Robyn Williams:	00:00	Was your family in any way scientifically minded?
Vicki Sara:	00:03	Oh, not at all. No. Well, let me put it this way. Nobody was scientifically minded on my mother's side. My mother left school when she was 12, Robyn, so she had really very little education. My father on the other hand was not interested in education. Even though his family sent him to Grammar in Sydney. He was not [scientifically interested], shall we say. A lovely man, but not in that area.
Robyn Williams:	00:31	I see. So, he is interested in Grammar, but therefore he thought you would be suitable for Sydney Girls High. Is that how....the equivalence going on?
Vicki Sara:	00:40	No. I went to Sydney High and Sydney High was a selective school and that was probably one of the really critical steps in my life, is going to Sydney High. I [first] went to school at Bondi Public, which was not a scholastically high achiever. I'd been sent to an early learning kindergarten type of place when I was very young, like three or something, which was not done in those days. When I went to primary school, I was very bored and also somewhat bullied a lot because I had done everything that they were doing. Then when I got into Sydney High for secondary school, it was a whole revolution for me, everything was wonderful. It's a wonderful school.
Robyn Williams:	01:29	What made the revolution? Was there a special teacher?
Vicki Sara:	01:32	They were all good. The whole scholastic environment was wonderful. But yes, there was a special teacher in biology. Her name was Ruth Koman, and Ruth Koman was fascinating. I loved biology due to her, actually. She used to bring in paintings. She introduced all of us to Fred Williams when we were in about fourth year or third year or something to show us how the different environments affected animals. It was quite wonderful education.
Robyn Williams:	02:05	All those trees he painted, yes - but you see [it's an] interesting thing about the supportive atmosphere that you described because some girl's schools, I know had a kind of prejudice against achievement and you had to pretend to be dumb, pretend to be not very scholastic otherwise you'd have a hard time. Did you come across that at all?

Vicki Sara:	02:28	Clearly in my earlier days at primary school, yes absolutely, but at Sydney High, no, never. It was important to be scholastic, to achieve things in that area. Art, music, all of that was important. Debating. All of those things were wonderful. It was just a different atmosphere where learning and intellectual ability was held to be something that was so important. It was a very positive thing.
Robyn Williams:	02:57	Yeah. And so presumably it's a gilded path to Sydney University, you just cruised in, did you?
Vicki Sara:	03:05	I think I cruised in on my biology results, but not on very much else. I was a bit of a naughty lass, but anyway, yes.
Robyn Williams:	03:15	Naughty at what?
Vicki Sara:	03:17	I got very in interested in theatre and drama and film and all of those other activities, but I always love biology. I just loved it.
Robyn Williams:	03:25	Did you find at all that the interest in the arts rounded you so that you became a better scientist, really?
Vicki Sara:	03:32	Absolutely Robyn. I started out studying physics, chemistry, math, biology, failed miserably my first year at Sydney University because I discovered SUDS [Sydney University Dramatic Society] and all those fascinating people who we know so well now, who were in the theatre. We were making films and when I say we were making films, you can imagine at about 16, 17, I was a little extra running around just fascinated by the whole experience.
Robyn Williams:	04:00	Sydney University Dramatic Society?
Vicki Sara:	04:03	Yeah. There was Germaine Greer and the rest of them, you just looked up to as idols. I had wonderful time and then I couldn't continue. So, I went to arts. I actually have my first degree as a Bachelor of Arts. I studied Anthropology, Philosophy, English. Particularly Philosophy, I enjoyed enormously. That's really given me an enormously broad education. I went back and did a degree in physiology later on while I was doing a PhD, because that's what I wanted to do.
Robyn Williams:	04:40	Two at once.
Vicki Sara:	04:41	Two at once [ ]

Robyn Williams: 04:43 Yes. So, getting your PhD, what year was that roughly?

Vicki Sara: 04:49 Gosh, roughly the end of the '60s, I started my PhD after I finished an honours degree, '69 and I finished my PhD '74. So, it was the end of the '60s [early 70s].

Robyn Williams: 05:00 '74. And you couldn't wait obviously two years before you went off to Sweden?

