

ratories, and further starved the universities. It is well known that, unless one is extremely cautious at each step and thinks of various possible consequences before decision making, the poor get poorer and the rich get richer. It is as true in the context of academics as in any social context. The wisdom of creating this huge structure of national laboratories independent of the university system is now being questioned by scientists and science educationists because these laboratories have started feeling the pinch in the form of not

getting properly trained students who would man their research programmes. After all, where else are they going to get their manpower input from if not from the colleges and universities? But solutions are hard to come by.

C. V. Raman did his Nobel prize-winning research under poor conditions in a small laboratory and with equipment costing only a few hundred rupees. And then the public comes up with the question as to why we have not been able to produce any Nobel laureates in spite of having equipment worth crores of rupees.

(It is implied here that the work should be done in India. One wonders whether Hargovind Khurana, S. Chandrasekhar and Amartya Sen would have won the Nobel prize had they stayed back in India.) I would say that discoveries like that of Pradeep K. Bose show that we still have our C. V. Ramans!

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## A shower of meteors

It was an exciting and spectacular moment for all amateur star gazers in this part of the world. A shower of shooting stars (meteors) especially originating the constellation of LEO, (the Leonid meteor shower) was observed. We could see about 40 to 45 meteors from the southern outskirts of Bangalore (about 25 km from the city). The twinkling stars played hide and seek with us till 2 am, since clouds interrupted our view. We could spot some meteors around 1.45 am and then we had to wait for a long time for the next set of showers at about 2.25 am. The meteors (about 1–2) showered for every 3 min. Unexpectedly they varied largely in sizes and colours. Many of them were green, red, and the golden colour of the streak was prominent. Some of the shooting stars left trails behind for about a second

and disappeared suddenly. About 10–12 sporadic meteors were also spotted.

Though experts say that the show was not as expected or not so prominent, amateurs had a memorable show. We hardly get a chance to observe 40 meteors in a single night. Though the meteors were our focus of observation, we could not prevent our eyes from watching the rest of the sky, consisting of stars all around. Sirius, Pole star, the constellations of Ursa Major, Ursa Minor, Orion, Auriga, Cancer, Crab nebula, Orion nebula and of course the Leo constellation were very prominent due to a clear sky after 2 am. The belt of the Milky-Way galaxy was also observed.

We had a fantastic time gazing the stars from east to west. Especially the Leonid shower was quite exciting and

prominent at about 50° up in the eastern horizon. The showers became very sparse after 3.45 am and we had to call it a day to the explorative and highly educative wee hours of 18 November 1998. It was really an amateur star gazers' night.

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*Editors' note:* Chastened astronomers who were taken aback by the widespread disappointment on the morning after the Leonid meteor shower may take heart from this letter. Star gazing even when no meteors are expected may be a fruitful pastime.

## Animal research in India

The future of animal research in India will be severely hampered if the conditions proposed by the Committee for the Purpose of Controlling and Supervising Experiments in Animals (CPCSEA) are fully implemented. The reactions of senior scientists like Ramalingaswamy (*Curr. Sci.*, 1998, 75, 344–348) and Nitya Nand (*Curr. Sci.*, 1998, 75, 667–671) voice the concern of those who are involved with biomedical research in India. As Nitya

Nand points out, the committee should be functioning as a supervising body, rather than trying to impose impractical conditions which will only serve to curtail the scientific research in the universities and retard the progress of the various time-bound projects. Research in the universities is generally supported by sponsored projects for a period of 2–3 years. As a large number of laboratories are doing animal research, and, therefore, will

be seeking permission from the committee, how efficient and fast will the committee be in clearing the applications in time for the projects to be started and completed in the stipulated time? This is of serious concern, considering the slow functioning of our government.

It is very well to have alternative experimental models like cell cultures. But all said and done, we have to accept that animal experiments are an unavoidable