

# Chalk and Duster

(Reminiscences of a math. teacher)

P. C. Vaidya

I joined the teaching profession as a lecturer in mathematics in 1940. Since then I have been working with Chalk and Duster. Till this day, I must have written a lot with the chalk and rubbed it all off the board with the duster and yet some of that writing is still retained in the dept of memory. It is the purpose of these series to reproduce reminiscences from the recesses of memory.

$$1. \quad \frac{1}{2} + \frac{1}{3} = \frac{6}{2+3} ?$$

The Dharamendrasinhji Arts and Science College started functioning from 1938 and initially was teaching upto intermediate arts and science classes. In 1940, the teaching was to be extended to the full four year course leading to B.A. and P. Sc. degrees and so new teachers were to be recruited. There I got selected as a lecturer in mathematics on the salary scale of 80-5-100-10-140.

In those days regulations of the Bombay University required that the Governing Body of a College should provide a sum of Re. 1 Lakh as fixed deposit in a bank before seeking affiliation to teach degree classes. The college at Rajkot was run by the princely state

of Rajkot. But in 1940 that "princely" state was not in a position to spare Re. 1 lakh from its treasury to be put as fixed deposit with a bank. So it was decided that the Society of Jesus (which is ~~now~~ running the prestigious St. Xavier's College at Bombay) would take over the college, supply the necessary fixed deposits and run the college. So when I joined the college staff on 20th June, 1940 Rev. Fr. Estellar (A professor of Sanskrit) was the principal and we got the unique opportunity of working under an enlightened Bombay-based management in a native Kathiawar (Saurashtra) based environment.

The old professor of mathematics at the college had reverted to Rajkot state service and my senior colleague Prof. Oka and myself were both new to the place and fresh to the profession. I had joined after appearing at my M.Sc. examination and the result was yet to be declared while Prof. Oka was a year senior to me for his M.Sc. and so he was the Head of the department with a starting salary of Rs. 90 p.m.!

In this way I got an opportunity to begin my teaching career in a tradition-free (and so also in a prejudice-free) atmosphere on a clean slate, as it were. To-day I feel that I developed into a mathematics teacher of a type distinct from normal college teachers of those days largely because of this clean-slate beginning. Of course,

this beginning with a clean slate also had its disadvantages. For example, I had to learn certain niceties of mathematics teaching and the so called, tricks of the trade, the hard way and in the process got many bruises - but then perhaps the best way to learn a trade is to learn all by one's own efforts. I still remember one such incident of learning the trade, the hard way.

In the first year of the four-year degree course we had two ~~classed~~ classes of 150 students each. And an average Saurashtrian student of about 18 years would be quite tall; some of them would come to the class with a Safa (a Rajasthani head-gear) and with sharp moustaches. To go on speaking continuously for full 45 minutes before a group of 150 hefty youngsters and keep an eye on them while working on a black-board is not an easy job and many fresh teachers did find the job too tough. Of course if the teacher had fluency with the English language, half the battle was won. I had another advantage. I too hail from Saurashtra and have a height which would be a centimetre or two more than the height of the tallest in the class. And again my dress of light pyjamas and Sherwani came in handy. The result was that my class-room teaching went on without any serious problems and within a couple of weeks students started approaching me individually with their difficulties.

In the first year class I was teaching trigonometry. In calculations whenever you have a sum of terms with a numerator and a denominator and you want to do simplification then usually the first step is to take the L.C.M. of the denominators. I had worked out an example in the class using some such simplification. A student approached me later with a difficulty in that example. To-day, I do not remember the exact example but shall give here a simple illustration to explain the main point. The student has written in his note book  $\frac{1}{2} + \frac{1}{3} = \frac{6}{3+2}$  and he had

come to <sup>me</sup> be to understand how I had derived this result. I said, "you have inverted the right hand side". But the student said, "Sir, you had written  $\frac{6}{3+2}$  on the board". I explained to him the correct step and sent him off, but I was a bit worried. I looked into the class notes of several other students and found that some of them had written  $\frac{6}{3+2}$  while some had written  $\frac{3+2}{6}$ .