Vicki Sara: 05:05 Well, I would've gone earlier if I could've, it was very difficult. I think people should learn a bit from this as well. That I became very interested in, when I was doing my honours...I was interested in brain and behaviour and memory formation. Now remember, this is the end of the '60s and Jacob and Monad with the RNA [translation] from DNA were explaining how proteins could be made in cells. So, I thought this could be a mechanism that might underpin memory formation because it could lead to a structural change, [interest was in neural networks] and structural changes for memory.

Robyn Williams: 05:46 They got the Nobel Prize for their work, didn't they?

Vicki Sara: 05:48 Yes, they did. So, I was very interested in that and I wanted to continue. I was interested in looking at how the structure of the brain was formed in early life, which was embryonic development, obviously in the very initial stages. There was nobody working in that area at all, and I wanted to do a PhD on it, but there was absolutely nobody. Unfortunately, the supervisor I had who was supposedly physiology/psychology suggested I do a study of the structure, and I'll never forget this, the structure, and the function of the globus pallidus. Now that was as exciting as trying to walk backwards through mud. My first year of a PhD was spent as all students do, doing a literature review, and I came to the end and really decided that it would be impossible for me to continue. That was probably a very wise decision to take, because I think it's very important when you do a PhD that you're actually involved and fascinated and have the drive to continue with that subject.

Robyn Williams: 07:00 Yes. Rather than walking through mud, you wanted to find out how the brains that we develop as babies and even smaller than babies...we get this amazing apparatus growing up. So after nine months we are born and we've got all this gear, how did it happen?

Vicki Sara:	07:18	It's serendipitous in a sense. At the same time, there was a lot of work being done overseas, not in Australia, on growth factors role in development. Many of these growth factors were regulated through pituitary growth hormone. That's how I got involved in endocrinology and looking at growth factors and growth hormone.
Robyn Williams:	07:38	Wasn't John Shine working on that?
Vicki Sara:	07:40	[I think John was first working on prolactin. Then he investigated the gene for growth hormone. Remember this was an exciting period in science leading up to all the DNA synthesis that was done, the isolation of genes and the ability to read genetic code]. All of this was at this time. It was very exciting. Anyway, I decided I couldn't go on with globus pallidus. I would do what I wanted to do, which was to look at growth of the nervous system in early development. The only person vaguely related to that was Arthur Everett at Sydney University, Professor of Physiology there. He agreed to be my supervisor, although his work was on growth hormone, body growth at puberty and old age. So, he did that and I went to the Garvan Institute and did my PhD there.
Vicki Sara:	08:33	I mean it's Sydney University still, but I used the laboratory because that was the major Endocrine Institute in Sydney. Then when I finished my PhD, I really needed to go to where people were working in this area so that I could learn from them and develop along this track. My idea was always to be a full-time researcher
Robyn Williams:	08:55	And here came Stockholm?
Vicki Sara:	08:57	And I came to Stockholm, which was wonderful.
Robyn Williams:	09:00	Very brave.
Vicki Sara:	09:01	Yes. Now I think so, but it was for a short time. I didn't realize it would be for 20 years....so I came to Stockholm.
Robyn Williams:	09:11	Did you have to speak Swedish at all?
Vicki Sara:	09:12	No, of course not, because all Swedes speak English, even then. I came to Stockholm in '77, I think it was. Most Swedes and certainly in the scientific community, and the medical research community, everyone spoke English, but to be part of the

system in Sweden, then I had to speak Swedish. So initially I was what was called a guest researcher. I was on a postdoc fellowship from UNESCO for the first two years, but then our work was going so well, and it was such an exciting time. It was as if there was a race of several groups, one from Switzerland, two from the US and us in Stockholm who were racing to identify [what the substance were]. It was very exciting. I was there for two years and then decided I really wanted to stay and continue my studies, my research there. I was doing rather well and was getting a lot of support from the Swedish Medical and Research Council and from industry and from various places so that I continued there.

