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Full transcript of an interview with

DR PETER HETZEL

from 7 August to 20 November 2006

by Joan Durdin

Recording available

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A series of dots, **.... ....** indicates an untranscribable word or phrase.

Sentences that were left unfinished in the normal manner of conversation are shown ending in three dashes, — — —.

Spelling: Wherever possible the spelling of proper names and unusual terms has been verified. A parenthesised question mark [?] indicates a word that it has not been possible to verify to date.

Typeface: The interviewer's questions are shown in **bold print**.

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On this and subsequent tapes is a record of an interview with Dr Peter Stuart Hetzel of Beaumont, South Australia. Dr Hetzel was, for twenty-five years, the Director of the Cardiovascular Investigation Unit of Royal Adelaide Hospital. The interview is being conducted by Joan Durdin, for the Heritage and History Committee. It is taking place at Dr Hetzel's home at Beaumont on 7 August 2006.

TAPE 1 SIDE A

Dr Hetzel, would you like to introduce yourself and perhaps, as you wish, handle these early questions about your background.

Thank you. I am Peter Hetzel, born 8th November 1924 in London, United Kingdom. I am the younger son of Kenneth and Elinor Hetzel. My paternal grandparents were first generation Australian born, and so I, though not born in Australia, am third generation. My father's grandfather, Carl Hetzel, arrived in Australia from Silesia in 1847 and as my grandmother always said, he met a girl on the boat and never had a chance. (laughter)

Yes, I bet that has happened a few times.

He had eight children and settled in the Barossa. My grandfather was the youngest of his four sons. I don't know where my grandparents, those grandparents met. My grandmother, her family came out in 1839. Her father, his name was, I think, William Martlew. They were of old English stock in East Anglia and they can still trace members of the family. He came out with his wife and several children. His wife died on board ship in labour, the child lived, and my grandmother was the second to last of the second family. My great grandfather married again in 1852 and my grandmother was born in 1863. She was a remarkable woman. She met my grandfather and they went to live in the Barossa and as she said, she never learnt any German, but she could converse quite well with those around her. On one celebrated occasion we went to visit Aunty Augusta who lived at Seppeltsfield. Having learnt German at school I was absolutely useless, but my grandmother got on very well with her sister-in-law who didn't speak any English at all.

My grandmother was a remarkable woman in that she believed fundamentally in education and my grandfather believed in a certain amount of education and when my father became dux of Gawler High School, the Headmaster, one James Bills, suggested

he should go on further and my grandfather was against it, but my grandmother was much for it. As a result, my father came to town to go to Adelaide High School which was the only government school for South Australia that continued education for boys and girls who were older than fifteen, like the last two or three years at school. So my father came to town. They lived at Gawler at that time. My grandfather had retired at an early age, having set up a butter and cream factory and exported these to the United Kingdom. His neighbours thought they could do as well as Fred Hetzel and stopped supplying milk, so he sold out and moved from Tanunda from the house that he was born in, like my father was born in and went to live in Gawler. So, my father came to town and Gawler was an hour's journey by train. He arrived at Adelaide High School and somebody told him there was a scholarship he could sit for to get into Princes. He did sit for it and he won it. So, his three final years of secondary education were at Prince Alfred College.

My mother's family probably came from Melbourne, but my mother was born in Waikerie, where her father had gone to work and set up a settlement. They had eloped and again I don't know where he met my maternal grandmother, but they had four children. Soon after, within six months of the last one being born, she died, presumably of tuberculosis. She would have been in her early thirties.

You didn't mention her maiden name did you?

My mother's maiden name was Watt. She was Elinor Gertrude Watt, the daughter of William Woodcock Watt and Charlotte Maud Lawson. My grandfather had a problem caring for four children and the youngest child, Dorothy, was taken by the nurse, Mary Ellen Stewart, and brought up separately from the other three. They went to live with his in-laws in Gilberton and his mother described grandmother Lawson as a bit of a tyrant and very strict, formal and quite willing to administer some physical punishment. My mother started school at St Cyprian's in North Adelaide where there was a school. And then, I don't know whether my grandfather lived with them or not, these are the questions you never asked, but my mother was the second child and she was born in 1895. She was followed by a brother and this younger sister and there was an older sister, Winifred. When Winifred was old enough to leave school and could set up a house, they all, except for the youngest one, moved to Swaine Avenue in Rose Park. In the meantime, my father was boarding with his older brother who was working

at Holden's having been apprenticed as a coach builder in Gawler and that's where I think my mother and father met. My father took his final exams at school in 1915. In those days the only way you could get any sort of education, unless you could afford it, was to win a bursary in what was then called, I think the Higher Public: there was the Junior Public, the Senior Public and the Higher Public and that was the equivalent of what was in my time the Leaving Honours. There were twelve bursaries issued by the Education Department, of which three were for medicine. Medicine was then five years and if you got a science bursary it then gave you an ordinary degree and one year for honours, so it was four years.

My father didn't get one of the medical ones, so he had to support himself for one year, which he managed to do by working in various places in his holidays, with another colleague Bertram Eric Wurm, they were long-time friends. They would go to the races together and various things. Eventually, my father at this time, tried to enlist with his brother Herbert. It was 1916, but they rejected him because he had to go on being a medical student. They took Herbert and it was the time when there was some debate about conscription. Archbishop Mannix, who was the then leading Roman Catholic, Irish Prelate, was against it, and it didn't get through parliament. My father always maintained that if it had gone through, then his brother would not have gone to the war. He was killed in France in 1917 and there were no children. When he left to go, of course my father couldn't stay in the house with his sister-in-law, so he boarded at various places right through his medical course. He graduated in medicine in 1920. His was the only credit in that year. Others in that year were Ray Hone, and I can't remember who some of the others were, but Ray Hone had got a medical bursary. He was the son of FS Hone, who was a prominent physician in the town.

Anyway, my father did his year of what was called RMO then and it is interesting that the conditions which he experienced as an RMO were identical in 1921 to those that I experienced in 1949. The pay was exactly the same. You got two hundred pounds at the end of the year. You were given one hundred and twenty-five in your salary up until then. If you completed your contract you got seventy-five and you lived in the hospital. You lived in the hospital and you had all your meals there. You would be out of the hospital when you were off duty during the week, you could be out, but you always had to return at midnight, so that you were available for duty and particularly

when you had clinical care if you were called on, you were there and available for your patients. At the weekends you could be off from one o'clock Saturday until midnight Sunday if you weren't rostered on, otherwise you lived in the hospital and of course, nobody was married.

Well, my father and my mother married and one of the benefits of my mother's family was that her mother's youngest sister, Gertrude, married a wealthy warehouseman called William Millar Reid, of a family of warehouse people, Reid's in Melbourne. Subsequently that company turned into a group called Reid-Murray and in the sixties, they overstretched themselves with two hundred companies and went bankrupt.

Can I interrupt for a moment about the spelling of that Reid?

Reid. And Millar.

As a wedding present he had given the eldest daughter, Winifred, a house and my parents were given a subsidy to go to England. My father worked his passage as a ship's doctor and arrived in England and worked. He got himself a position in London at University College Hospital, as a part-time anaesthetist. He took the Membership of the Royal College of Physicians exam in 1923, which he passed and he eventually got a job on what was called the Unit, the Medical Unit, at University College Hospital. The Rockefeller Foundation had been very generous. There were no Chairs in Medicine or Surgery in England and they contributed money to set up a medical and a surgical unit at University College Hospital. The Medical Unit was under direction of a man called Elliott, who had been Professor of Physiology at Cambridge and was a colleague of Henry Dale and had described the transmitter system of the sympathetic nervous system. Dale got the Nobel Prize, but anyway, I don't know whether Elliott would have got it or part of it if he had stayed. He was a very pleasant man and my father had a lot of respect for him. He was the Head of the Unit, the Professor.

My father had a successful career coming on. It was the time of insulin availability, he was in charge of all the diabetic patients. He got a Beit Fellowship, granted from the Royal Society, to be a Fellow working at University College. My brother was born in 1922 and I was born in 1924 when my parents were preparing to establish their life in London. They had bought a house in the Ideal Homes Exhibition. The house was in

The Vale, Golders Green. I remember my mother telling me that it had all been done so quickly that when the winter came all the wallpaper peeled off. (laughter)

My mother brought my brother and me back to Australia in 1925, I was four months old when we left, but then, my father got tuberculosis. Eventually he came back to Adelaide and had to resign all the future prospects that he had in London. By 1927 he was over it but he had to set up in general practice, which he did. First of all in a house in Harrow Road, St Peters,

and then finally he learnt of a vacancy occurring at 47 The Parade Norwood. This was a property which is near what now is the Beaumont Tiles warehouse, but it was owned by Cowell Brothers who had a timber yard there and the warehouse was on the corner of Sydenham Road and The Parade. The house had a quite a moderate garden, number 47 and the timber yard was really all around the house, which featured later in our lives. My father consulted in the house, it was a villa and the front room with the bay window was the waiting room and the consulting room was on the other side and down the passage was the rest of the house, with some unruly boys.

