in which an aircraft may be operating from day to day. Aircraft air-conditioning systems must ensure that all compartments and equipment that need to be cooled or heated are maintained at required conditions i.e. temperature, ventilation and humidity, for efficient functioning of the system. The air-conditioning system incorpo-

rates several sub-systems viz. (a) Airflow-it maintains air quality and freshness level (In typical wide-bodied aircraft, total volume of air is exchanged every two to three minutes). (b) Air cooling-The bootstrap air cycle system is used to deliver cold air. (c) Conditioned air distribution- Conditioned air is distributed to different cabin zones through side-wall diffusers (Additional conditioned air called Gasper air is supplied to individual outlets above each passenger for additional comfort) (d) Cargo compartment heating to heat the cargo. The speakers and topics for the third technical session were:-

1) Mr J.A. Patankar of Tata Consulting Engineers, Bombay gave some ideas on 'Computer room air-conditioning' for two categories of computers viz. main frame and personal computers. Temperature and humidity range of 24 degrees C and 50% RH is to be maintained.

2) Mr A.D. Solankurkar also of TCE, Bombay spoke on "Microprocessor controls for air-conditioning". Typical recent developments are microprocessor controlled packaged air-conditioners, chillers and automation and monitoring of air-conditioning systems of office buildings by microprocessors and personal computers. Computerised control of building air-conditioning system by PC's is generally a part of building automation systems (BAS). One of the great assets of microprocessor controls is the ability to save energy. Automation by computers can save energy by following means:- (a) Optimum start, stop of the chillers and air handling units according to the season. (b) Programmed shut off during lunch breaks etc. (c) Chilled water resets. (d) Night purging.

3) Mr M.M. Deodhar, Maintenance Manager, American President Lines, delivered a lecture on "Container refrigeration Systems". It is estimated that one quarter of the world's produce is never eaten, because of inefficient transportation systems between the grower and the consumer. A wide variety of commodities is shipped under refrigeration, including fresh fruits and vegetables, fresh and frozen meats, poultry and seafoods, dairy products and eggs, fresh juices and concentrates, frozen prepared foods, confectionery products and chemical and biological products. Each of these products is highly perishable and requires special handling to ensure that it arrives in optimum condition at its destination. Special handling can include proper post harvest handling procedures, sanitation, precooling, packaging, storage temperature management, exchange, product compatibility and modified atmosphere. Refrigerated containers used for transport of the above commodities are known as reefers. A microprocessor controls all unit functions including maximum power consumption, modulating valve position, evaporator blower motor speed, condenser fan motor speed, compressor motor operation, evaporator heaters, automatic defrost and all indicator functions.

*Drafted by - Mrs. R. R. Easow
Prof. (Mech. Engg. Dept.)*

AN
APPEAL
OF
A
DRUG
ADDICT

Drug addict, I am
but, friends don't stare at me indifferently.

"Drugs are bad," "Drugs are killers,"
are not unusual to hear.
But friends, not a fool I am;
Not to know this.
I curse and rebuke;
and vow to be far from it.
But, soon my body pains.
It's so terrible; so horrifying!
That I feel weak as a chick.
I break my vows and pledges
and give way to my weakness.

Drug addict I am
but, friends don't be indifferent to me.
Help me friends in my struggle
to free myself from this evil.
Pray for me so that I can
overcome my weakness
Be with me, and give me
courage and support.
Lonely, not I feel in your company
but, instead it comforts me.
Drug addict I am,
But, friends don't stare at me indifferently.

Vijay Nicholas
SE(MECH)

CROMPTON GREAVES AND BOMBAY'S DYEING

Mr. Crompton, a rich man, sold many a fan
Shrewd that he was, a thriving business he ran
One fine day, he had enough of selling thin air
He thought of something new to ply and came up with hair

He had handled coils all these years
He thought he could do it now
And cutting blades that shape headgears
He would make them somehow

And to help him in his tress business
Came his only son 'Bombay'
In Crompton's hair-raising success
He too had some say

They started making combs, hair-oil and shampoo
And lice-killers to boot
In the wig-making industry too
Their company then set foot

Gone were the old regulators
Gone were the fancy fans
In were the hairline shapers
But the ball-bearings sans

Hair-maker, growers, removers
Name it you get all
A supreme authority on coiffures
Mr.Crompton you can call

But Crompton tried to beat nature
And that is where he failed
On Bombay's palm he tried growing fur
Where no hair-roots prevailed

Instead Bombay got a scarred crust
And no hair on his hands
And Crompton lost the public trust
On which the company stands

The company closed and got forgotten
The leader of yesterday
But what happened to poor Crompton
And his son Bombay?

What came of father and son afterwards
What next are they trying
Can be said in just five words
Crompton Grieves and Bombay's Dyeing

V.Santosh
BE(MECH)

AN

APPEAL
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A

DRUG

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Can be said in just five words
Crompton Grieves and Bombay's Dyeing

V.Santosh
BE(MECH)

To Staff of Electrical Engineering Department and
Students of S.E.(ELECTRICAL)

Life is like an AC. Signal with a varying polarity.
Be like a Capacitor in the path and bypass the ups and
downs

Let the relationships be firm like leads of the components
And not like the solder joints that can be easily melted

Let its quality not degrade with time like a passive
component
Be an active component like transistor and have high life

Let the quiescent point of relationships not drift away
Be like a circuit that has a high stability against it

(To Students)

Have low power dissipation,
charge like a capacitor
Fire like an SCR
flow like the current flows.
This is a piece of advice from a teacher who cares for you.

(To Staff)

Thankyou for catering to all the interrupts I generated
For you acknowledged them with a smile
And provided perfect and balanced instructions
Throughout the service routine
And I really feel from my heart
That there is rarely a staff like this.

Mr. Dhaval Dalal
Lect. (Elect. Engg. Dept.)

BOOKS

What are these books for?
What classrooms
What teachers
What instruments, and what practicals!
Why do we come here
and rack our brains for things
that we don't need in life at all
Why do we stay awake all night
thinking of something
that is purely unthinkable...and idiotic.
Up and down in crowded trains
With bags full of papers
on our shoulders
Like waste paper baskets We run around
One square to another square
We've lost our heads, I'm sure.
Why do we need to do all this?
I really don't understand.

This bookshelf can fool the world.
But it can't make you wise.
You got to learn
to read hearts
You got to enter
in others souls
Write your own poem.
Paint your own picture
In his heart.
This material is just utility
The immaterial gives a meaning to all.
You can't draw a picture
with mere brushes
You gotta have a heart for it

SHREEKANT VIJAYKAR
FE ELECTRICAL

Hardcore Trivia

* THE HORSE CODE Sculptors traditionally follow a
code while sculpting statues of famous men on their
mounts. When the horse is shown with all its four legs on the
ground, it signifies that the rider died a natural death. Three
legs on the ground and one raised tells us that the rider died
of wounds sustained in battle. Two on the ground and two
raised signifies death while in action.

* The Taj Mahal, one of the world's most beautiful
buildings, was scheduled to be torn down in the 1830's so
that its marble facing could be removed and shipped to
London for sale by auction to the London English
Gentry. Wrecking machinery was moved into the garden
grounds and work was about to start when the word came
from London, not to proceed. The first auction of marble
facades of Indian monuments and edifices had been a
failure and it would not be worth it to tear down a two
hundred year old mausoleum.

* There are 25,00,000 rivets in the Eiffel Tower.

GOOD-BYE, PROF. MARATHE

He went, he taught, he conquered. His students will always remember him for his wonderful ability to convert the most complex concept into a simple idea with an ingenious flourish of the chalk. His colleagues will never be able to forget his cheerful nature and an eternal, standing invitation for a cup of tea spiced with semi-comic conversation.

I will always remember his fatherly attitude towards a novice in this field and his ever so gallant act of rescuing me from a pack of journal-signature-hungry students and packing me off to an overdue lunch. For those who have known him and worked with him for over three decades, Marathe Sir's sad demise in January this year has left an irreplaceable void. It is hard to imagine SPCE without him. Perhaps we may console ourselves with a centuries old quotation by Walter Scott:

"Is death the last sleep?

No it is the last and final re awakening".

Good-bye, Sir and thank you.