Robyn Williams: 10:23 And that was at the Karolinska Institutet. I've been there only once. I was there actually for the announcement of the Nobel Prizes, and I was most impressed by the relaxed informality of them. There weren't any trumpets, they weren't flourishes. They just came in, sat down and said, okay, here are the results, any questions? And I thought, well, that's nice instead of being put off by this legendary place. I thought, well, I could live there. You found the same thing, did you?

Vicki Sara: 10:55 Oh yes. I love living in Stockholm. It was very exciting, but when you talk about that [Nobel Prizes], then there was the formal dinner of the presentation. That is formality to the extreme that you don't see here. There's a nice balance in Sweden, I think, between the easy-going informal approach to the very formal approach that is with things like the Nobel Prize presentation by the King or the Queen at the time. That's really something very special.

Robyn Williams: 11:25 And I thought I'd gone to heaven when I was at that ceremony and the chorus of young women dressed in white and with tiaras made of lighted candles came down, oh boy.

Vicki Sara: 11:38 It's the light [coming of the light Santa Lucia]

Robyn Williams: 11:40 They know how to turn it on, I must say. So, you had a wonderful time, and without leaping through the whole of the 20 years. What exactly did you find summarizing your work there?

Vicki Sara: 11:51 I actually identified what I had thought was a new growth factor. There was a member of the insulin-like growth factor family. I mean, they used to be called somatomedin, then when

they were identified, there was insulin-like growth factor, one, two, et cetera different forms. It proved to be the one I was working on, which tended to be the predominant one during foetal development. Also later on, of course we work with cancer and tumour development. There's another up swelling of production of the substance then. That was the main thing that I did, which was embryonic brain insulin-like growth factor.

Vicki Sara: 12:31 Now a couple of things were wrong. It proved later on that it wasn't just the brain. It was throughout the whole embryo. It was an embryonic form of the hormone, and what it was [actually part] of the larger hormone, the parent hormone, where the N-terminus had been cleaved off.

Vicki Sara: 12:48 So the same gene, but there was a protein processing was clipped off the N-terminus. First, I can tell you a story of, after so many years trying to get enough substance to be able to sequence and working with probably the world's best protein chemist Hans Jornvall, using his up-to-date sequencer. We get the amount of...tiny amount of substance that he could start [with]. Then sitting there all through the night, watching amino acids coming off the machine and we realized the first one coming off was quite different to the other IGFs. Second one too, and then suddenly we start to realize there's something very familiar here. What it was is the cleaving of the N-terminus.

Vicki Sara: 13:33 Now you think, oh, that's terrible. It was very disappointing, but we tried to figure it out. There's a group here in Australia also, [with] John Ballard, who's working with similar stuff. When you tried to figure it out, what it was is really quite important because the N-terminus was where [the IGF protein was] bound by the binding protein, which protected it from interacting with the receptor and creating a biological effect. So it was quite an important mechanism, but we didn't know that at the time. What I'm saying, I suppose, from enormous disappointment and failure, if you think hard enough and try to work it out, there may be [something of a great importance] there.

Robyn Williams: 14:16 Failure can be a turning point. I've heard that so often. It's wonderful, isn't it? Without going into detail about what you've just said. In terms of the way the physiology worked, what you've got is all these cells with the same DNA blueprint, but they've decided to go off in different directions to form this most complicated organ, the brain. Some parts are doing medulla. Some parts are doing cortex, some parts are doing

the... How do they know what to do and where to go? How's the timing work?

Vicki Sara: 14:47 Isn't it wonderful? Isn't it wonderful that we can still ask questions like that to try and understand how it happens? I mean, when you look at it, I was so pompous believing that I could actually answer the question. How does the brain grow? I mean, how ridiculous is that. That's youth, that's '60s youth, and you realize that you're looking at a very isolated, single mechanism of cell division. [It's a fascinating area to understand how the structure is set]. I know we realize that there's plasticity in the brain, but there's not an awful lot of plasticity in the brain. So, it is very important how that structure is set down early in life during pregnancy. The importance of alcohol abuse, of diet, all of those things really do have a [deleterious effect].

Robyn Williams: 15:41 Yeah. Because - a quick summary - is it the fact that there's a chemical map that the cells need to follow? And if you go one way, you become changed, and the other cells go to another way and they become changed. So, the whole process in that way becomes separate and they're going in a different direction, forming different sorts of organ.

