

**Barbara POSSINGHAM**

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**This is a conversation with Barbara Possingham at her home on the 12<sup>th</sup> December 2011.**

**Barbara, thank you for giving the time to talk to me. I wonder if we could begin by talking about your days as an undergraduate Physics student at Adelaide: when did you first enrol?**

Well, I enrolled in Medicine I, actually, in about '46 – no, '47. '47 or '48.

**'47 – that was in Kerr Grant's days.**

Yes. It was in Kerr Grant's days. And I did first-year Physics. Gordon Aitchison was the lecturer who took the medicos, because they all did Physics in those days. So I had Gordon Aitchison for Physics I, and the night class was taken by, I think, George Fuller – no, George; and the morning class, the 9 o'clock class, was taken by Kerr Grant.

**Yes. So you, as a medical student, had separate lectures with Gordon Aitchison?**

Yes. But it was exactly the same exam as the end of the – – –.

**I see.**

It was Physics I.

**So what time were those lectures?**

They were lunchtime, 12 o'clock.

**I see. So there was Kerr Grant Physics I at 9 o'clock –**

At 9 o'clock.

**– Aitchison –**

Aitchison –

**– medical students at 12 o'clock –**

– 12o'clock–

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**– and George Fuller –**

– I think it was about 5 or 6 or something like that.

**– at 5 o'clock or something.**

Yes, that's right. And they all gave exactly the same lectures at exactly the same times, I think did exactly the same weekend papers and did exactly the same exam at the end of the year.

**So what was Gordon Aitchison like as a lecturer?**

He was good. He was straight, good, yes. He was straight down the line.

**People talk about Kerr Grant's lectures as being entertaining but uninformative.**

They were rubbish. (laughs) Most of them were rubbish.

**And George Fuller's as very systematic but uninspiring.**

Yes, that's – yes.

**Where's Gordon Aitchison on that spectrum?**

Well, he was a bit more inspiring than George Fuller, but he was quite a good, straight lecturer. Yes, he was okay. And then the other – and the pracs were taken by a variety of people, some who were hopeless and some were quite good. But the pracs were pretty simplistic and they had terrible equipment, you know. Galvanometers, about 50 per cent of which worked sometimes. And the demonstrators were pretty – well, not crash – some were all right and some weren't all right. And all of those people did exactly the same practicals, whether they were medical students or – and the other students had a different teacher, different lecturer, but they did exactly the same and I think did exactly the same exam at the end of the year.

**Yes – so they really were Physics I students, but –**

They were Physics I students.

**– but didn't mix with the others.**

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Didn't mix with the others, no. So that was the run there. And then ---.

**Do you remember anything of the curriculum? There wouldn't have been anything you would call 'modern' physics then, I take it?**

No. In fact, it was exactly the same course as the Leaving Honours Physics. Identical.

**Questions were the same but the answers were different, is it?**

No, the questions and the answers were the same, (laughter) and there was no difference, in fact. In fact, in general, if you'd got a credit or even did quite well in Leaving Honours Physics, you didn't have to do first-year physics or –

**Yes. Yes, I remember that.**

– first-year maths or first-year chemistry or first-year botany, which they had in schools. And so you could, really, almost skip first year. And first-year med was a pushover, because all it was was Physics, Chemistry – which was a slightly different chemistry for the medical students, a bit more organic in it rather than so much inorganic – and then there was – no maths, obviously; the other subject they did was two terms of Zoology and one term of Botany. Med I was a writeoff.

**Where did you go for Physics I lectures?**

All done in the Kerr Grant Theatre.

**Were they?**

Yes.

**And the roll was marked?**

Yes. Particularly in Chemistry. It was a professor – I think it was – you know, he had the daughters who were twins, one of whom married Dave Sutton. (laughs)

**Oh. Yes, somebody else referred to that.**

Macbeth.

**Macbeth, yes.**

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Macbeth, yes. And so that was that. Probably – the Chemistry was a little bit different: he used to put in more organic and less inorganic than the general first year students did, I think.

**Then you did Physics II the following year, did you?**

Yes.

**In '48.**

Well, '48 or '49, I've forgotten which. I'd have to work it out on my fingers exactly when. I can give you it exactly when I was – – –. '36, '37, '38, '39, '40, '41, '42 I went to Adelaide High, so it would be '43, '44, '45, '46 – it would be 1948 when this happened. I was in first year in 1948.

**First year in '48.**

Yes.

**Yes, I think that's right.**

I think it's right.

**Is it – well, that was Kerr Grant's last year.**

Grant's last year – it was Kerr Grant's last year.

**Yes.**

I went to – everybody went to Kerr Grant's last lecture, where there were crackers.

