

# Cambridge: A Tradition Of Excellence

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How does it feel to be a student at world renowned institutions? Two eminent scientists remember the days they spent at two such schools of excellence.

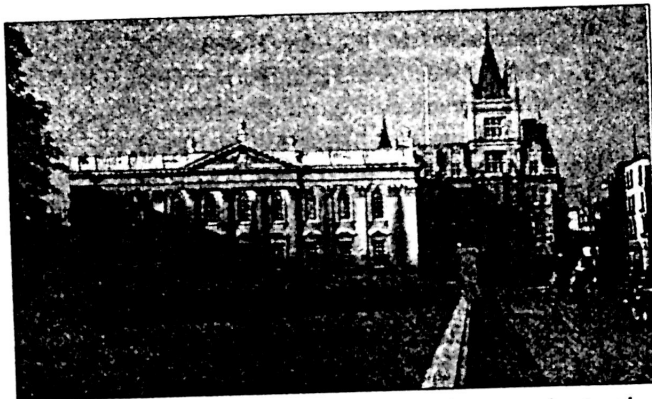
ONCE upon a time a few dissatisfied scholars from a university left in search of a better environment in which to continue their work. They moved to another part of the country to set up another university there. A case of brain drain...? Yes, except that it took place in 1209 A.D., about seven centuries ago... and the two universities were Oxford and Cambridge; universities that not only flourish today but continue their rivalry in sports as well as in academics.

"An Oxford man walks the street as if the whole street belongs to him whereas a Cambridge man walks without caring to whom the street belongs." Does this saying tell us that Oxford is famous for the politicians (parliamentarians, prime ministers and so on) that it has produced while Cambridge is better known for its scientific talent (Nobel laureates, FRS's and so on)? This, however, is one of the many ways in which the two ancient seats of learning are contrasted in their long traditions.

As I prepared to go to Cambridge as an undergraduate in 1957 I could boast of a modest tradition of my own family. My father (the late Prof. V.V. Narlikar) had been to Cambridge during 1928-32 and had a brilliant career as a mathematician

while my maternal uncle (the late Prof. V.S. Huzurbazar) had followed him in 1946-49 for a Ph.D. in statistics. I was going to the same college, Fitzwilliam, as they say.

Although I had topped the B.Sc. Examination at B.H.U. I had no illusions as to what lay ahead. My father and my uncle had both warned me that the Mathematical Tripos was



The senate house where examination results are read out and pasted on notice boards

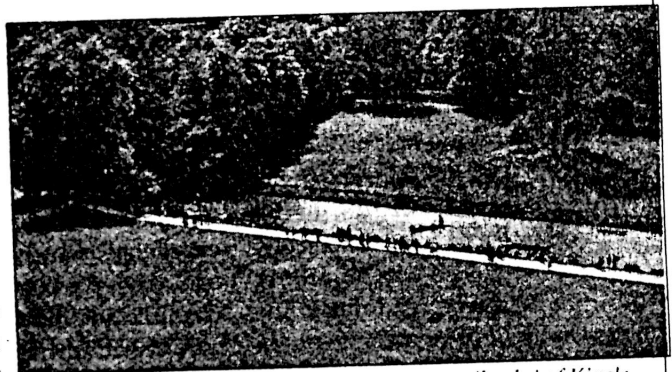
a different kettle of fish. Teaching at Cambridge involved no spoon feeding — rather it was a case of swim or sink. In the Cambridge system the intake of students is very selective and the teachers know that. So they go fast, covering one year's portion of an Indian university in a term of eight

weeks. Apart from the classroom lectures, the student may have supervisions once or twice a week to help keep pace with them.

The supervisors are appointed by the college while the lectures are the responsibility of the university. The university and the colleges form a two dimensional academic network that I found almost unique to Oxford and Cambridge. Thus a student or a staff member is identified with a faculty of the university and with one of the many privately endowed colleges.

While the dual membership system widens an undergraduate's horizon, there are numerous private clubs and societies where he or she can nurture a favourite hobby or pick up new ones. Thus the mathematicians have societies like the

Archimedeans and the Pythagorians while those with the spirit of physical



River Cam flowing through the famous green 'backs' of King's College

adventure can join the roof climbing society! The Cambridge Union continues to produce great debating enthusiasts who may become parliamentarians in the future. And so on. Then there are sports and there is the traditional rivalry with the "other place". Be it Rugby or Cricket or the Boat Race, the real joy comes when you watch your side win the event against Oxford. But come May or June, these hobbies and pastimes

refreshing contrast to what I had seen in India. The names of the examiners are announced beforehand: also the candidate writes his/her name on the answer book. The system works because inherently there is no corruption!

