

sulted in isolating *Y. pestis*<sup>1</sup>. In addition, the boldness with which the government officials had declared that the cause of the outbreak was plague did suggest that they were privy to information that was not available to the public or even to researchers in the field of microbiology in the country.

This new information raises more questions than it answers. Patel and Pandya say that their department had cultured and reported *Y. pestis*. I have followed the events in great detail<sup>2</sup>. The TAC, the Expert Committee appointed by the Gujarat state government and the WHO International Plague Investigative Team were clear that the then available evidence for pneumonic plague was only presumptive, being clinical and serological; that was not sufficient to confirm the cause as *Y. pestis* infection in the absence of identification by culture<sup>2</sup>. I too had been skeptical about the diagnosis of plague itself, mainly because the microbiologists in Surat apparently had not cultured this organism which is very easy to isolate and characterize. Therefore alternate hypotheses were mooted and one positive outcome was the recognition of melioidosis in India<sup>3</sup>. The Gujarat Committee had pointed out that the only microbio-

logical evidence for *Y. pestis* was presence of bipolar staining organisms in sputum smears. The cause of melioidosis is also bipolar staining.

The negative impact of the lack of timely evidence for plague was that the TAC had to unravel the mystery of the cause of the epidemic and it was their conclusive report of the isolation of *Y. pestis* and the detection of its genetic sequences in necropsy tissues that laid to rest the alternate speculations<sup>1</sup>. If Patel and Pandya had reported their data to any responsible agency, the TAC would not have been burdened with diagnosis but should have paid more attention to the reasons of the sudden appearance of pneumonic plague in a city, which have not yet been satisfactorily explained. The second reason for my earlier skepticism was the missing epidemiological links such as the lack of previously recognized sylvatic focus in the region, the absence of bubonic plague preceding pneumonic plague and the zero incidence of secondary cases. Since the attention of everyone was diverted from investigating the source of *Y. pestis* in a unique and unprecedented, exclusively pneumonic, plague outbreak, to the very diagnosis itself, the timely opportunity to ask this most important

question was lost. At this point in time I do not want to speculate on the source, but it is not easy to explain it as a natural outbreak. It is very important not to lose sight of this issue, since history has a tendency to repeat itself where people do not learn from it.

I am grateful to Patel and Pandya for their old but new information. They must now give more details about their data. What the dates of their laboratory reports were, how many isolates they had confirmed and to whom they had reported are essential to determine if their crucial observations had been suppressed for some reason by someone. They must also clarify why their findings had not found their way in a journal earlier than now. It is never too late for filling gaps in information, for, *Satyamevayathe*.

1. Report of the Technical Advisory Committee on Plague, New Delhi, 1995.
2. John, T. J., *Lancet*, 1995, 346, 765.
3. Cherian, T., Raghupathy, P. and John, T. J., *Lancet*, 345, 259.

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## Unfair to Hardy

A recent article reinterprets the known works on the life of S. Ramanujan without making any independent historical study and suffers from the prejudices of the authors who have made unproven conjectures (*Curr. Sci.*, 1998, 75, 326-327)<sup>1</sup>. Although it is true that British rulers promoted and nurtured only colonized mind, but is it justified to identify ruling and elite class with the entire society? Generally, sweeping statements encompassing the entire society are made, which in reality represent the attitudes of the minority: the elites. Haldane's quote given in ref. 1 also reflects a similar attitude. Leaving aside this, mathematicians have unequivocally recognized Ramanujan as one of the greatest mathematicians; and if G. H. Hardy was instrumental for this in the beginning, resurgence in Ramanujan's work in recent times is also

due to Western scientists. It may be pointed out here, although it is not directly related to the topic under discussion, it is Michael Berry, an English physicist, who is largely responsible for bringing Pancharatnam's phase to prominence.

Returning to the article<sup>1</sup>, I do not understand what the authors mean by the statement 'It was Ramanujan who discovered Hardy'. On the contrary, was it not Ramanujan himself who sought the opinion of the then famed mathematician, G. H. Hardy, on his mathematical work in 1913? Prior to this he had sent his papers to two eminent English mathematicians who had returned the papers without any comment. Thus, Hardy indeed has to be credited for recognizing and 'discovering' 'the natural mathematical genius' of Ramanujan<sup>2</sup>. Regarding the

education of Ramanujan, Snow<sup>2</sup> remarks: 'In an uncharacteristically sloppy moment, Hardy once wrote that if he had been better educated, he would have been less Ramanujan'. Also of interest are the remarks on Formal Education by Selberg<sup>3</sup>. Selberg notes, 'If Hardy had trusted Ramanujan more, they should have inevitably ended with the Redemacher series'.

