ECONOMIC DEVELOPMENT AND INFRASTRUCTURE COMMITTEE

Inquiry into Improving Access to Victorian Public Sector Information and Data

Canberra — 13 August 2008

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Professor R. A. Jefferson, Chief Executive Officer, CAMBIA.

The CHAIR — Professor Jefferson, welcome.

Prof. JEFFERSON — Richard.

The CHAIR — All right, Richard, if you wish to be called Richard. Welcome to our all-party parliamentary committee. Evidence taken today is for the Inquiry into Improving Access to the Victorian Public Sector Information and Data. You have had the opportunity to meet members, and I hope you find this an enjoyable experience. We hope that we receive a lot of information and as a result of that are able to make good recommendations in our report. Could you please state your full name, your address, whether you are attending in a private capacity or are representing an organisation, and if you are representing an organisation what position you hold.

Prof. JEFFERSON — Richard Anthony Jefferson. My address is GPO Box 3200, Canberra ACT 2601. I am attending in whichever capacity you wish. If it is with my institution, it is CAMBIA — I am founder and chief executive. If it is individually, it is who I am. It is your choice.

The CHAIR — All right, many thanks. Over to you for your presentation now that we are through the introductions.

Prof. JEFFERSON — My brief in this was as much as anything to keep it to an informal conversation where I could hopefully illuminate some of my perspectives on the value of open access and the value of access in general to social and economic development in Australia, in particular in Victoria, but I would like to expand the scope of my discussion to talk about the impact of that information access on society generally, and Victoria's impact on society's value-creation from information.

I have not prepared a PowerPoint or anything to put you to sleep. Rather I wanted to open it up to see what your particular concerns are that I might be able to help you with. My own bias — if it would be bias — on this would be that we have to make a very careful distinction between wealth accumulation and wealth creation in society and in jobs. My perception of the most valuable job of a government is to broadly create an open ecology for innovation that will stimulate broad wealth creation opportunities — in which case maintaining that ecology as a vibrant ecology that is non-rivalrous, in economic terms, is a critical part of that, and that is what I would like to address over the course of the conversation if I may.

Since you have been hearing lots of things, there are bound to be areas that are still of concern to you or in which you have queries, and firstly I would like to address those. But if I were to make a one-sentence summary of my perception of this inquiry on the debate it would be that it is Jurassic even having it. I was born and raised in Northern California. The companies that are now making an enormous impact that I heard earlier witnesses discussing could not exist without enormously free access to information and to knowledge in fact, and the adding of value to that, as opposed to the proprietorial withholding of value, as part of value creation and wealth creation in society. So almost all aspects of open access have to be considered in terms of attribution, in terms of maintaining covenants of use on potential uses of information and knowledge, but my perception is that currently the state-of-the-art is that absolutely unequivocal cost-free and transaction cost-free access to as much information as possible will stimulate wealth creation broadly in an equitable fashion.

Mr CRISP — As we are looking at the concepts that we are developing we have become very familiar with copyright because copyright hangs off to the side as a constraint, but patenting hangs there as well and we have not heard much evidence about how patent fits with that, and I noticed that you did bring that up in your article. It is an area that has not been considered. We can probably rattle off all of the problems that open access has with copyright but we cannot — —

Prof. JEFFERSON — I would love to wax lyrical about that. First of all, before I dismiss copyright, I would say that I am a very strong supporter and advocate of the Creative Commons movement, which I think is very pragmatic. In spite of the fact that is often marketed as a foaming left-of-centre world view I view it as a staggeringly pragmatic, economically savvy world view to be able to have a one-stop mechanism for asserting one's statutory rights, including the potential of the government to own copyright. You are certainly aware that much of the United States government primary information is devoid of copyright, which I think is extraordinarily visionary — which is surprising in the current climate.

It has also stimulated what must clearly be one of the most powerful information enterprises in the world economically. If one simply looks for best practice and asks, 'Has value been created from free information?', the answer is, 'Absolutely!'; there is just no question. The advantage of Creative Commons that I think is quite exciting, especially for smaller or regional governments — and in the global economy Victoria qualifies as a regional economy and government — is attribution. One of the most powerful tools for quality control and for ensuring that there is a relevance to the data collection mechanisms and activities and the human beings who do it, is the attribution component of Creative Commons. One of the true embedded geniuses of Creative Commons is the ability, with a single sticker, to provide a full and comprehensive ability to use the data, with the caveat that one gives proper attribution for its use. That alone ensures that the primacy of the taxpayer, for instance in Victoria, for having funded the acquisition of that is recognised and accredited, that the quality of the data or its lack thereof, is associated with its providence, in this case Victoria.

Before I segue into patents, I think the simple answer on copyright is that a Creative Commons attribution licence — including allowing full commercial use, because you want to stimulate economic development — would be an extremely simple, very low transaction-cost policy to undertake for all primary data. And all knowledge-added value done by taxpayer money is available under an attribution Creative Commons copyright licence. That avoids the necessity for a major overhaul, whether it is copyrighted or not. Assuming it will be copyrighted, it gives you an opportunity — which in fact the United States does not enjoy. Without copyright you cannot impose attribution, and without attribution you cannot impose quality oversight on the source of the data, so it is an enormous opportunity for Victoria and for Australia in general.