**Would have been a full house.**

Full house, and crackers being thrown. Oh, anybody who was serious in Physics went to Kerr Grant for a laugh and went to one of the – Aitchison's at night, I think, was taking it, and went to him for – – –.

**Or George Fuller.**

Or George Fuller. You went to one of theirs for physics. I mean, Kerr Grant's were a laugh, really.

**Yes. What about Physics II?**

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Physics II I did, but then I – I got an exemption for first-year Maths. I just asked him for it. And so in second year I did Physics II, which was taken by – well, the pracs were taken by George Fuller.

**Yes. He did those for – he was still doing them when I was a Physics II student.**

Yes, and is probably still. (laughter) I don't know that they're any different now. Yes. And he did a bit of the mechanics, I think. And then we didn't see Huxley. Tomlin had come then – no, I don't think he joined second year. No, he hadn't come.

**No. We're in 1949, aren't we?**

No, he didn't – – –.

**Tomlin came in 1950.**

No. It wasn't Tomlin. There was nobody. I think it was – – –. It was George Fuller did the pracs. I think it was Aitchison did a bit, but I don't think Huxley did any. I don't remember him doing anything. George Fuller did the mechanics, I think, and I've really forgotten then. And there was a bit of something else.

**How big would the Physics II class have been?**

Well, they had two prac sessions. That would give us some idea. And they were probably – let me think – probably two more. They were fairly large, because there was also a Physics II for the Engineering students, which wasn't in the same – I think it was the same course, but I don't think it was in the same lecture time.

**I see.**

I think so. Max would remember that. Max has at the moment gone to the quack to look at his teeth or something, that's where he is at this instant, and he'd remember that.

**Were there two prac sessions of 20 or something like that?**

There was a good 20. He had a couple of people looking after them. I think Bill Brooks[?] was there and he used to hang around with George Fuller doing the pracs,

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and he later on went to WRE, I think, Bill Brooks, and looked after the equipment. And Iliffe did all the third-year physics pracs, and Bill Denby and I cheated every one of them.

**Oh, did he? Yes. So you did third year in 1950.**

Yes. I did prac with Bill Denby, yes.

**A fellow student?**

Yes.

**You were in pairs.**

Yes. Bill and I did a very nice – I did it with a girl, Nora Norris, in second year, but I did it with Bill. And Mick Iliffe used to take the pracs – or was it Bill Brooks? One or the other. Bit of each, it might have been. And we used to – I know some of them were very tedious and very stupid, like that rolling thing that measured times. (laughs) So you'd get the right answer by deducing what the input ought to have been. (laughter) Okay? Yes.

**Bob Crompton was reminding me about the Kater's Pendulum experiment –**

Oh, yes – that was one of them.

**– in second year –**

Second year, it was the biggest pass out.

**– saying that anybody who got the right answer must have cheated.**

Cheated. Yes. Yes, that's right. (laughs) Yes, yes, yes, yes. So Bill Denby and I used to irritate Mick Iliffe by always getting the right answer and he could never work out how we cheated. They were pretty – I've forgotten what practicals they were. They were pretty simplistic, though.

**What about the lectures; do you remember about those?**

Third year was the first time we saw Huxley – first time *I* saw Huxley – and he took Heat and Thermodynamics.

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**Did he?**

Yes.

**Oh!**

No, he didn't. Sorry. Burdon did the Heat and Thermodynamics. Huxley did Electricity and Magnetism.

**Yes.**

Yes. And that was pretty straight Elec & Mag, I think, what you'd see in a textbook at about that level. And, actually, Burdon was quite an interesting lecturer. He knew a lot back then.

**Did he?**

But he didn't necessarily choose – he didn't get involved with pracs much. He'd written that book on surface tension or something or other, and he knew a lot of physics; but I don't know how well he and Huxley got on.

**Oh?**

I don't know. You never saw them talking to one another, which was funny, because he was a reader and he'd done the DSc, he'd got something on surface tension, I think it was.

**Yes. He did some very famous work on the surface tension of mercury.**

That's right. And he was actually a very clever man, I think, Doc Burdon.

**Yes, several people have said that: that he was a very able person who was constrained in his career a bit by the circumstances.**

Yes. He was underutilised, in a funny sort of way, here. He was always a very good person for a student to chat to – even a postgraduate student. He'd walk around and talk to you while you were doing your PhD and chat to you, and often have very good ideas and make suggestions, which – he was a lot more able than he was either used as or given credit for, in a way. I don't know.

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**So what topics did you have in the third year lectures? You had Electricity and Magnetism. What was it that Burdon taught?**

Heat and Thermodynamics.