Mrs.M.U.Gokhale

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IT ALL DEPENDS

1. HALLUCINATION: When someone sees a flying saucer.
U.F.O.: When we do.
2. SELF-CENTRED: A person who ignores our problems.
BUSY-BODY: One who doesn't.
3. OVERPOPULATION: How we think of our neighbour's large family.
BLESSED EVENT: An addition to ours.
4. INDIVIDUALIST: A person who dares to be different.
ECCENTRIC: When he's different from us.

FUNNY LANGUAGE

"It's funny to see how mankind progresses," said famous comic Fernand Raynaud. "Look at agriculture :This man's great-great- grandfather was a serf, his great-grandfather was a churl, his grandfather was a yokel, his father was a peasant, but he himself is a farmer and his grandson is an agronomist."

"You have deliberately tasted two worms and you can leave college by the town drain,"-attributed to the Reverend Dr.William Archibald Spooner after whom Spoonerism (transposing the sounds of words) gets its name

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संपादकीय



गिरिजा करंजीकर



अवधूत देशपांडे

सरदार पटेल अभियांत्रिकी महाविद्यालयाच्या वार्षिक पुस्तिकेच्या मराठी विभागासाठी संपादकीय लिहित असताना माझ्या शाळेतल्या मराठी लेखनाविषयीच्या आठवणी ताज्या झाल्या शाळेतल्या त्या निबंध स्पर्धा, कवीसंगमने, हास्यविनोद-चुटके किस्से यांचे सांस्कृतिक कार्यक्रम, वक्तृत्व स्पर्धा आणि सर्वात महत्त्वाची म्हणजे त्यातून जतन करत आलेली मराठी 'अस्मिता' कॉलेजमध्ये गेल्यावर त्या वेगळ्याच वातावरणात विरून जाते, लुप्त होते आणि अभियांत्रिकी कॉलेज मध्ये तर यंत्राच्या आवाजात, सबमिशन, टर्मवर्क व ओरलच्या धांदलीत अदृश्यच होते. मराठी वाङ्मय मंडळाच्या निमित्ताने व 'स्पेस' आंतरकॉलेज मेळाव्यातील मराठी वादविवाद स्पर्धा - 'संबोधन'च्या यशाने मराठीचा जिक्काळा जिवंत राहिला.

अभियांत्रिकी जगात तुम्ही पाऊल ठेवत की तुम्ही तुमच्या सर्व मृदू भावना, तुमचं साहित्यविषयीचं प्रेम जरासं बाजूला सारून अगदी प्रत्येक गोष्ट व्यावसायिक दृष्टिकोनातून पाहिली पाहिजे, अनुभवली पाहिजे, असा जनसामान्यांच्या मनातील समज असतो. पण आमच्यात कुठेही एक कवी, एक लेखक जागृत असतो आणि या मासिकाच्या निमित्ताने तो उदयुक्त होतो, आणि त्याचं साहित्य, काव्य या मासिकात उतरतं.

विविध माहितीपूर्ण लेख, काव्य आणि सुविचार यांनी सजलेला हा मराठी विभाग. या सर्व साहित्यातून आपला आनंद नक्कीच द्विगुणित होईल ही अपेक्षा बाळगून हा एक छोटासा प्रयत्न. या मराठी विभागाच्या पूर्ततेकरता ज्यांनी ज्यांनी सहाय्य केलं त्यांचे आभार मानून या शब्दप्रवासाची सुरुवात करत आहोत.

गिरिजा करंजीकर,

तृतीय वर्ष
(स्थापत्य विभाग)

अवधूत देशपांडे

तृतीय वर्ष
(यांत्रिक विभाग)

मराठी वाङ्मय मंडळ - वार्षिक अहवाल

विद्यार्थी मित्रांनो,

तुम्हाला व.पु.काळेच्या कथाकथनाचा कार्यक्रम झालेला आठवत असेलच. तुमच्या सहकार्याने आणि उत्तम प्रतिसादाने तो अपेक्षेपेक्षा यशस्वी झाला आणि 'मराठी वाङ्मय मंडळाचा' यशस्वीपणे पुनरुज्जीवन करण्यास आम्ही फक्त कारणमात्र झालो.

म्हणजे झालं असं, की गेली ३ वर्षे बंद पडलेलं मराठी वाङ्मय मंडळ सुरु करण्याचा मानस अनेकांचा होता, पण व्यवस्थितपणे पावलं उचलून उपक्रम हाती घेणे काही जमत नव्हते. तो योग यंदा आला अर्थात त्यात अनेक विद्यार्थी-विद्यार्थीनींनी तसेच शिक्षक व शिक्षकेतर कर्मचारी वर्गाने जे अमूल्य सहकार्य दिलयं त्याचे आम्ही कायमचेच ऋणी राहू.

दि. २१ फेब्रुवारी १९९५ रोजी कार्यक्रमाचा आराखडा निश्चित करून 'श्री व.पु.काळे' यांना आमंत्रण पाठवणे, त्यांच्या येण्याजाण्याची व्यवस्था करणे, मधल्या वेळेतील चहापानाची सोय तसेच सभागृहातील व्यवस्था अशी कामे वाटून देण्यात आली आणि प्रत्येकाने ती मनापासून व व्यवस्थितपणे पार पाडली.

सुरुवातीला कार्यक्रम जाहीर केल्यानंतर विद्यार्थी-विद्यार्थीनींनी स्वतःहून उत्स्फूर्तपणे आर्थिक साह्य केले. तदनंतर कॉलेजने देखिल मंडळाला कार्यक्रमावर होणारा सगळा खर्च देण्याचे कबूल केले आणि त्यामुळे मंडळापुढे असणाऱ्या सगळ्या आर्थिक समस्या मिटल्या आणि सर्व कार्यकर्त्यांमध्ये उत्साह संचारला.

या सर्व पूर्वतयारीनंतर होणारा कार्यक्रम जर व्यवस्थितरित्या पार पडला नसता तर सर्वांच्याच आनंदावर विरजण पडले असते. पण विद्यार्थ्यांच्या उत्स्फूर्त प्रतिसादाने व वपुंच्या दर्जेदार कथाकथनाने कार्यक्रम अपेक्षेपेक्षा यशस्वी झाला.

यापुढेही 'मराठी वाङ्मय मंडळाची' वाटचाल चालू ठेवण्याचा मानस आहे.

त्या अंतर्गत, विद्यार्थ्यांतर्फे निबंध स्पर्धा, गीतगायन स्पर्धा तसेच कथाकथन वगैरे कार्यक्रम हाती घेण्यात येतील आणि तुमच्या सहकार्याने यशस्वीरित्या पार पाडता येतील ही अपेक्षा मनाशी बाळगून, मराठी वाङ्मय मंडळाच्या वर्ष १९९४-९५ मध्ये झालेल्या यशस्वी पुनरुज्जीवनाच्या अहवालास येथे पूर्णविराम देतो.

श्री. शिरीष पोटे

तृतीय वर्ष स्थापत्य - कार्यवाह

कार्यकर्ते :-

- १) श्री. निखिल पटेल. - तृतीय वर्ष स्थापत्य
- २) श्री. संदीप जाधव. - तृतीय वर्ष स्थापत्य
- ३) श्री श्रीकांत विजयकर. - प्रथम वर्ष विद्युत
- ४) कु. गिरिजा करंजीकर. - तृतीय वर्ष स्थापत्य
- ५) कु. अपर्णा केळकर. - तृतीय वर्ष स्थापत्य
- ६) कु. कादंबरी टोके. - द्वितीय वर्ष स्थापत्य

हृद्गत

जिंकणं फार सोपं असतं
 हरायला शिका.
 जगणं फार सोपं असतं
 मरायला शिका !
 कुणावरतरी, कशावरतरी
 सर्वस्व पणाला लावायला शिका.
 चाकोरीच्या भिंती पाडून
 नवीन जग बनवायला शिका !
 मान ताठ ठेवणं सोपं असतं.
 ती कुठेतरी झुकवायला शिका.
 डोळ्यांमधील अंतर भेदून
 हृदयात उतरायला शिका !
 स्वतःसाठी असणं सोपं असतं
 इतरांसाठी असायला शिका.
 प्रेम कुणी करत नसतं
 म्हणूनच प्रेम करायला शिका !

श्रीकांत विजयकर
 प्रथम वर्ष (विद्युत)

एक अश्रू

कधी म्हटलेस मला तू भ्याडपणाचे लक्षण
 कधी म्हटलेस मायेचे पांघरूण
 कधी म्हणतोस मला तू सखा
 मी तुझा अन् तू माझा

तुझ्याच नयनकमलांतूनी
 मी हे विश्व पाहिले.

