

## Science writing

I was delighted to read the editorial on science writers<sup>1</sup>. The write-up itself was a treat and to me was an exposition of a brilliant artistry meticulously bringing out the virtue of reading. Our search for good writers and ultimately great writers in science will be futile unless we have a tradition of reading enshrined in our curriculum at the tertiary level. Sadly enough we have come to believe that once we reach universities and conduct research, there is no need of reading any other writings except our own 'pool'. Why, for example, do researchers in biology not read Feynman's lectures on physics<sup>2</sup> or Heisenberg's lectures<sup>3</sup>? Why do physicists and chemists think that reading Edward Wilson<sup>4</sup> or Ernst Mayr<sup>5</sup> will be a futile academic exercise? Clearly, it is high time that our universities developed curricula that make it mandatory for all our scientific researchers to undergo training in the liberal arts, particularly in the area of critical thinking and analytical writing. Worryingly, as our older generation makes way for the newer one, our passion for good writing is fast waning. If we were to compare our teachers to our contemporaries and graduate students,

we will only realize that there is a perceptible downward trend in the penchant of good reading and writing. I also find that many of us are unable to feature in top-tier journals not because of our inability to pursue good science, but because of the failure to write in a coherent and lucid manner. It may have partly to do with our school education system that converts our young students into rote machines with little chance of a heuristic understanding. Hollingsworth<sup>6</sup> in a paper entitled, 'High cognitive complexity and the making of major scientific discoveries' argues that some researchers have higher cognitive complexity than others, setting them apart and taking them on journeys to make great discoveries. While he counsels that cognitive complexity cannot be imparted in the classroom or curriculum by pedagogical technique, he advocates that as a young scientist you need to be able to integrate novel perspectives on important problems from diverse fields of science, internalize a great deal of scientific and cultural diversity, and finally have an avocation different from the field of your own. This is the reason, he argues, that majority of

the great scientists, who made significant contributions through their discoveries, were/are also good painters, poets, journalists, novelists and musicians.

1. Balaram, P., *Curr. Sci.*, 2008, **94**, 1345–1346.
2. Feynman, R. P., *Six Easy Pieces*, Penguin Books, 1998.
3. Heisenberg, W., *Encounters with Einstein*, Princeton University Press, Princeton, NJ, 1989.
4. Wilson, E. O., *The Creation: An Appeal to Save Life on Earth*, W. W. Norton & Company, 2006.
5. Mayr, E., *What Makes Biology Unique?* Cambridge University Press, 2004.
6. Hollingsworth, J. R., In *Knowledge, Communication, and Creativity* (eds Sales, A. and Fournier, M.), London and Thousand Oaks, Sage Publications, California, 2007, pp. 129–155.

M. K. PANDIT

CISMHE,  
University of Delhi,  
ACR Building,  
Patel Marg,  
New Delhi 110 007, India  
e-mail: uspmkp@nus.edu.sg

## In defence of Vice-Chancellors

Vice-Chancellors (VCs) and politicians are often blamed for the condition of universities<sup>1</sup>. In reality, persons surrounding a VC are more culpable than the VC himself. Unfortunately a group of individuals (within the campus they may belong to any group or sub-group) often surround the VC and influence both major and minor academic and administrative matters, and make every VC more controversial than what he really may be.

A VC may be changed every 3–4 years but faculty, both academic and administrative, remain in the campus for 25–40 years. By the time they retire, the faculty may have successfully handled (read misguided) 8–10 VCs, besides more at other levels of hierarchy. Subsequently, their protégés continue.

To expect a VC who is a combination of an outstanding academician, able administrator working with selfless dedica-

tion, high integrity, excellent PR, etc., for every university in the country and that too every 3–4 years is impossible. Hence, there is a need to clearly state the responsibilities of and make other members of the academic and administrative community accountable as well.

It is also not fair to say that only a VC is a politician or gets appointed because of a politician. The same may hold true for a clerk, lecturer, professor, etc. Once an academician-turned full-time politician was asked 'why he had left academics to join politics'? He quipped, 'because there is less politics in real politics than in academics'! How does a politician get to interfere with the matters on university. It is we academicians who rope in politicians to get everything we aspire for. I have never come across any chancellor, VC or Education Minister who has prevented a faculty from taking

classes, mentoring graduate students or reading literature in his field. For every example which one may give regarding political interference, I think there will be many examples where things have happened or not happened because of our own lobbies and schisms.