I started school at the age of five at Kings College in Kensington Park. It so happened that the Headmaster at that time was James Bills, the man who had guided my father. He had now come to Kings which was established in 1924. The first Headmaster had been a teacher at Princes, I can't remember his initials, but he was familiarly known by those who wouldn't say it to his face, as Toad Haslam. He died quite suddenly. Of course, James Bills was such a pillar in my father's life that that was where we went to school to start with. My father became the school doctor and arranged to look after the boarders when they were sick in various ways and that's recounted in the history of what is now Pembroke [school].

In 1931, having saved some money, working very hard in general practice, my Father did have by this stage a Doctorate in Medicine. He had a specialist qualification as a Physician, but he aimed for further things. He had applied in 1928 for a Chair in Sydney, but not been successful. It is interesting to read his application. He set off for London in October [1932] with mother, and both Basil and I went to boarding school. He was eight and I was six and we went in the beginning of the third term and we were

very busy that Saturday, October 17th, playing games and doing things when they came to say goodbye. And we said, yes, goodbye, love, yes we are busy. (laughter) The following day I was expected to start writing letters and this always brought on the miseries as I really didn't like writing letters and I'm not a great letter writer now. They travelled to England and we got postcards with stamps, and I started collecting stamps and my brother started collecting stamps and we got a lot of postcards which we started to collect and each put in a postcard album, recounting their travels. In 1932 they travelled throughout Europe and then my father was awarded a Rockefeller Scholarship to go to the USA.

In the meantime, my brother and I had a reputation for fighting and as boys living in Norwood, we did fight. We would swap toys and then one of us would change his mind and so we had a fight. Our reputation was such that no one person could look after the two of us. Basil went to stay with my mother's aunt, Gertrude, who at that stage was divorced and I went to stay with my paternal grandparents and my father's younger sister who never married, Sylvia.

My grandmother was a remarkable woman as I have said earlier. She was kind, she was firm, we could play cards on Saturday, but not on Sunday. We walked to the Baptist Church. My grandfather had sort of isolated himself to some extent from the family and was a fiercesome figure, but he was not unkind to me in any way, in fact everyone was kind and loving. The matron was very good to me in the boarding school. But in the middle of 1932, I went back to bedwetting, I had terrors and dreams and I really wasn't very well. I was miserable, no I don't think I was that miserable, but I sat for a whole term in the yard off the schoolyard where the fowls were, the pigeons and other things, and did nothing. I hadn't yet achieved much skill in reading. I did that a bit later in the year, but it was basically because I lost that term, I lost a year. I didn't know it at the time, but the school doctor, who had succeeded my father in taking over his practice, was also the school doctor, a Dr Muecke, had written that unless somebody came home, he didn't think I would survive. Now I thought that was a bit strange. Many years later, in 1966, I was a visiting lecturer in the Hawkes Bay area of New Zealand. I

worked very hard for a couple of weeks and Margaret came with me which was wonderful. In two weeks I gave thirteen lectures and a lot of tutorials; they worked me hard, but that was alright. A man called BMA Ironside, who was a Professor of Psychiatry at that time at the University of New Zealand in Otago, spoke about juvenile depression. I was sitting in this room and I suddenly realised that was what had been wrong with me. It was a remarkable sort of description of exactly how I had been. I came home and told my brother and he published that fact without the meeting and circumstances in his book. But I got over it and by the end of 1931 I was reading. I had always been able to entertain myself because my holidays and boarders exeats were spent with my grandmother and my aunt and there were no other children to play with. My brother had an older cousin to play with but I learnt to entertain myself in various ways. My stamp collection was beginning and I listened to the radio. My father had given the radio to his family and sister and I remember even hearing when Oldfield got hit in the head in the Test cricket (laughter)

Important events.

Anyway, by the end of the 1932, I think I had recovered as mother had come back and my father went to America. She arrived in February 1933 and the first thing we said to her was 'do we have to go back to boarding school' and she said no. My father was in the habit of taking a house at the Grange for a number of years and we would spend six weeks of the summer on the beach, swimming, playing with boats, doing all sorts of things. That was maintained when they were away and my mother did the same thing with a house in 1933/34 summer. There was a family who used to come and help. The wife was a very well built/heavily built woman with very great strength and he was a carrier and I went down on the horse and dray, down to Grange and back again. That was a very exciting thing to do when you were eight or nine, yes nine. I could only say that I really had a very happy, caring childhood. The matron when I was unwell, had me sleep in her room to look after me and I don't know why I got all that problem, but I certainly was well looked after.

Boarding school was different. Basil and I and another boy were the young ones and I was the youngest boarder. The school had about one hundred ten to one hundred and twenty all told and those friends I still see. Some of them I have seen as patients. Of those who were in my class at school there is only one that is a survivor. One, Geoffrey

Fowles, was killed in the war and Geoff Mellor with whom I vied for top position for various years, in the last four years at Kings, died of ischaemic heart disease having been a smoker.

The boarding house was quite an interesting place with boys from all over the place, country boys and there were families. Because it was a Baptist and Congregational School there was a strong Baptist influence. We would walk to Clayton church one Sunday and to Norwood Baptist the next, attending church on Sunday mornings. The food was not always interesting. We would have hot beef on Saturdays, cold beef on Sundays, curried beef on Mondays and I didn't really like curry much and took a long time before I could accept it. The best meal was on Wednesdays when we had roast mutton and rhubarb sponge. (laughter)

Good memory!

But the food was the same week by week. We had rice and milk pudding and my brother didn't like rice pudding and at one stage he stood up, because it was always a hot lunch, he stood up and he said 'I will not eat any more of these maggots" and left the room. And there is a lot to be said for the school that he got away with it. He wasn't reprimanded, he wasn't castigated, he wasn't caned. He, of course, can't remember it (laughter).

I can imagine how those sort of things can be blocked out.

My father came back and went into private practice as a Consultant Physician. He got a position initially at the Children's Hospital as an Assistant Physician and then subsequently at Royal Adelaide Hospital.

In 1928 he had been the tutor to the medical students and he carried out that tutorial activity until he went overseas. He was away for three years, spending time in Baltimore and in Boston.

He didn't come back within those three years?

No. He would send us copies of newspapers and the photo-review sections of the Baltimore Sun and we had a series of copies of Time News Magazine, they were consecutive, twenty nine copies. I can remember for instance, reading about a man called Macarthur who was suing a man called Drew Pearson, a journalist for one and

three quarter million for libel. Of course, when I read this during the war I didn't have any difficulty remembering who Macarthur was. Another was recording the election to congress of a remote Missouri judge called Truman. There were all these odd things that had historical interest as I grew up later.

When my father came back we were still at Kings and we had the next two years at Kings and then James Bills had been retired because of hearing loss. My father didn't think that was very satisfactory, even though his successor was an old friend of his from his days at Princes, KW Kenneth William Alexander Smith. Basil did the Intermediate and James Bills gave him some coaching in Latin, because Latin was one of my father's favourite subjects and Basil got a credit in Latin. In 1937 we moved from Kings to Saints. I always said to him, why did we go to Saints, and not go to Princes? and he said, I thought the Maths was better, but he wasn't quite honest. I think the reason was that he didn't like the headmaster, JF Ward, who had been, I think, a teacher when he was at Princes and subsequently came back as headmaster. That man had a reputation of being a grade A bully. That was a good enough reason not to go there.

My brother had three years at Saints and I had six. He had done the Intermediate so he had the Leaving and the Leaving Honours. I had finished year seven, we didn't take what was then called The Qualifying Certificate (QC) and later the Progress Certificate. I sat for a Scholarship at Kings and I sat for one at Saints and I didn't get either of them. It is interesting that Hugh Gilmore, who was a great friend of Basil's and was a great help to me, who lived at Largs, he sat for a scholarship for Scotch and a scholarship for Saints, he won both of them, but he had given his word that he would accept the Scotch one before he had got the Saints results, which meant that he travelled from Largs Bay to Mitcham(laughter), otherwise he would have been at Saints. He was a very remarkable person.

So I started at Saints. I had done a bit of Latin and a bit of French, so they didn't know where to put me. There was a form, the new boys' form, Remove B, for the boys who had come from the government schools. There was six forms in this grade, which was called Sub-Intermediate 1. It was for boys who were doing the particular level, either for the second or perhaps the third time. There was Sub-intermediate 2 which had boys

who had come up from the Prep, out of that last year, some of them would have gone straight into Intermediate A and those who didn't qualify for Intermediate, then did this year. Then there was Sub-Intermediate 3 which was again full of boys who had been [at Saints] and knew one another from Prep and I was put into Sub-Intermediate 3. Nobody spoke to me. I had the most miserable week. I was sitting in the classroom having lunch one day and a newly appointed prefect came along and there was a rule that you couldn't be in the classroom except for a quarter of an hour before or a quarter an hour after the class finished. Of course I was in there so I had to write out the school rules, the only problem was, there was never any time to get into the classroom to copy the damn school rules (laughter). Such is the power of the newly appointed perfect.

