

A book on grief counselling cannot be complete without discussing unresolved grief. The authors have stressed the importance of the counsellor's limitations and the importance of referrals in certain cases where it is beyond one's competence. With the current models and a chapter on special issues such as loss due to AIDS, natural calamities and war, this book is rich in content and theoretically sound for a comprehensive understanding of the process of grief and its counselling. It is a good resource for professionals in their practice and also an important asset to institutional libraries.

Though most of the case examples are from the West, the book should be a good resource for counsellors in the Indian setting, because the authors have mentioned the social/cultural perspectives that have to be taken into consideration while counselling a grieving person. This perspective, which is one of the frameworks on which counsellors will plan their intervention, will help them to consider family type, support systems, religion and other issues

that are important to one's culture and frame of reference. The interventions presented in the book could be adapted and used in our setting.

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Letter from Mumbai

THE CENTRE FOR CELLULAR AND MOLECULAR BIOLOGY (CCMB) AND DR PUSHPA MITTRA BHARGAVA

CCMB is located at Habsiguda, Uppal Road, Hyderabad. It lies cheek-by-jowl with the older Indian Institute of Chemical Technology. It was while working in the latter institute—then named Regional Research Laboratory, Hyderabad (RRLH)—that Dr Bhargava proposed the setting up of CCMB using the Biochemistry Division of RRLH as its nucleus.

The current director of the institute, Dr Lalji Singh, himself a name to reckon with in Indian science, describes the early years of the centre on its website (<http://www.ccmb.res.in/reorgccmb/bharg3a.html>):

'Dr Pushpa Mittra Bhargava, widely regarded as the architect of modern biology in India... conceived the idea of establishing the Centre for Cellular and Molecular Biology (CCMB) and saw to it that it was built, equipped and staffed to uncompromising standards.

'It was his vision that *a centre for research in frontier areas of modern biology at par with those in Western countries can be built and maintained in India too* that led to what CCMB is today as acclaimed by many distinguished people. His vision of the establishment of CCMB fulfilled a long-felt need in the country for providing the necessary thrust in molecular and cellular biology. CCMB is the first institution in India devoted exclusively to research in frontier areas of modern biology and it has played a key role in the development of biotechnology programme in the country.

'The results of the care and attention to detail that Dr Bhargava evinced at every step are visible—in the laboratories as well as in the beautiful green surroundings. His experiment in forging a novel framework for the sharing of all facilities, equipment and chemicals amongst the scientific groups is unique in Indian set-

up. In effect, this means that the CCMB functions as one integrated laboratory; and so far this experiment has been successful. He is a firm believer in that science and art are the two facets of creative human activity and they go hand in hand. His penchant for aesthetics reflects at various places in the CCMB campus. Dr Bhargava's continued association and support to CCMB is a great help to maintain and improve these traditions.

'The Centre, formally set up as an autonomous organisation in 1977, moved to its own modern building complex and was dedicated to the nation by the then Prime Minister, Mr Rajiv Gandhi, on 26th November 1987. The inaugural function was attended by a galaxy of distinguished scientists including few Nobel Laureates such as Dr F H C Crick, Dr C D Gajdusek, Dr B S Blumberg, Dr J C Kendrew, Dr Georges Kohler and Dr S O Choa.'

I had the good fortune of being guided around parts of the institute by its founder. Let me share my experiences and amplify some details provided by Dr Singh.

There are no locks anywhere in the institute. All laboratories, offices and the library remain open all the time. Authorized research workers and students can work at all hours of the day and night. All equipment, howsoever expensive, belongs to the entire institution. Any research worker can use the equipment she or he needs without seeking any permission. After checking that the required instrument is not in use, all that is required is an entry into the book placed alongside each instrument, describing the person using it, the experiment and the duration of use. Likewise with chemicals, howsoever expensive they may be and whosoever be the person requisitioning it. There is one difference. Before using the chemical, it is necessary to take permission from the person who had ordered its purchase to ensure that the original experiment did not suffer. I found it interesting that equipment worth crores of rupees was available to any researcher on demand.

As Dr Bhargava guided me past the entrance, he pointed to the battery of computer monitors facing the receptionist. Seeing my puzzlement, he explained: 'There is a receptionist on duty 24 hours a day, 365 days a year. All freezers and devices where the temperature must be strictly controlled are provided sensors that constantly pass on real-time information on the status of the devices to the computers at the reception desk. If the temperature regulation fails in any unit, an alarm is sounded on the computer. By the side of the alarm signal appear the location of the unit, names, telephone numbers and addresses of individuals in charge of the maintenance of that unit. Within a minute of the alarm a telephone call is made to the engineer. The equipment is soon set right. The monitoring equipment can print out charts showing the temperature variations of each of these storage systems over days, weeks, months and even years.

As you walk along the corridors you pass ceiling-suspended monitors at frequent intervals throughout the institute. This is another interesting system in operation. Any important message, the need of a person calling at the reception desk for a particular researcher and even a request by a researcher for urgently required data can be flashed on to these screens. Anyone walking along any corridor can see the message and pass on the message to the appropriate scientist or act on it.

CCMB WITH MURAL ON ONE WALL

As I approached the building, I had seen a huge mural with scientific motifs on the front wall. On crossing the foyer I saw a number of beautiful paintings on the walls. Before I could ask, Dr Bhargava remarked: 'We had decided that everything should be done to make the environment conducive to excellent performances by our scientists. To this end we decided to enrich the surroundings by works of art. When we proposed purchase of these paintings, questions were asked in Parliament as to why a science research institution needed works of art! Fortunately, sanity prevailed. These paintings are now worth enormous sums and could probably fund another such institute if they were to be sold.' For details on the art collection see http://www.ccmb.res.in/ccmb_arts/main.html.

