

Barbara KIDMAN

This is an interview with Barbara Kidman at her home on the 10th November 2011.

Barbara, thank you for taking the time to talk to me. I wonder if we could begin at the time when you were an undergraduate student at the university in the 1940s.

'40s.

What was the university and the Physics Department like in those days?

Well, of course, when you're a junior undergraduate you're not in a position to judge. I'd done Leaving Honours Physics at School of Mines, so I had a very good background, and Kerr Grant's lectures – it wasn't a course; he did demonstrations and he talked. He was hard to understand, he wasn't clear, he wasn't systematic. I don't know how anyone could have passed Physics I from his lectures, so I was a fairly serious student, so I also went to Fuller's lectures in the evening, so I went to two sets of Physics lectures.

I see. Yes.

And George Fuller was an uninspiring but systematic lecturer. Very mundane. I've often wondered whether he was the son of the Fuller who was a technician in the early years of the university – whether he was a son or grandson. I don't know. But anyway, he was a solid physicist, but uninspiring as a lecturer. So I did well in Physics I. I nearly gave up Physics in second year, because Kerr Grant was lecturing on electromagnetism, and I couldn't make head nor tail of the course. He wrote all over the blackboard and angles – he'd get the formula would come and he'd try to work out formulae, theorems, and they'd go wrong and he was just hopeless. And I thought, 'Heavens! This is beyond me.' And then I found a textbook in the library, so I bought a textbook, so I got through that course from the textbook.

So are you saying that – in Physics I, that Kerr Grant and George Fuller both did the whole of the Physics I in parallel?

Yes, they did – because some students, I think, couldn't do the day course, the morning course. It was 9 o'clock Monday, Wednesday and Friday. And the evening

lecture, I can't remember whether they were 4 or 5 in the evening. So yes, they just gave the whole course in parallel.

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And then Physics II you had other lecturers?

In Physics II there were various lecturers. I mean, Dr Burdon lectured part of it and Kerr Grant lectured part of it. I mean, Burdon was terribly out of date. I discovered he was out of date because – well, first of all, he couldn't do – he was no good on some of the mathematics, his maths was appalling; and he talked about 'cosmic rays'. Now, I wrote a paper for the science journal on cosmic rays and, of course, discovered that what Burdon was telling us was wrong and it was out of date, and so – I mean, he was a nice chap. His area was surface tension, and of course he was an expert on that –

Yes.

– but he hadn't kept up. He was out of touch. But, I mean, he was a sensible man. And so, somehow or other, we got through Physics II. (laughs) I had a lot of competition because the ex-servicemen were back and they all worked very hard – the likes of Harry Medlin and his friends, and Ren Keats – and also I was with David Sutton throughout my undergraduate career. You probably know him. He became a lecturer.

Yes.

And he was my Physics practical partner, so I was very lucky to have him. Because I was the only girl in Physics II and I was the only girl in Physics III.

And in honours.

And in honours. It was very, very difficult – I felt the undergraduate course was very poorly taught; all the courses were poorly taught, really; and I think in third year we might have had one of the Smiths in. We had some outside lecturers for some things, so that made a difference. But I got credits in all these subjects. I don't know how I managed to.

Did you ever sense, when you were a student, that the courses were out of date, or was that a retrospective – – ?

Barbara KIDMAN

Well, I did from Burdon. That made me realise they were out of date, because anything on modern physics was out of date. In honours, basically the course was the textbook Joos and that was very mathematical and very difficult, too. It used tensors and – – –.

So who lectured that?

Well, parts of it Kerr Grant did. I mean, it was difficult. Burdon, I don't think Burdon gave us any lecture. I'd have to – I've forgotten who lectured the course. I mean, basically, we studied Joos ourselves, and the exam was based on that, and I don't know who marked the papers. I think they all – I think Burdon and probably Kerr Grant marked the papers; but, I mean, they divided – some of us got first-class honours and some didn't.

Did you do a project in honours, a research project?

Yes, I did. I did. Well, it's hardly –

Hardly a research project?