On a Friday afternoon, the second Master, a man called John Hill, interviewed me and went through it all and at the end of that week I was so miserable that my father said that if it didn't improve, I could go back to Kings. Well the next week I was put into another form which was called Remove A and we had some of the same teachers as in Remove B, but again that was full of older boys, some of whom were sixteen and physically a lot bigger and a lot stronger. Some of them had been in Remove B the year before but hadn't moved very far and anyway, it was better to be mildly bullied than to be ignored…

END OF TAPE 1, SIDE A : TAPE 1, SIDE B

I had been well taught at Kings, so it wasn't difficult to do well in this particular class. The man who taught me Mathematics was the senior physics Master. The man who taught me English it was his first year in the school – his name was FH Schubert, and he ended up as Second Master at Saints over the years, and was senior English master, and a very pleasant man. He taught me English in Remove and German in the Intermediate and I have always looked upon him as a good teacher, an excellent teacher. Crusty Gilham, CA Gilham was a very pleasant man, he had actually been teaching at Adelaide High School when my father, in his few days there, had noticed him and been aware of him and he had the reputation then of having a fairly quick temper. But I always found him very pleasant. He taught me every year that I was at Saints.

What was his subject?

Physics, but he taught me maths in first year.

One of the things that happened at my period at Kings was that we did History and Geography and then when I left Kings and went to Saints I could no longer do History. The man who taught us in my last year at Kings was a man called Herbert, who sort taught differently – Australian History was taught out of a little red book, called the Adelaide History reader, produced by the Government for Government Schools and it was a dull book.

I didn't know it.

Terrible book and it completely, if I had any interest in Australian History killed it, but I don't think I developed any interest. Herbert was a man who aroused ones interest in not just the kings and queens of England, but we went through the settlement in North America and all the explorations and it became a fascinating subject. But unfortunately when I went to Saints I had to do Geography. If I wanted to do History I couldn't do Science, and thinking that I needed to do Science, I did it. Mathematics was taught, as I say by Gilham and we had a Form Master, who was a man called William Rait and he taught us a bit of arithmetic. He was a pleasant enough man, but he wasn't really much of a teacher and he subsequently after the war, turned around and went and did medicine. German was taught by the Senior Modern Languages Master, Holtham, who had been severely injured in the First World War, but he was quite a forceful teacher. That year I came top, but the school – there was a poliomyelitis epidemic and the school closed in the middle of December and did not reopen until Easter. In the next year I was moved to Intermediate A in the top stream, but we had our lessons by assignment. We had to do it by correspondence and then after Easter it was the prize giving and I discovered that I had got four prizes, which was remarkable. The standards, I thought, were particularly high.

Latin was difficult for me. I was in a family where my father and my brother were good at it and I hadn't been very well taught and if I was going to do most things at University I needed to get it. But I did pass Intermediate Latin. What I did well in was Intermediate German and I with four others came second. I didn't get any other credits

that year, Mathematics was being taught by Symons, but it wasn't as good as when I was taught in the next year, by a man called GF Sharpe.

Just interrupt, spelling?

Sharpe and Symons.

Sharpe was an abrupt man but a very good teacher and he aroused my enthusiasm for Mathematics, to such an extent that I was thinking when I left school of becoming a Mathematics Master. We never had a text book, it was all off the blackboard and it just aroused my interest and imagination. I still think that there is no other subject quite like it. One of the difficulties I had when I started Medicine, there was no other subject quite like Mathematics and my enthusiasm and imagination were not fired, other things were more interesting.

In the Leaving I did reasonably well for some reason and I came third in the class. I got a prize for German, but we had in my year a very able boy called Gordon Elliott Wall. I was born in November 1924 and he was born in March 1925. His mother and father were doctors. His mother died a few years ago, Winifred Wall who was the most remarkable of women, a gentle woman. She was Winnie Clarke and had been a few years behind my father in medical school. Well, he was known as Tim, a nickname, after the famous cricketer, and he was actually a Master of the Preparatory School at Saints. He came top of the Leaving Honours in his first year which was unheard of, with five subjects and five credits. He had got credits all the way through, but he was an exceptionally pleasant person. He came top of the Leaving Honours in 1940. The next year, in 1941, a friend of mine, who again was a year younger than I was, was Robert Hecker. The following year was John Waddy who was at Princes and those three were actually my contemporaries at school in one way or another and they were all, well those other ones were younger, they were all born in 1925. I did reasonably well in Maths and got a credit in Maths in Leaving and then I went to Leaving Honours. Oh, I did reasonably well, but in the public exam I was always lacking in imagination about such things and they changed the nature of the exam in chemistry, which upset me in the practical. I had an explosion and I failed Leaving Honours Chemistry. It wasn't hard to do when you didn't do well in the prac. Anyway, the next year I did reasonably well. I came fourteenth in the Honours List. Robert Hecker came first and

Graham Wilson, who had been a year ahead of me at school, but was born in 1924, had been going to Cambridge and hadn't bothered to apply for a bursary in 1940, so in 1941 he came back to school for the third year in the Leaving Honours and got a bursary. I didn't get a bursary, I was fourteenth and I would under ordinary circumstances have got one, but he got one and then there was another reason because the Education Department counted failed subjects, so I didn't get a bursary. My brother had got a bursary, my father had got a bursary and it wasn't that it was economically necessary, but I was fairly immature and so I went back to school. I had been a house prefect the year before and I was now a school prefect and I was house captain and I had a very good year.

I was born with a physical disability, I had a Talipes Varus. My father said that when he saw it his heart sank and I had various things done about it. It isn't terribly severe, I walk with a limp. In 1931 I had my leg in plaster, so the boys regarded me as a cripple, I found that very difficult to accept, but anyway. I wasn't very good at sport, I couldn't run very fast, I didn't have a good eye for a ball anyway, but I found that of course, if you were good at sport you'd became more prominent in the eyes of the school than if you weren't and I think it's still that way. But in that year, I matured, you have to say that and the subjects I did were Mathematics, Physics, Chemistry and German and I got credits in each of them and came fourth. It was better for me that I did that but I got criticised. At (the time you had no Kings Birthday), it was during the war and you were examined physically for national service and I was classified because of my leg to be Class 2B and the man said to me why didn't I leave school the year before to start my medical course and I just didn't know how to answer that. It was clear that Basil, who did an accelerated medicine course and having started in 1940, graduated at the end of 1944 was destined for the Air Force, but then he got sick with Tuberculosis and that all fell by the way.

No good at scholastic things, but I did enjoy the Cadet Corps. In 1938 at the time of the Munich crisis, Guy Pentreath was the Headmaster. There were a group of boys who weren't old enough to join the Cadets (until after you were fourteen) and there were a group of us that he called the October recruits and he drilled us up and down. This sort of introduced us the idea of Cadets. When war broke out in 1939 he was on leave in England and asked to stay so that he could serve, but the school council

refused. Pentreath was an exceptional headmaster in my view. He was about 35 when he was appointed. His salary as I learnt, (everyone knew what everyone was doing) was one thousand pounds a year and he was appointed, I think, in 1933 and he was at the school for eleven years. He introduced a totally new atmosphere as far as I could see. He was my headmaster. I wasn't there when Bickersteth was there. New buildings sprouted, the headmaster's house, new boarding house, the old one was decrepit but the original building could be used as classrooms. But he was an inspiring man. He was a follower of William Temple, then Archbishop of Canterbury and particularly, his ideas were expressed in a book called 'Christianity and World Order'. We had Pentreath for what was called Divinity, was known as Scripture elsewhere, but it was Divinity in the Leaving Honours. [I had] three years in the Leaving Honours. I appreciated the man and he could preach a good sermon, he could inspire boys. One of the things he used to say in our Divinity class was that he was with a group of men, I don't think there were any women in it, but they were public servants, trade union officials, academics, looking to what the world would be like, or what Australia would be like after the war. That organisation came into being in 1943, it was called Common Cause. It was in a sense, of course, scripturally based, but it wasn't an ostensibly Christian organisation. Well the school council, particularly the old scholars, decided it was communist and he was kicked out. There was a reception or parting function for him in the town hall full of well-wishers and my German Master, a man called Koch Emmery said that he thought that it was probably a good time for him to go, so that his children could be educated in England anyway. (laughter)

Looking on the bright side.

But he really was good for the school and good for the boys.

Another master for whom I had much appreciation was this man called Kock Emmery. He taught me German for the last four years. He was Austrian, he had a PhD in English Literature and had taught in England and had come out to Australia. His wife had been a Miss Fairbridge of Fairbridge Farm Schools. Kock Emmery was a very athletic man and he could run the physical education bits as well. But he decided in my last year that it was time that I did something else rather than repeat the same course, so we talked about German Literature. He was a keen walker and he lived in St Peters or in College Park near the school. I would meet him at the Burnside Tram Terminus and

we would walk up through Waterfall Gully up to Mt Lofty and then we would go to a house which was subsequently occupied by an Anglican Order called St Michael's, but that was a Mrs Kelly's house. We would go there for afternoon tea and then walk back again. It was talking and I was supposed to talk in German. Later on, he moved to living at Belair near the National Park. So I would catch the tram to the Mitcham Tram Terminus and walk up the old Belair Road and then meet him there and we would go walking in the National Park. This is what I did on Sunday afternoons for most of that year.

