SMA NEWS

VOLUME 42 No.11 November 2010
MICA (P) 103/02/2010

Interview with Sir Leszek Borysiewicz

Sir Leszek Borysiewicz is a Polish British physician, immunologist and scientific administrator. He studied medicine at the Welsh National School of Medicine before beginning a career in academic medicine. In 2001, Sir Borysiewicz was made knight bachelor for his research into developing vaccines, and he was also awarded the Moxon Trust Medal of the Royal College of Physicians in 2002. Prior to joining Imperial College London as Deputy Rector in 2004, he headed the Department of Medicine at the University of Wales.

Sir Borysiewicz began his term as the 345th Vice Chancellor of the University of Cambridge on 1 October 2010. Dr Jeremy Lim took the opportunity to meet up with Sir Borysiewicz when he was recently in Singapore attending the 15th Biomedical Sciences International Advisory Council Meeting.

SMA NEWS
VOLUME 42
NO.11 NOVEMBER 2010

Published by the

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Interview with Sir Leszek Borysiewicz

By Dr Jeremy Lim, Editorial Board Member

"Honour", then "terror and trepidation". These words described how Sir Leszek Borysiewicz felt upon learning he was to be the 345th Vice Chancellor of Cambridge University. Prof Borysiewicz, a self-professed black-and-white movie buff who has watched Casablanca over 20 times, recalls animatedly in almost cinematic terms the night of the "phone call", saying "It was a huge honour. After that, I felt terror and trepidation for what I had to face – this is a huge responsibility." After that, in a modest and endearing manner (which I was to learn later from his former students that it was what many of them remembered most fondly about him), he quickly went on to pay tribute to his predecessor Prof Alison Richard for the prestige she had brought to the university and to the role of Vice Chancellor, and spoke soberly of the sense of humility that "someone should even think you are capable of doing that."

The fan of 2nd century world history is a career academic clinician, starting as a lecturer in Cambridge before heading to Cardiff and then to Imperial College where he first headed the medical school before becoming Deputy Rector. After a lifetime of thoughtful reflection of the role of universities in society, it is unsurprising that he holds strong views, emphatically defending the role of the university as promoting "quality and excellence in all that we do" and strenuously rebutting the somewhat populist view that universities should practice affirmative action to address social inequalities. Decrying the role of universities in social engineering, Prof Borysiewicz asserts that, "Our role is to promote the academic excellence of the institution, and to look after the individual and ensure that someone with the aptitude to benefit from Cambridge is given that opportunity. That said, it is also important that nobody should not come because they can't afford to."

This self-effacing Welshman (who describes his "funny surname" as the result of Polish parents) who was knighted in 2001 for contributions to vaccine research was in Singapore recently as a member of the Singapore government Biomedical Sciences International Advisory Council. His verdict on Singapore's progress: "I think Singapore has had an amazing ten years. Let's not beat about the bush. There is world-class research being done here in Singapore. Going back 20 or 30 years, you would not have thought that many students from Cambridge would go to Singapore to study. Now, it is considered one of the major academic destinations in the world."

> Scientists can't just isolate themselves in a little bubble and say, "That's what I do" or "That's the molecule I focus on." Yes, for part of your life you do have to but you also have the responsibility, bearing in mind that it is the public and taxpayers who are funding the work that you do. And you owe it to them to be able to explain why what you are doing is important, why the public should continue to support that work, and what possible benefit it should have. But then it's also a responsibility to ensure that the benefit goes back to the people who supported it.

Borysiewicz on...

Medical School – You learn that your curriculum is what's in the library and you have to follow something through. You gradually learn that the questions you ask are not silly, but that nobody knows the answer. Then the fun starts in how to get to the answer, and that was the thing that really got me started in research.

Cosmopolitan Science – Most academic communities are at their best when they are cosmopolitan and we have a mix of different cultures and ideas. It creates the international dimension of academia that is so important in a world; that we understand each other and positions that people take, in arts, humanities, policies and science because many of these enterprises engaged in are not national, but international. We work across national boundaries quite comfortably and well and I think this stems from the desire to engage, see for themselves, and to work in centres of highest quality and excellence.

University League Tables – Beware the league table. I have an inherent dislike of them because they are all different and weigh different parameters differently. If you take a world class university, and I'm proud that Cambridge is one, we are consistently at the high levels of those tables but there will always be differences because there are different parameters studied and emphasised by the league tables. What we've got to remember is that there are no simple surrogates for academic excellence. And so often, academic excellence is in fact a qualitative measurement that cannot be simply quantitated. If you resort to quantitation alone, you miss the importance that universities have in promoting those who are going to make real transformational change whether in education or in research. What you mustn't slip into is universities prioritising what are being measured in league tables. What you should measure is what's important and for me, that's about academic debate and freedoms, which is what I believe has stood Cambridge in good stead for the past 800 years, that freedom to be able to investigate and to pursue your own line of scientific inquiry.

