

Behind the blooms

What was your first experiment as a child?

Changing the colour of petal pigments using spirits of salts (hydrochloric acid, from my father's soldering kit) and caustic soda (sodium hydroxide, from my mother's soap-making cupboard).

Who has been the most important mentor in your career?

David Catcheside, a great molecular geneticist, a key figure in establishing genetics in Australia, and whose students understood the difference between a 'fact' and a 'model'.

What single scientific paper or talk changed your career path?

As an undergraduate I read Ed Lewis' paper on homeotic mutants of *Drosophila* (*American Zoologist* 3, 33–56; 1963). It took 25 years, but eventually we followed his pioneering path in plants.

What book has been most influential in your scientific career?

C. W. Wardlaw's *Organization and Evolution in Plants* and Darwin's *The Voyage of the Beagle*.

Is there a 'tyranny of reductionism' in how scientists are trained today?

Are scientists 'trained'? Yes, they are exposed to facts; they gain experience in setting up and interpreting experiments; and they see others in action. But whether or not they look above their bench or computer screen is mostly an inherent trait, and is very difficult to promote if the desire is absent.

What's the one thing about science that you wish the public understood better?

Science is based on the joint pillars of curiosity and evidence; and the outcomes are unpredictable.

If you could direct more government funding into one area of science, where would you put it?

Pure mathematics, the ultimate creative science.

Whose graduate student would you most like to have been (historical impossibility notwithstanding)?

Thomas Hunt Morgan, for the joy of being there as the wider principles of inheritance were being deduced.

What gives you the most job satisfaction now? What are your major frustrations?

Seeing graduate students come alive as they discover the joy and excitement of doing real research makes it all worthwhile. On the other hand, increasing pressure to do research in which the answer is apparently already known

and 'just ripe for an application that will make money for someone' is frustrating and requires delicate avoidance skills.

What literary character would you employ as a postdoc?

Elizabeth Bennet from Jane Austen's *Pride and Prejudice* would fit in beautifully, but she would need to learn how to use a Gilson Pipetman.

What's your favourite conference destination, and why?

Taos, New Mexico, because of its smallness, remoteness, social atmosphere and beautiful physical surroundings — delegates really do interact.

What was the worst/most memorable comment you ever received from a referee?

"The paper is spoiled ... by incomplete and sometimes sloppy molecular analysis." This has been very useful in pushing current students into tidying up their molecular results.

You have the audience in your hands, but some smart-alec asks you the killer question you have no idea how to answer. What's your favourite response?

When posed just such a question, Cyril Darlington (a British cytogeneticist) replied, "I thought that is what I had been trying to say all along", and then immediately looked round the audience for the next question.

What book is currently on your bedside table?

Andrew Robinson's *The Story of Writing*.

What music heads the playlist in your car or lab?

I enjoy silence most of the time (I must be a mutant).

Assuming the dead can be raised and/or time travel exists, who from the world outside science would you most like to have dinner with?

The famous Australian anthropologist Baldwin Spencer and his lay colleague Frank Gillen, who learned about aboriginal life while he was postmaster at Alice Springs.

Where and when would you most like to have lived or worked?

Antarctica in 2050, sufficiently distant in the future to see how it all turned out for Earth and the human race, and perhaps the only place remaining cool enough to live comfortably!

What do you most dislike about having research published?

The artificiality of having to make it into a 'story' (see Peter Medawar's essay *Is the scientific paper a fraud?*).



David Smyth

David Smyth is professor of genetics at Monash University in Melbourne, Australia. His group has identified new plant transcription factors that control flower development in *Arabidopsis*.

What overlooked or underrated discovery really changed the science in which you work?

The major role that RNA plays in regulating gene function was first uncovered in plants (from studying coloured patches in petunia petals). I suspect the key original role that green organisms played will be forgotten as such studies rapidly revolutionize molecular genetics.

What's the best piece of advice you've ever received?

"Don't spend your life doing with calcium what has already been done with magnesium." (Excellent advice from David Hayman, my undergraduate mentor.)

What would you have become, if not a scientist?

A historian. Historians help us to place our own times in perspective. For example, it was a revelation for me to spend some time in Israel and Jordan in 2000, and to learn about the 9,000 years of history of the Middle East that nurtured so much of present Western culture.

Name one extravagance you can now get away with because of your eminence.

Eminence, what eminence?

What music would you have played at your funeral?

Bach's *Concerto for Two Violins* (BWV 1043).

What's just around the corner?

Nuclear energy to replace the burning of fossil fuels that are endangering our climate by the relentless pumping of carbon dioxide into the atmosphere. We have fixed the ozone hole, now let's look after the greenhouse effect. ■