This was your final year at Saints.

Yes. He left and went to friends in Tasmania and I saw him there in 1947 when I was in the National University of Australian University Students' (NUAUS) conference and we walked on Mt Wellington that time. He subsequently went to Canberra and was teaching at Canberra University College and he died in his nineties. Those people had an influence over me. I guess it was because they were different and they were formative.

When I started in Medicine in the beginning of 1943, manpower was strictly regulated and there were only forty-five students. If you failed you went into the army, you didn't get a supplementary exam, or anything else. In that year, having done Physics and Chemistry at a first-year standard for a number of years, I didn't want to do them again, so I applied and I could take exemptions in Physics, I didn't have to do Physics 1, which wasn't a well conducted course by Professor Kerr Grant, and I could get an exemption from the Inorganic Section of Chemistry 1. We did Botany one term, Zoology two terms. Now it is Biology, but we did it that way and I had never done any Botany before and I struggled with that and my diagrams were greatly castigated, but it was interesting and different. To be able to take exemptions in Physics and Chemistry I had to do something else. Four of us in first year, who were good at Maths did a course called Engineering Maths 2, which was half a second-year unit and we all got credits at the end of that year and then there was the question of doing preliminary maths. There was a course run in preliminary maths 3 at the same time. When I had finished first year, I wanted to do that course in second year. John Waddy was allowed to do it, as he came top in first year, but I was not allowed to do it and the dean who was Professor Goldby, the Professor of Anatomy was particularly sensitive at the time.

Elliott Wall had started medicine and done the Maths, did the biochemistry exam and switched to do science and Goldby feared that I would do the same thing. Well, Elliott Wall ended up – if he wanted to he would have got a Rhodes because he was such an all-rounder. He didn't want to go to Oxford, he wanted to go to Cambridge, and he finally was retired from Professor of Theoretical Physics, University of Sydney.

Is this Eric Wall?

Gordon Elliott Wall, Winnie Wall's son.

The other subject I did was Psychology. Basil suggested that it was a good idea and I did psychology 1 at the University with a lady called Dr Constance Muriel Davey. The other subject that I did with David Jones, who was a colleague, we dissected the arm of a foetus. That was a really challenging thing and I remember the first day, I had ham sandwiches for lunch and it really upset me (laughter). It was a good preparation for anatomy in one way because it made it so interesting. So when I came to second year, our subjects were biochemistry and anatomy and histology and embryology and Goldby was the Professor of Anatomy. He was an exceptional teacher and he could draw very well and he gave us lectures in embryology which he just walked up and down and talked and drew. But he went to St Mary's, the Professor of Anatomy at St Mary's had been appointed and had then died, he was actually an

Adelaide graduate called Grey and one of those influenced by Wood-Jones.

St Mary's? Paddington?

St Mary's Hospital, Paddington. Anyway Goldby left and Professor Abbie was appointed from Sydney and he had a very distinguished career in the University. I nearly failed anatomy. Physiology when I studied it, I found fascinating, but it was, we were taught by Hugh Le Messurier, who had been a graduate in Physiology in Science at the University of Adelaide, then done a medical degree at Edinburgh and was working at the Mayo Clinic in medical research. Sir Cedric Stanton Hicks was the Professor of Physiology, but he was also in charge of army catering and as he said 'somebody had to take charge of General MacArthur', so he did. Somewhat extroverted. I didn't have him in Physiology, but I had him the next year in 1946 in Pharmacology, which was quite an interesting subject, but Physiology at that stage, was the most interesting subject in the course. Stanton Hicks used to give us the lecture

in Pharmacology in fourth year on Monday morning. He was, at that time, wooing a lady in Western Australia and he would go away for the weekend and then come back and he would usually dig out on the way back the British Medical Journal and lecture from that. The main problem was that the mails were somewhat irregular and slow and he gave the same lecture three successive weeks (laughter), but the exam was straight forward and I enjoyed the physiology course very much.

The other subjects in the medical course, until I got to internal medicine, I really didn't find very attractive. I studied, but there were other things to do in the University. In first year, Basil had joined a group called the Student Christian Movement and found them supportive and interesting. We had always been to Baptist Sunday School up until the time we changed schools when we lived in Norwood and then Congregational when my mother came back and we lived at Kensington Gardens, then Congregational also when we lived for two years in Toorak. We went to the Rose Park Congregational then. When we changed schools, my father thought that it was a big church school so we wouldn't need to go to Sunday School anymore. So we stopped going to Sunday School. I found the Anglican Service, as it was at School, nothing too fussy or particular. There was a question that I could have been confirmed, 'if you want to be confirmed, you can be', but there was a streak about the School Chaplain, such orthodoxy, he said words, 'you couldn't be a Christian if you didn't attend communion'. There was allowance for those who hadn't been confirmed to sit and listen and witness the service. Now that struck me as somewhat odd first of all, I didn't believe it and the second thing was that I didn't know that was what I wanted to be.

In my last year at school, the prefects attended Evensong in the Chapel on Sunday nights and that service, I found I really enjoyed it. The Prefects would be reading the lesson for what we were reading in the following week. We lived at this time at Newcastle Street in Heathpool near Tusmore and I would catch the tram down to the Britannia Hotel and walk along what's now Fullarton Road to the school and back again. You didn't have any fears about all that in the night time. But that really introduced me to the more formal side of worship in the Anglican Church. Basil, when he joined the SCM, he thought that perhaps we better start going to church again. So we went to St Theodore's in Toorak and it was Sunday Eucharist and we didn't know what was going on. It was fairly high church and there was incense and stuff and that

really put us off and we tried once more at St Matthew's but somehow that didn't go. Then there was a small Presbyterian Church across the Park and we started to go there. There wasn't a Minister initially. Basil was confirmed at Scots and then when Jim Williamson came along, I was confirmed.

This was at the Presbyterian Church?

This was how we became Presbyterians.

You would have to say, I'll use the word that my Aunt Sylvia used to use, there were 'blessings' in all this. I ended up teaching Sunday School, running the Sunday School. I wasn't the superintendent but I conducted the services. I can't read a word of music and I ran the anniversaries and the way they in which they were done. I used to take the Senior Class.

Can I check again on the time? This was during your early years as a Medical Student?

Yes. I did that for five years and then I stopped for my final year and occasionally, I shudder now, there was a joint charge including St Giles in Norwood and occasionally I would take the evening service over there. I can't remember what I preached about, but the congregation in Norwood didn't grow.

It didn't diminish either!

(laughter) There weren't very many, but it was a formative experience. Now in that time I started, in first year there was a boy who lived nearby, his mother asked me to coach him in Physics, so I coached him in Intermediate Physics. I liked doing that, so the next year I offered, there were three kids I was teaching at Sunday School who were doing the Intermediate and I offered to coach them in Mathematics. One was going to Wilderness, one was going to Adelaide High and one was going to Princes and they all passed.

The following year, which was 1945, I was approached by a friend of mine to coach his sister, as she had been ill for a year and was behind and having trouble in mathematics, as he heard I was doing that. This was Margaret, who later became Margaret Hetzel after being Margaret Mackie. The first time I saw her was in the top of a bus. My brother used to go around to her place to play tennis, this is where I talk

too much, but anyway, I saw this girl and he didn't introduce her. I said 'who's that' and he said 'Oh that is Dean and Bruce's sister' that's the way they did things as boys, they always talked very airy. Anyway, Margaret, well I fell in love with her and we were married much later, but it was teaching that was the thing that I was still interested in doing.

In the Medical course, I joined the SCM. That was before I met Margaret, because she is five years younger than I am. I played a part in the SCM and I found it interesting, it was critical. There was a man called Charles Birch who was at that time, working at the Waite Institute and Charles was a friend of Basil's and still is and he is a friend of mine, but I don't see much of him. He is still alive.

Good gracious, yes I know of him.

He was born in February 1918 and he has given up surfing in the mornings at Bondi Beach, but he is otherwise in good health. Charles was going through the development of his own thought with a man called Ken Newman, who was a tutor in Ethics and also in Economics. Those influences were strong, there was a SCM Committee and there would be five men and five women. There was a women's president and man's president and there would be a National Meeting in various places, but the war was on and you didn't travel very much. The Committee would meet, but then I also became interested in student politics and there was the Men's Union Committee and the Women's Union Committee and I served on the Men's Committee and they were revising the Union Constitution, setting up the Student Representative Council and the whole structure changed. I became the first President of the Student Representative Council of the University and of course these things were a lot more attractive and occupied more time than medical school. I managed to pass. In 1947, I came to the conclusion – I was President 1946/47 and at the beginning of 1947 there was a National Union of Australian University Students Conference in Hobart and I went to that and that was when I saw Koch Emmery. It was quite interesting, because I always thought I was somewhere in the middle but in the Committee Meeting before the Conference, there were people who were so far to the left that I had to move further to the right in the way in which these things happen. There was an organisation called the World Federation of Democratic Youth, which was probably a front for Communism. There was a man called Ian Turner, who was a great friend of Manning Clark's. He was very

outspoken, very able, but probably was, for whatever it was, Communist, many people might have been communist but didn't say so. But it was an interesting situation where thinking that you could occupy somewhere in the middle ground, because somebody was so far over the left that you became more conservative. That goes on whatever happens and to me it was bizarre, but I accepted that's what I was forced into because I was trying to find the middle ground and didn't always.

