

Magazine

My word

David Vaux
The Walter and Eliza Hall Institute
Post Office Royal Melbourne Hospital
Victoria 3050
Australia

Science down under

Dear Sophie,

Your Grandpa Syd (who I hope won't mind my writing to you in this vein) mentioned that you were thinking about a career in Australia, now that your PhD is out of the way, so I'll give the low-down from an insider's point of view. I'll be quite frank, and what I have to tell you might bruise a few egos, so please try to keep it confidential.

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sheep per head of population. A PhD here only takes three years an up (in fact you have to apply for a special permission to extend it for another six months, and rumour has it that a certificate of similar value will soon be available in cereal packets – giving us the most highly educated population in the world). So much for the pluses.

On the negative side, foremost is funding. Whereas the last National Institutes of Health budget in the US provided \$18 billion for research, or \$60 per head of population per year, the last Australian National Health and Medical Research Council (NH&MRC) budget was for about \$130 million, or less than \$7 per capita. However, the Prime Minister has promised that, over the next six years, this budget will double. (Oh yes, and he'll still respect us in the morning.)

Unlike in the US and the UK, where there is a tradition of the filthy rich dying and leaving their money to medical research, in Australia the well-to-do usually end up bankrupt, in jail, or in Majorca. In overall terms, Australia spends about 1.7% of its gross domestic product on research and development, well below the US (2.7%) and the OECD average (2.2%). The government has not yet made the connection between well-funded research and a strong economy. Our balance of trade is still based on “chop it down and sell it, dig it up and sell it”.

In spite of this, the general perception here is that Australian scientists are leading the world, especially in the life sciences. After all, we are only 0.3% of the world's population, yet we produce 2.5% of the world's publications. Never mind that most of the world's population lives in China, Africa and India, and a sizeable portion of publications counted as Australian have only one Australian author and were carried out elsewhere. Even in the much-hyped areas of immunology and molecular biology, in which we generate slightly more than the average number of publications, the citation rate is well below par.

There are three main bodies that fund science. The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is primarily involved in applied research, such as the improvement of sheep and wheat. The funding for medical research comes from the NH&MRC, which is run by a cadre of clinicians and sheep physiologists, and has an emphasis on “priority-driven” research. This is why there are only a handful of *Drosophila* labs in Australia. (Don't tell Grandpa, but there is not a single *C. elegans* lab in the country. Funding to work on flies and nematodes is almost impossible to get, unless you can get them to attack a sheep first. I dare say efforts are underway by some of our more creative scientists to infest sheep with zebrafish, so funding can be obtained from the CSIRO).

The third body is the Australian Research Council, which not only must fund non-medical biological research, but also all other scientific research, as well as research in the humanities, on a budget that even the most optimistic could only describe as miserable. While biologists struggle in Australia, full time research physicists and chemists are endangered, verging on extinct. The universities are in a parlous state, with negligible funds for research, and productivity measured by the number of degrees conferred.

Before you can apply for funding, of course, you will have to get a job. Well, at least you satisfy the main criterion for an appointment – having an influential relative – but unfortunately few here have heard of Grandpa Syd. Pity he didn't have the foresight to work on a mammalian model system.

The salaries are uniform across the country, with a Professor of Naturopathy at Southern Cross University receiving the same salary as a Professor of Biochemistry at Sydney University, unless of course the naturopath receives a clinical loading, in which case he will receive \$9,000 a year more. In a recent comparison of wages between Australia and the US, there was no overlap after the level of assistant professor, meaning that at each level even the lowliest paid American researcher takes home more than the most highly paid Australian.

I hope this helps you in your career decision. Do let me know if you will be visiting, I'll throw another shrimp on the barbie.

Your loving antipodean Uncle Davo