कधी वाटली कदर तुझ्या सहनशीलतेची
 कधी वाटली लाज तुझ्या अहंकाराची.

तूच माझे सर्वस्व आहेस,
 तुझ्याविण मी निराधार आहे,
 पण आज तू मला अडवू नकोस,
 उत्कट, कोमल भावनांना हरवू नकोस

क्षण आहे आज विरहाचा,
 मुक्त व्हायचे आहे मला,
 जगलो मी तुजसाठी,

अर्पण व्हायचंय मला इतरांसाठी !
 हे मानवा, तुझ्यातल्या दयेचे मी प्रतीक आहे,
 असेर मी तुझाच एक अश्रू आहे.
 स्वाती संसारे
 प्रथम वर्ष (विद्युत)

ते जवळ असलं की काळजाला भिडतं
 दूर असलं की मन एकटं रडतं
 ज्यामुळे मानवाचं पदोपदी अडतं
 ते प्रेम कधीही कोणावरही जडतं

पुसणार कोणी असेल तर
 डोळे भरून यायला अर्थ आहे.
 कुणाचे डोळे भरणार नसतील तर
 मरण सुद्धा व्यर्थ आहे.

वादळ

मनातलं वादळ डोक्यावर
प्रचंड आघात करतंय
अश्रुंनाही आज डोळ्यांत
काहीसं परकं वाटतंय
दिशाहीन स्वैर विचारांनी
मुख हे म्लान झालंय
काही केल्या नाही कळत
कुठून हे सूतक आलंय
ओघवत्या भाषेला आता
शब्दांचीही साथ नाही
भकास डोळ्यांना मात्र
कसलीच लाज नाही
स्वप्नांच्या चुराड्याला आज
कुठेच सीमा नाही
पापांच्या राशीच मोठ्या म्हणून
देवालाही दया नाही.

अविनाश बल्लाळ
तृतीय वर्ष स्थापत्य

मागे वळून पाहता

मागे वळून पाहता,
मज एक भास झाला
अवसळ दुडूदुडू चालीचा,
कोठेरी निनाद उमटला

मागे वळून पाहता,
कुणीतरी मज सुणवीत होते
मिष्कील नयनांनी
मला ते मोहवित होते

मागे वळून पाहता,
स्वर बोंबडे कानी आले
पूर्वस्मृती जागवूनी,
मला ते आपलेसे करीत होते

मागे वळून पाहता,
वाटले एक पाऊल मागे टाकावे
पण आता ते अशक्य होते
पुढे चालता चालता
मी माझे बालपण हसून बसले

कु. स्वाती संसारे
प्रथम वर्ष (विद्युत)

समीप

हिरव्या पानातून ओघळणाऱ्या थेंबात तुझं रूप
सायंकाळच्या नभातल्या शीतल सुर्यात तुझं दर्शन
अंगणातल्या नाजूक फुलात तुझा सुवास
पहाटेतल्या त्या वातावरणात तुझा स्वर
रात्रीच्या रम्य अशा चंद्रात तुझा थंडपणा
वा-याच्या त्या झुलकेत तुझा चंचलपणा
इथल्या ह्या निसर्गाच्या सोबत तुझी जवळची ओळख
पावसाच्या त्या धारात अंग भिजवून टाकणारी तुझ्या अस्तित्वाची साक्ष
फुलाच्या प्रत्येक पाकळीत तुझा स्पर्श
आणि माझ्या ह्या उदासीन जीवात तुझीच तीव्र साद

आशिष पवार
प्रथम वर्ष (विद्युत)

दुसरा मजला

(ही कथा नाही किंवा हा लेखही नाही. हे एक डायरीचं पान आहे. शाळेचं लहानखुरं, बँदिस्त आणि सुरक्षित जग सोडून बाहेरच्या अथांग व अमर्याद जगात पाऊल टाकणाऱ्या युवकाच्या मनातील ही खळबळ आहे. त्याच्या वैचारिक व भावनिक पातळीत झालेल्या या वाढीचं प्रतीक आहे 'दुसरा मजला' !)

जग बदलायला लागलंय. तसं ते याआधीपासूनच बदलू लागलं होतं. पण त्याची जाणीव आताआताशा होऊ लागली आहे, एवढंच. त्यात अप्रूप वाटण्यासारखं काहीच नाही. सा-यांचं जग असं बदलत असतं. पावसाचं सारं थेंब जमिनीवर आदळतात. त्यात आवर्जून सांगण्यासारखं असं काहीच नाही.....

..... आतापर्यंत घराला एकच मजला होता. आता दुसरा मजला चढविण्याचा विचार चालू आहे. ज्या घरांना आधीच दोनच्या वर मजले असतात त्यांना एका नव्या मजल्याचं काहीच नावीन्य भासत नाही. कारण तिसऱ्या मजल्यावर चौथा चढविणे किंवा पंचविसाव्यावर सव्वीसावा चढविणे यात तसा भावनिक फरक काहीच नाही.

पण पहिल्या तळाच्या मजल्यावर दुसरा चढविणे आणि आधीच्याच दुसऱ्यावर तिसरा मजला चढविणे यात मात्र आहे. खूप आहे.

आतापर्यंत आपले जग दोनच भिंतीमध्ये सामावलेले होते. लांबी आणि रुंदी-वस्स ! सपाट, साधा, विकारशून्य पृष्ठभाग ! डायनिंग टेबल असते तसा- चकचकीत, गुळगुळीत ! त्याला ना स्वाचखळगे, ना उंचवटे, लांबच लांब पसरलेला सपाट पृष्ठभाग !

आधीच्या जगांतली माणसंही अशीच सपाट होती - द्विमितीय ! त्यांना आकार नव्हता. घनत नव्हती. स्वाचा नव्हत्या. कंगोरे नव्हते. आता मात्र माणसांनाही आकार येऊ लागला आहे. समुद्राच्या तळाशी शिंपला असतो ना, तसा ! आत मोती आहे की कुणी विपारी प्राणी कळायला मार्ग नाही. थरांवर थर साचलेले - सभ्यतेचे सुसंस्कृतपणाचे. 'लांबी' लावल्याने वाळवीने पोखरलेले लाकूडही वरून गुळगुळीत दिसावं तसे. हा सारा दोन पैशात विकत घेतलेला कृत्रिम रंग चेहऱ्यावरून स्वरवडून काढला की उरतो एक माणूस ! स्वराखुरा ! आधीच्या जगातल्या माणसासारखा सपाट

..... पण आता दुसरा मजला चढला आणि जगाला एक नवे परिमाण, एक नवी मिती लाभली - खोली ! अथांग, अंधारी पोकळी ! खोल, खोल

... खूप खोल ! डोकावून पाहिलं की चक्कर यावी असा अथांग गर्त ! आता जगाला आकार यायला लागला आहे. हा अनुभव नवा आहे. या आकार येण्याला कोणतेही बंधन नाही. सिमेंटच्या लाद्यांमध्ये टाकलेले पाणी जसे वाट फुटेल तसे घुसत जाते, तसा हा आकार वेडावाकडा, कसाही फुटत चालला आहे. चारही अंगांनी वाढत चालला आहे. मध्येच कुठेरी शिरताशिरता सिमेंटची लादी समोर उभी द्याते. पाणी जोरात आदळत आहे आणि पाठी फिरत आहे.

दुसरा मजला म्हणजे जिना आला. लाकडाचा असो की विचारांचा, जिना प्रथमतः चढताना तेल सावरणे कठीणच जाते. ठेव लागते. माणूस कोलमडतो. अशावेळी कठड्याच्या आधार हवासा वाटतो. एरवी कठड्याकडे कुणी दुकूनही बघणार नाही. पण पाय अडखळले की आधार शोधण्याचा प्रयत्न केला जातो. आणि मग लक्षात येते, की आपण आपल्या जिन्याला कठडाच केला नाहीये. कठड्याचा विचारच तेव्हा डोक्यात आला नव्हता. आता अर्धा जिना चढून झाला आहे. खाली उतरणे शक्य नाही. आता फक्त वर चढायचे.

