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## From the President

RACI  
REPORTER

### Emerging technologies

'The more things change the more they are the same' said Alphonse Karr in 1849 and this is certainly true with regards to many human activities and behaviours. Nevertheless I do not feel that changes and advances of technologies can be included in this statement.

That change is real and irrevocable is illustrated in obvious examples such as our advances of transport, revolutionised by car and jet aircraft, and the now instancy of written and visual communications, at personal, workplace and mass media levels. This has resulted in the frenetic pace of our personal and working lives.

Many technologies have been superseded. Telex machines are unheard of now except as museum pieces; faxes are giving way to scanned documents in email. Many of us studied with log books and slide rules for our calculations and would gladly concede the advances of calculators and spreadsheets without regret or nostalgia.

Nevertheless there are other technologies that do pass on with regret and nostalgia. Photography, a technology of some 150 years, is among the best examples of the fusion of maths, physics and chemistry as a major, life-enhancing, community benefit and influence. Our personal lives, our kin and friends and our activities can be permanently captured; these can be literally illustrated by photographs to others and ultimately to ourselves to kindle our memories. Photographs are used in reports, books, newspapers and magazines etc. to describe personalities, objects and events. The saying 'a picture is worth a thousand words' is well founded.

A week or so ago I received a letter from Kodak, indicating that Kodachrome slide film is to be discontinued. This film and developing process was invented by musicians/scientists Leopold Mannes and Leopold Godowsky Jr and launched in 1935. Of the slide films marketed since, Kodachrome 25 had no peer in terms of colour trueness, saturation and gradation. I understand that its (lack of) grain is equivalent to about 7 megapixels. After 30 years storage the colour remains true, something that cannot be said for some other slide film I have used.

And now, understandably, the digital age has claimed another analogue scalp. Digital photography is considerably faster, cheaper and cleaner and with no expensive

and exotic chemicals involved in the manufacture of the film or its development. The computer is replacing the home darkroom for photographers who wish to 'manipulate' their images, not least by means of 'wet chemistry'. I sincerely hope that the economics of supply of photographic papers and chemicals will allow this hobby to continue. By analogy, I am encouraged that black vinyl LPs are still being produced for audiophiles who prefer black vinyl to digital CD source.

My black vinyl LPs from the 1960s still sound well using equipment (stylus, cartridge and turntable) designed to reproduce them. This sound system and the storage of Kodachrome, where slides can only be viewed with a suitable projector, illustrate that recovery of information now requires not only a stable source but also a retrieval system compatible with the source and in good working order. Is this generally true of archived computer data more than 10 years old?

Information has been recorded by brush, pen and ink for centuries and the shelf life has been established. I understand that government archives require storage of information for at least 70 years. Although it is likely to be true, I would postulate that non-corruptible storage of digital data for such a period, irrespective of accelerated test projections, has not been established in real time. Can a polymer chemist advise any comparisons of data or polymer degradation of tape and 'harder' polymers?

I believe the establishment and demonstration of an appropriate shelf life for our commodities to be a major challenge in this age of emerging technologies – this is not the same as the technologies being superseded.

### RACI President and Board Elections 2004

Following the announcement of the RACI election results, on behalf of all members, I would like to congratulate Professor Ian Rae as President-Elect, Graham Taylor as Treasurer, Professor Les Field as National Representative and Dr David Jones as Western Representative.

I would also very much thank the other candidates who stood for the various positions. By the act of nominating for these various positions a personal commitment to the well-being of the RACI has been made. This was reinforced by the contesting of the President-Elect and National Representative positions.