Western education system seems to stifle original and creative minds and the dilemma faced by educated yet free thinkers need to be understood properly; for example, experiences of Selberg<sup>3</sup>, Hardy's wavering perception regarding education of Ramanujan and remarks of Snow<sup>2</sup>. Moreover, Green did not have any official academic degree and it was quite pertinently observed by Dyson<sup>4</sup>, 'If George Green were living today, since science

has become professionalized and PhD has become a necessary ticket for admission to the temple, he would have encountered much more formidable barriers to his ambitions. The insiders are now defending their turf against outsiders with bureaucratic weapons unknown in the 1830s'.

To sum up, the authors<sup>1</sup> are unfair to Hardy. Although, it is true that Vedic

tradition of knowledge and fundamentals of Indian culture are entirely alien to Western mind; but in the process of making the Indian society modern, the Indian intellectuals too have become more alienated from their roots.

1. Murugesapillai, K. and Santiapillai, C., *Curr. Sci.*, 1998, 75, 326-327.

2. Snow C. P., in *A Mathematician's Apology*: Foreword (Hardy, G. H.), CUP, 1967.
3. Selberg, A., *Resonance*, 1996, 1, 81.
4. Dyson, F. J., *Phys. World*, 1993, 33.

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## NEWS

### At IAEA PM, Chidambaram castigate original sinners—call for re-focusing Agency's role

At the forty-second regular session of the International Atomic Energy Agency (IAEA) held at its headquarters in Vienna in September, the head of the Indian delegation R. Chidambaram, Secretary, Department of Atomic Energy (DAE), asked the nuclear 'haves' not to create a situation where the leadership and the public in developing countries wishing to develop and harness nuclear power 'feel frightened by Safety and threatened by Safeguards'.

Chidambaram, while reading out a message to the conference from the Indian Prime Minister, said:

'Right from the time of our independence in 1947, our leaders had realized that a nuclear weapon-free world would enhance the security of all nations. That is why nuclear disarmament was and continues to be a major plank of our foreign policy. We had, therefore, called for a ban on nuclear testing in 1954, the aim of which was to prevent further development and stockpiling of nuclear weapons. This was not accepted, with the result that two new nuclear weapons states [France and China - *Eds*] emerged between then and the elaboration of the Non-Proliferation Treaty in 1968.

'We were among those countries that had participated in good faith in developing the concept of a non-proliferation agreement but found that the NPT text that emerged was discriminatory. It divided nations between those that were allowed to retain and

develop nuclear weapons and those that were forbidden the same right. It was also unbalanced, and imposed virtually no obligations on nuclear weapon states, and even these limited obligations were not honoured by them.

'The decades of the eighties and nineties had, meanwhile, witnessed the gradual deterioration of our security environment as a result of nuclear and missile proliferation. In our neighbourhood, nuclear weapons had increased and more sophisticated delivery systems inducted. In addition, India has also been the victim of externally aided and abetted terrorism and clandestine war. Under these circumstances, in the interest of national security, the Government of India had to take the decision of carrying out nuclear weapon tests.

'India's nuclear tests were not intended for offence but for self-defence. We have stated that we will not be the first to use nuclear weapons. We are willing to strengthen this unilateral commitment by entering into bilateral agreements on no first use or multilateral negotiations on global-no-first-use. Having stated that we shall not be the first to use nuclear weapons, there remains no basis for their use against countries that do not have nuclear weapons.

'We are a responsible Nuclear Weapon State. We are also the largest democracy in the world. Our non-proliferation credentials are impeccable; no equipment, material or technology exported by us to any country has been

misused. We have never violated any Treaty obligation.

'I reiterate that we shall continue to work towards the elimination of all nuclear weapons from the world in a time-bound framework and we earnestly hope that a Nuclear Weapon-free and peaceful world will one day be a reality. The recent Non-Aligned Summit at Durban has called for an international conference on the complete elimination of all nuclear weapons within the framework of a time-bound, universal and non-discriminatory Nuclear Weapons Convention.

'We also hope that in such a world the "developing" countries will progress on the path to prosperity and become "developed". For this to happen, nuclear energy will have to play its due role and the International Atomic Energy Agency should concentrate on this important scientific-technological task....'

Continuing, Chidambaram said:

'Over the last five decades India has worked for a nuclear weapon-free world because nuclear weapons for none means security for all. The Nuclear Weapon States as defined by the NPT selectively ignored the provision in the NPT which obliged them to work towards nuclear disarmament. They were even unwilling to include in CTBT a provision for a time-bound framework for nuclear disarmament which India had urged. The prospects for a nuclear weapon-free world