- वस्स ! आता थोड्याच पायऱ्या राहिल्या. तेवढ्या चढलो की झालं. अथांग गर्त्याचा थांग लागायला फारसा अवधी राहिला नाही. (किवढी भोळी समजूत!) आता वर चढायचे. एका नव्या मितीत प्रवेश करायचा. हे एक नवं जग. म्हटलं तर आपण वसवलेलं. आपल्या मनासारखं. या भिंतींना असलेल्या नव्या खिडक्या. त्यांतून बाहेरच्या जगाचं एका निराळ्या अँगलमधून निरीक्षण करायचं.

..... आताशा सारं कसं सुखद वाटतंय. सुंदर वाटतंय. पण याचा असा सुंदर विचार करत असतानाच एकदम अचानक एक अनाहूत विचार. तप्त रेंतीचा फटकारा तोंडावर मारावा. तसा कुठेरी हृदयाला झोंवून जातो..... हे सारं वरवरचं आहे. हे रंग, हे पिगमेंट्स, हे वार्निश, सारं सारं आपल्या त्या जुन्या जगासारखं सपाट आहे. गुळगुळीत आहे. या स्वाचखळग्यांच्या आणि उंची - खोलीच्या जगात त्यांचा कितपत निभाव लागेल ? एक न् एक दिवस साऱ्यावरचे अस्तर निघेल. भिंतीवरच्या रंगांचे पोपडे उडतील. सिमेंटच्या लाद्यांमध्ये भेगा पडतील. मोठमोठ्या ! उभा माणूस गाडला जाईल अशा !

..... आणि मग त्या भेगा तेथे नाहीतच अशी स्वतःचीच भोळी समजूत करून घेण्यासाठी त्या भेगांत सिमेंटचे पाणी ओतून त्या बुजविण्याचा निष्फळ प्रयत्न करणे एवढेच आपल्या हाती राहिल !

श्रीकांत विजयकर
प्रथम वर्ष (विद्युत)

व्यथा

कुणी तरी यावं आम्हांस हे सुचवावं
एकटेच आम्ही का दुःख हे सोसावं ?
गालातल्या हसुने हे मन का बहरावं ?
डोळ्यातल्या आसवांनी ते चिंब का भिजावं ?
कुणी तरी यावं आम्हांस हे सुचवावं
गर्दीत रमणारे आम्ही एकांती का रमावं ?
चांदणे नसतानाही हे गीत का सुचावं ?
कुणीतरी यावं आम्हांस हे सुचवावं
साथीदारांनाही आमच्या आम्हांस का चिडवावं ?
त्यांचं चिडवणही आम्हांस का आवडावं ?
कुणी तरी यावं आम्हांस हे सुचवावं
एकटेच आम्ही का दुःख हे सोसावं ?

संजय सोनार
चतुर्थ वर्ष (विद्युत)

ताटातूट

झाला मनामध्ये माझ्या काळोख,
कारण माझी झालेली तिच्याशी चांगली ओळख.
वाटलं होतं मिळेल शेवटपर्यंत तुझी साथ,
पण नाही दिला दैवाने आपणास हात.
किती मिसळून गेलो होतो आपण एकमेकांत,
असं वाटत होतं कि जन्मलो होतो एकाच साच्यात.
तुझ्या सहवासात वर्ष कसं संपलं ?
कळलं सुद्धा नाही कि वर्ष संपलं
तुझ्या पदोपदी यशाने मी भारावून गेलो,
पण तुझ्या अचानक ताटातूटीने मी गांगरून गेलो.
तुझ उच्चशिक्षणासाठी जाणं म्हणजे नाही काही दूर जाणं,
ते तर होतं तुझ्याच यशाच नव गाणं.
परदेशीसुद्धा तू करून देशील स्वतःची एक नवी ओळख,
पण तुझ्या पोकळीमुळे राहील ना माझ्या मनामध्ये काळोख.

शैलेश ल. पाटील
तृतीय वर्ष (स्थापत्य)

अज्ञाताची वाटचाल

जीवन एक कोल आहे
आयुष्य फार थोल आहे ।
कोणास ठाऊक,
कोण आला कुठून
अंकुरला फुलला फलला,
नि गेला वठून.
कधीतरी कुठंतरी,
जायचं आहे ॥

हा डाव स्वेच्छेने,
मांडला कुणी का ?
मग मात होण्याची
दुखदुख मनी का ?
नियतीचं युगायुगांचं
हेच गीत आहे ।

मातीत जन्मला अन्,
मातीत तो मिळाला
मातीस जिंकण्याची
का हौस ही त्याला
नश्वर मायाजालात
काय सत्य आहे ?

हा डाव जिंकण्याची
मनी ठेवून आकांक्षा
तू घे कर्मयोगाची
आतातरी दिक्षा ।

कर्मण्येवादिका : अस्ते
हा जगाचा मूलमंत्र आहे ।

हेमेंद्र न. चोणकर
द्वितीय वर्ष विद्युत

जीवन

‘जीवन’ एक अतिशय सोपा, सरळ शब्द. पण त्यातला आशय किती अमाप आहे ह्याची निश्चितच सर्वांना जाण आहे. प्रत्येकजण आपल्यापरीने जीवन जगण्याचा प्रयत्न करतो. कधी त्यातले स्वादस्वळगे अनुभवत असतो तर कधी त्यातल्या माधुर्याचा आस्वाद घेत असतो. ‘जीवन म्हणजे सुखदुःखांची मालिका’ अशी जीवनाची व्याख्या आपल्याला पटेल.

पण हे सत्य जाणूनही आपण नेहमीच त्यातल्या सुखाची अपेक्षा का करतो? जगात दुःख आहे म्हणून सुखाला महत्त्व. दुःखे येतात ती आपली कसोटी पाहण्यासाठीच त्यावेळी न डगमगणे हाच स्वरा पुरुषार्थ. भट्टीतून तापून निघाल्याखेरीज सोन्याला तेज चढत नाही, किंवा टाकीचे घाव सोसल्याखेरीज दगडाला देवपण येत नाही, हे आपल्याला माहित नाही काय? पैलू पाडल्याशिवाय हिऱ्यालादेखील किंमत येत नाही. आपणावर कोसळणारी दुःखे अशीच आपल्या व्यक्तिमत्त्वाला पैलू पाडण्यासाठी निर्माण झाली आहेत दुःखानंतर सुख आले तर त्याची लज्जत काही न्यारीच असते.

सामान्यतः आपण जीवनाचे तीन भाग आहेत असे समजतो. ‘बालपण, तारुण्य आणि वृद्धापकाळ’ बालपण प्रत्येकालाच हवाहवासा वाटणारा एक गोड, निष्पाप असा अनुभव. जगातल्या कित्येक सत्यापासून वंचित पण तरीही आपल्याच विश्वात सदैव रममाण असणारं बालपण प्रत्येकालाच भुरळ पाडत असतं. अनेकजण तारुण्याला उगवत्या सूर्याची उपमा देतात.

क्षणोक्षणी ज्याचं तेज अतिशय दैदिप्यमान होत जातं. पण म्हण काही मावळता सूर्य निस्तेज असतो असे नाही. आपल्या नेत्रसुखद, शा अशा एका वेगळ्या तेजाने विविध रंगाच्या छटा आसमंतात उधळून स्वतःला सागरात सामावून घेतो. जीवनाचा वृद्धापकाळ हा या मावळत्या सूर्यासारखा अतिशय शांत, सुखद, निश्चित असणे आवश्यक आहे.

जीवन कसं जगावं? हा प्रत्येकाच्या मनातला प्रश्न आहे. मला वाटतं जीवन जगावं एखाद्या चातक पक्षासारखं. आनंदरूपी वर्षाराणीची एकट्या वाट पाहावी आणि तिच्या एखाद्या थेंबाच्या प्राप्तीनेही अगदी तृप्त व्हावी. जीवन जगावं एखाद्या मृदूल कलिकेसारखं, उमलून जगाला प्रीतीचा सुगंध देण्यासाठी. जीवन जगावं परिसासारखं ज्याच्या स्पर्शाने दुसऱ्याच्या जीवनाचं सोनं होईल. जीवन जगावं एखाद्या विदुषासारखं स्वतःच्या दुःखांवर पांघरूण घालीत नेहमी दुसऱ्यांच्या चेहऱ्यावरील हास्याचे मोती उधळण्यासाठी.

खरचं जीवन एक कादंबरी आहे, जिचं कथाकार सर्वस्वी आपणच आहोत. स्वतःची अस्मिता जागृत करून या कथेला रसिक करणं किंवा भ्रमित अवस्थेत तिला रटाळ मार्गावर आणून सोडणं हे अस्वतःच आपल्याच हाती आहे.