It was interesting later in 1947, the Commonwealth Government was setting up – and it was a Labor Government – was setting up the Australian National University and the Vice Chancellor (in embryo as it was being established) was a man called Copeland and the various members of the Australian National University Executive, making up the various States were invited, fares paid, to come to Sydney so that they could talk about it. So I spent a day or two in Sydney with these citizens being, just learning what was going to be planned, for what was going to be a Postgraduate University, no undergraduates, but all the Postgraduate setup research, the School of Medical Research, all this sort of thing, I don't think that the current government would consider doing such a thing. (laughter).

So student politics was fascinating. At the same time I used to play lacrosse. I had given up, I hadn't been able to play football in my life, I was never very good and I rowed and I had taken an exemption in football because of my leg. I was sick of doing nothing, Basil played lacrosse, so I took up lacrosse. There was a stick there anyway, and I played lacrosse for five years. All the able people were away at the war. The University of Adelaide had eleven hundred students, of which probably a third were part timers and it wasn't a very big institution and when it came to inter-varsity, well not very many, but I played goal inter-varsity and we lost. In fifth year, we used to have a lecture on Friday afternoons with Dr Tostevin and on this day, it was in the winter term, the lecture was on 'Traumatic Hyphaema' and he talked about injuries to the eye, particularly the anterior chamber, and if you got a secondary bleed you would lose your vision. I stopped a ball in the right eye – in these days lacrosse has lots of protection, but no, the only thing that you had was a glove and baseball pad and you could have a glove on your hand that held a stick. My eye came up very quickly and all I could think of as I was led off the field that I was going to have a traumatic hyphaema. So I stopped playing lacrosse after that. (laughter)

And you didn't have a hyphaema.

No I didn't have a traumatic hyphaema. I took Margaret out that night, much to everyone's amusement. (laughter)

END OF TAPE 1, SIDE B : TAPE 2, SIDE A

This is tape two of the interview with Dr Peter Hetzel on 7th August 2006.

I think, from what we have been hearing, you have talked about finishing your fifth year and entering your sixth year of university.

In sixth year, I wasn't distracted by university organisations and societies. I haven't spoken about obstetrics. We did obstetrics at the Queen Victoria Hospital, two bouts of four weeks in fourth year and two weeks in final year. I think in all, I delivered twelve babies. I remember the last, they were twins and this poor woman, they told her after the second one was delivered 'you have twins, my dear', well, she said, 'can't you put them back? Put one of them back' (laughter). Of course, one would have to say that the conditions of midwifery were basic, you couldn't call them primitive, but they were pretty basic. My exposure to obstetrics ceased as I was never in general practice. Because we lived in, meals were served to us in our quarters and came in on a trolley and I can remember that's where I learnt carving, because I would carve the joint. As my mother pointed out to me, when I was away a friend of mine asked me to carve the leg of lamb, which I carved in the way in which she had done, and she said 'it is a pity you did it that way, because you really should do it the other way, not the way your father did it, because you cut down to the bone (laughter).

A little bit of your education missing.

Yes, that's right. I followed the wrong model.

When it came to my final exam, I had worked quite hard, but certain subjects like medicine, interested me much more, and of course as a boy at school we had learnt a lot about exam techniques. The external examiner was Sir Trent de Crespigny. He was an old man and I reckoned it was about that time that he started repeating himself. So I went through all the previous papers and you could identify which questions he had set and he did repeat himself. The question was on paraplegia and my father had a set

of Humphrey Rolleston, published by Butterworth, a whole series, it was really a basic big medical textbook in twelve volumes, but it had this article on paraplegia by FMR Walshe, who subsequently wrote a book, he was a very fine neurologist at University College and a friend of my father's. So I worked up this particular question, I worked up a few, but we got this one on paraplegia. Final exam in medicine was three three-hour papers with essay type questions, two papers in surgery and two in obstetrics and gynaecology. I did well in the medicine exam, actually there was no prize in those days, but I did come top in that. When it came to the examination, we had lots of vivas and things and there was a viva in obstetrics and Wilbur Joynt who was the Director of Obstetrics and taught us all, was somehow distracted and he spent, in a sense he castigated me for not being as bright as my brother. He went on about this, so the bell rang and he hadn't had time to ask me a question, which helped me get through of course, because he couldn't fail me under those conditions. In final year I got sixth equal credit, with Ron Jarvis. I got my results when I was crossing the Indian Ocean.

I had been offered by the Student Christian Movement the opportunity to go to a World Student Christian Federation Conference in Sri Lanka or Ceylon, in Kandy and there were three of us Australians, who went and we went by sea, of course. There was Leila Giles, who was a travelling secretary and subsequently lived in Canberra, and in Perth a man called Ronald Wilson came on board. It was the 'Orama' and it was still fitted out a bit like a troop ship and we were right down alongside the hull. It was just the two of us in what was basically a six-berth cabin and Ron Wilson and I got to know one another in this period. He was an ex-serviceman doing law, he subsequently became a Queens Council and served in the Crown Law Office in Perth for the Government. He became a judge of the High Court, President of the Uniting Church of Australia, the second President, and also conducted the Reconciliation Commission for the Aboriginal population. A very able and distinguished man who had a distinguished career in the law and fought the battles for the Aborigines which were, in a sense, unacceptable to the Howard Government. He has subsequently died, but he was, how can you call it, an exceptional person. I didn't recognise it because I didn't know what leadership or whatever you were going to be in the future. We were always dressed in khaki shorts and shirts and this was known by the locals as the great Australian undress. (laughter)

The meeting was fascinating because when we arrived there, we went on a tour of the ruined cities of Ceylon. I had never seen anything older than the Town Hall [in Adelaide] and here were buildings that were fifteen hundred, two thousand years old at least. One came into contact with their style of food. Now I had had curry at boarding school, but none since and I particularly wasn't used to curry for breakfast, but that was what we had for our first meal. But I managed to get used to it so by the time I had spent six weeks in Sri Lanka, I was really keen on the curries.

It was an interesting conference, because it was not long after partition [in India] which took place in 1947, so there were Christian students and preachers and teachers from Pakistan and from India and some of the Indians were from the North and some were from the South. In Sri Lanka there were the Sinhalese and the Tamils and the strife that occurred later in Sri Lanka was perhaps beginning to come, because there was the question of what language was being taught in school. There were six Chinese students who gave amazing accounts of the way in which the Kuomintang Regime under Chiang Kai Shek regime was treating students. Anyone that they suspected, they would haul them out of a dormitory and shoot them. So when the Chinese Revolution took place in February 1949, it wasn't really surprising that we never heard of those students ever again. It brought to my mind the conditions under which people struggled. Another group were the Burmese, the Red Chens and the White Chens who were being persecuted by other tribes. It just was a major educational experience.

I travelled by sea and came home by sea and it was on board ship coming back that I met Bernard Nicholson. We were seated at the same table. Bernard was travelling with his family. The children, the way in which it was in First Class, ate elsewhere and Bernard and his wife and I sat at a table for six and there was no one else there. Bernard had his wife to talk to but never spoke to me, but I always stood up and said goodbye, thank you and everything, like I had been taught by my grandmother. Then the children got measles, and so Bernard didn't have anyone else to talk to. So then I learnt he was coming out to work at Parkside Mental Hospital as a Resident Medical Officer and was quite interested and curious and I could fill him in. Then I took him around, having been in Perth a few weeks before, I took him round as if I knew something about Perth and we arrived in Adelaide. As usual, the ship came in here on a Saturday morning. They [the Nicholsons] didn't have any cooking utensils or anything, so Margaret had

met me and we went off and bought them a whole lot of cooking utensils and delivered them to the house at Parkside. An odd thing to do.

On the premises on Greenhill Road?

Yes. The house had previously been occupied by Tassie Aitken's father, when he was there. It's just all these sort of things that came together.