He is modest about the achievements of CCMB. 'They are the fruits of dedicated teams of researchers who have worked here.' I learnt from others that the dedicated teams were carefully hand-picked by Dr Bhargava and his colleagues who used a single criterion of selection—merit. When I asked him about this, he seemed surprised that this should be thought to be out of the ordinary. 'We did make an occasional mistake in our selection but were able to rectify it by dismissing the odd scientist that did not meet our standards.'



Fig 1. Centre for Cellular and Molecular Biology (CCMB), Hyderabad



Fig 2. The mural on the front wall of CCMB

A sign to the right of the foyer bore the name 'Haldane'. I asked if the laboratories were named after great scientists. 'No', said Dr Bhargava as he led me down a few stairs into an area lined with book shelves. These house the personal library of books and papers of Dr J. B. S. Haldane and his wife, Dr Helen Spurway.

Dr Spurway was at least as interesting a person as her husband. Haldane succumbed to cancer in 1964. (You may remember his poem *Cancer's a funny thing*. In case you have somehow missed it, you can find it at <http://www.oatridge.co.uk/Haldane.htm>.) After his death Dr Spurway shifted to Hyderabad on the advice of friends. Dr Bhargava first heard of her as an eccentric woman who kept all kinds of pets from chicken and jackal, to deer and tortoises. Dr and Mrs Bhargava took her under their wing and served as her guardians.

After the death of Dr Spurway in 1978, Naomi Mitchison (Haldane's sister) gifted Haldane's books and papers to Dr and Mrs Bhargava. They, in turn, gifted them to CCMB. (For more information on the Haldane archives see Dr Veena Rao's essay in *Wellcome History* Issue no. 24, October 2003. Dr Rao's essay can be accessed at www.wellcome.ac.uk/stellent/groups/corporatesite/@msh_publishing_group/documents/web_document/WTD006098.pdf.)

Dr Bhargava remains delighted by the centre he helped create and its achievements. He is quick to lavish praise on others including Dr Lalji Singh. I came away wishing I was eighteen once again, ready to work in such an institute.

CONFERENCE ON 'NATIONAL AGENDA ON PROBLEMS AND SOLUTIONS', HYDERABAD, 12-14 DECEMBER 2008

The National Centre for Science Communicators and Vigyan Prasar organized this conference as their tribute to Dr Pushpa Bhargava on his eightieth birthday. This is fitting for Dr Bhargava has done much to bring science and the fruits of research in India to the notice of our countrymen. As several speakers pointed out, Dr Bhargava was one of our earliest 'science communicators'.

In the space available in this column, I shall refer to two outstanding presentations.

Dr Lalji Singh, Director, CCMB, spoke on his work on DNA fingerprinting, tracing its development from the work of Francis Galton to his own contributions. The phrase is derived, of course, from the use of actual fingerprints in criminal investigations. (It is of interest that Sir William Herschel, Chief Magistrate of the Hooghly district, India, first used fingerprints as means of identification in July 1858.) Among other forensic cases Dr Lalji Singh had cracked using this technique, was that of Premananda, the self-styled godman who ran an ashram in the Tiruchirapalli district of Tamil Nadu until his conviction on multiple counts of rape and murder in 1997. Premananda moved from Sri Lanka to Tamil Nadu in the 1990s. Initially, the Ashram was noted for taking in orphans, especially girls from the local area as well as refugee families from Sri Lanka. Allegations concerning his inappropriate behaviour towards the girls in the Ashram surfaced. After a thorough investigation in 1997, he was convicted on several counts of rape, possession of unauthorized foreign exchange and a single count of murder (of Arul Jyothi). The clinching evidence emerged from Dr Lalji Singh's laboratory, which showed that the swami had fathered the foetus aborted from Arul Jyothi.

Mr Ram Jethmalani, counsel for Premananda, got the foetus examined by Dr Wilson Wall, who reported that the foetus was certainly not fathered by the swami. Dr Lalji Singh pointed out that this 'expert' was unknown to the scientists in Britain working on DNA fingerprinting. It is to Dr Singh's credit that the judges upheld his evidence and that of Dr Wall was discredited even after the case went into appeal. Premananda was sentenced to two life imprisonments and denied the benefit of any remissions.

Before I close this letter, I must call attention to the paper presented by Dr Anagha Amte of Gadchiroli. Working at the centre set up by her husband's grandfather, Baba Amte, she described life and work in an atmosphere where nothing is guaranteed. Electricity is erratic and if a storm blows down the electricity pole leading to the centre, they may have no supply for days or even weeks till the engineers reach this remote site in an adivasi settlement. Drugs are always in short supply and, in any event, are procured with difficulty. Doctors in the centre must be experts in all aspects of medical care for the nearest hospital is almost 100 kilometres away with no transport available to take patients there. She demonstrated vividly in her photographs the many major illnesses and injuries that force patients to travel through forest, over hill and down dale, to their centre, often taking over 24 hours to reach it. No one in the audience will forget the living skeleton with tuberculosis or the man mauled by a bear or the person with a huge fungating cancerous tumour ravaging most of his face and jaw. She narrated her account without the least trace of self-pity and in a matter-of-fact manner as if to say: 'This is the reality in our tribal belts and these are the ways in which we try and help them.' The audience saluted the efforts of the intrepid Amte family and their colleagues.

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