So what is required? Glasnost and perestroika. Balaram<sup>2</sup> has rightly posed the question, 'Is this the opportune moment for a major intervention by governments, state and central, and academic bodies, which might catalyse a transformation?' Yes. But first of all they must be more transparent and restructure themselves before becoming capable of catalysing a transformation in the universities.

Another suggestion by Balaram<sup>2</sup> is 'Indeed, if reform and restructuring must happen, the movement for change must come from within the universities. The faculty and administrators at our univer-

sities must be active participants in defining the reform process'. Rightly said. But an anecdote highlights a problem. Once a group of faculty happened to pour out their grievance before a VC. The VC immediately constituted a 'grievances committee' and appointed a chairman to look into the matter. The faculty again rushed back to the VC and said:

'Sir, what have you done?'. The members of the 'grievances committee' are the ones who are responsible for the grievances of the faculty and students, and the chairman of the committee is the one who is the most responsible.

So what is to be done? Let readers of *Current Science* be active participants in defining the reform process.

1. Tauro, P., *Curr. Sci.*, 2008, **94**, 839.
2. Balaram, P., *Curr. Sci.*, 2008, **94**, 153–154.

A. S. RAO

*Department of Biotechnology,  
Bharathidasan University,  
Tiruchirappalli 620 024, India.  
e-mail: asraobio@yahoo.com*

## Access to science journals: Pros and cons

This is in response to the editorial 'Science Journals: Issues of Access' by Balaram<sup>1</sup>. He has rightly brought out a serious issue confronting the scientific community (especially in the developing countries).

The rage for judging scientific output in terms of the number of publications has given rise to an explosion in scientific literature<sup>1</sup>. The research potential and the scientific expertise of a researcher are measured by the number of research publications. More publications means more recognition, more fundings and faster promotion! Therefore, the insatiable demand for more publications in the scientific community is natural and is ever-increasing. I agree with Balaram when he says that with the publishers having caught the gravity of the situation, scientific publishing is increasingly becoming a profitable enterprise.

I am doubtful whether the criteria are helping in raising the research standard and increasing scientific performance. I suspect that they are also promoting plagiarism and resulting in sub-standard research publications. They have led to a phenomenal increase in the number of research journals and a substantial increase in their subscription rates in the recent past.

This may not be a problem for researchers in the developed countries. But it is really a matter of serious concern for researchers in the developing countries, including India.

For a responsible researcher or institution to ensure quality research and avoid repetition, it is essential to have access to the wide array of research journals and other publications in the concerned field globally. This necessity for access is becoming a matter of worry for researchers and institutions (with limited budgets) in the developing countries.

Balaram<sup>1</sup> has discussed two models – the 'reader pays' model and the 'author pays' model. In either case, the worst sufferers are researchers from developing countries.

In the 'reader pays' model for access to journals, the subscription rates are so high that most of the individual researchers in developing countries cannot afford these. So the burden falls on the institutional libraries which have tight budgets for purchasing publications. Thus, this profit-making practice (scientific publishing) is actually limiting the reach of research only to a privileged few. This is further widening the knowledge gap between the developed and the developing countries. This problem of access is more severe for the unpaid PhD scholars and independent researchers with no grants.

The 'author pays' model is also a matter of worry to researchers in developing countries. The costs to authors for publishing a single paper in a high-impact (open access) journal can be as high as US\$ 6000 (about Rs 2.5 lakhs)<sup>1</sup>. This is highly unaffordable to most of the re-

searchers in these countries, including India and they find it difficult to submit manuscripts to such journals. This model has two implications.

1. The research (even of high quality) carried out in developing countries fails to get published in high-impact journals and hence does not get the attention of the global scientific community.

2. Such journals publish only those authors who can pay for the publication costs. So for their own survival, such journals may also publish sub-standard research of the paying authors.

In this connection, launching of an open access e-journal portal, Open J-gate ([www.openj-gate.com](http://www.openj-gate.com)) in 2006 at New Delhi is a good initiative<sup>2</sup>. This will enable us to achieve the objective, namely science for all. Such initiatives will help in bridging the knowledge gap between the poor and the rich countries. It may also provide timely access to the research updates in a field.

1. Balaram, P., *Curr. Sci.*, 2008, **94**, 837–838.
2. Ratnakar, A., *Curr. Sci.*, 2006, **90**, 751.

ABHAY S. D. RAJPUT

*(S. Ramaseshan Fellow),  
59, Munshi Chak, Opp. Old Chungi,  
Camp Road, Talab Tillo,  
Jammu 180 002, India  
e-mail: abhaysdr@yahoo.co.in*