Ambitions for Cambridge – Relatively simple and straightforward. That we maintain our mission of absolute excellence in what we do, that we continue to build the opportunities to engage, particularly in education and research. I hope that I leave Cambridge as strong as I find it now and even though as always, you have to run to stand still because everyone else is catching up.

In every country in the world, governments ask, "What are you delivering at the end of the day?" That's not a question that is unique to Singapore; it is a question that every government in the world is asking. When I look at the commitment in Singapore, the government recognises that it must continue support for high quality basic science. Quite rightly, what they are also saying is that after ten years, what are the benefits, and can we show that continued investment is now delivering the benefits anticipated when they put the investment in ten years ago.

DR JEREMY LIM - JL: You had said in a speech last week that one key role of science was to improve lives and opportunities in society; that was in context of exhorting scientists to go beyond presentations and publications, to think about their impact. Can you unbundle that?

SIR LESZEK BORYSIEWICZ - LB: I will talk through where that comes from. There is an adage that I attribute to Sydney Brenner, who said there is no such thing as pure science – there is "applied science" and "not yet applied" science. That's something I fervently believe in, and particularly in biomedical sciences, you embark on research no matter how esoteric it is. Most of us do it because we hope that by greater understanding, we are going to improve human health. That's been a driver and if you are to deliver it to a wider population, you then have to consider how to do it.

This happened to us in the context of

vaccine development and very quickly what you learn is that you have to get greater engagement with the private sector because there is no public capacity to get that delivery. So you can make the greatest discoveries in the world, but if you don't have that engagement, you will never get that development out into the public domain. That is also true in the social policy context where again you have to engage with politicians and policy makers if you are going to make a difference.

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I don't see this as a threat to basic science or a fundamental realignment. What it is actually saying is that we now have to put additional pressure on ensuring the sector delivers. Let's also face the reality that in many countries in the world, we are going to see reductions in funding. Singapore has continued to grow its investment! If I stood up in the United Kingdom

in a variety of ways and you do need some professional help in that area. This isn't denuding the responsibility of the scientist – it is actually providing support in deciding whether going for licensing or other routes of collaboration might actually maximise the benefit.

The third component is to work out that if benefits accrue, there is an appropriate reward to the scientist, academic department and the institute. Also, there must be a benefit to the

On the occasion of the 50th anniversary of the Cambridge phenomenon, there was a report released that asked a question, "What value has this phenomenon brought to the local community?" The bottom line numbers were that if it hadn't occurred, an extra 50 billion pounds would have to be found just in the regional economy and an extra 150,000 jobs would have to be created to replace the benefits that have accrued from this interaction. Now that's universities and academia really helping the local community. There is every opportunity for these benefits to accrue here in Singapore too and that is the sort of question that the government is asking, can we begin to see this kind of similar tangible benefits?

Scientists can't just isolate themselves in a little bubble and say, "That's what I do" or "That's the molecule I focus on." Yes, for part of your life you do have to but you also have the responsibility, bearing in mind that it is the public and taxpayers who are funding the work that you do. And you owe it to them to be able to explain why what you are doing is important, why the public should continue to support that work, and what possible benefit it should have. But then it's also a responsibility to ensure that the benefit goes back to the people who supported it.

JL: In Singapore, there has been a recent orientation for a lot of the funding for biomedical research to be linked to commercialisation and working with industry partners. This has been commented by some to be an effort to cajole scientists to work more closely with the industry, and to move away from "pure science".

LB: In every country in the world, governments ask, "What are you delivering at the end of the day?" That's not a question that is unique to Singapore; it is a question that every government in the world is asking. When I look at the commitment in Singapore, the government recognises that it must continue support for high quality basic science. Quite rightly, what they are also saying is that after ten years, what are the benefits, and can we show

with the kind of deal that scientists in Singapore are being offered, they wouldn't just bite my hand off, they'd snap it off at the shoulder! Singapore is still an excellent place for science, and I see it as a natural progression, that commitment to basic science continues but the government is quite rightly saying that we now have to ensure that any benefits are really being translated appropriately.

JL: In terms of preparing scientists to engage well with the industry and industry partners, we have to be mindful of all the commercial sensitivities. Do you have any thoughts on how this is best done? How do we systematically prepare scientists?

LB: That's a good question. In the United Kingdom, from my experience, both at Imperial College and at the Medical Research Council, scientists need support to be able to do this effectively and well. There are three areas that I think are particularly important.

Firstly is a basic understanding of what's required in order to ensure that you can generate intellectual property. It's not a constraint on publication or academic freedom but if you have an opportunity, it's essential that you understand how important it is to be able to circumscribe and protect that intellectual property.