Vicki Sara: 16:01 Yeah. I think that's the basic principle of it. It's a matter of identifying what those signals and messages are and how they are actually able to direct the cell to go one way or another way. Quite clearly, I think, probably what we were looking at all those years ago, having got involved...was an embryonic form of an embryonic stem cell production. Is what we were probably looking at, but we didn't recognize it at the time because I guess stem cells weren't de rigueur in those days.

Robyn Williams: 16:33 No, indeed. Well, after what, maybe 17 years, maybe a bit more, you came back to Australia. Where too?

Vicki Sara: 16:41 To QUT. To Brisbane...

Robyn Williams: 16:44 QUT, the Queensland University of Technology. And briefly, because you've spent some time at universities of technology, what's the difference between a university of technology and the non-university of technologies. Are they different these days or pretty much the same?

Vicki Sara: 17:01 I think they're pretty much the same these days. There certainly was a huge cultural difference. I think still a cultural difference

does exist between those universities. It's very difficult to lump all technology universities in one basket and all sandstones in another basket because there's a spectrum in both. With time difference, remember I came back to Australia, I think in, gosh, what was it? '93. QUT had been formed, what, in '88, I think something like that. So, it hadn't been a university for such a long time. The truth of the matter is I needed to come back to Australia. I was an only child with an ailing mother and quite honestly, my passion, other passion, well, I have several passions in life, but one of them happens to be sailing. The weather in Sweden is not good for sailing.

Robyn Williams: 17:59 No.

Vicki Sara: 18:01 I was looking forward for green and blue, and hence I'm sitting on Sunshine Beach at this very moment.

Robyn Williams: 18:06 Indeed. Yes, but QUT...a wonderful setting right on the water next to the Botanic gardens. And now indeed, it's got fantastic buildings and it's connected, it's good at robots and all sorts of things.

Vicki Sara: 18:22 In those days when I came back, [in] the early '90s, they in fact imported me back. I could say bought me back. Well, they did buy me back very generously to really give a boost to research culture. Particularly the Vice Chancellor of the time was desperate to get a CRC [Cooperative Research Center]. So, we had a deal. If I got a CRC, we'd get a new building in life science, and we did get a CRC and we did get the laboratory fit out and building.

Robyn Williams: 18:52 That's a Cooperative Research Center working with industry.

Vicki Sara: 18:55 Yes. Because one of the things I learned in Sweden was not only the collaboration between people across all different areas - because that is quite outstanding - but the importance of the collaboration with industry. Now, I also learned...I'm not saying we should do short term commercial research at universities. I think that's wrong. I think we need to have high quality research at universities that is not driven by commercial outcomes, and in that I'm becoming quite isolated in those views, but never mind. It was very important that you had a collaboration, I mean we could never have isolated genes, got the DNA sequence, identified a receptor without having the support and the interaction and collaboration with KabiGen, and Kabi and

Pharmacia and all of those companies. What they wanted was the first bite at any intellectual property, and for that, they supported our work enormously because they could recognize the potential for patenting the work and being able to produce medicine out of it.

Vicki Sara: 20:04 I thought that Australia had when I came back, had a very different attitude to industry collaboration and industry had a different attitude to university collaboration. So one of the things I think I tried to contribute very much when I came back to Australia was to try and break down those barriers so that there was no fear from the university that their IP would be stolen and run away with, which is just crazy. And for industry to really recognize the importance of the quality of research.

Robyn Williams: 20:40 The Hawk government and the Chief Scientist at the time encouraged that thing. It was interesting how fast it moved.

Vicki Sara: 20:48 Yes. Well, I think I got the CRC, was it '93, '94, something like that. So, it was in the early days of the CRC, Ralph Slatyer was still around.

Robyn Williams: 20:57 That's right from Perth. I think he went to school with Bob Hawk as well.

Vicki Sara: 21:02 Interesting, that isn't it.

Robyn Williams: 21:04 Yes. And so, you stayed there for quite some time talking about the funding of science. May I leap you to the Canberra responsibility where you were suddenly in charge of the [Australian] Research Council? Was that a long way off your return?