– research, but it was a project. It was an important part of the course. I think it probably counted for about a third. I'm not sure. But Burdon gave me – Kerr Grant wasn't there in February, when we went back, and Burdon gave me a project on surface tension, on which I'd made very little progress. When Kerr Grant came back he changed all the projects and he gave me a project on cosmic rays, which turned out to be a wonderful thing. It was a fairly tedious practical – I had to spend hours peering down a microscope looking at slides – but they sent me to Melbourne, because they were doing research on cosmic rays at the University of Melbourne, and so that was a very good experience to go there and realise that people were actively doing research in the field. And so I haven't got – I suppose we wrote it up; I haven't kept it. I don't know.

Burdon did some quite well-known research on the surface tension of mercury.

Yes.

Was he doing that at that time?

Barbara KIDMAN

No, no. He wasn't active in research.

Did you have any sense that there was any research happening in the department at that time?

I don't think there was any. I mean, I don't think Kerr Grant ever *did* any research, and I was aware that Burdon had done the work on surface tension, but of course it's a very minor part of the course – in fact, it's more often in physical chemistry. So I honestly don't think any research was being done in the department then. I mean, the same – there was no research being done in the Maths Department after Wilton left, until Schwerdfeger came.

The Physics Building was built as a Physics and Engineering Building.

That's right, yes.

Were the engineers still in that building in your time?

No, no, no, no. They'd left.

Do you know when they left?

I could look it up. I don't have it off my hat. It was about – I suppose it was at the end of the – I don't know when it was, because that first – the first Engineering Building, I think that was there then. You know, a lot of the Engineering Building was built during the War, at the end of the War, when the ex-servicemen came. But no, no – when we were there the whole building was the Physics Building, and I went to the university in 1945 and it was all Physics in '45.

You were the first woman to do honours in Physics.

I was, yes.

And you had as classmates Bob Crompton – – –.

Yes. In honours, in honours, because he was a cadet and he'd done his third year earlier.

Yes. They did honours over two years. He and Graham Elford.

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Yes. They were in the class. Bob Fry was in the class. And we went through the list, actually. Bob rang me to get a list of the people and I looked it up. Several of them have died. The people who got firsts were Graham Elford, Bob Fry, David Sutton and me.

Yes. And then there was a person, Canny?

Yes.

Deland?

Yes, Deland. He was – oh, he wasn't very bright, but he went overseas – and he died, subsequently, but he worked overseas in Canada.

Yes. And Spurr.

Bob Spurr, yes.

So what did you do after honours?

After honours I got a job in Oxford. I went to Oxford. I think I left before Christmas. Now, that happened because my husband-to-be, Ren Potts, had a Rhodes Scholarship and he was working in – he was in Oxford, and he met Kathleen Sargeantson[?], who was a mathematician at Somerville College, and the head of Somerville was Dame Janet Vaughan and she needed a physicist in her research group and they were very scarce in England. And she had the courage – she got references from Adelaide and she gave me the job on three months' trial. So I went to England and I got a job and worked in a group working on radioactive strontium, the biological effects of radioactive strontium. So that was a research group; I'd started doing research, real research.

Yes. Then you and Ren were married in Oxford?

We were married two years later, yes. Yes. So it was a great experience, going to Oxford, because the work we were doing was research and we were in the Department of Pharmacology, and that was an incredibly active research department,

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so I was thrown in the deep end – you know, realised that universities were about research.

Different atmosphere altogether.

Very different from what I'd had, yes.

Yes. So how long did you stay there?

I was there for, well, getting on for three years. Two and a half years.

Then Ren came back – – –.

He got a job –

In Adelaide.

– in the Maths Department. It was very hard to get lectureships in England then, and we saw that Green, Bert Green, was coming back to Adelaide and he had a lectureship that was advertised, and so Ren applied for that because we figured – although we wanted to stay in England, we figured that if Bert had been at a university in England Ren would have jumped at working with him, so he thought he'd – he was then doing mathematical physics, and so he applied for the job in Adelaide not knowing that the job was sewn up.

With Harry Messel?

Yes. But the university offered him a lectureship in Maths, so he took it – in Applied Maths, and he took it, and he worked with Harry Messel for a while. So that's how we came back. And, of course, I chucked in *my* career to do that, because I was enrolled for an Oxford DPhil, and I wasn't prepared to stay behind. I would have had to stay for a year. So I came home. And that was when Tomlin got me a research grant in the Physics Department, so almost straight away I went back.