I actually had a thirteen-month internship, so that I could miss January and still have twelve months. My first position in the Royal Adelaide was in Frome ward, the tuberculosis ward. There was a sister, a quite remarkable women called 'Izzie' Johnson. It was the tuberculosis ward and there was extra food for the nursing staff and, as an RMO, I could have morning tea with the nursing staff and we had bread and butter and marmite and everything that was supposed to be nutritious. It was an open tuberculosis ward and the sort of conditions under which my brother and Hugh Gilmore, had caught tuberculosis. It was sometime later that I learnt that I was supposed to do a night round. Nobody had ever told me and I didn't worry about it as nothing seemed to be happening but in ordinary circumstances when you were going on that night, if you might have been off during the evening, and when you came back after being out, you did a night round, to see that everything was all right before you went to bed. Our quarters then were in the first and second floor of Bice building, single rooms, the dining room was on the first floor, and there was a billiard room. Some slept on the balcony and one of those was Geoffrey Hasenohr. The man on night duty was known as 'Sandshoes' and he operated the switchboard and the night matron would call him to get anyone up. Geoffrey Hasenohr doesn't remember this story but he always slept at the end of the balcony and he always threatened 'Sandshoes' that if he came near him he would throw him over the balcony. One night, Sandshoes came and spoke to him, Geoffrey Hasenohr, from the door about forty feet away, 'Dr Hasenohr, Dr Hasenohr, night matron said I had to call you', 'Sandshoes, you know what I said'. Sandshoes by this time had gone (laughter) because he wasn't sure what was going to happen.

He knew what the risks were.

It was, of course, a great learning experience. After being on Frome I then did two months on Medicine with my father and that was interesting and I worked quite hard.

Hugh Gilmore was the Registrar and he taught me a lot. My father at that stage was Director of Medicine and Hugh was the Registrar for the Director.

The 'takes' were quite large, particularly in the wintertime and you would get the drunks with pneumonia who then got the DT's and I remember being castigated by the Assistant Medical Superintendent, his name will come back to me in a moment [Claude Lum]. He was a very competent physician and I missed this man who had, as well as pneumonia, an aneurysm of the thoracic aorta which I was supposed to be able to detect in the chest and I missed it. Anyway, I learnt a lot. Then I had another period in Medicine at the end, one month. In 1949, the Sims travelling professor was a man called George Pickering, who was Professor of Medicine at St Mary's [London] and he came and stayed in the house with my parents for a fortnight. In 1938, we'd had a distinguished American physician from Boston who was a friend of my fathers, a man called William Bosworth Castle and his wife and they were very, well they were Bostonians, but very pleasant people and they also stayed in the house under those conditions. Basil caught up with Dr Castle later on when he was working in New York, but I just remember it, Basil was in cadet camp at that time, it was August 1938. Mrs Castle was shocked at the fact that boys were training for war and of course it was a little over twelve months later that Australia was at war and America wasn't.

After Medicine I went on to Gynaecology with Brian Swift and in those days the ward sister was the theatre sister and Brian Swift didn't like the man who was training to be Registrar, whose name was Norman Richards. If he didn't like the Registrar then he gave a lot of opportunity to the RMO and I wasn't about being a surgeon, I didn't know what I wanted to do, but I was sure I didn't want to be a surgeon, but I was instructed in doing all sorts of repairs. Fothergill's, which Brian Swift would describe as pulling the pullover off the football player, and numerous curettes because that was the problem in Da Costa ward, and also a hysterectomy or two. I found him quite pleasant, he could be peppery and difficult and expected things of his students, but he was very kind to me.

When I went on to surgery with Alan Hobbs, I had some experience. Callum Archibald was the Registrar and I managed to get three appendices done. I found the clinical work and the patients fascinating. There was one man who had a carcinoma of the head

of the pancreas, he was what we then called an Anglo-Indian. His name was Ballantyne and he came from a family who had lived in the Punjab or somewhere else for generations and they had all worked on the trains. He had been an engine driver before he had migrated after Partition, because the people that were uniformly disliked after the British left in India were of course the Anglo-Indians. In Ceylon they called them the Burghers. I can remember this man and discussing death with him and witnessing his will. He died and I accepted all that but it was just that this particular man in his terminal stages was such an interesting person to talk to. He was not aggressive, he was gentle and one learnt from patients like that. With Alan Hobbs, he basically taught me nothing. His son was coming on after me and he called in all the patients from the waiting lists to do the hernias and appendectomies and I was irritated but not really fussed. I didn't really mind, as I had done a fair amount of surgery if I wanted to, with Brian Swift.

At the end of that period, it was the beginning of a poliomyelitis epidemic, September 1949 and I went out to Northfield. That month I worked the longest hours I have ever worked. I worked at least a hundred hours a week. My father suggested that I shouldn't see Margaret at any stage lest I convey the infection. We would get children coming in. We might get six admissions after dinner and you would have to examine them, do a lumbar puncture, look at the CSF (cerebrospinal fluid), you had no particular treatment except if you thought they were going to die or collapse or whatever. The epidemic that took place before that, there had been about ninety-two cases, all of the bulbar form, only two of that ninety two survived and died subsequently because they were all involved with being put in the iron lung because they couldn't swallow or couldn't breathe. Awful.

Was that the '39 epidemic or was there one between the '39 and the '49?

There was one in '47.

Is that the one you are speaking of?

Yes, the bulbar type. This epidemic in 1949 did not stop in the winter. Normally it was a disease of the summer but this went on for another two and a half, three years. Margaret, who was in 1951 the itinerant physio for the Children's Hospital, got polio. Howard Lynn was the Medical Superintendent, but he followed a hands-off thing, he

would walk up and down, but he never did anything. We were busy, the other Resident was Wolf Seith and we were just terribly busy, seeing the patients and not going off and it was, as I say, hundred hours I think I worked. Ninety in other places and other situations but that's what it was there. Then I came back and I was working in Outpatients Anaesthetics and then in December I was on Casualty. There were three of you rotated, as I remember. You would be on all night until the next morning and you would go off about eight or nine, then somebody would have been on till six o'clock the night before and then they became the long shift the next night and it was worked out. It was very good, but there were three. I was on over Christmas Eve and I can remember about three o'clock in the morning, two guys who were still dressed in their overalls with nowhere to go and they came into Casualty because they didn't know whether they were sick or what. It was commonly like that, and this had been the Christmas party. There was a small boy who came in at about seven o'clock, with a laceration in his skin of his forearm and his hand. I said 'how old are you?' 'Oh' he said, 'I'm fourteen'. At stage the Children's [Hospital] took patients up to twelve, and his father had told him that if he said that he was under twelve I would have shunted him straight off to the Children's, which was perfectly true. So I gave him a local anaesthetic and stitched it up and he was very good you see, and a few days later he came back and I said 'you are only eleven, aren't you?' and he said 'yes, but my father said I had to say I was fourteen' (laughter) It is ridiculous the things you remember.

From there I went to the Children's Hospital. The arrangements were that you could get a position for six months at the Children's Hospital and then somebody else got the next six months because, of course, there were not a lot of positions then. There were five or six of us. The conditions were just the same as they were at the Adelaide Hospital, but I didn't have any vacation. The arrangement was that you could have a month off while you were there and I had April off. I had an interesting time, because I went on a crayfish boat for a couple of weeks around Kangaroo Island, but that is another story. But when I was at the Children's I found the management of fluid balance and things like that very interesting. I had five periods on Medicine, one month on Cas. and I had Ivan Magarey and Eric Sims and Grant and Cockburn. Sir Edward Britten Jones had retired at that stage because the compulsory retirement age for honorary staff was sixty and he had retired, but I had had him as a student and I had

had him for a viva for one of my exams in 1948 when I was a student. I enjoyed paediatrics and I seriously considered becoming a Paediatrician.

The hospital laboratory was run by a man called Fred Draper who was a science graduate and a very interesting and pleasant man, one of whose sons I looked after, with aortic valve disease, for many years. Anyway, he always took the 'Journal of Clinical Investigation' which was a very prestigious journal from America and they were dealing with things about fluid balance and sodium and potassium loss and all this. I found it interesting, so when I had finished at the Children's I wasn't absolutely sure what I wanted to do. I knew what I didn't want to do, I didn't want to be an Anaesthetist, I didn't want to do Obstetrics and I didn't want to do Surgery for different reasons. One of the things with Surgery, I didn't want to face up to an exam like the Primary and I really didn't find Surgery that interesting, I was really interested in Medicine and Physiology. There was a position advertised by the Institute of Medical and Veterinary Science for a Surgical Research Officer to carry out research on Dextran. The money was funded by Australian Red Cross. We were learning about Dextran as a plasma substitute and I applied for that job and the salary was nine hundred pounds, which of course, having been on two hundred plus keep, was riches. Well, I got the position, but they looked at me and thought he is not worth nine hundred pounds, so they dropped it to six hundred, but that was all right. I was living back at home and I spent sixteen months as a Surgical Research Officer and I applied and I was granted an MD by them. I had no supervisor, people didn't have supervisors in those days, but what I was able to do was use Dextran a number of times. There weren't a lot of patients that became available, but I did the work and reported it in due course. I had great trouble measuring blood Dextran because there was a particular salt which I could not get into solution, which was mentioned in the method. I went all round the place, including the Department of Physical Chemistry at the University to find out how I could get Sodium Taurochalate into solution and it was clearly totally insoluble. In that time I had three different technicians and three different laboratories. I always said that when Orde Poynton didn't know what to do, he'd kick me in the behind to another laboratory and give me another technician.

