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Patent paranoia will kill the smart country

Scientific research, sustained by patents, is under threat from an ill-considered biotech bill

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IN 1873 French scientist Louis Pasteur, the inventor of pasteurisation and the first vaccine for rabies, was granted a patent for a germ-free pure preparation of yeast for industrial processes.

In fact, novel patents on purified preparations of biological material have been granted since the 1840s.

In an open letter to the Australian parliament, University of Queensland biotechnology program director Ross Barnard makes these points in a powerful argument against the Patent Amendment (Human Genes and Biological Materials) Bill 2010 introduced into the Senate in late November.

The bill would prohibit the patenting of biological material.

As Barnard points out, there is a long history of patents granted for purified preparations of biological material and there is no need for the law to be changed.

As a result of such patented research since the 1840s, human life expectancy has increased, infant mortality has dramatically re-

duced and the world is a much healthier place.

Such research, sustained by patents, has laid the foundation for our modern society.

Now Liberal senators Bill Heffernan and Helen Coonan, independent senator Nick Xenophon and Greens senator Rachel Siewert want to shackle Australian scientific research to the time when Queen Victoria of Britain married Prince Albert of Saxe-Coburg and Gotha 170 years ago.

Sadly, the proponents do not fully understand the bill's impact on scientific research, and if this is a consequence of minority federal government then the sooner we have an election to get a government with a clear mandate that values our scientific research institutions and innovation the better.

This bill is Australia's version of 21st century Luddite thinking.

Not only will Australia's patent laws be out of step with the US and European Union; subsection 18.2 (b) and subsequent sections of the proposed Patents Act 1990 amendment will be devastating for the biotechnology and pharmaceutical industries in Australia. We will become part of the world's research poor.

As a consequence, a significant amount of research discovery work will be forced overseas and bio-product development will come to a halt.

This will have an enormous detrimental impact on our biotechnology industry.

That means Australians will miss out on medical breakthroughs and our economy will lose the benefits of the commercialisation of research. It will contribute to a brain drain and the dumbing down of Australia.

There is no need for the law to be changed as the long history of patents granted for purified preparations of biological material shows.

The key points are clear.

First, the simple identification of a new human gene is not sufficient to secure a patent, as it is not an invention. It is that straightforward.

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Second, the present law restricts the range of things that can be patented. The law already requires a demonstration of novelty, utility and inventive steps before the purification and isolation of substances from nature can be patented. That is a strong test to be met by the lodger of the patent application.

Third, patents provide a patent owner with an exclusive time of up to 20 years to take advantage of their invention. It does not stop the development of another technology that would be competitive.



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Indeed, in many cases it stimulates competitive research.

In addition, as a safeguard, patent owners must disclose the full details of their invention so the research can be repeated by someone else. This scientific model avoids research in secret, which has no or little transparency.

After a patent has expired, of course, the invention can be used by anyone. However, without this initial patent protection, there is no financial reward for the researchers or incentive for their institutions to commercialise the research outcomes.

Australian researchers have a proud record of medical research which has improved human life at home and around the world. The record includes:

- The cervical cancer vaccine Gardasil developed by former Australian of the Year, Ian Frazer, at the University of Queensland. It has been administered to millions of women worldwide and is now being considered for secondary school-aged boys as well as girls.
- The Cochlear hearing implant.
- Diagnostics for breast and ovarian cancer, epilepsy and tuberculosis.

Australia cannot afford to jeop-

ardise this world-class research.

I can understand where the concern from the proponents of this bill came, from but their concerns are now out of date.

Old interpretations did see the granting of some broad worldwide patents that did include claims for genes with little defined utility or inventive step. These patents are unlikely to be valid.

Examination practices have been tightened and this practice no longer occurs, making this legislation out of date and unnecessary.

The international Human Genome Project has also contributed to the demise of these past practices as its success has resulted in the freely available publication of the vast majority of human gene sequences.

As well, patent offices in Australia have tightened the interpretation of patentability to ensure that the mere identification of a new gene is not sufficient to secure a patent without research invention, function and utility.

This is not a grey area for argument. The case against this bill is black and white.

I have known Heffernan for years and mostly he can be relied on to use some good old country

common sense, except when leaving phone messages. He needs to use some of it now.

The commercialisation of brain power is a key part of our nation's future, but this legislation will stifle research and innovation in Australia.

Should the amendments get up, overseas companies are unlikely to file patents in Australia, which would deny Australians the benefits of new drugs and treatments.

The debate about the future model for future economic growth, particularly after the Hawke-Keating reforms, in my view needs to incorporate a "smart nation" strategy centred on commercialising innovation.

That is crucial to our future and a key part of our place in the world. This short-sighted proposed bill undermines any push for a smart Australia.

I urge Heffernan and the other proponents of the bill urgently to consult AusBiotech, the Australian Biotechnology's industry peak body, and our research universities and institutions across the country, and researchers such as Barnard, on the contents of their legislation before proceeding any further and damaging our future.



A bill before parliament would hinder the commercial capacity of local scientists to employ genetic keys to longer, healthier lives to be found in nature