Science as Society

Realising the 'Jai Vigyan' Slogan

By J V NARLIKAR

THE Prime Minister is to be congratulated for having added 'Vigyan' to the list of 'Kisan' and 'Jawan'. Though belated, this is a recognition of the major role science and technology are playing in shaping our existence. While Kisans feed us and Jawans protect us, science determines how we are to live.

All said and done, our attitude (as a nation) towards science and technology has been ambivalent just like our attitude towards alcohol is. No drinks to be served in any government-sponsored institution or function. Why? Because alcohol is bad. Then why are the leaders of our society, ministers included, seen to imbibe the stuff with relish at non-governmental functions?

Matching Horoscope

Same about science. We do not seem to make up our mind that it is good and worth having or that it is bad and the cause of all evil in society. Or more importantly, appreciate its strengths and weaknesses depending on how it is used. On the one hand we like to boast of the 'third largest humanpower' in science; on the other we keep asking why our scientists have not delivered the goods. There is a lobby which says that all this modern 'western' science is no good, abandon it and go back to simple living. There is another which, however, delights in showing that whatever the westerners discover today was known to our ancient forefathers.

One reason for our bewilderment as a nation seems to be that science has been thrust on us in a rapid way over the last century or so. Unlike the Europeans who saw it dawn and slowly evolve and then pick up speed over four to five centuries, we have jumped into a moving car just as it was accelerating, and are consequently still not able to find our bearings. Which is why beliefs and superstitions long debunked by science continue to thrive today. Marriages of even the well educated are decided by matching horoscopes. Cases of witchcraft, exorcism, etc. are routinely reported. All these, side by side with achievements in space, atomic energy, computer software, etc.

Western nations did not have to go through the kind of accelerated culture shock that India has had to face. For them changes were less abrupt, like the switchover to cars with less polluting exhausts. In our environment, bullock carts exist side by side with jet planes. For us a superfast train is one that averages 55 kph, a speed considered too slow for any ordinary train in an advanced country.

The key to reducing the prevailing contrasts lies in education. Unfortunately, education is an area that has received low priority in the agendas of post-independence governments of India. That even after five decades we are still trying to remove illiteracy, speaks for itself.

It is against this background that we have to assess India's scientific achievements. Take, for example, the nuclear blasts of May 11 and 13. There was a euphoria in the country. Without going into the political side of the issue, which is the major one, let us ask whether we need to be pleased that our scientists could successfully conduct those tests. I think we can be justifiably pleased that the scientists could demonstrate India's nuclear capability.

What about the criticism by some scientists that it was no big deal; that the technology involved is anyway decades old? This criticism is unjustified because it ignores the point I made above. When a country is trying to catch up and does not wish to rely on the 'beg, borrow or steal' approach to new technology, when you have to stand on your own feet to acquire it, even a three to four decade gap is creditable.

Right to Euphoria

Is euphoria a sign of immaturity? Perhaps, perhaps not. It erupts when you see something good happening unexpectedly. A university like Cambridge which has produced several Nobel Laureates may feel blase about the addition of one more. As and when India acquires one it has right to feel euphoric.

Euphoria over a scientific achievement is not common to this country alone. Even the so-called more mature western countries also feel euphoric when extraordinary achievements in science are reported. Even scientists occasionally lose their cool in the excitement of achievement. When NASA's COBE satellite found evidence of temperature fluctuations in the radiation background, the team leader in a press interview said that it was was like 'seeing the Face of God'! Of course, a cynic might say that some of the hype is intentional so that the US Congress would grant more funds for research.

The criticism mentioned above further stated that the achievement should be seen against the background of the far more challenging task of making and running nuclear reactors safely. I could not agree more with this aspect. For it underscores the fact that scientists have been doing some things, maybe less dramatic but more useful, successfully and they should be recognised as such. Harnessing technology to provide electric power and drinking water may seem mundane, but in our context it is extremely important.

Career Options

But I see clouds on the horizon. If one goes by the career options of young students today we see very few bright ones voluntarily opting for science. Even many of the bright IIT students eventually opt for management. All leading scientific research institutes in the country, the Bhabha Atomic Research Centre included, are having to do with a rapidly dwindling crop of research scholars. Why are students turning away from science?

Because they do not see exciting scientific research done on university campuses, all of which are vying with one another in attaining the lowest possible standards. Those few academics who are doing good research (and they deserve our highest respect) feel like fish out of water in such an environment. Not surprisingly, a recent survey conducted by *Asiaweek* had no Indian university in its merit-list of top institutions. How can an institution feature on a merit-list if merit itself is taking a backseat in its order of priorities?

Clearly, if we wish to even maintain our present standing, we need to revive science on the university campuses. Drastic measures and what Humphrey of the BBC serial *Yes Minister* would call 'a courageous decision' are needed.

As a nation, we can objectively measure our scientific maturity by four criteria: Do we have a scientific temper? Are we able to carry out frontier level research? Are we able to attract students to science? And, last, but not the least, are we passing on the benefits of science to improve the living standards of our large masses? I think we have great scope for improvement. Which is why, I hope that the 'Jai Vigyan' does not remain just a slogan for National Science Day, but carries conviction through action.