Now about patents — the number of people who actually understand the patent system, even those who practise it, is very small. It is Byzantine, and it uses liturgical texts and ecclesiastical language that is of such a complexity that it is rendered impenetrable to inventors, certainly to citizens, and absolutely certainly to policymakers. One of the first aspects about the patent system that must be emphasised is that in principle it is a bargain about disclosure. The purpose of originally developing a patent system — modern patent systems are only about 200 to 250 years old; they have been very substantially revamped in the last 50 years, but basically are only 200 years old — was that there were aspects of inventiveness that were only accorded commercial value if they could be shared. In other words, if someone had developed a new mechanism for making a chronometer spring, a new type of metal alloy, that could be hugely valuable for other people to learn from to build new types of springs, to build a variety of different apparatuses.

Mr TEE — The new generation.

Prof. JEFFERSON — Exactly. But up until a couple of hundred years ago the only mechanism by which the inventor of that new spring would be able to develop commercial benefit, or in fact to develop — even in the absence at that point of public funding for science and technology, of which there was none — was to encourage that entity, that inventor, to disclose to the public how they did it. And the quid pro quo for that disclosure was a limited monopoly to practice the invention. At the very core of the patent system originally was a bargain about the sharing of information.

Interestingly, the United States patent information — and it is the most hyper-developed patent office in the world — is also not copyrighted. A patent from the United States is not a copyright of data; it is available as a matter of public inspection. All aspects of the patent prosecution process are a matter of public record and have no copyright. This is a critically interesting issue, because it says that, according to Congress, the disclosure of that invention is a necessary and absolute prerequisite for any statutory rights associated with the invention. When the patent system was developed it was really fascinating. The first patent commissioner in the United States was Thomas Jefferson, who was a pretty smart guy, so just imagine how high the bar is set when your patent is being examined — —

Mr TEE — You will need to disclose a conflict at this stage.

Prof. JEFFERSON — I have not done the genetic test, unlike John Edwards, so I have no idea if my father's assertions that we are related are correct. I do not look like the 5 cent piece at all, nor Nick Nolte.

Here is the story. When the first patents were delivered they made use of a fairly simple legal tool and as you all know — I assume some if not all of you have been attorneys or lawyers at some point in your training — the law is very good at saying what cannot be done — meeting the bounds of what is not possible is pretty easy to do. It is almost impossible, because of the lack of oversight or lack of comprehensive knowledge, to say what you can do. A patent was basically a compromise; it was a nod and a wink. If someone had invented a cotton gin for removing the fibres from the seeds of cotton — this is actually a case study that is true — and had brought the model into Thomas Jefferson to explain how it worked and said they deserved the monopoly, which I believe was for 14 years at that time, on the manufacture of this cotton gin, he would have said, 'Yes, you have drawn it up right. It really works. I have turned the handle and it does the job; it is new, it is not obvious and it is useful', then bingo! They would get the patent.

What would the patent mean? The patent cannot be disclosed in the claims — what you cannot do. It says that the rights you have are associated with doing particular things, but they are not permissive rights, they are exclusive rights. That means you have the right to stop others from doing those things. That is all that patents can do. They give you the right to stop others from doing something. This is where the nod and the wink came in. In the original thinking of the patent the only tools that were available were these exclusionary tools, so the nod and the wink was that this guy could actually make the cotton gin, manufacture it and sell it, because at that time the idea that every technology involved hundreds or dozens of parts, each one of which could be owned by someone else, was not really anticipated. The idea was that if you invent this cotton gin, we use the only legal tool available to us to describe what you can stop others from doing. This gentleman, Eli Whitney, could shut down somebody else from making his invention by civil lawsuit but it did not say he could do it. What if one of the components — a gear in there — was actually already patented by someone else? If that gear is already patented by someone else, what ends up happening is suddenly he does not have the right to enjoy his monopoly; he starts to have the element of a dog in the manger.

The issue about patents is that the original premise of a patent — full disclosure in exchange for a limited monopoly to enjoy. But enjoyment rapidly became something of a scorched earth. As technology became increasingly sophisticated, as the components of technologies, of inventions and of discoveries were themselves accorded patent rights, it became a very complex world where the owner of a patent's only recourse was to secure some degree of relationship with other patent-holders. Then you had transaction costs, and as transaction costs ballooned and as science and technology money was flowing in from the public sector — generally from the public sector, but also from private investors — it became something of a nightmare. The original premise — full disclosure to the public to teach them how to move forward in exchange for a limited ability to enjoy your invention — became something of a *Nightmare on Elm Street*. It really became an impossibility to proceed with economic development in the absence of very sophisticated clergy.