The next question is how best to exploit this intellectual property. This can be done

society from which that discovery heralded. That's the model that the United Kingdom and many countries follow.

What is good in Singapore is that there are now very many major players from the pharmaceutical, biotech and engineering sectors already based here to enable real engagement to take place. This is good news for scientists based in Singapore.

JL: We're really talking about clustering, and in this context the Cambridge phenomenon has been widely commented on. You gave a keynote speech very recently; do you have any advice for Singapore on what we should be doing?

LB: For businesses that engage in scientific enterprise, I think the brainpower in the university and academic sector is vital. If you are going to make a real commercial success of something, you don't need another "me too". You need transformative research to be taking place, and that's why continued investment in basic science is so important.

Secondly, scientists should be very entrepreneurial and seize opportunities. I think Cambridge has that vibrancy and the same will apply here in Singapore.

The third element is businesses. One must understand that if you have these core activities feeding into a strong academic centre, you will have well-trained scientists and individuals who

are highly sought after by high tech businesses for partnerships. The investments in science have attracted the likes of GlaxoSmithKline, Pfizer and Novartis here to Singapore because they know that there is something to feed off. These make a huge contribution to the local economy.

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JL: How does Cambridge University keep the local residents engaged and supportive of the Cambridge mission?

LB: That's a good one but I don't know the answer, having been in the post for only four days! What I have seen from the outside is that firstly, Cambridge is a small place so the university itself is a very big employer. Not just of academics and students, but also within the local economy. Cambridge matters to the city. And the city matters to Cambridge because all of those who come to study and live and work are very dependent on the city amenities. The relationship between the city and the university has always been very close and very good. And the city recognises that the benefits we talked about, because if you are not employed by Cambridge, you may well be employed by a business benefiting from proximity to the university.

The other issue is that you have to retain a good and constructive dialogue to ensure engagement so that the city knows where you are going and you understand where the city is trying to go. I'm very impressed by the relationship Cambridge University has with the city and this is something that can be built upon and this is very valued by the university.

JL: This is a more generic question, but do you have any thoughts on how scientists and academics should engage with the lay administrators they work so closely with?

LB: Any university in the world is only as good as its staff and students. But what do you want the staff and students spending their time on? You want them to spend time on what they're really good at and if you have top professionals working in an area, you need top professionals to support them, carrying out other activities that would otherwise take time from their teaching and research activities. So you need the academic staff to be supported by a very professional group of individuals who are equal experts in their own field. You don't leave academics to run the finance of a university; I think you'd have problems so you need professionals who are able to do that.

What you need is a mutuality of respect for the professionalism on both sides. In other words, those who come from a support background and work very hard in their own domains to ensure that the university or academic institution works effectively have to have respect for the scientists and be

prepared to listen to the advice that they are giving, in the domains they are expert in, and similarly, the scientists cannot write people off as administrators and not be interested in them, but instead recognise that their professionalism is being brought to bear on very important aspects of making their lives easier to enable them to do the work that they wish to pursue.

The bottom line is that it has to operate like a beehive and everyone's got their role to play. By coming together, the total is much greater than the sum of its parts. Will there be tensions? There will always be tensions in such a system but you can make these tensions constructive.

JL: I don't recall reading in your bio that you had attended business school, and here in Singapore, the term we typically use for persons like you is "accidental leader". Looking back, what were some of the lessons that you have learnt over the years that have made you such a strong administrator, and at the same time, an outstanding clinician and scientist?

LB: (laughs) "Accidental leader"! I like that. I'm very flattered. There were two events that made me understand how important it was to deal with organisations. The first of these was when my group in Cardiff started to grow from three or four post-docs to work with a team that included PIs. You suddenly recognise what's required of you from the team is beginning to change – you no longer are required to run the gels or carry out cell cultures yourself; there are many others with the capability to do that. But the group requires something more of you; to act in a way to protect the group in normal administrative structures, but also to be able to organise, advocate and advance the work of the group.

The second was when I was working in the Gambia and looking after hospitals with real shortages. By that, it meant that antibiotics were running out. You suddenly realised that effective use of the resources you've got requires skills over and above the skills you've got as a clinician. You have to make decisions about the utilisation of scarce resources in order to get the best outcome for as many patients as you can. And also, in that unfortunate set of circumstances, you weren't necessarily delivering optimal care to everybody but you had to make decisions that were very tough. So you learnt decision-making and had to live with the consequences of the decisions.

Those two experiences coupled together gradually made me understand how important it is to engage with others and to move forward. Whether that made me a good leader, I believe Cambridge will judge in due course.

The other thing you learn very quickly is that it can never be a one-man operation. This idea of a pinnacle leader is complete nonsense. You need everyone around you because they've got to be able to enable you to operate in that area and work together.

JL: Thank you very much for your time, it has been very educational. SMA