So what year was that that you – – –?

Well, we came back at the end of '51.

So you must have noticed a change in the department.

Barbara KIDMAN

Well, as soon as you went in there – because I was a changed person, because I knew all about research, and it was totally different. I mean, Huxley was a fairly strict disciplinarian. For example, he didn't let people whistle –

Oh.

– in the corridor. (laughter) I always got on all right with him, but I didn't have much to do with him as a physicist. Of course, he was the boss. But Stan Tomlin was quite inexperienced as a supervisor then, but he was a very sound physicist and I respected him. I took his advice. Sometimes he was hard, but I – – –.

Intimidating?

Pardon?

Did you find him intimidating at all?

No, he wasn't intimidating, not at all. Not like Huxley, no. He was a quiet man and not really – I suppose he was assertive, but not ostentatiously assertive, and he – I mean, he had a lot of students. There were a lot of us. It was all very crowded, really. All the research students, there were four of us in one room – you know, you had desks in the room.

Who were they?

They were Harry Medlin, Murray Andrews, me and Elizabeth – can't think what her name was. She married after. I'll think of it in a minute. She did a master's in – she was really a biochemist, but she did her master's on using, you know, physical instrumentation. [Elizabeth Irving/Waugh?] And Harry was working on the X-rays, and what was Murray doing? And then we had – there were two laboratories that we had, and they were pretty crowded, too, with people working in them. It was all pretty crowded. And over the way were Huxley's group, which had Barbara Possingham – you're going to see her – – –?

Yes, I will.

Yes. Barbara Possingham and Bob Crompton.

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Yes.

And so, on that group over there, they were working on the slow electron stuff. So what I did was really hard, basic laboratory work. Just the mind boggles at the basic things. I had to use glass knives for cutting sections – this was for things in the electron microscope.

Yes. So electron microscopy was your field?

Yes, it was. And the cutting with glass knives, I used to just get a sheet of glass, use a knife-cutter, and then look at them under the microscope to pick the ones that were sharp. It was just mind-boggling. No-one would do anything as basic as that now.

How did you learn these techniques? Did Stan Tomlin have them?

He helped. He always had suggestions about technique. Some of them worked and some didn't. He was a helpful supervisor, because he was quite a practical man, you know, and he always had – like, some of the suggestions he made didn't work and some did, but he always had suggestions. He was working around, too, so we were sort of all there together, working together. There was someone else working on the electron microscope, and we all had to have our turn, and he was in charge of it.

Harry Medlin speaks as though he was more remote from Stan, as though the supervision was more at arm's length and he would have a weekly meeting. You sound as though your interaction was much more – – –.

I was, because he was working in the same lab, really. I didn't have a weekly meeting with him. It might have been more remote with Harry. May have been the beginning it might have been a bit closer.

When was the electron microscope bought? Was that new when you were there?

Yes. It had just come. I think it was there when I started. Yes, it was.

So when did you start?

I started at the beginning of '52, and I forget when Stan came. He and Huxley had been there a little while when I came and they were sort of established.

Yes. I think Huxley came in '49 and Stan in 1950.

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Yes. So they were [established]. I mean, the department was just transformed. And there were the two active research groups, and I had the feeling that Stan was learning to supervise students. I went ahead and did my work and that sort of thing, but when – I don't think I had formal meetings with him very often in the beginning. Towards the end I had to, of course, when I was writing up.

But one thing that was slightly annoying is that the people from – now, was it Physiology? – one of the departments over in the Med School were using – other people were using our electron microscope, so that was a bit annoying, and I remember Huxley asked me to do some of the [preparation]. It was a complicated procedure. You used to have to – with these biological specimens, you had to put them in a vacuum and put a deposit on them, and it was quite a messy technique, and he asked me to do this for these people from Physiology because they couldn't do it. And I was very cross about it – but of course I had to do it – because I felt that it was irrelevant for me to be doing it for someone else, but I had to do it because Huxley virtually made me do it.

So what was your project?