In my vacation time in my medical course, I had spent two summers working in the laboratory at the Farmers Union and that had been a good discipline for me. It was run

by a man who had a Roseworthy Diploma in Agriculture and the Hawkesbury Diploma in Dairying. We tested milk and we set up the starters and that sort of thing, but I learnt about the technique of looking after equipment of the laboratory, using balances properly. When I came to set up my own, what was basically a chemical laboratory, it was a great help.

In 1950, which it was by then, the way of measuring sodium and potassium were actually gravimetric methods, you weighed what you got out of it. It was a tedious and a long method, but there was a new method coming called Flame Photometry which was a spectrometric method. Robert West was a very good friend in many ways to me, but at that stage, after the war, he had gone back to London where he had been before the war and got his London membership, and he had been at Hammersmith and he had seen a flame photometer there which could be built. He got the parts and brought them back. There they were sitting in the workshop in the Institute of Medical and Veterinary Science but they had no priority. It wasn't until September 1951 that it was built and I could use it. In the meantime I was collecting samples of urine, of blood, separating them into serum and that sort of thing and storing them frozen for when I could do the measurement. Eventually I got measurements done and I had actually studied, I studied about one hundred and sixty patients with various sorts of, what you could call fluid balance problems. I learnt an awful lot because there were some patients who would get sodium depletion and sometimes the same patient might have dehydration associated with their colostomy or ileostomy. The surgical patients were the ones of course I could collect the urine and follow. I was able to pursue the potassium loss after surgery because I knew what was going in and what was coming out and their bowels hadn't started to work, so it really was a quite straight forward thing and it was clear, as others had said, there was a considerable loss of potassium post operatively.

I wrote my thesis and submitted it and left and went to America. Because of his chest x-ray, every time my father tried to enlist he was not accepted. At the end of the war in 1945, he applied to the United Nations Relief and Rehabilitation Administration and he was appointed a visiting Professor to help re-establish the medical schools in China. Right at the end of the war, August 1945 he flew across the hump in a DC3 to Chungking which was the western capital as the Japanese had advanced westwards,

moving further back. He spent the better part of the next year helping to re-establish medical schools. He had a colleague, Professor Leo Eloesser who was a very distinguished Thoracic Surgeon from Stanford in California. My father was a great traveller and he worked hard and he travelled and there was a survey he was involved in, a famine survey in southern China. He even got up to see and have a meal with Mao Tse Tung in Yenan. He also met Madam Sin Tatsen and he was appalled at the graft of the Chinese nationalists and the corruption. Antibiotics would arrive on the docks in Shanghai and be either pirated or polluted or watered down and everything was so dishonest. He was so appalled. My father, by nature, was an extremely conservative person and he felt the only future the Chinese had was with the Communists. He went back to China in 1978 actually, in February 1978 and saw other things, but he couldn't get into where the Forbidden City was and all those wonderful things he had seen in Peking.

In 1949 he applied to the Rockefeller Foundation for another Scholarship and he got a second Rockefeller Travelling Scholarship and he went back to the States. This would have been '49/50 and he went eastward. He had friends still in various places, he was in San Francisco. He went to the Mayo Clinic, he went to Ann Arbor and he went to Boston to see his friends, New York and Baltimore. As a result of all that, Basil and I both did our overseas postgraduate training, starting in the States. Basil was awarded a Commonwealth Fund Fellowship in New York to work at Cornell University, New York Hospital. He was particularly interested in thyroid function under stress. He left in June 1951. He had been Medical Research Officer and had done his MD and got his membership of the Australasian College of Physicians. He was married and at that time he had three children and he went off and then three months later Helen went off to New York with their children. It was a question of where I might go. I didn't really want to go into General Practice. Margaret wasn't at this stage persuaded that I was the right man to marry and so I thought the Mayo Clinic sounded good. It was a major institution and so I went there and started my fellowship in medicine in January 1952. I'd been three years since graduation, I'd submitted my thesis for my MD and I was interested in various things, particularly the kidney in terms of renal function and the way the kidney handled salt and water and all that stuff.

I got to Rochester. I flew via Fiji, Manus Island, Hawaii, left on December 26th.

END OF TAPE 2, SIDE A : TAPE 2, SIDE B

Before relating my life and time in America, however I would like to mention one other story. The Director of the Institute of Medical and Veterinary Science was Dr J Orde Poynton, at the time that I worked there. He was in fact the third Director. His father had been a distinguished paediatrician and written a paper Poynton and Pain, which we all knew about, about the time of the first World War and he was a paediatrician at Great Ormond Street Hospital and University College. Orde was one of two children, he had a sister and he would have been born somewhere around 1905. He trained as a pathologist in London and then he was working in what was then called the Federated States of Malaysia and he was at that time a pathologist from 1938 onwards and was, of course, captured when the Japanese overran the whole of the Malay Peninsula. After his period of internment, he was appointed lecturer in Pathology at the University of Adelaide and he gave us some lectures. I was doing pathology in 1946 and '47 and I can remember him instructing us in practical classes in 1947. At that time the Medical School, such as it exists now, had not been built. Our anatomy classes had been in a classroom which had been erected at the time the medical school started and was on the main campus of the University and we did Anatomy there, and we did Biochemistry, Physiology and Pharmacy in the Darling Building which still exists and is basically now the Department of Biochemistry. In 1949, a new Medical School building was opened, but we had our classrooms because I graduated in 1948 and doing Pathology and Bacteriology as it was called in 1946 and 1947. Our classrooms were actually part of the Institute of Medical and Veterinary Science and we had our lectures in the Verco Lecture Theatre and that lecture theatre was used until about 1962 or '63 or later when the Robson theatre was used in the new block in the Royal Adelaide Hospital. Before the IMVS building was built and opened in 1935, the Hospital laboratory was a small two storey building which later housed the Biochemistry Department, and on the ground floor was Clinical Pathology/ Haematology. That building was turned over to form the Department of Medicine when Professor Robson was appointed.

It was on the first floor of that building that I had my first laboratory and then, as I said, in the sixteen months that I was at the Institute, I always thought that when Dr Poynton didn't have anything better to do he made me move my laboratory, I had three different laboratories. He was an interesting but fairly shy man. In 1948, he gave us a talk in the Medical Students Society about the metamorphosis of Ajax which was of course the evolution of the toilet and he produced a whole lot of early folios of Shakespeare which were really quite amazing and he was a collector of various objects of art as one might call them. He succeeded a man called Everton Trethewey as Director of the Institute in, I think, 1950 or about that time. Trethewey was the second, the first Director of the Institute was a man call E Weston Hurst, who was a Virologist and he was succeeded over a short period by Everton Trethewey who was somewhat a colourless man, appointed from Melbourne. It was always said that Sir Trent de Crespigny being the Chairman of the Institute Council and himself a Melbourne graduate and having sent his son to do Medicine in Melbourne, that anything in Melbourne was good and everyone used to say that somebody had whispered down Crep's ear to the effect that Trethewey was good. Of course, we always understood after Trethewey arrived that the reason why they whispered in Crep's ears was that they wanted to get rid of him. He was not a very able man and he was colourless and I have always had the feeling that Orde Poynton helped him to move on, as Orde Poynton was a very direct character in his own way. He, however, was the man who was the Director of the Institute and from whom I got my job and he made the decision when I was appointed on nine hundred pounds a year, that that was too much money for a person who had only been graduated for about eighteen months, and it was cut to six hundred pounds, but I didn't mind that as it was so much better than I had ever got before.

In March 1951, there was a disaster. At the Medical School Initiation held I think, on a Wednesday night, a boy, his mother was a widow from the war, and this youth was in first year and it was recalled that he was terrified about going to the Initiation. A number of boys, I doubt the girls, were thrown into the River and had to swim and he didn't come up and eventually, I would think after about half an hour, they got his body out and brought it to the Adelaide Hospital and I happened to be in the Hospital that night and there was quite a lot going on in Casualty and I was looking for

something else and Don Sidey, who was Assistant Superintendent Surgical and Lehonde Hoare who was a Surgical Registrar were busy. Sidey called me and said 'Look, come on, you can help us resuscitate' and here was this eighteen-year-old boy, we weren't sure whether he was dead and we were trying to resuscitate him in a very small room in Casualty. We were trying to do the Saunders technique of tipping him, we were giving him oxygen, nobody could intubate him because we didn't even think about that and, of course, a lot of bruising took place. Eventually we came to the conclusion he couldn't be revived. The police Pathologist at that time was a man called JM Dwyer, who wasn't highly admired as a pathologist. He came to various conclusions and he wrote up the case that this boy had been battered to death before he was thrown in the river. Now, that happened and one read it in Saturday's paper and I was in the hospital and Sidey was in the Hospital and Hoare was in the Hospital and we agreed that we had to say something because it was the issue of ante-mortem and post-mortem bruising. So we consulted in various ways by lunchtime, various people. A judge, a senior barrister, and a solicitor. We got varying advice, but the conclusion was that we should offer to give evidence to the Crown and also to the defence. Well, we never heard from the Crown, not a word, not an acknowledgement of the letter, which was a carefully worded letter and so, of course, the defence were very keen, because this was the difference between murder and manslaughter. The Defence Solicitor was a criminal lawyer, probably the most distinguished at the time, JW Nelligan QC, who was the senior partner with Roma Mitchell. The firm was Nelligan and Mitchell I think. It is interesting that Nelligan was later a patient of my father's and then of mine. But this was 1951. The case came up into the Police Court and we stood and gave our evidence. We were called by the Defence and gave our evidence that what we had been doing may well have produced all the bruising around the head. Well that went in the paper early the next week and Dr Poynton accosted me and said 'what an embarrassment it was that an employee of the Institute should be giving evidence against the Crown' because it was there that they did all the police pathology and all this stuff. I must have been brave because I said 'well, I wouldn't know what the police pathology looked like, all I'm doing is biochemistry and measuring that'. I said 'Even if that was there, I surely had my rights as an individual citizen, that if I think that there is going to be a miscarriage of justice, I've got to speak out in my private capacity'. Well, he said no more. The Secretary of the Institute was