I started out, before you actually came in here, with the idea that the patent system has evolved into a clergy-ridden, fairly ecclesiastical technology barrier. The idea is not that the patent system is a bad thing. The idea is not even that the patent system has not and will not continue to do very, very good things. The issue is that it evolved around that 200-year-old bargain under the assumption there were no other means of disclosing and teaching to the public and that there were no other means of incentivising other than the reward for a limited monopoly. We now have the opportunity to create an alternative ecology, and I think part of the role of government is to explore ecologies that can build a competitive economic environment. An alternative ecology is based on a different type of disclosure.

Since I am going into a Hansard transcript or something of its ilk, one of the issues about the patent system — its foundational issue — was disclosure: 'We will teach you' — the inventor, the businessperson, the scientist, the citizen — 'how to do something. You will learn from that and say, "Oh! I can make it better. It is a great concept; it really is."'. That disclosure is critical. Until a year ago the entire Australian patent system was unable to be searched in full text by anyone on earth. They kept Australian patents on microfiche in Woden here. It was rather like the Indian patent system — Third World — and still is. There is only one institution on earth where you can actually search them in full text. One of the features is that if you do not know what is there, then how can you be informed by it? How can the government make good on its part of the monopoly?

Mr DAVIS — You have them rumble around for years. You stumble over something.

Prof. JEFFERSON — Stumble over it, or have someone in fact find out what you are doing and impose substantial constraints. If I am trying to ask you as an investor to put money into something, it is our mutual responsibility to do due diligence — do I have the right to do this? Remember, patent does not give me the right to do it, so I could talk — as universities always do, in ridiculous, testosterone-laden language — about how. 'We have got these patents, mate!', but the truth of the matter is much more profound. The truth is that \$4 gets you a good cup of coffee in Little Bourke Street, but that is all it gets you.

A patent does not actually achieve anything, other than the ability to queer the pitch, to be a dog in the manger. You then have to find out, 'Who has the rights over my patents, and how many other patents do I need to navigate to secure an entire package to deliver into the economy and the society?'. That bit of information is completely lacking. It is critical to remember that, if we are having this discussion about public access, it is not information only; it is the knowledge and the enabling knowledge to make decisions that the government can set its sights on. The bar should be raised. It is not just primary data like census data, which is just pure data; it is knowledge that can allow citizens to make more informed decisions economically, personally and socially.

The CHAIR — Richard, in whatever follow up you are having, could you draw whatever comments you have towards what you might consider would be useful recommendations?

Prof. JEFFERSON — Sure.

The CHAIR — It is very interesting to know background and history, but we have to try to concertina a significant amount of information into clarity for recommendations.

Prof. JEFFERSON — I appreciate that.

The CHAIR — If we have got that, that would be helpful.

Mr CRISP — That patent background then leads us to the restrictions that you talked about before — bio research and so on — because we are not making that information available, or the information is owned by someone who blocks it. You have identified that as a significant impediment to us making the world better, particularly in the biotech area. Biotech is something that Victoria has got a significant investment in, so the patenting of the human genome is a blocker. How are we going to solve that problem?

Prof. JEFFERSON — The purpose of my rather labyrinthine discussion was because you asked for clarity for your recommendations, and I assumed that having witnesses who express their opinions strongly and then leave is not going to help. What I am trying to actually do is walk you through a narrative so there are new thoughts that can actually inform your later witnesses' interpretations. I am not interested in just telling you I think you should do this or should do that. What I really want you to do is walk through my perception so that you can learn something about it.

In terms of biotech and the interest that Victoria has in biotech, my point of view is really going to be something of an outlier. In Queensland you probably saw a lot of white shoes and snake oil, but biotech is — —

Strike that! What I meant to say is that you will have met exceptionally talented and learned people talking about the enormous benefits from biotechnology, but what we should actually do is keep our eyes on the main game. The main game is economic development that is equitable and dynamic. Equitable is critical to this, and dynamic is very important — we have to be responsive in a reasonable time frame to new challenges.

The point about biotech in Victoria is deeply troubling to me for the following reason. Fifteen years ago in my home town it was considered quite vogue to invest in software companies and there was thought to be a software industry. Everybody was protecting software and investing massively in software, and now it is a mug's game. If you find anybody talking about the software industry, it is an incredibly tiny component of the information and communications technology sector. If you were to ask what in the ICT world are the most profitable companies, we have heard some of them listed today: Google, eBay, Amazon. In the hardware and services arenas you could talk about Sun and IBM. None of them, with the exception of IBM — and even there hardly any — sell software. For instance, Google is the most prominent commercial success in the world, and it does not sell a lick of software.

Investors who insist on making money from the tools are in fact — I am thinking that I am on record; it is really hard — missing an opportunity for a social focus. The issue about economics is what are the sectors that really empower human beings and our environment and our society? There are sectors such as food and agriculture, there are sectors such as environmental services, such as energy, such as public health, transport, whatever. Unless otherwise not incentivised, they are not the tools, so talking about how we are going to make money on biotech is extraordinarily Jurassic. It is dumb. Basically, sure, a lot of people will have wealth — generally abstracted from pension funds and the like — from biotech, but the ultimate wealth creation is from products and services. They are from new and better foods, new and better environmental services, transport options, energy, whatever.

Mr DAVIS — Health services.