**Heat and Thermodynamics.**

And there was Mechanics. Now, there was an awful – I suppose I oughtn't to say it – a terrible set of lectures on physical optics that Graham Elford had, where he ended up by proving what he'd assumed in the first place, and when we pointed this out to him (laughs) he got rather annoyed. (laughter) Yes, well, it's true. That was a pretty boring – – –. And then we got, probably for the first time, a little bit of atomic and nuclear physics. Now, I'm not sure whether Tomlin had arrived then or not. I don't think he had.

**This is 1950 we're talking about, isn't it?**

Yes.

**Yes. So Graham Elford had just been appointed as a lecturer.**

Yes, that's right.

**Tomlin had just arrived.**

Right. And I think Tomlin did a little bit of more or less atomic physics, you know.

**Ah, yes.**

That sort of stuff. And Huxley did the Electricity and Magnetism.

**Yes. Now, Bob Crompton had also been appointed a lecturer. Did you have anything from him?**

Not then, no. I think he and Dave Sutton were appointed – were they the year after?

All of them were appointed at the same – – –?

**Graham Elford and Bob Crompton were appointed together in 1950, I think, and I understand that Dave Sutton was appointed the following year.**

He used to do his practicals, first-year early practical work with Bob Crompton.

**Yes, that's right.**

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That's right. And then went on and went overseas on study leave and came back doing something about magnetism.

**Geomagnetism, I think, yes.**

Geomagnetism – yes, that's right.

**So then we go into 1951. You were doing honours?**

Yes.

**Were you? Or was it – – –?**

Well, I did – I took two years, because I was working full-time as a demonstrator, so I did half of them; I did half of it over two years.

**So you did honours over two years.**

Yes. And so, by then, we had – Bert Green had come, and then Messel. And Bert used to take the relativity and this sort of stuff, and Messel used to take a bit of – well, I suppose you'd say relatively modern atomic and nuclear physics.

**Yes. So you had formal lectures in honours.**

Yes.

**That must have been a fairly new practice, because –**

I don't know.

**– you see, Bob Crompton told me that when he did honours, which must have been '48 –**

Yes.

**– there were no lectures.**

That's probably true. Kerr Grant used to give them things to read.

**They had a textbook. Joos.**

Joos. Joos, yes. That's right. And that was it. And Kerr Grant used to take it, and we used to have to go in third year – no, in honours year, the first-year honours. I

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think to keep him happy we sat one hour a week through his Physics German or something or other. (laughs)

**Oh, yes.**

That was a bit of a laugh, really, but people used to go.

**So when did you do that with him?**

It must have been the first year when I was a demonstrator, in first year. Yes. Must have been after I'd done my – I must have been doing a bit of honours and that, yes.

**So in honours you did a project, did you, as well as the lecture courses?**

I did in the second year. I was doing something with Stan Tomlin. That was when he'd just got his electron microscope and we were trying to get a reasonable sort of figure for the magnification, because it was a much more simple electron microscope than they have now, you know, and so that it didn't have a very good method of knowing what the actual magnification was, so you had to have a method of finding the diameter of very, very thin glass fibres, which I used to make by heating up ..... ..[?]. .. (laughs) and then doing that and being able to calculate that from their mass and the length of glass and the density of the glass and finding out what the diameter was and seeing how that tied up with the electron microscope magnification, which is a funny way of doing it but that was what we were doing.

**So when was that? That was in one of your honours years.**

Yes. It must have been the second of my honours years.

**So '52. And that electron microscope was new then, was it?**

It was new.

**It arrived about '52.**

Yes, that's right. But they didn't have a magnification on it. They knew it would magnify, but how much? And so you had to have something that you knew the size of to put in to measure, and then you could calibrate it with various sort of diameters which you'd calculate from the mass and the ---.

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**Yes. So how did you get on with Stan Tomlin?**

All right. Fine. No problem. He was in a bit of a state. He had a little daughter who was dying, and I think they partially came to Australia thinking with the better climate she might – I don't know that, but I think it might have been – – –.

**Yes. Graham Elford says that's why they came.**

That's, I think, why they came. That would be my guess. And because I know a couple of times when his wife ..... I'd looked after the kid in the prac lab and say, 'Draw pictures for me.' (laughs) I'd be willing to do that. And of course the little girl died. He was a pretty good, straight lecturer, Stan Tomlin, I think. Yes. And then he went on to sort of biophysics more.

**Yes. They did a lot of biophysics in that lab. Harry Medlin took up that line.**

And so did Barbara Potts – Barbara Kidman, yes, Barbara Potts. She did, yes. There were other people around then, people like Murray Parker, he later went on to work with. That old physics guy who used to be in charge of the X-ray machines in the Adelaide Hospital – ..... Worthley[?].

**Oh, yes.**

Yes.

**So you're talking about the people that were in Stan Tomlin's laboratory –**

Yes.