It was the structure of cilia. You know, it turned out to be very interesting, because the cilia have a very complex microstructure. And when we were working – I don't know where he got the idea of doing it; I mean, Stan just gave it to me as a project – and whether it was being done in London at the same time and he knew about that, I don't know. But the same thing happened to Harry: we were about sort of halfway through our project when we discovered that someone else had published a paper on it. You understand there was no communication then. You just were in isolation; you depended on getting articles from the library, from journals in the library. And so I just went ahead with my project, because that was only on one species. And so I worked on three different types of cilia from three different types of animals. That was a good idea of Stan's, I thought, to broaden the – – –. So we got the same structure in all these different [types].

Barbara KIDMAN

Yes. So did Stan assign projects to all of the research students? I have the impression that Huxley's students were left to their own devices a lot and essentially chose their own projects.

Well, yes, but Huxley – well, they were all working on this electron stuff. Barbara Possingham would be able to help you better.

Then there was Graham Elford. He talks about working on the meteor trails.

That's right. I don't know how he got onto that, yes. Yes. He was in that group.

I think Huxley had put them onto radar observation of meteor trails, but the particular thing of making observations of upper-atmosphere winds was something that they came across – – –.

Well, Stan definitely allocated my project, he definitely allocated Elizabeth's project. I think he allocated Harry's, to be honest, but I may be wrong, because no-one in the department had been doing anything with X-rays. But Stan was very interested in these sort of biological applications – you know, doing the structure of biological things. I don't know why he was very interested in that, but he was. And whether he'd got the idea – because they were working on it in London; whether he'd got the idea from there, I don't know. And, of course, that was where a lot of the original X-ray work was done, too.

Was there any work on radio frequency physics happening at that time?

Well, I can't tell you when that started. I've got very poor memory about the details, you know. Harry goes on about – – –. Because I moved, changed disciplines, my interest became focused on computing in later years, and so I sort of forgot physics, and I'm not sure when it started. I mean, my memory – Graham must have been working on whatever *he* was working on. David Sutton somehow or other got onto – he was working on sort of earthquakes and that sort of thing.

Yes. I think that was a bit later, in the International Geophysical Year. I think that was about the time.

Was it? Yes. Yes, I don't know how he started. And because the slow electron group were near us, I used to often see them.

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The other thing that came to be pursued in Stan's lab was the physics of thin films, the optical properties of thin films. Was there anything in that line happening?

When was that? That wasn't in my time, I don't think. Worthington was there then. He was another person who shared our work, by the way. He was another one of these X-ray people.

Were there honours students in the lab then?

Not in our lab, no. Whether the honours students – well, I don't know what projects they had. There weren't nearly as [many] – – –.

I'm just wondering when the practice of honours students doing a real research project began.

Well, do they do a real research project?

Well, in the sense that later, at least, they became associated with a research group.

Yes. Well, I would have thought my honours project was bordering on being a research project, this one on cosmic rays, thanks to the visit to Melbourne. But, I mean, I didn't do any research. I didn't have much luck with it, really. But I don't know. I can't answer that.

I seem to remember that Graham – – –.

We had an extraordinarily large honours class.

In your year, yes.

Yes. There were 10, I think. I thought there were 10 and I counted nine, later.

(counts) Yes, there were nine on this list.

Yes. I think that one of the people who did it the following year was in our year.

Oh, somebody doing it over two years.

Yes.

Yes.

Barbara KIDMAN

So there were 10 of us. And, of course, we had those famous – you’ve probably heard about them – the German classes with Kerr Grant in honours.

No.

Haven’t you?

No.

Every – now, how often was it? – once a week at 9 o’clock you went into his office and had a German – you had to prove that you had a reading knowledge of German, because he believed that German was the scientific language, of course. Turned out to be wrong. But it was just a hoot. It wasn’t serious. You know, he tried to teach us some German and he didn’t. But we all were given a paper to translate, a German paper that we had to translate. That was our assessment. And I had a long, very difficult paper to translate, and it was mainly difficult because of these long German sentences. I had done a little bit of German at school, so I had that advantage; but, I mean, it was a lot of work learning it and I didn’t really learn to read German very well. We used to go into this room and there was a big couch, about four people could sit on it, and there was always great competition to get a seat on this couch; otherwise, you had to sit on a chair. I was talking to Bob Crompton about it recently.