Prof. JEFFERSON — Health services would be a wonderful thing. We laud the US patent system and many other biotech industries. If you go to greed fest 2008 or 2009, and I know that Victoria always sends a massive delegation over to BIO 200X, where X is an ever-inflating integer, where 20 000 guys in suits — generally guys, generally in suits — are doing deals, the actual number of those companies that sell products that actually impact anyone's life in a constructive way is tiny. The real sectors are mature sectors that interface with customers and clients, and these are not they. If we focus on the interlocutors, the intermediaries, especially as a small mod like Victoria, Australia, we are missing the boat.

Mr TEE — Is that the lesson IBM said they have learnt, and 'We don't'?

Prof. JEFFERSON — IBM is no Marxist, and you would have to agree Sun Microsystems are no Marxists, and they are both massively embracing open source because the idea is software is an enabler of a mature sector. Similarly biotechnology should be revisited as an enabler of mature sectors.

The CHAIR — How would you suggest Victoria does that?

Prof. JEFFERSON — It is probably outside the remit of this committee, and I have to be careful to keep it as focused as I can from my understanding of your job. The principal mechanism is to use knowledge resources to say, 'Where is the money?'. It is a Cuba Gooding thing: 'Show me the money'. If you are talking about real wealth creation, let us see how is the wealth distributed within society and is this in fact real wealth creation or is it a few guys getting rich in a pyramid scheme? Biotech is basically a ponzi right now. If you understand the ponzi scheme — if you have ever been burnt in an investment, you probably do understand the ponzi scheme — if there is one sector in all the world of investment that even the biotech industry organisation grudgingly says is the worst performer, it would be biotech. The fact that I hear intelligent politicians getting up and talking about how powerful biotech is — if they would just reframe it, and this is part of the remit of this, by looking carefully at people's use of information, saying the power of biotech is as an enabler of the sector, if the information, the knowledge and the permissions associated with that information generated are broadly shared within Victoria, Australia, wherever else, then we can start looking at its impact on mature sectors.

For instance, if investment by the government of Victoria in Bio21, for instance, a really class mob of scientists — conflict of interest, I like Tony Bacic, who runs it — if one of the outcomes was that if we put government dollars in, you guarantee that a licence to anything that is developed there that you choose to patent is available to any Victorian domiciled institution at no cost, what is that? If they develop something really crash hot, that is a stimulus for a Victorian domiciled company to be formed and to build it. They can licence it to Monsanto at outrageous cost, or to GlaxoSmithKline, their business, but they have to reserve the right to have an Australian domiciled company access the technology at nominal cost.

There is a tangible mechanism, a policy mechanism, where you actually start looking at the final end product and say, 'We want to --

Mr DAVIS — Capture the benefits.

Prof. JEFFERSON — Exactly, capture the benefits but appreciate that there is mutual benefit in having other people use it too.

Mr DAVIS — And encourage innovation.

Prof. JEFFERSON — Exactly.

Mr DAVIS — To produce those products that you are talking about.

The CHAIR — I wanted to ask some questions in relation to BiOS.

Prof. JEFFERSON — Please — the real thing.

The CHAIR — We might as well keep moving in this area. Our briefing notes — and I just want to check that this is an accurate reflection of your understanding of the BiOS licensing system — state:

... both products and improvements can still be patented, and be developed for profit or public good.

Prof. JEFFERSON — Or anything else.

The CHAIR — They go on:

However, licensees may not assert rights to exclude others, such as the licensor and other licensees within the protected commons, from access to improvements.

Would you say that is a fair reflection?

Prof. JEFFERSON — It is a pretty turgid one, but yes, it is legal speak. The basic issue is there is a difference between the platforms of innovation and the products of innovation. The platforms and tools are used to make it. Our perception in the BiOS initiative has been that if those are broadly shared and made, in a sense, a free-fire zone for innovation, you will induce many innovators to come and use those tools.

In fact your assertion about IBM and Sun Microsystems — that is exactly what they have done by saying that the very tools, the programming languages, as it were, in the ICT sector, those are broadly available and safe. For an investor safety matters enormously. If you can use the tools with confidence and safety — and that is all of this licence imposes — then what you use them for is your business. Good on you. You just have to allow other people to do the same thing. You have to allow them to compete. So if we wish as a government or as a society to see a competitive and open innovation ecology, one of the best ways to do it is ensure that the capability of innovation is not withheld. That way the incentive is to actually innovate, not to deny the capability to innovate.

Open source is really not about foaming leftist rhetoric, it is not about bearded kropotkins. It really is pragmatic. It is saying the capability to innovate, the tool kit for innovation, is a fundamentally powerful platform on which society can develop. If it is gamed, if it is fragmented, if it is denied, if the transaction costs for accessing it are too high, you change the demographics of problem solving. The wrong people or only certain people are solving problems that appeal to them. If you want to broaden the scope of problem solving, see small–medium enterprises develop. If one looks at the challenges of regional Victoria, one of the biggest challenges I perceive is the inability to articulate a small–medium enterprise that is science and technology based. What I see is happening is that the tool kit to do so and the norms and the culture of that are withheld. It is not Victoria's fault, but it is something that the government has always been able to take a leadership role in. For instance, Victoria's role in getting a national innovation strategy out well before the Federal Government did was, I think, really forward-looking.