This little investigation led me to the root of this confusion. We ~~are~~ wish to simplify  $\frac{1}{2} + \frac{1}{3}$  we begin with putting the "equal to" sign and then drawing a line ( $\frac{1}{2} + \frac{1}{3} = \underline{\quad}$ ). The L.C.M. of 2 and 3 is 6 so we write 6 below this line and then 3+2 above the line. Now when you work on the blackboard in a big class in this manner, it is very likely that some students would write 6 above the line and 3+2 below, because they

have to follow your fluent English and take notes and in the process perhaps they do not have time to look at the blackboard. A teacher should not work out examples on the blackboard in a classroom in the same manner in which he works examples in his notebook. In a class, after each step, the teacher should wait till his sound reaches the farthest student and till that student puts down the step in his note-book. Only then should he start with the next step. But then after writing the first step you cannot afford to remain silent for the few needed seconds. For this purpose he must form a habit of explaining in so many words the process by which he passes from the first step to the next. After this experience I started organising my lecture on the following lines: "We want to simplify  $\frac{1}{2} + \frac{1}{3}$ . First we shall find the L.C.M. of 2 and 3. In such case we first write the L.C.M. in the denominator." After these words I would write  $\frac{1}{2} + \frac{1}{3} = \frac{\quad}{6}$  on the board. And so on...

Using modern management-terminology I would say that feed-back from the students taught me how to organise blackboard work in a big class.

### 2. The Holi Festival - princely style

After the visit of the university

committee ~~to~~ to the college <sup>members</sup> were heard in the college common room that the N.M. Shah group of the university senate did not favour the idea of a college at far away Rajkot being managed by a Bombay-based society. The issue of the affiliation of our college was to be ~~discussed~~ discussed at a meeting of the senate of the Bombay university on 13th Oct. and when the college closed for Diwali holidays on 10th Oct. teachers departed with a nagging doubt that the college may not get affiliation and the end of vacation on 10th Nov. may mark the end of their Rajkot job.

During the vacation we heard reports (news papers were not that common so they are to-day) that when the question of affiliation of the college came before the senate, a representative of St. Xavier's college moved the resolution granting affiliation but no one stood up to support that resolution. Thus the resolution could not be brought on the table of the senate for want of support and the matter ended there. We later heard further reports that Prof Yagnik of Bhavnagar has been appointed principal of our college. He moved round several native states of Saurashtra and collected donations to make up the fixed deposit of Rs 1 Lakh and that from the second term the college will be managed by the Rajkot state.

When the college reopened on 10th Nov. we found that most of the hearsay reports ~~are~~ <sup>were</sup> correct. Those were pre-independence days, (1940) and the Quit India movement of 1942 was two years away. Again in 1938 a satyagrah against Rajkot state was organised and in that connection Mahatma Gandhi had undertaken a week-long fast at Rajkot. In those turbulent times working in the service of Rajkot state would be a difficult job for a person of my temperament. And in just one term situation developed leading me to decide that it was not possible to continue in this service even if it implied leaving aside the chaste and the dusts.

Let me relate a couple of instances - sample of the management by a small native state.

In those days, official common room meetings were held at the beginning and end of each term. Time-tables, Union-activities, College examinations, results, freships, scholarships etc would be topics discussed at those meetings. Under the management of the Bombay-based society an informal atmosphere prevailed at these meetings and teachers used to voice their views freely at ~~these meetings~~ during discussions. One of our colleagues was a chain-smoker and in the free atmosphere of the common room he would formally ask for permission of the chairman and would enjoy his smoke. In the second term

at the first meeting of the common room under the new management, this professor, in his usual way took out a cigarette, put it between his lips, took out a match box and then looking at the Principal said in his natural tone, "I hope you don't mind." Immediately came the response, almost a lion's roar, "I do."