**– in those days?**

Yes. He went on – I think Trevor – there was a chemist who used to work a bit with Stan, too, but I've forgotten his name. Kevin Fielding – does that ring a bell?

**You mean somebody from the Chemistry Department?**

The Chemistry Department, also came and did a bit with him, but I've forgotten that name. No, he later – that wasn't Kevin Fielding, it was Kevin someone else – he later on went to the Institute of Technology and became in charge of Chemistry

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there. Forgotten his name. But they were all there. And there was other people around. Bob Duncan.

**Yes. What was he doing?**

Well, he was a cadet and so he got through and did a first-class honours and then went off. I think he worked in Sydney. I don't know whether he did his PhD in Adelaide or not. He worked for – he did very well with CSIRO or something like that, some government department, I think.

**So did he do honours with you?**

No. I think he'd done honours before me. He was a cadet. Eric Murray was a cadet in the department, too. He went off to the South Pole at one stage. He's still around.

**Yes. Now, Bob Duncan did honours in the year before you.**

Did he? He might have, yes. He was older than I was. But he'd been a cadet. He was a clever boy, Bob Duncan.

**Yes.**

And who else was in there? There was another guy who did honours – was that Nogare? He used to be a demonstrator with me.

**Don't know that name.**

Ron Nogare, who was probably – – –.

**Eric Murray did honours the year after you finished –**

That's right.

**– in '53. So you finished honours in 1952. Then what happened the following year?**

I worked with – that year, the next year, Bob Crompton went away to work in Wales with –

**In Swansea.**

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– Swansea, that’s right – and so Huxley wanted someone to go on with what Crompton and Sutton were doing and so I went on with Dave Sutton that first year, when Bob was in Wales, and then Bob came back and Dave went over for a year and he was working on magnetism – actual magnetic measurements; they had some big machine with currents going round on what looked like the outsides of bicycle wheels.

**Who was doing that?**

Dave Sutton.

**Oh, Dave Sutton, yes.**

Yes, yes.

**This was after he’d been to – – –.**

After he’d been overseas for a year he came back doing that.

**Now, that was a little bit later, though, wasn’t it?**

That was a little bit later. That was in my second year.

**David Sutton finished his – he submitted his thesis in February ’53.**

Yes.

**Bob and David –**

The same time.

**– put their theses in in the same month, so David must have gone overseas after that, mustn’t he?**

Yes, it was the second year after that. I think Bob went the first year and Dave the year after, because I know Bob went before David. Because when Bob went was when I had my first year of my PhD.

**Yes. So it was ’53 – you’d finished honours –**

Yes.

**– and you started work on a PhD straight away, did you?**

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Yes.

**And so it was just as you were beginning David was submitting his thesis.**

Yes.

**And Bob had also submitted his thesis and went away at that time.**

Yes. So they were. And Dave then went away the year after and he wanted to do this – I've forgotten who he worked with. Bob went to work with – who was it? Was somewhere in Wales.

**Yes. It was in Swansea; I don't know who he worked with.**

Swansea. I'd remember it eventually, yes. He worked there for a year.

**So what was it like going to work in that laboratory with David Sutton?**

Fine. Yes. He was helpful. Because he'd worked with Bob on the same thing up to then, you see. They'd been working really together. They wrote different theses, obviously, but they'd been working together most of the time, so he knew what Bob was doing and Bob knew what he was doing.

**So you started making measurements with equipment that already existed – – –?**

Yes. Well, no; I changed it. I started doing different things. They were doing the attachment coefficients and these sorts of things and I did something different. I started looking at the effects of magnetic fields, so I had to get new equipment made up and accurate measurements and gold-plated, because everything was done with electrons in vacuums and I got the new vacuum systems, and it was trying to get accurate measurements of a magnetic field and get them over reasonably uniform thing around vacuum tubes that were mostly in liquid air temperatures and were liable to explode at the tick of a clock. (laughter) However, yes. So then I did that and I then – yes, I suggested they do – – –.

Huxley did a lot of the theoretical stuff there. He was a pretty good mathematician, actually, Huxley, and he was much better mathematically than any of the other people in the department. He was very ....., yes.

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**He was your supervisor, I take it?**

Yes, he was my supervisor.

**Did he provide very close supervision, or did he – – –?**

Oh, he'd walk round and say hello to every student in the department every day, whether they were his or not. He did communicate, yes. Yes.

**But did he provide effective supervision in doing experimental work?**

Yes, he did. He did. He'd discuss what you were doing. Quite a help, yes.

**And make suggestions.**

Yes, yes.

**How did you get on with him?**

Fine. Yes.

**Was he an easy person to relate to?**

Well, I thought he was pretty easy, yes.

**I had him as a Physics I lecturer.**

Oh, yes?

