

Thomas Barlow

The Australian Miracle: An Innovative Nation Revisited
Picador Pan-Macmillan, Sydney, 2006

Reviewed by Andrew Leigh

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Australians are uniquely inventive, yet hopeless at commercialising our ideas. We suffer from a brain drain, as our best people and ideas flee overseas. And government funding for scientific research is inadequate and unfocused.

If these statements strike a chord, Thomas Barlow wants to persuade you that it's a discordant note. A thirty-five year old biologist who recently served as science adviser to federal science minister Brendan Nelson, his aim is a quintessentially scientific one: to use facts and reasoned argument to pop some rhetorical balloons commonly floated by science policymakers.

Are Australians a wondrously innovative people? Barlow argues that we are no more ingenious than the English, Chinese, Japanese or Americans. The oft-cited collection of national discoveries – the black box, the polymer banknote, penicillin, the pacemaker, the stump-jump plough, the hills hoist, the wine cask, the two-stroke lawnmower – are no more and no less than one would expect of a country our size. On average, we produce about two percent of world scientific papers, which is approximately Australia's share of the total economic output of the developed economies.

Are our researchers incapable of commercialising their research? Barlow points out that collaboration between industry and public sector researchers are healthy. Our universities produce similar numbers of start-up companies, and earn similar revenue from intellectual property, as their counterparts in Britain and the United States.

Are our national resources swirling down the brain drain? Fortunately, the answer is no. Thanks in part to a highly targeted migration program, twice as many skilled workers pass through the arrivals lounges of our airports as the departure lounges. We gain too from the "global churn" of talent: Australians who work or study overseas before returning to their homeland. Indeed, while Barlow does not use the example of his own stints at Oxford and MIT, his return to Australian science is a signal example of the benefits of boomerang migration.

As a small country, should the federal government focus its science funding more tightly on just a few national priorities? Central planners lurk on both sides of the Australian political aisle, but there is little evidence that such grand schemes are an effective way of allocating resource funding. (As someone who has competed for grants through the Australian Research Council, I can testify to the verbal gymnastics that researchers are willing to perform in order to convince assessors that their favourite project fits within a "national priority" area.)

A better approach is to target people rather than projects. Barlow cites a 1946 report by the United States government, which proposed the following allocation mechanism:

- (i) *Find the best people through peer review.*
- (ii) *Divide the available funds to support those people, but let them decide for themselves what research they want to do.*
- (iii) *Leave them alone to do it*

The problem with narrowing our research focus is that many important scientific discoveries occur in areas previously regarded as backwaters. Australia is likely to do better from a competitive system of funding the most innovative researchers than a top-down approach in which Canberra bureaucrats pick priorities.

Grounded in hard science and mainstream economics, *The Australian Miracle* is about as close to a page-turner as is possible for a book about science policy. Still, amidst the plethora of facts and anecdotes, one of the few things missing is a reluctance to name names. Why not finger a few of the high-profile policymakers responsible for perpetuating the myths about Australian science? In the next edition, Barlow might consider the following examples to bolster his case.

- On inventiveness: “Our imaginative, inventive and highly skilled people have been acclaimed for innovative genius and commercial strength well beyond our weight in numbers” ([John Howard](#))
- On failure to commercialise: “there’s been growing frustration for a long time now that we’re not making the most of our brilliant science” ([Peter McGauran](#))
- On priority-setting: “the first thing we set about doing... was to set research priorities for our country” ([Brendan Nelson](#)).

For a straight-talker, it’s surprising to see Barlow pulling punches on his former employers.

Nobel-prize winning economist Robert Solow once said that all discussions about national productivity invariably end in a “blaze of amateur sociology”. And Barlow’s book is no exception. Despite fiercely critiquing the folklore of Australian national inventiveness in his opening chapter, he informs us in the final chapter that Australians are “a resourceful and entrepreneurial people”, “flexible”, and “possess an extraordinary freedom of spirit”. Perhaps. But to turn Barlow’s rhetoric back on himself, do we really possess these traits in greater measure than the Canadians, the Irish, or the French?

Yet these are minor quibbles. The essential point of *The Australian Miracle* is that misunderstanding our strengths, weaknesses, and position in the world have led to bad science policymaking. At first blush, this feisty paperback may appeal more to viewers of *Mythbusters* more than watchers of *The New Inventors*, but both would do well to devour it.

Dr Andrew Leigh is an economist at the Australian National University. He is the co-author of *Imagining Australia: Ideas for Our Future*.

Note: This is the submitted version. The published version was slightly shorter.