Vicki Sara: 21:20 No. It was very soon.

Robyn Williams: 21:21 Quite soon. And what took you there?

Vicki Sara: 21:24 Well, I didn't stay at QUT very long. I stayed there for three years. I was the Dean of Science, and I had the CRC, which is a huge package to look after. It wasn't that at all. There really wasn't the research environment that I was seeking. I was still doing research, but from a distance. I wanted to have the opportunity to make a difference to research in Australia. I'd learned an awful lot in Sweden, and it was a shock coming back. It was particularly a shock coming back to Queensland. I have to

say, and one of the first things that happened to me when I came back was, I was put on the ARC or on one of their committees.

Vicki Sara: 22:08 Then I was on the committee for a while and then onto the Council. I could see perhaps that here I could make a change and be able to contribute something, to make research much better than it was in Australia. That's why I took on the job. I have to say it was a wonderful, wonderful opportunity to do things, but it was very hard. It was a difficult road to hoe.

Robyn Williams: 22:37 Now here's a long question. It just so happens that I probably joined the ABC 50 years ago last week. During my time over the last 50 years, the one recurring policy question has been A, why do we have so little funding for science, 2% of GDP? I think. Korea is four and a half percent, over twice as much. 2% for a rich country is rather extraordinary in the OOCD. Then you've got the question of translation, the investment in the future of science, via industry and so forth. You went in at a time when so much needed to be done. Did you actually pull them towards the future during your period there in the council?

Vicki Sara: 23:20 I believe I did. The result was Backing Australia's Ability. When I took over the ARC, the success rates had fallen to [one in five or less]. I mean, they're dreadful at the minute I have to say, but they had fallen then from like 22, 25% for large grants, all for scholarships down to under 20% and there is masses of evidence that you're really turning off the best and the brightest young people for even trying when their chances of any success is only one in three, one in four. So it was very difficult with money. At that time also, there were more governance issues which underpinned all of that. Firstly, we didn't have sufficient money to support the quality research which was being done in Australia, and the governance of that was being regulated by the bureaucrats. So when I took over the ARC was part of the Department, it was not a statutory authority.

Vicki Sara: 24:23 Now, some people may think they it's a small distinction, but it isn't. It's a very large distinction. So that what was happening, that our budget was part of the budget for the department so that it could easily be raided if required. So that the quality of research that we could support was very much determined by how much money was left in the bucket, rather than what we had hoped we would be able to achieve. So there were those two issues we needed to really convince government that there

needed to be an investment in research and we needed to convince government firstly that, but secondly, importantly, that we needed to establish the ARC independently from the department. I guess if I had to say, what I've achieved in that time was to do both of those things, which was not an easy task. It was because of the wonderful people...We all worked together.

Robyn Williams: 25:25 What about the Ministers you'd talk to; who was good and who was resistant?

Vicki Sara: 25:29 Well, I had many and different. Amanda Vanstone appointed me. She was removed from office about three months after she appointed me - nothing to do with me. I hadn't even met her. Actually, I had. I saw her in Canberra Airport, and I chased her through the airport and up the escalator.

Robyn Williams: 25:47 She on her way to Italy at the time?

Vicki Sara: 25:49 Well, no, but soon after. She was good, and then there was David Kemp. David was really a pivotal person in the change to the ARC.

Robyn Williams: 25:59 Because he'd been a Professor, he was an academic?

Vicki Sara: 26:01 At Monash, he was an academic. At the time, he was very much driven by the Department. At the end of the day, David actually supported us in establishing the ARC as an independent authority, but it took a number of years to get to that point that he actually trusted [the ARC]. The person who actually was the force behind that with John Howard. As [Chair] of the ARC I was a member of PMSEIC [Prime Ministers Science Engineering and Innovation Council] and I got to know him through that, and with Robin Batterham and, John Stocker I think was the person before Robin, and developed a relationship so that I could actually discuss with him and discuss with David Kemp about the necessary changes. We would never have got Backing Australia's Ability where over $1 billion went into the ARC - a doubling of our funding went into it - without his support.