**He did Electricity and Magnetism. I always remember his bushy eyebrows.**

Oh, his big eyebrows, yes. (laughter) I think he was rather proud of them. I reckon he used to – I think he used to train them. That was my private opinion. But yes, he was very good to get on with. He was fine.

**A popular person, would you say?**

Well, the people I was working with liked him. Dave liked him, Bob liked him. He and Stan Tomlin were working – Stan Tomlin was in an entirely different area, and so, I mean, I think perhaps he knew what he was doing but he wasn't aware of the details of what was happening, you know, there.

**You were saying earlier that you thought that Burdon and Huxley didn't talk to each other much.**

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No, they didn't seem to.

**What about Tomlin and Huxley, did they interact a lot?**

I don't think a terrific lot. They would have interacted with each other at staff meetings when they were discussing who took what lectures and who took what and what they would cover. They would have all interacted there, on what was being done in terms of student teaching, both honours and undergraduate teaching. But I don't think they would have interacted much in terms of what they were actually practically doing. They were way apart. Not that they wouldn't, but — — —.

**So what was the department like as a community then? Was there a tearoom where everybody went and chatted?**

Yes, there was a tearoom when everyone went and chatted, yes, there was a tearoom where everyone went and chatted.

**The research students all went to tea?**

Yes. They'd go and chat, yes, yes. There was a staffroom.

**And Bert Green would be there?**

No. Bert Green didn't talk much to the others. He had a room just opposite where Bob and I worked, and he of course, as you know, was quite deaf – I mean, he was worse deaf than he became later on because he had an operation, I think, that made his hearing a bit better. I always got on fairly well with Bert and his wife. His wife is still around – she's a charmer. Have you talked to her?

**No, I haven't.**

She's a very charming woman.

**Maybe I should do that.**

A very beautiful woman, actually. She's a very old woman, obviously, (laughs) but she's an incredibly charming woman, yes. Apparently, he met her when she was Born's maid or something incredible like that.

**Oh.**

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Yes, and – of course, Bert, if you were going to measure IQs, would probably have been one of the cleverest people in and around the Physics Department, I would say. If I were judging IQs, I think I would say Bert Green would come out on top.

**What about Harry Messel? Do you remember him being there?**

Yes. Harry Messel, yes.

**He was a different kettle of fish.**

Different kettle of fish. I wouldn't have wanted to be his wife. He used to abuse her. They used to have fights. (laughter)

**But what was his impact in the department?**

Not a great deal. Not a great deal. We did have him for some lectures in honours, on cosmic rays, I think it was. Yes.

**Yes. Well, he was writing papers.**

Yes. I think it was ---.

**Prolific writer of papers on cosmic rays at that time.**

Cosmic rays – yes, at that time. I think it was cosmic rays and that sort of stuff he was doing. Yes. That's right. And Bert Green was Einstein stuff, you know. So that's what they were doing, I think. And Heat and Thermodynamics was always Doc Burdon. Actually, I reckon if you were going to say, 'What's the hardest thing in physics?' I'd say, 'It's heat and thermodynamics.'

**Statistical mechanics.**

Yes, and statistical mechanics I think is probably the hardest thing; would you agree with that?

**So were these people coming into the department – Bert Green and Tomlin and Huxley himself – do you think the teaching of the department changed in the sense that it became a much deeper curriculum, more modern physics?**

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Much deeper, much more. Because in the days of Kerr Grant it was just, I think – what were those books there? Grimsale [Grimsel(l)?] was their third-year book, and then they got up to Joos or something.

**Yes, *Theoretical physics*.**

Those things were – more or less said that's the course from Kerr Grant ..... what I think was the case.

**So who had the big impact on the change in the curriculum, do you think?**

Oh, it was Huxley, without doubt.

**Huxley led that, you think.**

Yes. He had to. He changed it completely, yes. In his first year, he only took third year and looked around. But then things started to change.

**So things like the innovation of having formal lectures in honours would have been a Huxley innovation?**

Would have been a Huxley innovation, yes.

**And then Stan Tomlin – – –.**

He took honours lectures, too.

**In what, atomic physics?**

Atomic physics.

**Yes, and quantum mechanics?**

Yes, that sort of stuff. That's what Stan did, yes, yes, yes.

**And so did Physics students see Bert Green as a lecturer at that time?**

Yes, they did.

**At what level?**

Honours.

**Honours.**

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Honours, yes. His work was quite – was hard, but it was quite logical, you know. It was much more complex mathematically than – – –.

**Yes – much more sophisticated.**

Much more sophisticated than anything else, yes, yes.