स्वाती संसा

प्रथम वर्ष विद्यु

आपल्याला काही हवं असतं
म्हणजेच आपलं जगणं आहे
येणा-या प्रत्येक क्षणाकडे
आपलं काही मागणं आहे.

प्रत्येकानं जगायला हवं
आपआपल्या परीनं कारण
तो..... वैशाखातही गाखा देतो
वळ्याच्या सरीनं.

उदया बारा मार्च बॉम्बस्फोटाचा काळा दिवस

उदया बारा मार्च..... बॉम्बस्फोटाचा काळा दिवस
दाऊद, मेमन माणुसकीचे खवीस
त्यांना लाचार निष्पाप जीवांचा हवस
लालभडक रक्ताचे रस्त्यावरचे सडे
आईविना मलाच मुनसान भकास वाडे

उदया बारा मार्च..... बॉम्बस्फोटाचा काळा दिवस
माणसानेच केलेला माणुसकीचा निघुण खून
जंगल कायद्याला आरंभ एक दुसऱ्याला मारून
हिंदू-मुसलमान न संपणारी तेढ
माणसाला लागलेले क्रोऱ्याचे वेड

आज अकरा मार्च निवडणुकीचा निकालाचा दिवस
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त्यांना सुद्धा खुर्चीचा हवस
पक्ष करतात वृत्तपत्राची होळी
स्वासदार, आमदार गुंडगिरीचे दंडक पाळी

आज अकरा मार्च निवडणुकीच्या निकालाचा दिवस
रामजन्मभूमीवर धर्मांधांचे हीन राजकारण
जनतेचे दल नाचवले मंडल आरक्षण
गरीबांच्या स्वप्नांचा होतो केरकचरा
साहेबांच्या बंगल्यात रोजच दिवाळीदसरा

परवा उरेल ती फक्त लोकशाहीची मूठभर राख
आणि माणसाने माणुसकीला घातलेली कळकळीची हाक !

अवधूत देशपांडे
तिसरे वर्ष यात्रिकी

फक्त काही क्षण

डोळ्यातून बरसावं चांदणं
तसं तुझं पुन्हा पुन्हा वळून बघणं
वान्याप्रमाणे अचानक निघून जाणं
माऊथ ऑर्गनच्या सुरांप्रमाणे

पदराला सावरणं

पावसाच्या अचानक सरीप्रमाणे

मोजकचं बोलणं

शहाण्यांनी पागल व्हावं

असं तुझं लोभस हसणं

तुझं हसणं बोलणं तुझं सर्वकाही

मनात सर्वांगात साठवायचंय

फक्त काही क्षण !

मला तुझ्याबरोबर बोलायचंय

तुझ्या मखमली मनात

कायमचंय रुजायचंय कायमचं !

आशिष पवार

प्रथम वर्ष - विद्युत

चाळ संस्कृती व शेजारी एकचिंतन

अध्यक्ष महाशय आणि माझ्या प्रिय मित्र मैत्रिणींनो. आज मी तुमच्याशी एका जिद्दाळ्याच्या विषयावर बोलायला आलो आहे, तो म्हणजे चाळ संस्कृती व शेजारी - एक चिंतन. मित्रांनो ह्या दोन्ही शब्दांशी तुमच्यापैकी स्वरोस्वर कितीजण परिचित आहेत हे मला माहीत नाही. ते माहीत नसणं ही तुमची आमची चूक नाही तर तो काळाचा महिमा आहे व ब्लॉक सिस्टिमचं फलित आहे.

‘आधी वैदा की आधी मुर्गी’ या सनातन कोड्याप्रमाणे आधी चाळ की आधी शेजारी हे कोडं सनातन आहे. विचारवंतांसाठी ते अनेक वर्षे स्वाद्य पुरवू शकेल. शेजारी ह्या संकल्पनेचा उगम वरवर पाहता कृषीवल संस्कृतीच्या उगमावरोबरच झाला. शेतीसाठी मनुष्यवळाची गरज असल्याने पर्यायाने मानवसमाज जवळ येऊन शेजारधर्म उदयाला आला. एकमेकांजवळ रहाणारे व अडीनडींना मदत करणारे शेजारी गणले जाऊ लागले.

पण शेजारी ही संकल्पना खऱ्या अर्थाने उदयाला आली ती चाळ संस्कृतीच्या उगमावरोबरच चाळीत एकमेकांची घर असल्याने एकमेकांच्या जीवनावर परस्परांचा प्रभाव पडणे अढळ होते. घरे जवळ असल्याने मानवी मनेही जवळ येत चाळ या संकल्पनेसहच बहुधा मराठी भाषेत भिंतीला कान असणे ह्या वाक्प्रचाराचा उदय झाला असावा. तसाच नियमित शेजारी सांजसकाळचा चहा पिणारे व वर्तमानपत्र वाचणारे शेजारी. सकाळी गॅलरीत उभं राहून हयं हयं काय कसं काय पतं ? म्हणणारे पेन्शनर, कपडे वाळत घालणाऱ्या शांतेकडे बघून हळूच तिला वागेत ये असं सांगणारा मध्या यांचा उगम इथंच कुठेतरी झाला. स्त्रिया बहुतांशी घरीच असल्याने बालसंगोपन

व भांडण ही दोन्ही कामे अगदी जिवाच्या कराराने करीत. दुपारी पापडाचं पीठ कुटता कुटता त्यात मिरचीची पूड घालता घालता अलगद शेजारणीची कुरापत काढण्याची कला बहुधा याच काळात बहरली असावी. विषय अगदी टमरेलच्या चोरीपासून ते आमच्या घरासमोर तुमच्या चिंदूने ‘शी’ केली इथपर्यंत पोहचते. पण लोकसभेतले मंत्रीसुद्धा हेवा करतील अशा कुशलतेने विजांनी हेवा करावा असा कडकडाट करीत शेजारणीवर तलवारीप्रमाणे जीभ चालवणाऱ्या शेजारणी एकमेकींच्या अडीनडींना मुलांच्या मंगलकार्यात अगदी मोठ्या बहिणीप्रमाणे धावून जात शेजाऱ्यांच्या चहाला जागून त्यांच्या मदतीला धावणारे शेजारी बघितले की गलबलून येई. काळ जाकीट घातलेला कानशिलाला शेंदूर लावलेला रामादेस्वील या संस्कृतीचा अविभाज्य घटक होता. हंड्या फोडणे, बाल्याचा नाच हे त्याच्या अस्तित्वाशिवाय होऊच शकणार नाही.

आज चाळ कोलमडत चालली, स्त्रिया नोक-या करू लागल्या, तेव्हापासून ब्लॉकसंस्कृती निर्माण झाली. तिथूनच वृद्धाश्रम, पाळणाघर, महिलाश्रम ह्या संस्था निर्माण झाल्या. माणसं एकमेकांपासून दूर चालली आहेत, त्यांना जवळ आणण्याकरीता चाळ संस्कृतीच्या पुनरुत्थानाची व शेजारधर्म जपण्याची स्वरोस्वरच गरज आहे. म्हणूनच असं वाटतं.

असावी एक सुंदर बटाट्याची चाळ
शेजाऱ्या शेजाऱ्या अरे आतातरी भांडण टाळ
होऊन एक आपण उद्धरू चाळ
ब्लॉकसिस्टमचा मोह तू टाळ

हेमंद चोणकर
द्वितीय वर्ष विद्युत

‘मी’ आणि ‘ती’

आज ७.४० ला मी अतिशय अस्वस्थ झालो होतो. ती ‘माझे सर्वस्व’, ‘माझ्या स्वप्नांच्या दुनियेतील परी’ मला सांताक्रूझ स्टेशनजवळ नेहमीच्या ठिकाणी भेटणार होती. आमची ६ महिने भेट झाली नव्हती. मी तिला भेटायला भयंकर आतुर झालो होतो, नव्हे, माझा कण न कण तिच्या दर्शनासाठी झुरत होता, तिची चातक्यप्रमाणे प्रतीक्षा करत होता. इतक्या विरहानंतरची होणारी आमची ही एकांतातील भेट मला तहानलेल्या वाळवंटात दिसणाऱ्या मृगजळासारखी किंवा अखंड परिश्रमानंतर हाती आलेल्या कस्तुरीमृगासारखी भासत होती.