Robyn Williams: 27:00 Yeah. So, you mentioned Robin Batterham of course, Chief Scientist, lots of experience in industry and John Stocker, who himself in a medical area was a top industrial CEO. I remember when he became Chief Scientist, he did say, depending on which general field, one investment of $1 in science gives you

$10 later on. The return is fantastic. And yet Australia doesn't seem to have realized that. I remember being told a story which I broadcast from someone senior in the CSIRO during the war. With the tyranny of distance, of course, Australia realized it couldn't get stuff from overseas. So, it might have to research and make it itself. And it did so very successfully. Then the war stopped, and someone said, "Oh, we don't have to do that anymore. Give it away." So, we didn't do the R&D. Or we did the R, the research, but the D was going to be somewhere else. It seems this attitude lingers, but you're quite right. John Howard understood that there was a unity.

Vicki Sara: 28:05 Yes. So, without his support, I guess it was a very long time. What was really good during those times, which was the end of the '90s, beginning of 2000, is there was Robin, myself, Brian Anderson, who was the Chair of the Academy. We spent so much time just visiting ministers and department heads and trying to persuade them that this was so important. The really critical thing, Robyn...we ended up having people on side, the important people. We had the business council on side, so they could carry the message. Nobody believes an academic when they're talking. So, you had other, the people [who] were taking the message forward, which was really quite wonderful. We were successful and all the people involved were wonderful in [contributing] and it allowed the ARC to develop centres of excellence. It allowed us to develop Federation Fellows, Indigenous early career researchers, early career researchers generally.

Vicki Sara: 29:05 This is the first time we could actually have a strategy for what was required for Australian research going forward, high quality research going forward, and that we actually had the money to be able to deliver that. That was very important. We also built-up linkages with - a linkage program came out of that - the discovery and the linkage came out of that and all of the centres came out of the Backing Australia's Ability. It was really John Howard's support, which allowed that to happen and to get through.

Robyn Williams: 29:39 Now, let me ask you about something you mentioned just briefly in passing there. And that's the young people who are, I think in many ways, still struggling with their short-term contracts. They graduate, they've done most of their adult lives, even before that as teenagers, working away at school and eventually they get it through, they do their PhDs - and then

you are nowhere with very, very few long-term contracts. How on earth can a modern nation like Australia expect to have the scientific force that it needs when anyone with any sense would think, well...just such a set of hurdles we've got to go through. We've not got much of a hope. What do you do?

Vicki Sara: 30:24 It depends on coordination between the many players involved in that. I think you have to think of the pyramid, how many PhDs, how many postdocs, how many research fellows? I mean, at the ARC, we spent a lot of time trying to work out how we could put money into the various levels. That would mean that we didn't automatically cut off people when they started the steps. So, if we had 10 at a postdoc level, how many could we take forward to be a research fellow at the next senior level? So all of that, but the ARC's only one player, then there's the universities and the PhDs, the postdocs, the academic positions, which are there, the industry positions.

Vicki Sara: 31:05 It just seems to me at the minute that there's a real need because when I look at the budgets for the ARC, particularly, which is my baby, I think that we need to do something again, of drawing together all the players, to put the arguments forward, not just for the ARC, but for building an academically bright workforce in Australia that can drive the country forward. The economy of the country forward, the ideas of the country forward. So that's a dream. Well, we had a dream once Robyn, but truly to be able to do that, you need industry, you need universities, you need technical colleges, you need a lot of people involved and it is possible to do.

Robyn Williams: 31:51 And you could call it the clever country. I remember that phrase.

Vicki Sara: 31:58 We've done that a lot, haven't we?

Robyn Williams: 32:00 We have, yes. Let me leap you forward to another university of technology. Sydney, where you came [from], actually to mention in the beginning, just to illustrate how research goes on there. I remember doing something at Los Angeles and there was some research going on there into trying to repair severed nerves. In other words, people have become paraplegic or something like that. There was work on reconnecting those nerves, so that for instance, you could have Superman walk again so that, that work could continue to improve the lot of people who'd had that severe central nervous system damage.