**Let's go back to the laboratory where you and Dave Sutton were working. What was it like doing experimental physics then? Was there money to buy things?**

Yes, there seemed to be a bit of money to buy things. We had a pretty good workshop, because a lot of the equipment needed was made in the workshop, so we had a couple – one was John, I've forgotten his other name; he went over with Bob.

**John Gascoigne.**

Gascoigne, yes.

**I talked to him last week.**

Yes. And he went over with Bob. And, really, he was a very clever workman. I mean – when I [say] that, I mean he wasn't only very good to making very accurate things; he knew what he was talking about when he was – because Bob used to talk to him. And he was good. And I think having someone as meticulous as he was in making equipment – which he was, he was a meticulous workman – made a lot of difference in terms of the accuracy and reproducibility, if that's a word, of the stuff that Bob did.

**Now, Bob became quite an expert glassblower.**

Yes.

**Who did that sort of thing when you were there?**

Oliphant. Oliphant's brothers ran a glassblowing business.

**Ah. Now, where was that business?**

Somewhere down – you know that road that goes down – down by the Daws Road Hospital? Down that road. And if you went down there in a sidestreet at the back, Oliphant had a factory, glassblowing.

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**Oh, is that right?**

It was Oliphant's brothers.

**That's interesting, because I've talked to three people about the Oliphant brothers' business: one person told me it was in Hutt Street, another person told me it was in Grote Street. Maybe they moved from the city out to –**

Maybe they moved out. They might have.

**– out to Daws Road or something.**

Because somebody in that – the name Oliphant was tied up with some electrically-run motor car in South Australia at that time. Now, I don't know whether that was Oliphant's brother. Don't know whether it was tied up with that family. I think it was the brother of the glassblower. But it was – I'm not quite sure of relationship, whether some were cousins and some were brothers I don't know. But they did a lot of very good glassblowing, the Oliphants, and all the really clever glassblowing was done by the Oliphant people.

**Barbara, you were one of the first women to take a PhD.**

I think Barbara and I were the first two.

**What was it like being a woman student doing experimental work? Did you feel at a disadvantage?**

No. No. Most of the blokes were as hopeless as I was.

**I think you're right. (laughter) But I would sometimes talk to a woman student who imagined that they were at a disadvantage because of the hobbies that the fellows had had.**

I don't think so. I don't think so.

**I don't think so, either.**

I don't think so. (laughs) I think that's a bit of bullshit, actually, to be quite honest.

**So you went on and wrote a PhD thesis, awarded a PhD in 1956 –**

Same as Barb.

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– with Barbara –

And Harry Medlin.

– and Harry Medlin.

Old Prof Huxley took us all out to dinner at the hotel first.

**Oh, did he?**

And we were all slightly tiddly by the time (laughs) we got to the [ceremony]. Because we'd had about, I don't know – yes, we'd had several bottles of wine at that dinner. Teetotaler. I don't think there was anyone else.

**He was?**

No, he was not.

**Oh, he was not.**

Definitely not.

**What did you do after that?**

Well, he said, 'Well, you ought to try and get an 1851,' so I applied and got it. So that came in about March and I trotted off to England. Actually, I trotted off – it was a very interesting trip. We were one day out of Suez and Suez blew up, so we had to turn round and go backwards, go down the side of Africa and dropped in at Durban and ended up at Cape Town, by which time the ship needed cleaning and needed new something – the electrical wiring had gone wrong – so we were there for about 10 days, so I had a nice 10 days in Cape Town. Then we went up and we got to the Canary Islands and something went wrong with the ship then, too, so we had five days (laughs) in the Canary Islands. So eventually I ended up in England: I'd left about the beginning of September or something or other and ended up in England more than two months later, (laughs) which was quite fascinating.

**And what did you do there?**

I was working with Massey at University College. I worked with a guy called John Hasted[?], who later on became professor of physics at the college that dealt with

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after-hours students a lot. There was Gower Street; there was University College; there was the hospital and up here was the big building to the main university, and there was a sort of an after-hours university up there. I've forgotten the name of it. And Hastead became professor there, yes. He was an interesting fellow.

**So what did you work on with Massey?**

Well, it was with Hastead, really. We were trying to – we had a contract ..[we got]...., which – I was useful, because I would pass the – you see, Hastead was a communist. He was actually, at one stage, secretary of the communists. He walked out on them only when the Russians beat up the Hungarians; you remember that time?

**Yes.**

So Hastead then walked out on them. But it was some work to do with electrons in gases and being able to produce them in increasing numbers in the exhaust sent forwards in an aeroplane so that when you came to direct your weapons at the aeroplane it had a much bigger target to go to so it would be much less likely to hit the aeroplane than if you were going straight at the aeroplane, so to speak.