Parenthetically the Australian patent office shares its building with the Department of Innovation down in Elizabeth Street, and I used to go down and have coffee with them to get them to straighten out their act a little bit. But these licences are something that can be incorporated as a hortatory element in funding, for instance. If there is a new funding scheme you simply say, 'We encourage that the platform's tools are broadly licensed', preferential even, if you want to be parochial, 'to Victorian firms'.

The CHAIR — You made that point really well earlier when you talked about that bio funding should be broadly considered as an enabler and it should be shared. I want to take that a bit further. How many and what range of institutions have currently taken up the BiOS licences in Australia or in Victoria? Do you know the answer?

Prof. JEFFERSON— I could probably come up with the number because it is really tiny.

The CHAIR — You might like to take that on notice.

Prof. JEFFERSON — I will take that on notice.

The CHAIR — Could you keep developing this point a bit further? Should government departments and agencies consider participating in BiOS, and would the development of a government-specific scheme be more appropriate? But I think I know the answer to the latter part of that question.

Prof. JEFFERSON — Be more appropriate?

The CHAIR — Yes.

Prof. JEFFERSON — It depends. If the government has the ability to make an agile arm of itself that could be responsive to new opportunities very quickly, which is hard to envision — —

Mr DAVIS — Not common.

Prof. JEFFERSON — It is not common.

The CHAIR — That is what I thought you would say. Can we go back to the earlier part? Should government departments and agencies consider participating, and if so, how?

Prof. JEFFERSON — Of course I think the answer is yes. I think that the analogue of the Creative Commons licence in the world of patents is a very exciting opportunity for the most foundational reasons — that is, that a patent is almost always over an invention in science and technology which by its very grant is thought to be useful — thought to be. That is not the same as copyright. If anyone is taking notes on this, those notes are instantaneously copyrighted and probably have no value whatsoever, but anything I invent has to go through some sort of process by which it is determined to be potentially useful. That is one of the parameters for granting a patent. Okay, that is a little loose, but that means that the ability to coalesce fragmented capabilities through creative use of licences is potentially of massive economic and social value, so unequivocally I would say that it would be both visionary and creative for the Victorian Government to explore how it can recommend the use of licences that aggregate capability amongst many players so that many players can actually be innovating for the mature sectors — so the aggregation of capabilities. This is not in any way saying that it is against patents, against IP Australia; it is a creative new use of that inspired by how successful the economic paradigm has been in ICT — information and communication technologies.

The CHAIR — Thanks. Finally, have you had the chance to share your wisdom with those involved, in an official capacity, in Bio21?

Prof. JEFFERSON — In Victoria?

The CHAIR — Yes.

Prof. JEFFERSON — Official? I spent a day with Tony — —

The CHAIR — I am not talking about just the coffee shops; I am talking about actually challenging people.

Mr TEE — As important as they are.

Prof. JEFFERSON — And there are some terrific ones. Let me, also as a matter of disclosure, say that about two or three months ago the Gates Foundation — this is almost unbelievable — offered to fund us very substantially to take these ideas forward, with patent transparency and the Patent Lens, which I am sure if you have not seen I could take 2 minutes to show you before I go to a new level, to integrate all regional, all language data, so that we could actually make a full decision support tool worldwide. I spoke with officials in the Department of Innovation, Industry and Regional Development in Victoria. There was some enthusiasm from Glyn Davis and officials there to site this in Victoria — to have the headquarters of this world activity in Melbourne. We were ready to relocate to Melbourne at that time; modest investment required and Gates would have run its money through there, and it would have been a United Nations-sanctioned activity. Nobody closes deals and nobody returns phone calls, so it looks like we are going to go to Sydney, and I will decide in a day or two.

Glyn, the Department of Innovation — I mean, most of the people at innovation know me; I gave a Deakin lecture there in Victoria — know what we are doing. We have money, we have credibility, we have a desire to work with major agencies such as the Victorian Government. I was hugely impressed when I came down at the time of the Deakin lecture last year to get to know what the team, at the deputy secretary level mostly, were doing about putting together innovation thinking, and I thought it was by far the most visionary in this country, and that by no means excludes the Commonwealth. I think it is by far the most visionary. The ability to build on that requires the aspect of vision that is not easy, which is risk-taking, the ability to say, 'This is a new ecology; it does not have to supplant the older, but it has to compete with it, and we have to be the leaders in it'.

Since this is going on the record, let me say this one thing. You go down to Bells Beach and you see some of the best surfing in the world. The thing that makes Australia great at surfing is not riding the wave, it is anticipating the swell. We have not learnt that lesson in innovation. We still talk about riding the wave of innovation. It has already formed; it is already there. It is how you position yourself and when you position yourself, and that is what I was trying to get across to Vic Innovation and to the University of Melbourne, but I cannot close deals. Glyn Davis seemed to like the idea, Jane Niall, who I have huge respect for, really dug it but then was moved sideways and nobody — —

Mr DAVIS — Tragically.