My salary was fixed at Rs. 80 = per month. But when the university inquiry committee in its report, referred to "the beggarly salary paid to the lecturers", we were all given an advance increment, and my salary became Rs. 85 = per month! And the very first effect of the change in college-management was that from the princely salary of Rs 85 per month contributions to (1) war fund and (2) state gymkhana were regularly deducted every month. I had not much to grumble about the second deduction. At the most it could be classified as ridiculous. I had to pay the fees for the state gymkhana which I was not entitled to join! Only officers getting a certain minimum salary were entitled to use the gymkhana facilities and my salary was below that minimum — of course all state-servants had to pay gymkhana fees proportional to their salary irrespective of the above minimum.

As regards deductions for the war fund I had conscientious objection to it. The second

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world war <sup>was</sup> ~~had~~ already on and in 1940 it was limited to Europe only. England declared war on Germany and by a stroke of pen British rulers made India join that war. Gandhiji objected to this procedure. The issue of joining ~~to war~~ or not joining the war should be decided by India to serve Indian interests and not by Britain to serve British interests. As a token of protest against this policy of British Raj, movement of Individual Satyagrah was already launched and everyday selected group of patriots were publicly opposing this thrusting of war on India and were being arrested, tried and sent to jail. It was in this surcharged circumstances when the national atmosphere was surcharged with opposition to an unjustified war thrust on the native nation, that I saw the deduction of contribution to war-fund from my salary. I felt it was a shock to me and I felt a sense of self humiliation. The first thought I got was that I should quit this government service by the term-end, and silly episode during the Holi festival strengthened this idea.

The college was closed on the day of Holi, but at noon we received a note from the principal. All college teachers were invited <sup>to meet</sup> ~~by~~ His Highness the Thakore Sahib of Rajkot at 3 p.m. and so we were asked to assemble at the college by 2-30 p.m. We gathered at the college, some of us being attired in their best suits for the occasion. We all got

into a ~~bus~~ special bus and reached Darbargurh, the official fortress-residence of the Thakore. On alighting from the bus in an open maidan of Darbargurh we found that on one side there were four big tank-shaped vessels full of coloured liquid and half a dozen safa-clad youths were waiting by their side. As we started moving away from the bus these youths started splashing coloured liquid on us by means of Dolchis. This dolchi is a handy cylindrical tumbler open at both ends. To splash colour on persons with the help of these open-ended dolchis requires special training. College professors did not have that training while these youths were expert dolchi-wielders. They will wield their dolchi at a proper angle and splash the ~~col~~ liquid with such a force that you would feel as if a whip had been slashed on your back.

His Highness the Thakore Sahab was not not seen anywhere. Only his safa-clad minions were all around. Some of us who were not interested in playing Holi with these minions were standing aloof witnessing the kamasha. But then we received a flight of micae bulbs filled with oilbound colours. The bulbs aimed directly at our face! A few enthusiastic colleagues thought it was wise to participate actively in this dolchi-wielding sport and started splashing coloured liquid on the minions. Soon a couple of safa-clad youngsters bodily lifted one of these ~~col~~ Professors and immersed him in the tank and gave him the experience of diving

in coloured water a couple of times! Then we heard a hearty laugh from above and looking up we found that the Thakore Sahab was <sup>on</sup> the terrace enjoying this immersion ceremony!!

This activity for the entertainment of the Thakore Sahab went on for about 90 minutes. <sup>The</sup> Fast fact of all teachers presented a technicolour picture of black blue and green trees. The few enthusiastic teachers who were "lucky" to be immersed in tanks were shivering with cold. Then on orders from the Thakore Sahab, the programme ended and without any wash, we were led to a table for tea and snacks.

At 5 p.m. we placed our wet and coloured selves in the bus which left us at the college and with all our technicolour clothes and faces we either walked back or cycled back to our respective homes.

At home while cleaning the oil-bound colour from the face with kerosene soap and water, my mind was filled with anger as also with remorse. To get one self coloured like a statue, all for the entertainment of a single individual, not only that but during all this tamasha to pretend that one is enjoying it - what a degradation of human self-respect!

This served as the proverbial last straw on camel's back and I started looking around for an alternative work or job even if it involved leaving chalk and duster aside!