**Oh, I see.**

Increased the .....[sort of] ..... And we had a contract, we had a grant from that, but it always had to be me that appeared at the Royal Radar Establishment and not John Hastead, because of his past history as a communist. (laughs)

He was an interesting man, actually. His father was a general. He'd been in World War II. He was a tank commander, and his father was General Hastead, and his grandfather – his wife's grandfather was Lord Roberts of Khartoum, the one who went down to Khartoum to try and rescue Kitchener or something like that. He came from a very, very military family – went to Winchester and this sort of thing. Interesting guy, John Hastead. Very nice man, really.

**Did you get to know Massey at all?**

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Not very well, no. I don't think anybody knew Massey very well. The only one would have been Burrup[?] ..... Massey were pretty close.

**Massey was one of my PhD examiners. The only connection I have.**

He's not an inherently-sociable man, I don't think. He didn't wish to chat, you know. He was always very polite and did the right thing, but he didn't pass too much of his time of day chatting. Hasted was okay for that.

**So how long were you there?**

Two years, and then I got married. I stayed for a couple of months to finish off a couple of things and then went down to Malvern, where Max was, and we lived there for about a year and a half. That was rather nice. It would have taken me six months to get a security clearance to work there, so I just wrote to the schools and I got the easiest job I've ever had: teaching Physics and Maths at St James, which was a very posh girls' school – sort of a place the Duchess of Gloucester went there and Duke of Devonshire's daughter was there. And they liked me and I taught there for the time I was there. Miss Anstruther[?] from Anstruther in Scotland was the headmistress. It was a ..... school. I met one kid one day and she was in tears. I said, 'What's wrong?' And she said, 'Daddy's sold his second Jaguar and bought yet another Bentley.' And I said, 'Oh, stiff cheese,' sort of thing, 'How many Bentleys has he now?' And she said, 'Five.' (laughter) Anyhow, ..... That's quite amusing, actually. And then I got pregnant and Max and I [went to Farnborough] ..... Graham was born in England, actually, on 10 minutes to midnight in a snowstorm at home. (laughs) So, you see, things happen.

**So when did you come back to Australia?**

A year after that.

**And what brought you back?**

Well, Max was brought back because he was working for the Australian Government working with the Poms. So he was at WRE, so they sent him over for a couple of years, then he came back. Then he stayed working there until he was sixty-four and

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a half, and then his job had finished and they wanted him to do another job. He said, 'It would be silly to put me in charge there, because I would be only starting it. You ought to put someone who's going to carry it through.' It was a long-term thing. So they said, 'Oh.' They thought, and then said, 'Well, look, we'll pay you as if you were there and retire you now, full pay, until you literally retire.' (laughs) So that's what he did.

**And then you eventually found your way back into teaching.**

Yes. That was because I was at the Institute of Technology, and the person in charge was Cyril Wilson, who was a Pom. He was nice. I would have stayed there with him. But he wanted to go back to England. I think he came from that British army scientific place that's somewhere south of Oxford. I've forgotten the name. And he wanted to go back there, so he went back and they applied for a ..[?]. and someone got the job and then refused it, and then suddenly Geoff Goodwin got the job. I wouldn't work for Geoff Goodwin, so I left. (interruption while dog is taken for walk) So that's what we did and came back here and then I went part-time. So we did ..... there, and I did odd bits and pieces round. I did a bit at Adelaide University, and then I took over the physiotherapy physics from old Doc Burdon.

**So what did you do at Adelaide University?**

I used to take a couple of – well, I did more in the Maths Department than the Physics, actually. They must have been short of people. I did take the Elec & Mag – no, Atomic and Nuclear Physics – for a couple of years at Adelaide.

**When was that?**

Must have been soon after I came back, which would have been about '61, '62, round then.

**So it was around about the time that John Carver arrived.**

Yes. That's right, about then.

**I was a third-year student.**

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Then I used to do a fair bit of applied maths stuff. Marta Sved and I used to –

**Oh, yes.**

– Marta and I used to do that. And then again we had that horrible lecturer who we used to have fights with every week, so I gave up doing that. Then I took over the Physiotherapy Physics, and they shifted Physiotherapy to the Institute rather than the university, so I ended up there. And I then took over teaching the radiographers and radiotherapy people physics.

**What was your impression of the Physics Department when you were back there doing a bit of teaching? Did it feel like a different department?**

I really didn't have enough contact with it to make it feel anything. I just used to come in once or twice a week to take it, and have morning tea or afternoon tea with them and that was it, really. I don't know.

**So when you eventually found yourself into the school system.**

Yes. I became a senior lecturer at University of South Australia, as it became, but I wouldn't work for Geoff Goodwin, so that was that. I walked out when he went there. And so I left and then I ran into Didi Medlin, about a week after I left, and she said, 'What are you doing wandering round the streets?' And I said, 'Oh, don't know. I walked out on that dog.' She said, 'Good. Come and be my deputy.' So I went and did it, became her deputy, just like that. Long job interview. (laughs) So I was there about, I suppose, 10, 15 years. And then I left that and I went across to India and worked for a year.