Prof. JEFFERSON — I agree with you completely. Then nobody closed deals. I talked to Gavin about it over a glass of something. He seemed to like it. I talked with Randall Straw about it, and he seemed to like it, but nobody championed it and closed the deal. The University of Sydney has a new vice-chancellor who is an IP specialist. They have got a gung-ho new dean of law from Melbourne, by the way, Gillian Triggs, who is really good. They see it. I have got five days to decide if I am going to do this thing here or in the United States — in case.

The CHAIR — We might get a copy of the transcript — —

Prof. JEFFERSON — It is a little too late now, I suspect, but boy, we were ready to hop in — —

The CHAIR — I have to give up. Thank you. Any other questions?

Mr DAVIS — You have got a very interesting perspective on a lot of this, and I thank you for structuring our thoughts in a certain way and directing them. One of the things that we have looked at — and we have just been to Queensland and looked at some of their ideas up there — is there is this huge wealth of government information, including historical information. We were talking about this before — medical information, not necessarily personal medical information but epidemiological information and so forth.

Prof. JEFFERSON — I understand.

Mr DAVIS — How would you recommend that that be made available in the broadest way?

Prof. JEFFERSON — As aggressively, as comprehensively, as possible while retaining attribution for quality assurance. I think there is probably no single greater wealth creator that is specific to Victoria than Victorian information. No-one else has any incentive to do something for Victoria unless the information about its relevance is there. That means Victorian — —

Mr DAVIS — But for research it might be valuable internationally too.

Prof. JEFFERSON — Very good. So? There is no free-rider effect on information here. We have to stop being parochial about Australian innovation. Terry Cutler likes to talk about our

2 per cent nation, and there is a certain element of optimism in getting past 1 per cent really. The issue is not how do we commercialise our 2 per cent but how do we access the other 98 per cent, and one of the best ways is the lost litre of information. It costs us nothing to make it available. If it empowers diverse solutions, we benefit. An open commerce is actually a beneficial thing to us. If it is invented by another company and provided at an acceptable price in a mode that is relevant to the economy and the people of Victoria, that is a good outcome. It does not have simply to be parochially invented here — because it won't be.

Mr DAVIS — Others might benefit as well and so on.

Prof. JEFFERSON — God forbid. The attribution thing is really important here because one of the key features that is going to make any jurisdiction, any area attractive both as a domicile for innovative organisations and for its citizens is its association with innovation. It does not have to own it but if it is a stimulator of innovation its reputation, in a sense of generosity of spirit, is enormous. If you think of the people you know, while it is almost impossible for you to articulate what makes them good or not good people, almost always at the top of your list will be generosity of spirit, and yet we never see that rewarded in society.

In a government that expresses a generosity of spirit, that says, 'We want actively every piece of our information and added-value knowledge to be shared as broadly as possible', it builds a feeling of generosity of spirit. About 50 years ago Australia traded grain to China at a time when no one else would trade to China. It was probably an opportunistic decision but it was also a hugely fortuitous one because to this day the terms of trade we have with China are heavily influenced by the goodwill that generated. If Victoria is not active and a leading proponent of sharing data actively with its context of knowledge — metadata — without fetters other than attribution, which is critically important, it will benefit enormously but perhaps intangibly. So do it aggressively. There can only be one government that leads; everybody else after that is following, so if you take it aggressively it will be you.

Mr DAVIS — Is there an economic study that you could point us to in that medical area that would try to capture some of that intangible — —

Prof. JEFFERSON — It is really hard. It is leading-edge stuff. Yes, you will find academics talking about it but I do not know who they are.

The CHAIR — David asked the economic question. I was going to ask, 'Has anybody done a paper on the value of the common good based upon this?'. You champion that in a way that others have not today. It is fantastic.

Prof. JEFFERSON — The best scholar on this is a man named Yochai Benkler and I strongly recommend he be invited for the next Deakin lecture if possible.

The CHAIR — Based where?

Prof. JEFFERSON — Harvard.

Mr DAVIS — Can you spell that man's name?

Prof. JEFFERSON — B-E-N-K-L-E-R. Benkler.org is his site. He has written a hugely seminal book called *The Wealth of Networks*, which was taken as a pun on *The Wealth of Nations*, the Adam Smith tome. Benkler is a hugely engaging speaker. He has thought more deeply about collaborative innovation than anybody alive. He is fun. He has generosity of spirit, and I tell you that nobody would sleep during his lectures. He is a good friend and he is continually perplexed by Australia in a positive way.

Mr TEE — Just building on what you are saying about the Victorian Government making available all information with the caveat of attribution, would you add to that though a

caveat that says if you are going to make a product out of that, that product is then viewed as a business-maker product, that product is then available on the same basis to other enterprises?

