

Creative science

Shiv Viswanathan in his article 'The tragedy of K. S. Krishnan' (*Curr. Sci.*, 1998, 75, 1272-1275) mentioned that 'Ashish Nandy's *Alternative Science* showed that Jagadish Chandra Bose eventually succumbed to the pressure of being original and fabricated his data'. I have read the above-mentioned book and found no such statement. There are *unsubstantiated* statements such as 'he refused to see the experimental results his colleagues obtained if the results contradicted his own ideas' (p. 51) and 'Bose began to stretch his experimental results and to force his associates to do the same' (p. 55). This is not the same as fabricating data. In a book with pretensions to scholarship, replete with footnotes, why is there no evidence for such statements?

It is not Bose but Nandy who succumbed to the pressure of trying to find an original psychological angle of debunking. The book contains many references to Bose's failure as a scientist.

Nandy begins Part I with the lines, 'I met Jagadish Chandra Bose accidentally'. One does not need much time to discover that he means this metaphorically! Later he says he is in no position

to judge Bose's scientific contributions, but sallies forth nonetheless. The passage of 20 years has shown how shallow was his judgment; Bose's discovery of millimetre wave radiation and his work on Schottky barrier detectors (American patent!) were enough to establish him as a giant of the times – one whose observation of negative and positive effects in coherers was a precursor to the discovery of *p*- and *n*-type semiconductors. Should we listen to Neville Mott who said that 'J. C. Bose's discoveries were 60 years ahead of time', or should we heed Nandy?

Nandy's search for controversy is apparent when he refers to Sister Nivedita. He writes on p. 45, 'the relation between the nun and the scientist gradually turned into a deep – I am sorry to disappoint the reader – platonic bond'. Nandy would be well advised to explore the relationship between Madame Curie and Paul Langevin. It is time we stopped referring to this flawed piece of muckraking – hardly a good example of providing 'backstage' information and nothing more than a simplistic Freudian analysis.

What motivated Bose to switch to biology? According to Nandy it was

'visions of a grand defeat and what could be paradoxical fear of negative success...'. Nandy in his ignorance is not aware that such switches have occurred many times – Donald Glaser, after a Nobel Prize for the discovery of the bubble-chamber and most recently John Hopfield, going over from particle and condensed matter physics, respectively to biophysics. When Bose turned to the study of plants, he was returning to his first interest – life sciences – since he went to England originally to study medicine. His experiments were path-breaking at the time, no matter that the basis did not exist for correct explanations. As to what is success – most *great* scientists seek out challenging problems and often fail in their final endeavour – witness Heisenberg's approach to unification, (not to mention Einstein) and Raman's theory of colour perception.

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NEWS

Waterman Award for Chaitan Khosla

Chaitan Khosla, 34, Professor of Chemical Engineering and Chemistry at Stanford University, California, is to receive the 1999 Alan T. Waterman Award of the US National Science Foundation (NSF). The award named after NSF's first director is intended to honour an outstanding US scientist below the age of 35. The award carries a \$500,000 research grant for study in any field of science or engineering.

Khosla, an alumnus of the Indian Institute of Technology, Mumbai, received his B Tech degree in 1985 and subsequently obtained a Ph D at Caltech. He has been honoured for his remarkable work on genetic engineering of polypeptide biosynthesis which has opened the way for production of new antimicrobial agents. Khosla is credited with pathbreaking work on erythromycin biosynthesis and elucidating mo-

lecular mechanisms which has now led to great interest in the production of novel antibiotics. Commenting on the award to Khosla, University of California-Berkeley chemistry professor Peter Schultz said that 'Khosla's creativity, productivity and intellect are defining the forefront of his field and opening a whole new opportunity at the interface of chemistry, biology and chemical engineering.