What are your memories of Huxley at that time and his impact on the whole department?

Well, I think he – I told you he was strict, but I mean he changed the atmosphere in the department. And he was very much in charge of the department. I mean, because he wasn’t my supervisor I didn’t have a terrific lot to do with him. I almost had more to do with him in later years. But he was a friendly enough man and he used to have these end-of-year parties for the department. I don’t know what he was like as a lecturer. I never went to any of his lectures.

I had him as a lecturer in Physics I.

Did you?

But that was his last year.

Barbara KIDMAN

Was he any good?

I think I learnt some electromagnetism that year.

From him – yes.

Then he left at the end of that year.

He was fairly strict. But, I mean, he did a good job. He got the Physics Department on its feet.

Yes.

See, I mean, Physics – I think the War affected the university a lot. Everyone went to sleep during the War, at the university. And there'd been the Bragg era and then unfortunately Kerr Grant wasn't a good appointment. Although he has a great reputation as a character, I didn't respect him as a physicist at all.

Was there a sense of departmental community in Huxley's time?

I think there was.

Was there a tearoom – did people meet for morning tea?

Yes, there was a tearoom, I think. It was very strong, that sense. And the mathematical physicists came to the tearoom, too. So I can't remember whether the honours students came. Surely they must have – no, there was. There was a lot of opportunity to talk to other people in the department.

Were you very aware of the mathematical physicists at the time?

I was, yes.

I suppose Ren was working with them.

Well, that was partly why, because I knew them socially – I knew them all socially, so that made a difference, yes.

What were the relationships like? Over the years, as time went along, there was a bit of a triangle between Physics, Mathematical Physics and Mathematics. What was it like then?

Barbara KIDMAN

Well, when I was doing my PhD I was unaware of any. They did seem to be a sort of community group. Of course, when computing came there was a rift because when computing tried to introduce courses into the science curriculum there was a lot of opposition to it. It was a real struggle to have the courses accepted, because there weren't many students doing Physics, you know, third-year Physics and Mathematical Physics. There weren't many students, and everyone was afraid that their students would be taken away by computing because it was so popular. So when I was a lecturer I was very aware of a conflict with Physics and – – –. See, Physics had an established place in the curriculum. I mean, it was always a compulsory subject. I don't suppose it is now, is it?

No, I don't think there are any compulsory subjects.

No. (laughter) But when I was lecturing Physics was a compulsory subject. But Mathematical Physics didn't have a place, you know.

Yes, I think they found it difficult to establish a place –

Yes.

– and then there was a time, I think, when Physics felt that Mathematical Physics were taking their best students.

Yes, yes, yes.

So what did you do when – you and Barbara Possingham were the first women to get PhDs.

Get PhDs, yes.

In '56.

Well, what happened – well, I did it '52, '53, '54 I did my work. And then I went overseas in '55 with Ren and so I wasn't working, and I actually got my award in '56. I think Barbara was behind me, because she was in the department when I was working there, but she was behind me, and so hers wouldn't have had the delay that mine had.

They were both awarded in '56.

Barbara KIDMAN

Yes. There hadn't been many PhDs at all awarded before that.

No. Well, the first one was '54, I think.

Was it? Yes, yes. And we only believed we were the first because Barbara went through all the names and there didn't seem to be (laughs) anyone else who was a woman, because they didn't actually record that you were a woman. But the Physics Institute gave us this plaque – I don't know whether you've heard about that.

Yes.

That was very nice of them, really, I thought. And, of course, this – it was John Prescott who initiated it. And, of course, there I've got 'Barbara Potts', because when I did my PhD I was still being called Barbara Potts at the university.

That's nice.

It is. Well, it was very nice of them. Nothing like that's ever happened to me before. And I was very pleased to meet Tanya Monro.

Oh, yes.

She's a fantastic person.

She's a dynamo.

Isn't she? Yes. So I thought she was an undergraduate when we had dinner first, before this meeting. (laughter) I thought she was an [undergraduate]. Discovered she was a professor. Oh, she's amazing, yes.

So what did you do then, when you finished your PhD?