When I asked them in Los Angeles, is anyone else doing this work? They said, "Yes, Sydney University of Technology." I said, "Really who's doing that?" And it turned out to be true, just such a surprise. I can't remember the names, but there was a department there. And it's just surprising that Sydney tech, as it seemed to be New South Wales Technology outfit, which did quite a bit of psychology and environmental stuff was doing this frontline nervous stuff. Did you come across it at all there?

Vicki Sara: 33:17 No, not at all. I have come across the work. We did a lot of related work in Sweden which has continued on, where compressed tubes were made, which were then coated with growth factors in collagen to be able to provide a supporting structure and also to provide the growth stimulus for the nerves. So, the was a lot of work in the Karolinska that was going on and that would've been in the early '90s. I would've imagined. It really hasn't come to anything that I'm aware of, particularly. Then of course, you've got a lot of people working with stem cells that think they can use the stem cells to be able to do that. But again, I haven't seen successful results coming out of it.

Robyn Williams: 34:01 I'll have to go back to UCLA and see, but did you arrive at Sydney straight as Chancellor?

Vicki Sara: 34:07 When I finished at the ARC, that was the first time I retired. I think it was probably for about four weeks, something like that. I've always been on a number of boards as well. So, I was on those. Then I continued working and Ross Milbourne, who was the Vice Chancellor at the time, asked me if I'd considered to be the Chancellor. He'd like to put me forward. I'd worked with Ross through the ARC time. I couldn't think of anyone more clever and more lovely to work with than Ross. So I agreed immediately, and so we were a good team. I was his enthusiastic support through the times, and we turned UTS around. I visited UTS as Chair of the ARC and their research was fairly middle to lower class research. Ross wanted to turn it into a real research technology university. I hope I helped him do that in my way.

Robyn Williams: 35:08 You certainly did because they're higher up in the ranks. That's wonderful. I noticed that the highest in the rank of the new universities is that the University of Wollongong, just up the road from where I am. But you mentioned being on the number

		of committees, it involved plants, minerals, stem cells, Rio Tinto, Consul General for Sweden. All at once, was it?
Vicki Sara:	35:30	It was probably all at once, yes. It was quite handy to be sitting out there when we were trying to really change the ARC. I mean, a lot of that started when I was Chair of the ARC. That gets you onto a lot of committees. I think you have to take opportunities as they arise. It proved to be very helpful because then I could talk to other groups of people about what we needed to do with research in Australia.
Robyn Williams:	35:57	And that's the CSIRO Board as well?
Vicki Sara:	35:59	Yes. And Catherine, who was the Chair just before I left. Catherine Livingstone is now the chancellor at UTS, which is lovely.
Robyn Williams:	36:08	Indeed, and she's also head of the Commonwealth Bank.
Vicki Sara:	36:12	I know that.
Robyn Williams:	36:15	And I understand that she's one of the best chairs of board meetings you could ever wish for.
Vicki Sara:	36:22	I think that's probably right. I don't know they had the fun that we had.
Robyn Williams:	36:27	So, you were a good chair and you had fun.
Vicki Sara:	36:28	I hope we did. My chairing ability comes because I believe so much [that] it's a whole team effort where everything's done. So, I listen to everybody, and we talk together a lot.
Robyn Williams:	36:40	Now, let me ask you a couple of closing general questions. One of them from Alan Finkel, another Chief Scientist who had advice to scientists when they were doing the kind of thing that you have described for the last, nearly an hour. That is trying to influence people in industry or especially politicians. And he said, number one, don't enter the room and immediately ask for money, because they don't like it. Secondly, don't have all your different groups - and there's so many in science - balkanized and talking with all separate voices, have one or two voices. Is that what you learned? Is that your experience?

Vicki Sara: 37:23

Yes, yes. I learned that at the ARC, and I also learned a lot in Sweden that I could bring with me and it was, listen to people first, before you just come out with what you're going to say. Think about what you're going to say and say something that is relevant rather than something that isn't relevant. At the ARC, because I was really mentored by a lot of extremely clever public servants, I learned how to put an argument to a minister in the five or three minutes that you've got, to take out the unnecessary, to get one critical point you want them to remember. All of that was incredibly helpful trying to go around and talk to people about the importance of research and industry. That has to be in their language as well, that's the other thing. So I think Alan's absolutely right. Absolutely right.