I was fortunate in having Fred Hoyle for my research supervisor. Working with Fred was an experience which began with the very first day I called on him to discuss my research possibilities. His approach was completely informal and he treated me on terms of equality. This helped me pick up self-confidence in my discussions, arguments and controversies which are so essential in research.

In my last year of the Ph.D. programme I was elected Fellow of King's College, the oldest of the three royal foundations in Cambridge established in 1441 by Henry VI. I quickly discovered that fellowship of a college adds an extra dimension to one's experience. Besides the rich food, vintage wine and the proverbial walnuts of the High Table one gets to know some of the famous Cambridge intellectuals. In my case I was privileged to know E.M. Forster who had a suite of rooms next to mine.

One of the first awesome impressions that Cambridge has on a raw student is of the concentrated wealth of talent in an area of a square mile. For me, textbook names like Dirac, G.P. Thomson, Cockroft, Crick, Perutz, Kendrew, Hoyle and Ryle, etc amongst the scientists, as well as an equally formidable list of economists, literary figures and philosophers came alive as ordinary men on the streets of Cambridge.

But excellence breeds and attracts excellence, which is why despite an age of over seven centuries (the first Cambridge College, Peterhouse, was established in 1284 A.D.) Cambridge is constantly renewing itself. A major renewal in astronomy took place while

I was there. With great personal efforts Fred Hoyle persuaded the Nuffield and Wolfson Foundations to support a new institute of theoretical astronomy. The government was lukewarm but Hoyle was confident that if the experiment succeeds it should do so in five years and the case for government support would be compelling, whereas if it failed he would have no compunction about winding it up. The new institute did succeed and today it is one of the few world class centres of astronomy.

In short, Cambridge unashamedly nurtures excellence whereas in India a similar desire brings the accusation of elitism. Can we name a single university in India where merit is the paramount criterion for academic recruitment be it a student or a senior professor? Let me close by listing a few such excellent personalities whom I had the good fortune to observe from close:

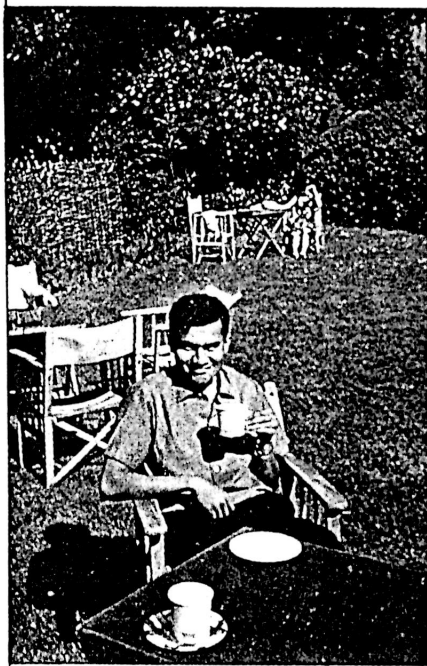
Paul Dirac, a Nobel Laureate who was one of the pioneers of quantum theory who lectured in his modest but precise way year after year to classes of undergraduates...

George Salt, a Fellow of the Royal Society, zoologist by profession but developing and nurturing a hobby for different scripts (including Indian ones) even at the age of ninety...

Fred Hoyle, who has not only made several fundamental contributions to astrophysics but even today at the age of seventy eight actively pursues his crusade for new ideas in astronomy...

E.M. Forster, who was always eager and anxious to know more about our subcontinent and though a nonscientist, had a great curiosity about science and the scientists. □

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*Sipping tea in 'The Orchard' at  
Grantchester*

take back seat as everyone gets down to the dreaded Cambridge examination called the "Tripos".

The examiners of the mathematical tripos prided themselves in setting highly original questions which can cause a shock to the unprepared. Thanks to my helpful supervisors and my habit of working independently, I did not do badly in the exams. But listening to the results being announced at 9 a.m. from the balcony of the Senate House was an ordeal: would my name be read out in the right class list? Fortunately it was on each of the three years. But the examination system itself was a