**Did you?**

Yes. It was an international school in ...[?].... down south. Max came over for part of that time. It was quite good fun. And various bits and pieces, I'd do. I've taught everywhere. I've taught from Catholic schools to Lameroo School when they didn't have either a maths or physics person – – –.

**You taught at Lameroo?**

Yes.

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**I'm a graduate of the Lameroo Area School.**

Oh, yes. I taught at Lameroo. I taught Maths and Physics to year 12, because the department said the person who was doing it had to have his long service leave now, so he had to go and there was nobody. You can't pick up a maths and physics teacher for [year 12]. Alan Pepper told me. (laughter) They were so desperately short. He said, 'God knows what they'll do.' And I said, 'I will go there.' And so I went. (laughs) And I've never been trained as a teacher, but I used to ..... [?] ..... on the thing that kicked out people who weren't very good teachers. I've done a lot of funny things, actually. But that was interesting. It was just six months I had to there, which was good fun, actually.

**Then you were involved in the public examination system.**

Yes. For ages, but I was chief examiner for about eight years, I think. That was an interesting phenomenon, particularly the time when the place was burgled, three days before the exam. And the safe in which the Physics papers were kept was stolen, up[/but] through the roof. And it was found two years later, unopened, in the Angas River down near Strathalbyn. Meanwhile, we had to write a new Physics paper, because we didn't know what had happened to the Physics papers. They might be giving ..... (laughter) They're things that have happened.

**Yes. That's a lot of work, isn't it.**

That was a lot of work. That was a lot of work. That was quite exhausting. I was at Pembroke at the time. I'd had several, 'I can't do anything now.' 'I'll do this.' Alan Pepper and I managed to produce a paper in (laughs) about one day. Oh, dear. That was an interesting little thing. And I was fixed up with public exams for a bit, but I got a bit sick of that. I don't know. The public exam system seems to – I don't know what it is doing now.

**So when you finally retired, what did you retire from?**

Work. (laughter) What did I retire from? I did a bit of work – actually, the last job I ever did was probably at Lameroo.

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**Oh, is that right? So what do you regard as the highlight of your career?**

Oh, I don't know.

**Did you miss doing research work?**

A bit.

**Did you hanker to go back to that?**

The trouble is when you've got two kids – and Max was often in, say, Canberra for a couple of weeks or Woomera for a week – it's very hard to look after kids and be able to work. I know the present Physics head manages it, (laughter) but I mean it depends on your priorities, I think. In any case, she's got a husband there who I think does quite a lot of looking after the kids. She'd have to have. But no. I don't know. I don't know. You just do things and you do what comes up. But when I was at the Institute I did have six months' study leave. I went to National Research Council in Canada.

**Oh.**

That was interesting. I was looking at some of the stuff they were doing there. That was quite interesting. But I don't know. I don't know what Physics is doing now, because if you look at the number of physics courses there is, there's still Adelaide University Physics – whatever it does, I don't know; Institute of Technology still, I don't think, has much physics other than as a service subject, doesn't run it as separate; and then there's Flinders. And I think the UniSA now really only runs a sort of a course that trains just – a course on the Physics that's taught at year 12, basically, I think, from what I've seen of what they're teaching. Yes. I don't know very much about what they do do. But I know there's a shortage of Physics teachers, they say.

**Is there?**

They say there is. But there's a shortage of – also, people aren't taking up physics. I don't know what they're taking up and what they're what. But everyone – the number of people, Hugh says the number of people in the universities that are in sort

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of economics and business and bookkeeping, as he calls it, (laughter) is out of all proportion. And Karen, his wife, she's saving the Classics Department of the University – 'UQ', as she calls it. She's doing third-year Greek this year and second-year Latin. (laughs) But really I think the biggest failures, sort of falling-down in universities, have been in what I would call the old-fashioned arts/classics degrees – you know, arts degrees, because there's not many people doing foreign languages now. That's why there's so few – they say there's too few kids in schools. There's no teachers in the schools to teach it.

**Yes. It's the so-called 'professional' courses that seem to be flourishing.**

It's the things with names to attach that people think will get them an immediate job. So unless you've got that, that's what most people are doing now. If you look at where the kids are going, that's where they're going. And of course the Medical intake is a big farce. You know, they have this psychological exam – there are a few psychologists around making good money out of training kids what to say to get in. (laughter) I know a couple of them.

**Yes. Well, Barbara, you've had an interesting career. Thank you for taking the time to talk about it.**

END OF INTERVIEW