आत मी तिला थेट नरिमन पॉईंटला माझ्या स्वतःच्या घरी

घेऊन जाणार होतो. आज मी घरी एकटाच होतो आणि म्हणूनच तिला घेऊन मला घरी लवकरात लवकर पोहोचायचे होते. तिच्यासमोर मन मोकळे करायचे होते. रात्रीच्या समयी माझ्या सर्व आंतरिक सुप्त इच्छा उफाळून आल्या होत्या. ती आली ! मित्र हो तिच्या नेहमीच्या गणवेषात (‘काळा ब्लाऊज व ‘पिवळी धम्मक साडी’) भरधाव वेगाने आली मी खुणावल्यावर थांबली व आम्ही माझ्या घरी निघालो हो ! हो ! बरोबर..... टॅक्सीच !!!

अवधूत देशपांडे
तिसरे वर्ष (यांत्रिक विभाग)

मुंबई का बॉम्बे ?

मराठी भाषा हाच सध्या एक वादाचा विषय बनला आहे. इथे जमलेल्यांपैकी कुणाही मराठीभाषिकास 'तू कोण आहेस ?' असे विचारून पाहा. तो हटकून सांगेल 'मी महाराष्ट्रीयन आहे'. मराठ्यांच्या मराठेपणाचीच जिथे इतकी परवड आहे, तेथे महाराष्ट्राच्या राजधानीबद्दल - मुंबईच्या नावाबद्दल वाद असणार यात शंकाच नाही.

आताच मी 'मुंबई' म्हणालो खरा. पण मी 'बॉम्बे' च्यावतीने माझी बाजू मांडणार आहे.

असे पहा, मीही एक 'महाराष्ट्रीयन' आहे (!). मराठी माणूस आहे. माझ्या संस्कृतीबद्दल, माझ्या मातृभाषेबद्दल मला योग्य तितका अभिमानही आहे. पण इथे एक गोष्ट आपल्याला नजरेआड करता येणार नाही. ती ही की जवळजवळ २०० वर्षे आपला भारत ब्रिटिशांच्या खूनी पंजांत जखडला गेला होता. ब्रिटीश आले, त्यांनी त्यांच्या सत्तेबरोबरच त्यांच्या चालीरिती व त्यांची भाषाही आपल्यावर लादली.

बॉम्बेबद्दल बोलायचे तर या महानगराची सारी जडणघडणच त्यांच्या अमदानीत झाली. ब्रिटीशांच्या पूर्वी पोर्तुगिजांचा अंमल मुंबईवर होता. पोर्तुगिजांकडून मुंबई बेट ब्रिटिशांच्या हातात आले. ब्रिटिशांनी सात वेगवेगळ्या बेटांचे एक सलग शहर तयार करण्याचा चमत्कार इथे करून दाखविला. त्यांनीच 'बॉम्बे' हे नाव रूढ केले.

आज परिस्थिती अशी आहे की जगाचा कुठलाही नकाशा घ्या, तिथे मुंबई आढळणार नाही. 'बॉम्बे'च आढळेल. इंग्लिश भाषेचे वर्चस्व मान्य केलेल्या जगानेच 'बॉम्बे' ला मान्यता दिली आहे, तशीच ती आपणही देणे आवश्यक आहे. आपण आपल्या बोली भाषेत कितीतरी इंग्लिश शब्द उद्धृत केलेच आहेत. आपण सकाळी उठून दूधब्रशने दात घासतो आणि मग टेबलावर बसून ब्रेकफास्ट करतोच ना ! तसेच बॉम्बेला आपलेसे करण्यात काहीच हरकत नाही.

या महामायेसारख्या, वाढत्या महानगराच्या नावापेक्षाही या महानगराच्या रहिवाशांपुढे आपल्यापुढे अधिक महत्त्वाचे

प्रश्न आहेत.

मुंबईची महामुंबई झाली, पण त्याबरोबरच समस्याही 'महा' बनून आता गिरण्या आल्यात, कारखाने आलेत आणि बाहेरच्या गावांतून माणसांचे लोंढे पुराच्या पाण्याप्रमाणे या महापुरात शिरताहेत. भ्रमसाठ लोकसंख्या त्यामुळे माणसाची अवस्था मर्दकरांच्या कवितेतल्या 'पिंपातल्या ओल्या उंदराप्रमाणे' झाली आहे. आज ६८% मुंबईकर झोपड्यांत राहतात, नालासोपाऱ्याला राहणाऱ्या लहान मुलांना 'नळाचे पाणी' म्हणजे काय ते माहित नाही.

या समस्या कमी पडल्या म्हणून की काय बॉम्बेत धार्मिक वितंडवादाने अतिशय भयानक रूप घेतले आहे. जोगेश्वरीत राहणाऱ्यांना विचारा, निरपराध बांधवांची बेसुमार कत्तल गेल्याच वर्षी त्यांनी उघड्या डोळ्यांनी बघितली आहे. इतकेच नव्हे, पाकिस्तानने तर मुंबईला 'भारताचे प्रवेशद्वार' म्हणतात त्याचा शब्दशः अर्थ घ्यायला सुरुवात केली आहे. बॉम्बेस्फोट झाले ते ना मुंबईत झाले ना बॉम्बेत, ते तुमच्याआमच्या राहत्या घरातच झालेत !

विकटोरिया टर्मिनस सारखे टर्मिनस आज भारतीय रेल्वेला बांधता येत नाही हे सत्य व्हिक्टोरिया टर्मिनसला 'शिवाजी राजे टर्मिनस' म्हटले तरी बदलणार नाही. तसेच 'मुंबई' म्हणा कि 'बॉम्बे' म्हणा, समस्यांचे डोंगर लहान होणार नाहीत.

समस्यांचे हे डोंगर कमी करायचे असतील, तर नाव बदलण्याच्या पेक्षा या शहराची मानसिक घडण बदलली पाहिजे. आपल्या संस्कृतीबद्दल अभिमान व आदर वाढवला पाहिजे. 'टीनअंजर', 'टीनअंजर' म्हणून ज्यांचे लाड चालवले आहेत त्यांच्या तोंडातली च्युइंगम काढून तिथे राष्ट्रगीत घालण्याची आज गरज आहे. आपल्याच अस्तित्वाबद्दल साशंक असलेल्या या नगरवासियांना स्वऱ्या इतिहासाची ओळख पटवून दिल पाहिजे. म्हणजे मग ते स्वतःहून बॉम्बेला आपलेसे करतील.

अन्यथा, ज्या तोंडात शेवटी च्युइंगमाचा चोथाच भरला जाणार असेल त्या तोंडांनी 'मुंबई' म्हटले काय की बॉम्बे म्हटले काय, सारखेच !

श्रीकांत विजयकर
प्रथम वर्ष (विद्युत)

चढाओढ या शब्दाचा अर्थ
आपण किती उलटा लावतो.
कोणी वर चढताना दिसला
की लगेच खाली ओढायला धावतो.

॥ प्रकाशत्ती पडछाया ॥

साकार आणि निराकार अशा दोन्ही जगांचा अभ्यास करताकरता मानवाने आज विज्ञानात फार मोठी प्रगती साधली आहे. रात्री आकाशात चमचमणारे तारे म्हणजे आकाशाच्या छताला पडलेली भोकं नसून दगडधोंड्यांपासून बनलेले ग्रहतारे आहेत हे समजण्याइतपत विज्ञान पुढे गेलं असं असलं तरी 'ग्रहण' या विषयात विशेष उल्लेखनीय कामगिरी मात्र अजून झालेली नाही. ग्रहणांच्या वेळी आशियातील मागासलेल्याच नव्हे तर युरोप-अमेरिकेतील प्रगत राष्ट्रांमध्येही आजच्या घडीस लोक दारे बंद करून बसतात. समाजात याविषयी असणारे अज्ञान हेच एकमेव कारण आहे. १६ फेब्रुवारी १९८० या दिवशी जे स्वग्रास सूर्यग्रहण दक्षिण भारतातून दिसले त्यावेळी याचा प्रत्यय आला. 'ग्रहण पाहिले की डोळे निकामी होतात' असे विपर्यासयुक्त विधान भारत सरकारनेच केल्याने सामान्य माणूस घराबाहेर पडायलाच मागे ना.

या वर्षी दिनांक २४ ऑक्टोबर १९९५ रोजी भारतातून परत एकदा स्वग्रास सूर्यग्रहण दिसणार आहे. यावेळीतरी १९८० ची पुनरावृत्ती होऊ नये म्हणून या लेखाचे प्रयोजन.