Robyn Williams: 38:16

In more recent times I've done a couple of stories in broadcasting. One about the problems, of all things, in geology departments around the country. You think with a place that is so based on digging up ores and exporting them, the most natural thing in the world would be our thriving geology departments. And yet they're closing them down and there's going to be something at the end of...in September, October, there's going to be an international festival to draw attention to this plight. To show that geology is more than just mining, which has got a bad reputation. So that students come back. Similarly in your own area, there was a threat to the Eccles Institute at the ANU, doing brain research based on Eccles...Sir Jack Eccles, who got the Nobel Prize for his work. You would never dream that a such wonderful Institute would be threatened with closure. What are those two examples' symptoms of in 21st century Australia with all its resources?

Vicki Sara: 39:22

Well, I don't know the performance of Eccles Institute for example, but I think it is very much performance-based funding that we are looking at and a lack of awareness and I guess respect for traditions. Perhaps a failure to understand the importance of certain areas of science where Australia has a long-lasting tradition and has built up layers of individuals in that, and the value of maintaining that. Now I go back to performance funding. I don't know what that was like, but I think unless research groups and institutes can perform well and demonstrate that they're actually achieving things, be it through education of the next generation of scientists or through discoveries, whatever it happens to be, there are a number of indices you can use. Then I think it's very difficult to continue supporting them.

Vicki Sara:	40:21	I also think that there has been a tendency in Australia, which I think has diminished a lot. There's a tendency to repeat similar things. Now we're a small country with a small budget and we need to ensure that we don't spread our resources too far so that you have a brain research institute in Queensland, Sydney, ACT, et cetera. Let's try and perhaps have that across the country, but let's coordinate it so that they're part of the network so that you can really stop the resources being ploughed into places that are not performing, perhaps as best they could.
Robyn Williams:	41:01	Do you still go to the bench and do work in the lab?
Vicki Sara:	41:05	When I retired, and I just retired again this year or the end of last year-
Robyn Williams:	41:10	Serial retirer...
Vicki Sara:	41:12	... I did think about it, but when I retired from the ARC, I went back to Sweden, you know. I went to the Karolinska as my PhD students, of course now are running labs and things. So it was easy for me, but it was also easy for me to recognize that I'd lost it. In all the years I'd been away from the bench, which had been sometime since then. The world, particularly in molecular biology and endocrinology had moved on enormously and I was not able to contribute at the level I'd like to contribute. I mean, I was happily tucked in a corner and given a little bench space and the equipment I needed, but it didn't have the same feeling for me. I knew what I wanted to do was to move into the more governance side of things. I was Chairing the Sunshine Coast University Hospital [Institute, at a major new hospital built here SCUH (Sunshine Coast University Hospital) including Griffith and USC [University of the Sunshine Coast] and TAFE to try and build a research institute there. I've stopped that, and I'm just having a little pause to look after myself and family
Robyn Williams:	42:19	And then what happens?a
Vicki Sara:	42:21	I'll probably get back into it again. Who knows? Isn't that exciting? Who knows?
Robyn Williams:	42:31	To your fellow of two academies at least? Do you find them working together well?

Vicki Sara:	42:36	No. And this is honest, I'm out of the system. So that's hard to see, but I do recall that the Technological Science Engineering went through a period of calling themselves the Academy of Science, I think. Which shows the lack of cooperation and communication between the two academies. I hope it's better. I know there's an overarching Academy Forum, and it is very important. I read the newsletters and I must say, I think that it is important for the two of them to work very closely together, if not into one Academy.
Robyn Williams:	43:15	And speaking with one strong voice.
Vicki Sara:	43:17	Yes.
Robyn Williams:	43:18	Well Vicki, thank you for talking and lots of good sailing.
Vicki Sara:	43:22	Thanks, that I intend to do. Thanks Robyn.
Robyn Williams:	43:26	Thank you.
Vicki Sara:	43:27	Lovely to see you again.