

In this issue

B. R. Seshachar

We publish two obituaries of one of our brilliant biologists – Professor B. R. Seshachar, by H. Y. Mohan Ram (page 58), and by Katre Shakuntala and M. D. Parthasarathy (page 60). We leave it to our readers to guess why we are publishing two obituaries.

I have heard Prof. Seshachar giving lucid lectures and seminars at the Indian Academy of Sciences. Much before the structure of DNA was solved or the subject of DNA became fashionable, Seshachar speculated on the DNA content in his specimens, the biological importance of DNA, DNA–RNA conversion, etc. There can be no doubt that his thinking was much ahead of his times.

Some time ago I wrote to him!

'You have been a pioneer in biological research in India. I feel you should write an article in *Current Science* informing the younger generation of scientists, about the motivations that compelled you to choose the problems you took up. It should not be a general review of the work you have done or of your achievements; but an article with the character of a personal reminiscence with anecdotes etc. which will be of inspirational value.'

To this he replied:

'I received your warm letter. . . . Thank you for asking me to write the article. Please let me think about it; I shall come back to you in a few days.'

A few days later he wrote:

This is in continuation of my letter of 13 January. I am not sure I want to write this article. For one thing, I don't seem to be good at writing of myself. Some people possess the gift I don't.

Second, I have in recent years been able to reassess science and its relation to values, especially as they relate to myself. You will recall Chandra's last plaintive cry to Wali, 'There must be other things'. I am currently exploring some of them. Also, had I sat down to write this article twenty years ago, I might have been able to do something of it. Today things seem distant and remote and I am not sure any observations I make have relevance or credibility.

I wish to thank you for asking me. With warm regards,

Yours sincerely

Seshachar

I received this letter on 25 January 1994, the day he died. One wonders whether he is still continuing his explorations.

S. R.

Raman phase conjugator

Only in science fiction we read that time can be reversed. Interestingly, an equivalent of time reversal was

achieved in optics a few years ago. Very justifiably it has become one of the frontier areas of research in physics. This phenomenon called the optical phase conjugation is due to a remarkable property of light, namely, for every light beam travelling in a forward direction there exists a 'time-reversed' beam which traces the same path in the opposite direction. In other words, the phase of the light wave can get completely reversed at every point in space. For example, a parallel undistorted beam which gets completely distorted after passing through an inhomogeneous optical medium can be reversed in phase to get back the original beam. The experimental feasibility of such a process has led to many interesting applications like the production of highly directed laser beams and self-targeting of radiation. There are also speculations that it is useful in starting a thermo-nuclear fusion in a dense plasma.

There are many techniques to generate phase conjugated beams. On page 35 Raghavendra Prasad *et al.* have used stimulated Raman scattering (SRS) with a multipurpose high pressure gas cell to generate phase conjugated beams. One can see in Figure 1, the beauty of optical phase conjugation achieved using SRS.

K. A. Suresh