Prof. JEFFERSON — You know, actually I would not. The reason is I think competition works. As long as the primary source of the data, the knowledge and metadata associated with it is freely available, and the attribution is there for quality control, let them duke it out. Let the market work. They do not have to share it or they are not going to find an investment to do that. Let somebody else come in six months later and say, 'We can do a better job'. But one of the cool features — and this is really important — is you can have electronically the attribution passed through into the product. In other words, they must disclose to their users that the data or some of the data is based on freely available, Creative Commons licence data from the Government of Victoria. If they disclose it then any competitors will see. All we have to do is build a wrapper of added value around that same data and we can compete. That is building a —

Mr DAVIS — Maybe even better.

Prof. JEFFERSON — That is the nature of competition, one hopes. I would say, do not try to make money on it. Create wealth with it.

Mr TEE - I was not trying to make money on it. I was just trying to ensure that the product is then available to other competitors but you are saying - -

Prof. JEFFERSON — I think the foundational level is enough in my sense. Most businesspeople I know would view reach-through obligations like that as a disincentive to form a company or form a product. I am flaming left of centre in my heart but I am actually pragmatic enough to know that businesses do not work that way. Most businesses will not go into added-value information if they have to share their product. But if they have to disclose the source of the information, that is a perfectly reasonable constraint for you to impose.

I probably do not have much more time. I have 10 minutes left. I wanted to actually just take a second to show you something which is an example of what a very small team has done here in Australia that has had a major effect. I think that one of the things the Government of Victoria can do, even within the remit of this study, is to stimulate small, agile teams to have a similar impact. Information management, information knowledge provision, is not a high capital industry. It need not be. It need not actually be a sluggish, heavy, turgid process. It can be nimble.

Mr DAVIS — It could be sluggish too, although if you loaded it up with millions of constraints and requirements — —

Prof. JEFFERSON — Exactly. Yes. Or if you run it through the civil service, which is much the same thing.

The CHAIR — Right. Would you like to take us through?

Prof. JEFFERSON — Yes, I want to take you on a quick tour of that thing. It is unlikely that you will have a chance to look at it now — and there is no way Firefox is on here, I am sure.

Overheads shown.

Prof. JEFFERSON — If you were to put a Google search on for a full text patent search you might be surprised to discover that the major hit you get is Australian. It is us, here in Canberra. It could have been in Melbourne. What you get here is a Patent Lens. Since the submission was accumulated or put together, or from the point of view of briefing papers put together, we have rebadged our work product at CAMBIA. The rubric of this initiative for open innovation is the Gates Foundation will be helping us. The Patent Lens is an extraordinarily

powerful tool for looking at the landscapes, how patents all fit together. Our plan is to develop this as an informational source not just to accumulate data but to inform decisions in a timely way.

As a scientist I am not a lawyer and I do not want to have to navigate an enormously complex legal lexicon to make a decision. I want to be informed closer to my domain space. As a businessperson, you want the same thing. If someone approaches you as an investor and says, 'Do you want to invest in this?', are you going to believe the snake oil and the hype or are you actually going to do a small due diligence that is meaningful to you? What we have been able to do is put in here almost 9 million full text patent documents. By full text I mean every single page is searchable electronically. That is about pretty close to a billion pages. We have done it as a tiny team of half a dozen coders and myself and a couple of the patent specialists here in Canberra running on the smell of an oily rag. We are the only place on earth you can do full text search of Australian patents. You cannot do it on IP Australia because they have a budget of 50 times ours, and the problems you are talking about of accountability and nimbleness. There are some really good people there but you have to be agile in modernising teamwork.

Mr DAVIS — And you need to have the environment.

Prof. JEFFERSON — Yes, and it is the culture. If you were to search virtually any term on here you can find it, and one of the most exciting things about what we have done recently is we have started to recognise that the essential nature — —

I mean Victoria is such a small state with such big aspirations in innovation, it has to inverse the parochial attitude of saving it is about Victoria. It is not. It is about how does Victoria leverage the rest of the world, and that is a critical culture shift. Instead of talking just about Victorian data, Victorian this, Victorian that, how do other things come in to be able to be most effectively used in Victoria to keep our industries alive and get past brown coal? To do that means you have to access that enabling information, which is largely patents. Having this in Australia is a critical aspect but imagine that there is a company that wants to develop alternative energies, and let us say they would like to form a company in the Latrobe valley. Let us imagine that they do that. They would like to find out what patented technologies in my field of activity are out of patent. It turns out there is no way to search that. Well, there is now but there wasn't before this and it is very doable. You could say if a patent has expired or lapsed because someone has not paid fees, it is public domain. It is usable commercially. That is savvy. And what if you say, 'I want to sell products into India or China or Indonesia or the United States'? You need to know their system. It is not enough to know about Australian patents. You have to know where you are going to sell it to; who you are going to park it with; understand their system. Integrating worldwide information for the benefit of Australia is going to benefit us preferentially because we are less important as horse-traders of our information.

In fact, instead of thinking about we can withhold an agreed value, think about massively sharing it so we can bring something back. I strongly recommend you spend a little bit of time on the Patent Lens — it also has on here, by the way, the BiOS initiative and our licensing stuff. But the Lens is fascinating because we have now opened it up so you can do full text searching of Chinese patents, which is the fastest growing patent system in the world with no jurisprudence. There is no history of using patents in China so it is going to go into meltdown in the next few years unless somebody helps them.