सूर्यग्रहण :-

... संध्याप्रकाश आसमंतात भरून राहिलेला आहे. सूर्याचे विंब कमीकमी होत जाते. अंधार पसरतो.....

हे सारे वर्णन सायंकाळी साडेसहा - सातचे नसून भरदुपारचे आहे असे सांगितले तर कुणालाही आश्चर्य वाटेल. पण ज्यांनी १९८० चे स्वग्रास ग्रहण पाहिले आहे त्यांना याचा प्रत्यय आला असेल. सूर्यग्रहण म्हणजे 'फास्ट फॉरवर्ड' केलेली संध्याकाळ व सकाळ, अशा शब्दांत दा.कृ. सोमण यांनी स्वग्रास सूर्यग्रहणाचे वर्णन केले आहे.

सूर्यग्रहण अमावास्येच्या दिवशी व चंद्रग्रहण पौर्णिमेच्या रात्री दिसते. ग्रहणासाठी पृथ्वी, सूर्य व चंद्र यांचे मध्य एकाच सरळ रेषेत, एका प्रतलात (Plane) आले पाहिजेत. सूर्यग्रहणाच्या वेळी चंद्र हा पृथ्वी व सूर्य यांच्या वरोवर मध्ये येतो, व त्यामुळे सूर्याला झाकतो. चंद्राची पृथ्वीभोवतालची कक्षा दंडगोलाकृती (Elliptical) असल्याने त्याचे पृथ्वीपासूनचे अंतर बदलत असते. यामुळे सूर्याच्या छायेचे पृथ्वीपासूनचे अंतर बदलते. जर चंद्राचे पृथ्वीपासूनचे अंतर खूप असेल तर सूर्याची छाया पृथ्वीपर्यंत पोहोचू शकत नाही व म्हणून कंकणाकृती सूर्यग्रहण दिसते. १९९५ चे ग्रहणमात्र सर्व ग्रहणाच्या पट्ट्यात स्वग्रासच (१००%) दिसणार आहे.

यापूर्वी भारतातून दिसलेली सूर्यग्रहणे (२० वे शतक)

२१ जून १९१४	सौराष्ट्र	स्वग्रास
३० जून १९५४	राजस्थान	स्वग्रास
१६ फेब्रुवारी १९८०	कारवार, कूर्ग	स्वग्रास

यानंतर भारतातून दिसणारी सूर्यग्रहणे (पुढील १५० वर्षांत)

१८ ऑगस्ट १९९९	अकोला	स्वग्रास
१५ जानेवारी २०१०	कन्याकुमारी	कंकणाकृती
३ सप्टेंबर २०८१		स्वग्रास
१४ मे २१८४		स्वग्रास
७ जून २१३५		स्वग्रास

२४ ऑक्टोबर १९९५

सन १९१४ व १९५४ ची सूर्यग्रहणे पावसाळी वातावरणामुळे नीट दिसू शकली नाहीत. १९९९ चे सूर्यग्रहणही पावसाळ्यात असल्यामुळे फारसे आशादायक नाही. परंतु यावर्षाचे ग्रहण मात्र सर्वच दृष्टींनी उत्तम असे आहे.

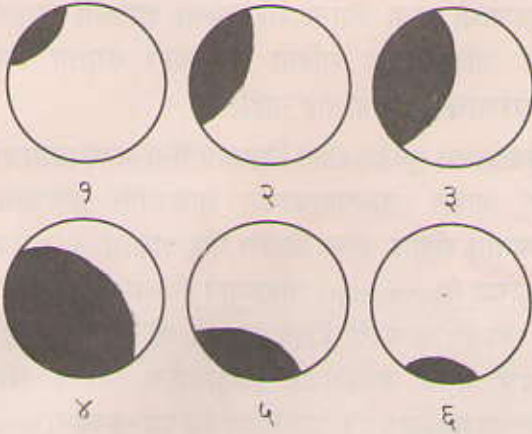
'९५ च्या ग्रहणाच्या वेळी सूर्याची छाया कुठे पडणार आहे याविषयीचा नासा (NASA) च्या पत्रिकेत छापलेला नकाशा सोबत दिलेला आहे. त्यावरून असे दिसून येईल की हे ग्रहण इराणमध्ये चालू होते. अफगाणिस्तान, पाकिस्तान मार्गे ते भारतामध्ये राजस्थानात सुरू होत आहे. १००% ग्रहणाचा हा पट्टा राजस्थान, मध्यप्रदेश, उत्तरप्रदेश, विहार व पश्चिम बंगाल या राज्यांतून जातो व याचा शेवट बॉर्नियो वेटांवर होतो. बॉर्नियो वेटावर संपूर्ण स्वग्रास सकाळी दहाच्या सुमारास दिसेल. येथे स्वग्रास ग्रहणाचा काळ सर्वात अधिक म्हणजे साधारण अडीच मिनीटे दिसणार आहे. याउलट राजस्थानात ग्रहण फक्त ४४ सेकंद दिसेल. इथे स्वग्रास ग्रहण साधारण आठव्या सुमारास दिसेल. परंतु सूर्य हळूहळू झाकायला सुरुवात साधारण एक तास आधी होते. तसेच संपूर्ण ग्रहण सुटायलाही एक तास अधिक लागतो.

यावेळी २४ ऑक्टोबर हा दिवस ऐन दिवाळीत येत आहे. २३ व २५ ऑक्टोबरला नरकचतुर्दशी व लक्ष्मीपुजन अनुक्रमेण आहे. मधला हा सडा दिवस म्हणजे अमावास्या आहे.

या ग्रहणाच्या बाबतीत मुंबईकर तितकेसे नशीबवान दिसत नाहीत. कारण मुंबईतून केवळ ७२% सूर्य झाकलेला दिसणार आहे. याउलट दिल्लीकरांना ९६% सूर्य झाकलेला दिसणार आहे. पण तरीही असे खंडग्रास सूर्यग्रहण मुंबईतून साधारण एक तास सकाळी आठच्या सुमारास दिसेल. मात्र यातील ७२%

चा काळ फारच कमी असेल.

गुंबईवरून दिसणाऱ्या ग्रहणाची साधारण स्थिती



- | | |
|--------------------|---------------------------------|
| १. ग्रहणास सुरुवात | ४. जवळजवळ ७२% ग्रहण |
| २. First Contact | ५. Third Contact |
| ३. Second Contact | ६. Fourth Contact (ग्रहण सुटले) |

ग्रहणाचे परिणाम :-

ग्रहणाचा सर्वात मोठा वातावरणावर होणारा परिणाम म्हणजे तापमान अतिशय वेगात खाली उतरते. खंडग्रास सूर्यग्रहणाच्या वेळी ते किती खाली उतरले हे सूर्य झाकल्यावर अवलंबून आहे. १९८० साली जेव्हा खंडग्रास ग्रहण दिसले होते तेव्हा तापमान ७° सेल्सियसने खाली उतरले होते.

तापमानात अचानक घडून येणाऱ्या बदलांमुळे इतर अनेक परिणाम होतात. हवेचा दाब अचानकपणे जास्त झाल्याने वारे वाहू लागतात. ज्या ठिकाणांहून सूर्यग्रहण खंडग्रास स्थितीत दिसणार आहे तिथे एक अजब दृश्य दिसेल. ग्रहणाच्या वेळी झाडाच्या पानांतून जे सूर्यकिरण जमिनीवर उतरतात ते एकेक 'सूर्य' कोरीची प्रतिमा जमिनीवर काढतात. (Pinhole Camera Effect) अशा असंख्य सूर्यकोरी मग जमिनीवर दिसू शकतात.

संपूर्ण खंडग्रास सूर्यग्रहणाच्या वेळी आकाशात रात्रच उतरते. तापमान झटकन् खाली उतरते. पक्षी घरट्यांकडे परततात. ज्या वनस्पतींची पाने रात्री मिटतात त्या वनस्पती सुद्धा फसतात व पाने मिटतात. आकाशात एकेक तारा दृश्यमान होऊ लागतो.