Well, then I came back and I had a research grant, still working on the electron microscope I was working with some bacteria – Stan, something he wanted done. But I didn't stick with it. I was expecting a baby and my husband didn't want me to go on working, so I gave up. I just gave up working. So that was the end of that era, and I didn't do much in the way of work until I took up some demonstrating. I became a physics demonstrator, just part-time. And I think that experience cured me of physics, because I was demonstrating the same experiments

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that I had done in first year as an undergraduate, and I couldn't believe that I was doing the same. So that was – I'm sure they gradually changed the experiments, but I thought, 'Heavens!' You know, it's a funny world when – – –.

Slowly. Well, when I was – would have been Physics II in 1960, George Fuller was still running the Physics II lab, and I'm sure many of those experiments were the same as the ones you did.

Were still the same, yes. Yes.

Did you have any sense of the impact that both Huxley and Stan Tomlin had on the curriculum, the undergraduate curriculum? Were you aware of that?

I know that Stan had an influence on it. I'm sure Huxley would have, too. But, I mean, I didn't go to any undergraduate lectures.

No. Stan would have brought some expertise in quantum mechanics, for example.

Yes. Well, I don't know whether he really *was* an expert, but he did set himself up as an expert in that.

Compared to what preceded him – – –.

Yes. Yes. Yes. He did get interested in that. I was aware of that.

And then Bert Green came, who – – –.

Well, Bert Green came about the same time as I came, yes. He was there just a little bit before me.

Yes. A bit after Stan.

Yes.

Bert Green really *did* bring expertise in quantum mechanics.

Well, he did, but I wouldn't have thought it had much impact on the undergraduate courses. They did have courses, some undergraduate courses. But, I mean, he had a big impact on the research side – huge impact. Just a tragedy that that department disappeared.

Yes. That's quite a story, isn't it.

Barbara KIDMAN

Yes. And, of course, Harry Messel had such a huge impact in Sydney. He could have had that impact in South Australia with government support.

Do you think, with more support, he might not have left?

I think he would have, because he was negotiating – he was trying to negotiate with the state government and with Rowe to have this research institute set up, but he couldn't get any support. And we had this chap – I've forgotten his name; he was a professor came over from Sydney, visiting – I don't know whether Huxley brought him – he was over there visiting, and he was in the department for a couple of months, I think, because I remember talking to him in the tearoom. And Harry talked to him, and he was the one that got Harry invited to go to Sydney. I mean, Harry was just good at getting support.

He was a real entrepreneur, wasn't he?

Yes. Yes, he was.

So how did you get into computer science?

Well, what happened was my younger daughter was going to start school and I'd been doing this demonstrating in Physics and I thought, 'I've got to do something.' And I was thinking – I'd read what was available, and I was thinking of doing statistics. I wanted to do something that I could do that didn't involve laboratory work, because I'd like to be able to do it at home, or partly at home. And, I mean, I'd done some statistics when Alan James was here, very active, and I was thinking of doing this postgraduate diploma in statistics. And Ren suggested to me that I do this postgraduate diploma in computing, which had just started. So I went to see the professor, whom I knew – knew personally – but I went to see him to ask him about doing the diploma, and he knew my background and what I'd been doing; he said, 'Oh, you don't want to do the diploma. I'll give you a job as a programmer.' I'd never done any programming. (laughter) And he was *desperate* for programmers and Ovenstone because he had to pay for the computer that he was getting. And so I just did a short sort of crash course in programming – – –.

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What language was that?

Fortran.

Yes.

And he gave me three projects to do, just sort of exercises. I did them, then I was employed. So I was a half-time programmer. So I was doing that, and in the middle of that we went over to Berkeley for a year, and I wasn't paid but I did some work in the computing centre in Berkeley. They had the same computer as we had here in Adelaide. And that was quite useful, because it was good to go somewhere else, see how they operated. And then I came back. And when the lectureship was – I didn't know it was hard to get lecturers; one of the lecturers left and they advertised the position. I thought, 'I might as well apply for it,' and – lo and behold! – I got it. I was very surprised. (laughs) So I think they were desperate. Of course, you understand, no-one had any qualifications in computing then, because there were no courses.

Yes. Computing Science as a discipline was still emerging.