Mr DAVIS — Legal meltdown.

Prof. JEFFERSON — Economic even, because they are suddenly going into a world of patenting where everybody and their dog is patenting. There is no tradition of cross-licensing. There is no tradition of judicial oversight into the patenting system so they run the possibility of melting down environmentally and economically because of their own patent system.

One of the premises that I put forward was, 'Why don't we, as Australians, potentially Victorians, provide to China the ability to navigate their own patent system to their advantage, because their advantage is our advantage?'. What is interesting here is that you can now go into the Patent Lens and search the full text of Chinese characters. What we have just done is search — it was a long search of 0.4 seconds! — about a billion pages for Chinese text. Mobile phone; a key setting there. We could actually look at that and say, 'Wait a minute, that's not Chinese'. Actually that is just the front page, the PCT, and the actual truth of the matter is that it is in Chinese. In fact what we have just searched for here is a Chinese language patent in the international filings that discloses something about mobile phones and patents and their use. The power of this is not for us to mine the Chinese data; the power for us is to provide a service — that is all that Google is — to China. China searches for Chinese patents and understands the context of them and builds relationships with the brands and imaging. Notice that in the left column it says 'Patent Lens'. It does not say 'Sponsored by Victorian innovation' or 'New South Wales lack of innovation' or 'Queensland Government'. It says nothing. It soon will say 'Gates Foundation' or 'United Nations'. I would love it to have said 'Victoria', because I really like Victoria.

The issue here is to be able to provide a service to the rest of the world that no-one else provides to enable their innovation to be open, competitive and equitable, and this guarantees that it will get us past the bellicose rhetoric of competition. I used to advise the grains industry and hear them talk about how we have to have a competitive industry, and I hear it all the time, even up at the higher echelons of the Victorian Government: 'We need to have a competitive industry'. I say, 'Really? Is that your goal?'; 'Absolutely, competitive'; 'But I thought you wanted a prosperous industry'; 'Oh, but we do'; 'So if you are going to have a prosperous industry, which is profitable over space and time — that is, prosperity — where is the competition?'; 'Well, we have to have competition'; 'Well, if you could be prosperous by cooperating, would you do it?'; 'Yeah, sure'; 'So if you cooperated with others and you still ended up with a prosperous industry, is that a total upside for you?'; 'Yeah'.

Competition is a tool — you could invoke it, you could not invoke it — but if you set it as a goal, not a tool, you screw up your policy. What I am seeing in innovation policy worldwide, but in particular in the smaller states in Australia, is ridiculous rhetoric about competition. Instead of thinking of it as a tool you invoke when you must, you think of it as a goal, and it is not; prosperity is the goal, and mutual prosperity is an even better goal. Competition? Use it, honour it, but do not put it on a pedestal. Cooperation is a very powerful tool; as a small player you get far more from that. I really encourage that if you do want to learn about the patent system, by the way, we also have extraordinary patent landscapes on here, full tutorials and a patent quiz, which is kind of fun. You think you know a little bit about patents, you take it, you get 1 out of 10 and you realise, 'Oh, my god, I should not be setting policy'.

The last homily I use is by one of my favourite authors, Mark Twain, in his book *Tom Sawyer*. I am sure most of you had to read this book at various stages in your education. It is about a larrikin 11 to 12-year-old in Hannibal, Missouri, who is given the onerous task of painting or whitewashing his Aunt Polly's fence. He does not want to do it, of course, or he does not have the capability to do it, so he convinces every other kid in town that it is to their advantage to do it, and they actually pay him to do a section of it. They give him an apple, a pocketknife or a yo-yo or something and he lets them paint a little bit of the fence. At the end of the day they are happy as clams because they have been able to paint some of the fence and they have parted openly with their yo-yo and whatever else. He has sat back, had the fence painted and gotten all their loot. The only way for a small economy like Australia to really prosper, and a small component of it like Victoria to really prosper, is to use that strategy. Let other people work with you to do the things that you either cannot or do not want to do yourselves. That is the leverage effect, and it is done by convincing people that sharing is a good thing. That was a little bit sly of Tom Sawyer to do that, but it worked.

The final point is that information can be a huge tool of leverage if you share it. It is useless if you deny it. Go, find a recommendation, do Creative Commons on absolutely everything with

attribution, require attribution and encourage people to commercially add value to it as long as they maintain full disclosure of the attribution at every stage of their product. They start getting Victorian data and that little pop-up comes up, 'This was obtained courtesy of the Government of Victoria. Click here', and anyone can use the data. Let somebody add value to the service. That is all I have got to say.

The CHAIR — Thank you very much. We do appreciate that, and within a fortnight you will provided with a transcript from Hansard.

Prof. JEFFERSON — I should get rid of that thing about the snake oil

The CHAIR — Typographical errors can be corrected but the substance cannot.

Prof. JEFFERSON — It is not substance; it is just rhetoric.

The CHAIR — Enjoy reading your Hansard transcript.

Prof. JEFFERSON — This is exactly why I have not progressed in the firm I am at very well.

The CHAIR — Thank you.

Witness withdrew.