President's column

Peter Hall

Editorial service

Three of the Society's editors stepped down at the end of 2006. They deserve our thanks for outstanding service.

Chuck Miller was Editor of the *Journal* from 1998 to December 2006, an unusually long period of tenure for this very demanding position. His wisdom and dedication served the *Journal* especially well, and we are grateful. As the workloads on Australian mathematical scientists increase, we are going to find it increasingly difficult to locate editors with the commitment and acumen shown by Chuck. Therefore we are especially thankful that Michael Cowling has agreed to take over the reins of the *Journal*.

Jan de Gier and Ole Warnaar took up editorship of the *Gazette* with the first issue in 2004, and transformed it into a vibrant, highly topical magazine of mathematics news and opinion. We are grateful for their dedication and commitment. I remember especially their instant response to a 'call to arms' to produce an online Supplement last August, celebrating Terry Tao's Fields Medal. Jan and Ole have been ably succeeded by Birgit Loch and Rachel Thomas; the issue of the *Gazette* in which you are reading this column is their first.

The review

By now you will have heard that the *National Strategic Review of Mathematical Sciences Research in Australia* has reported to the Australian Academy of Science. The review was a massive undertaking, and involved substantial effort over a long period. The ARC grant proposal that achieved partial funding for the Review was submitted in early 2005, the review itself got underway in September that year, and the final report was released 15 months later.

While many people contributed to the review, three stand out for their extraordinary dedication and leadership throughout the 15-month period. Indeed, they are still providing a great deal of assistance as we move forward after the review, spreading the review's message as widely as possible.

Hyam Rubinstein chaired the Academy's National Committee for the Mathematical Sciences, and took overall responsibility for the review's directions. His wisdom and experience have been crucial to the review's success. Barry Hughes, the review's Executive Director, and Jan Thomas, the Society's Executive Officer until last September, undertook the lion's share of the incredible amount of organisation that was necessary to bring the review to fruition. Their political acumen and unfailingly good advice were indispensable.

I should mention too the major contribution made by our three international reviewers, Jean-Pierre Bourguignon (Director, Institut des Hautes Études Scientifiques, France), Brenda Dietrich (Director, Mathematical Sciences, IBM Thomas J. Watson Research Centre, USA),

and Iain Johnstone (Department of Statistics, Stanford University, Stanford, USA). In principle, Jean-Pierre, Brenda and Iain represented theoretical mathematics, applied mathematics and statistics, respectively, but in practice there was seldom any need to consider those fields separately during the review. The issues that arose, and the recommendations that turned out to be necessary to respond to difficulties, were virtually identical in each case, differing only in scale.

The international perspective that Jean-Pierre, Brenda and Iain brought to the review was critical to the authority, and hence to the impact, of the final report. However, this was not as clear to me at the beginning as it is today. The 2006 review reported 11 years after Australia's first national research review of the mathematical sciences, and that review was undertaken without any formal linkages outside the country. In particular, there were no international representatives on the review team.

I remember that, when the ARC grant proposal was being prepared two years ago, and it looked like the review could go perilously over budget, I asked Ah Chung Tsoi (then Executive Director for the ARC's Mathematics, Information and Communications interdisciplinary cluster) whether it was essential to include the international component. It added very substantially to the cost, I pointed out, and we would have limited resources. However, Ah Chung was adamant that the international reviewers were necessary; the ARC would no longer accept the advice of a review that lacked international calibration.

In addition to providing this benchmarking to the ARC, the international reviewers gave all of us on the Working Party a much-needed reality check. We have all seen the mathematical sciences slip, indeed fall, in Australia over the last decade, and it has been hard for us to conceive that the magnitude of the challenges we face is uniquely Australian. One part of the problem is that the slide has been incremental. Another is that we have not previously experienced, in our discipline, a substantial drop in Australia's international competitiveness, so there has been a tendency to suppose that the same sort of thing must be happening elsewhere, even though our own experiences abroad seem to contradict this.

The international reviewers declared authoritatively that the problems faced in Australia are remarkable for their severity. I urge you to read the international reviewers' Foreword to the review report. You can find the full report at http://www.review.ms.unimelb.edu.au/FullReport2006.pdf.

Today, post review, we are energetically following up wherever we can, working to deliver the review's message. We are talking and writing to politicians, political advisers, bureaucrats, senior scientists, and well-placed people in industry and business. We are writing submissions to government, and speaking to the press. A forum on the review, scheduled in Canberra for 7 February, will have been held by the time you read this.

I note that the press has already taken up the issues that the review raised, and has combined them with similar concerns about the difficulties faced more broadly by science in Australia. There was a flurry of articles on the review before Christmas, and more generally the messages of the review seem to be getting across. For example, *The Australian* noted on 4 January that:

> The number of school students studying science across the nation has dropped by one-third in five years, and the proportion of university graduates with a maths qualification is less than half the OECD average ... OECD figures show only

> 0.4 per cent of university students in Australia graduate with qualifications in maths or statistics, compared with the OECD average of 1 per cent.

The figures of 0.4 per cent and 1 per cent are taken from the report. On 20 January *The Australian* ran an excellent interview with Terry Tao, and drew still further attention to the lamentable position of mathematics and science in Australia.

However, I should stress it will take us a long time to solve the problems identified by the review, and that doing so will require still more dedication and hard work.

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Peter Hall is a statistician, with interests in a variety of areas of science and technology (particularly the physical sciences and engineering). He got his first degree from The University of Sydney in 1974, his MSc from The Australian National University in 1976, and his DPhil from University of Oxford in the same year. Peter is interested in a wide variety of things, from current affairs to railways and cats.