It hadn't really – no. Well, you see, they were teaching the postgraduate diploma and they were teaching some third-year units at that stage, at the time I came – well, the postgraduate diploma. While I was a programmer, they'd started putting these third-year units – you know, third year became unitised, and there were computing units in third year – and Ovenstone, everyone wanted to have the subject brought down to first-year level, but the faculty wouldn't allow a full first-year subject, so they had this compromise where there was a half-subject in Computing –

In 1H, yes.

– and a half-subject in Stats. And so I was specifically employed to teach Computing 1H. That was my first – and launch it, because it hadn't been taught. So it was quite a big job, really. Ovenstone left and Nick Capon was temporarily in charge of the department, and he made me develop a curriculum and pass it through the departmental committee. And there were no proper textbooks and things, so

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that's how we started. And, of course, the rest of the university thought that Computer Science was programming.

Yes.

And we tried to emphasise that it wasn't just programming. So anyway, that's how I got into the department. And I also was very involved in introducing the second-year courses. Professor Frank Hirst came from Melbourne and he was an uninspiring man, very uninspiring man. And he didn't really – he knew some computing, but he wasn't a leader, really. But anyway, we managed to get this second-year course into the curriculum when they were all unitised, when the second-year courses were unitised, because there was a lot of opposition from Mathematical Physics in the Science [Faculty] – in fact, I think the experience in the Science Faculty led to the split of the – you know, the Maths leaving the faculty.

Maths going to a separate faculty.

Because the Computer Science didn't get any support from the Faculty of Science, really.

Why do you think Mathematical Physics, in particular, would oppose – – –?

Well, it was this business over students.

Oh, I see: just competition for [students].

It was just competition for students. Because they didn't have many students, and it was difficult for students to select. Applied Maths didn't have any difficulty getting students, because obviously it's a service course.

Yes.

And I don't think Physics had any difficulty at the second-year level, because it was again a service course for Engineering.

That's right; for Engineering students and – – –.

But, I mean, they were a bit touchy in third year about it, because they didn't have many third-year students. And then, in computing, when the Electrical Engineering

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took up second-year Computing, that made a big difference. Second-year Computing became a service course for Electrical Engineering. It was compulsory. We had a tailored course for them. So then I sort of really almost forgot my physics.

Yes. A lot of the undergraduate course structure was being determined by looking for opportunities to compete for students.

It has. Had you realised that in other areas?

Yes. And then – this is looking from the perspective of Physics – Physics has, over the years, lost the service teaching because the Engineering Faculty have filled their –

What – do they do their own?

– filled their courses with engineering topics. And that's led to a lot of difficulties. And the Medical Faculty did the same thing.

Yes. Yes. And, I mean, I don't know – to me, Physics and Chemistry are basic subjects. They're very important subjects.

Later on we went through the – what was really the Postmodern era, I suppose, when the whole notion of disciplines started to go out of favour. Do you have any reflections on physics as a discipline, computer science as a discipline, and that there's something unique – – –?

Well, they are disciplines, but I am aware that everything interacts with everything else and there's so much work in the biological sphere now involves basic physics and chemistry, and of course computing is involved in everything. So I think it's inevitable that the sort of strict division into disciplines would go. That's my feeling now. But, I mean, I still would like every science student to do Physics and Chemistry, and Maths.

Yes. But I think particularly of, say, Bert Green, who did some work in the area of biology. He came to it as a mathematical physicist.

Yes.

There was something special that he brought to those problems, don't you think?

That's right. I do. And I think that it's a lot easier for a physicist or a mathematician or a mathematical physicist to come into biology than it is in reverse.

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Yes, I'm sure that's right.

So that's why I still feel that it's so important to do these hard disciplines, the hard disciplines. But then I look at this Professor John Carver, the present one here: I mean, is he a physicist or is he a chemist?

Chemist, I think.

Yes. But I mean it's very blurred, isn't it?

Yes.

Yes.

Yes – certainly the borders are fuzzy.

Yes. Well, I was aware of that in Physical Chemistry. It always has overlapped with Physics. It was the only chemistry that I took to was physical chemistry, because it seemed to be physics, in some ways.

Well, Barbara, I think we've had a good conversation.

I don't know whether it's been helpful or not.

Thank you for your time and it's an interesting story. Let's stop there.

Yes. Right.

END OF INTERVIEW