ग्रहणाच्या वेळी प्राण्यांवर वाईट परिणाम होतात ही चूकीची

समजूत आहे. ग्रहण लागले तरी गाई व्यवस्थित चारा खातात, बुत्रे दूध पितात व माणसं पोटभर जेवू शकतात (आणि या अन्न 'ग्रहणाचा' त्यांना काहीही त्रास होत नाही) हे १९८० च्या ग्रहणाच्या वेळी प्रत्ययास आलेच आहे. ग्रहणाच्या वेळी वॅक्टेरियांची वाढ मात्र जास्त होते असे काहींचे म्हणणे आहे. कदाचित याच कारणास्तव प्राचीन ग्रंथात ग्रहणाच्या वेळी अन्न घेऊनये असा आग्रह दिसतो.

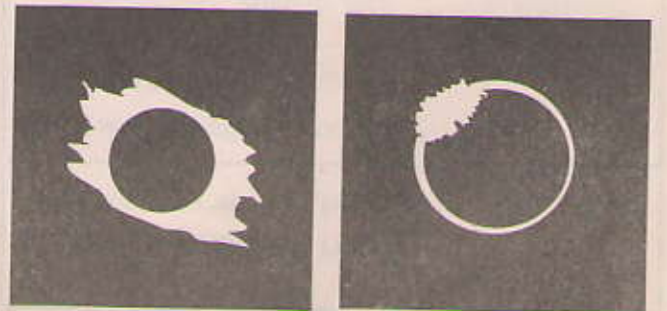
ग्रहणाच्या वेळी सूर्यापासून येणारी काही उपयुक्त ऊर्जाकिरण (Radiation) अडवले जातात. पण त्याचवेळी अतिरक्त किरण (Infra-Red Radiation) मात्र पृथ्वीवर पोहोचतात. हे किरण डोळ्यांना अतिशय धोकादायक असतात. म्हणून ग्रहण पाहताना काळजी घेणे आवश्यक आहे.

ज्यावेळी सूर्याची कोर दिसत आहे तेव्हा योग्य ते फिल्टर लावलेले चष्मे वापरून सूर्यविंब पाहावे. काळे गॉगल, अल्युमिनीयम फॉईल्स किंवा निगेटिव्हज यांचा वापर करू नये.

सूर्यविंब संपूर्ण झाकले गेल्यावर मात्र उघड्या डोळ्यांनी आकाशाकडे पाहण्यास काहीच हरकत नसते. (हे केवळ १००% खंडग्रास सूर्यग्रहणासाठीच लागू आहे.) अशा वेळी झाकलेल्या सूर्यविंबाच्या कडेने प्रकाशकिरीट (Corona) दिसतो. प्रकाशाचे हे वलय म्हणजे दुसरेतिसरे काही नसून सूर्याच्या Photosphere चा प्रताप आहे. प्रकाशकिरीट इतर वेळेसही मौजूद असतो. परंतु सूर्याच्या Chromosphere मुळे तो दिसू शकत नाही. ग्रहणाच्या वेळी Chromosphere झाकला गेल्याने सूर्याचे हे तेजोवलय दृश्यमान होते. सूर्याच्या अंतर्गत घडामोडींवर प्रकाशकिरीटाचा आकार अवलंबून असतो. यावर्षीच्या ग्रहणाच्या वेळी Corona बराचसा लांबट व पसरलेला दिसेल.

करोना (प्रकाशकिरीट)
खंडग्रास

Diamond Ring



सूर्यग्रहण स्वग्रास असो की खंडग्रास, ग्रहणाचा आणखी एक सुरेख परिणाम म्हणजे Bailey's Beads होय. चंद्राचा पृष्ठभाग हा नाटकसिनेमांत वापरल्या जाणा-या काचेच्या चंद्राप्रमाणे गोल नसून खडबडीत आहे हे सर्वांना ठाऊक आहेच. या उंचसखल प्रदेशामुळे सूर्याचे काही किरण वक्रीकरण (Diffraction) होऊन पृथ्वीपर्यंत पोहोचतात. यामुळे ग्रहण लागलेल्या सूर्याच्या कडांना लाल माणकांसारखे बारीक मणी दृश्यमान होतात. यांची संख्या चंद्राच्या स्थितीवर अवलंबून असते.

सूर्यग्रहण ९६% पर्यंत असेल तर Diamond Ring Effect दिसू शकतो. याचा अर्थ असा की सूर्याची गोलाकार कडा दिसते व त्याचा मध्ये परीघावर जास्त प्रकाशाचा भाग दिसतो. त्यामुळे हे दृश्य एखाद्या अंगठीप्रमाणे भासते.

स्वग्रास सूर्यग्रहणाचा आणखी एक परिणाम म्हणजे shadow Bands होय. १००% ग्रहणापूर्वी ५-६ सेकंद व ग्रहण सुरुल्यानंतर ८-१० सेकंद एवढ्याच वेळात ग्रहणाच्या पटट्यात Interference Pattern दिसू शकतो. ठळक व विरळ अशा प्रकाशाचे नागमोडी पट्टे एखाद्या मोठ्या सपाट पृष्ठभागावर (सपाट भिंत, जमिनीवर पसरलेली पांढरी चादर अथवा माणसाच्या अंगावरील पांढरे शर्टसुद्धा) दिसतात. या पट्ट्यांची गती त्यावेळच्या वातावरणाच्या परिस्थितीवर अवलंबून आहे. वातावरणात कंपन (Turbulence) जास्त असल्यास Shadow Bands उत्तम तऱ्हेने दिसू शकतात. ग्रहणाच्या इतर परिणामांची (Corona, Diamond Ring, Bailey's Beads इत्यादी) फोटोग्राफी योग्य तितके फिल्टर वापरून व जास्त Resolving Power असलेले भिंग वापरून करता येते. पण Shadow Bands च्या वेगामुळे व कमी वेळामुळे व्हिडीओवर शूटींग करणेही दुरापास्त ठरते. याच कारणास्तव Shadow Bands चा फारसा अभ्यास झालेला नाही.

ग्रहणस्थिती	दृश्य परिणाम
स्वग्रास	प्रकाशकिरीट, Bailey's Beads, Diamond Rings, Shadow Bands
खंडग्रास	Bailey's Beads, Diamond Ring (९६%) ग्रहण लागलेल्या सूर्यप्रतिमा

आवाहन

बरील तकत्यातून हे स्पष्ट होईल की मुंबईकरांना निराश होण्याची गरज नाही. उत्तरेत कुठेही न जातासुद्धा ७२% सूर्यग्रहणाची मजा त्यांना घरबसल्या चाखता येणार आहे. आणि ऑक्टोबरचा महिना असल्याने ढगांचा, पावसाळी वातावरणाचा त्रास होणार नाही.

मुंबईतल्या मुंबईत हौशी विज्ञानप्रेमींना करण्यासारखे अनेक प्रयोग आहेत. तापमापकाच्या साहाय्याने ग्रहणाच्या वेळी तापमानात होणार बदल आपण पाहू शकतो. तसेच वायुभार-मापकाच्या (Barometer) साहाय्याने हवेच्या दाबात होणारे बदल पाहू शकतो. वाऱ्याची दिशा बदलते की नाही हे पाहू शकतो (सरदार पटेल कॉलेजच्या विद्यार्थ्यांना माहीत असेल की कॉलेजच्या गच्चीतच एक वायुदिशादर्शक पवनकुक्कुट (Windcock) आहे. म्हणजे फार लांब जायलाही नको !). झाडांच्या पानांतून जमिनीवर उतरणाऱ्या ग्रहण लागलेल्या सूर्यप्रतिमा पाहू शकतो व त्यांची फोटोग्राफीही करू शकते (यासाठी फिल्टरची गरज नाही). ज्यांना जीवशास्त्रात औत्सुक्य असेल व ज्यांना Microscope उपलब्ध असेल त्यांना Bacteria ची वाढ प्रत्यक्ष होते का नाही याचे संशोधन करता येईल.

आणि यातले काहीही जरी केले नाही तरी ग्रहण 'याची देहि याची डोळा' पाहण्यातला आनंद तर आपण लुटू शकतो ! असे म्हणतात की माणसाच्या आयुष्यात ग्रहणाचे योग फक्त तीनदा, स्वग्रास ग्रहणाचे तर केवळ दोनदा येतात. आणि यांपैकी पावसाळा वगैरे बावी धरल्या तर फार तर एखादे ग्रहण आपण नीटपणे पाहू शकतो. तेव्हा योग्य ते काळे फिल्टर वापरून ह्या ग्रहणाचा मुंबईकरांनी अधिकाधिक आनंद लुटावा ही इच्छा !

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