a man I got on well with and would tell me various things and I'd related this difficulty I had to him at some stage, anyway, apparently, this is what he (Don Downs) told me. At the IMVS Council meeting, the question of my giving evidence was raised and Orde Poynton used all my arguments that I had used in my defence and so my defence in the matter was finished. We gave evidence in the Supreme Court as well and there were six young men charged and I honestly believe that there were more than those six involved, but five were convicted of manslaughter and sent to prison for three months and subsequently came back and resumed their medical course. Of course, the newspapers made quite a lot of the fact that here were these embryo doctors and they hadn't treated someone with respect and that was true in a sense. I think that alcohol played a major part in the role of their behaviour on that particular night.

In November 1951, Bernard Nicholson called me to his office and he showed me, in what was a hospital docket, foolscap size as it was then. He covered up the top and he covered up the bottom, so I had to read just this paragraph and it was a complaint from the Crown prosecutor, who was, I think, a man called Chamberlain, to the effect that it had been very, very embarrassing for these three servants of the government to give evidence against the Crown and he was recording his disgust. Of course, it might have been embarrassing, but what was embarrassing to us was that the Crown did not bother to reply. It was just an interesting interlude, but it was for me the introduction to the subject of Medicine and Law, which I will talk about later.

Now to go back to America, I arrived in San Francisco. This was after Christmas and we were flying in what was called a stratocruiser, which was the civilian equivalent to the Flying Fortress, a four-engine plane built by Boeing for the war as a bomber. It was an interesting plane and we got to Hawaii and of course, there were so few travellers, I mean there would have been less than a dozen and it was all one class, first class, cost the earth. We were told that that flight wasn't continuing and that we would be leaving later. I was walking around with one of the other passengers, a woman probably in her thirties, she was travelling on a United Nations passport and she was the first person I had ever heard to decry Franklin Delano Roosevelt, who was for those of us not living in America and not being faced with a Republican or Democrat, had on a very high pedestal for what he had achieved in the New Deal. This woman was

an ardent Republican and so I didn't say anything except that this to me was a new opinion.

It was an interesting flight, because for the second flight I was given a berth as I had come all this way. The berth was in the lower deck in the plane and you slept longways with a little curtain like you do in the railway carriages in the States. I got into my pyjamas behind the curtain and went to sleep and of course, I slept very well like I do. We were circling San Francisco at the time, ready to land and I was still in my pyjamas. But I managed to get there and one of the things I had to do was to clear through customs the two-foot lockers which I had brought. A whole lot of extra clothes and a number of books and to ship them across by train. I was travelling from San Francisco across to Minnesota by train and I had that child-like love for railways and I particularly chose the Western Pacific and going up through the Feather River Canyon, which was historical from the mining point of view. As we entered the Sierra Nevadas, it started to snow, by next morning the train was starting to run behind. The train was running later and later and I had hoped to go through the Rockies in the daytime instead of that it was dark. I had a four hour wait, by the timetable, in Omaha which was in the middle of the States in Nebraska on the Missouri. I asked them to call the train and to tell them I was coming late and I arrived a half a hour late, so instead of catching the train at seven am, I had to wait another twelve hours. It was cold, so I went to the movies and I saw Groucho Marx in some film and whereas if you went to the movies in Adelaide, you could see two pictures and it would take three hours, I was out in the cold in an hour and a half. So I went back and sat in the railway station and read and waited and then I caught the train. The train took me north to Mankato and then I caught the bus travelling east to Rochester. Rochester was a small town at that time of thirty-five thousand people, situated in south central Minnesota, probably forty miles west of Winona on the Mississippi.

The Mayo Clinic was a large Outpatient Department at that time. There were hospitals, there was St Mary's Hospital, a large hospital of about two and a half thousand or so beds, a private hospital run by a Catholic order of nuns. There were two other hospitals, they were both private in a sense, but then they were bought by the Methodist Church. One was called the Colonial and then became Rochester Methodist and the other one subsequently closed down. The Mayo Clinic is now, of course, something over one

hundred years old. In the 1890's there was a general practitioner called William Worrall Mayo who I think, came from the Midlands, but graduated in Medicine in Michigan. He had two sons, one William, who was born about 1861 and Charles who was born about 1865 and they had both studied medicine on the East Coast, one in Philadelphia and the other one at North-Western University in Chicago. They had come back to practise with their father. WW Mayo was a little man and he really wasn't, how could you say it? he was well trained but he was a general practitioner, whereas these two sons had taken further training and were skilled surgeons. This was, of course, primitive country, WW Mayo had fought in the Sioux Wars and Rochester was a small town with a Brown Franciscan Teaching Order conducting a school. About 1896, there was a tornado, and a lot of people were injured and the school was turned into a hospital and that was the beginning of the hospital for treating people that was more than just a little place.

Mayo retired or did something, but gradually these two brothers set up a group practice which grew. It grew and it grew because it had physicians and surgeons and further specialists.

When I arrived in Rochester on January 1st 1952, it had a staff of consultants of two hundred and fifty. There were Fellows like me, about five hundred and we were, well the resident staff as well as everything else. Now, fifty plus years later, the town is one hundred and five thousand. In 1952, it worked out, I estimated that they saw point one percent of the population of the US in a year. That was two hundred and thirty thousand people out of the total population of two hundred and thirty million. All those two hundred and thirty thousand patients each had a complete physical, except for those for dermatology and for eyes. If you were referred there to have an operation, you were seen by a physician first and then the surgeon was called in, in consultation and all this, as much as possible, was done on an outpatient scale, because of the cost of hospitalisation. It had a tourist population at that time of five hundred thousand because of course, people brought their family with them to support them. It was primarily a surgical institution and of course in legend it was always referred to as Mayo Brothers and people would talk about it on television or the radio or put it into a story. The two brothers died in 1939. W Mayo was the elder and he was a very good

surgeon. He had steely pale blue eyes and it was said that he had iced water running through his veins because he didn't hesitate to sack anyone he didn't like or he believed hadn't behaved properly. Charles Mayo was somewhat of a whimsical man. They each had beautiful houses. Charles Mayo at Mayowood on the outskirts of the town and William Mayo in a house that is now called Foundation House in the middle of the town. William Mayo had several daughters, Charles Mayo had a couple of sons. One son, known as Charlie, was a surgeon on the staff of the hospital and was an acquaintance of Mervyn Smith and others.

The institution was large and non-profit. At the time of the first World War, the Mayo Brothers had given a large sum of money, many millions to the University of Minnesota to establish a Graduate School of the University of Minnesota in the Rochester campus. The relationship with the University of Minnesota varied in its warmth. In the 1970's, the Mayo Clinic set up the Mayo Medical School and looked after itself and basically then it was a degree conferring body and broke its close association, as far as I could tell, with the University of Minnesota.

University of Minnesota was ninety miles to the north and situated on the Mississippi and was in one of the twin cities, Minneapolis / St Paul and St Paul was the capital city and that was on the eastern bank and there were parts of the medical school there. It was a large University by our standards and when Charles Birch wrote and told me about it in 1946, it had twenty thousand students and this was, of course, at a time when there probably only eleven hundred, including part-time students at the University of Adelaide.

The Mayo Clinic to me was, of course, in many ways an eye opener and it was an excellent place for the training of a physician because you saw so many unusual things, as well as a lot of the usual things. I spent the first three quarters working on what was called the clinic floor. You saw six patients a day, three before lunch and three after lunch. You started work at eight o'clock in the morning and broke at twelve to one thirty when there were meetings as well as getting some lunch. Then you started again at one thirty and you saw another three patients until five or when you had finished. You were the first one to see these patients and then you got the history, which you wrote down, the physical examination and it was a thorough physical examination.

Everyone, for instance, would have had a rectal examination and every woman, depending on certain provisos, had a vaginal examination. After the patient was examined, you would then discuss the tests that were required, with a consultant, and the patient would go off and have those tests, and more tests if necessary and come back and be re-examined. In some floors, they were re-examined immediately after and others when they came back, but you never saw the patient again, unless you ran across them in one of the town cafes and then you had to remember, of course, all about it, having seen several more since.

I was put on to the Cardiology floor to start with and I had two quarters, working with a very interesting and able group of men. One man had already been President of the American Heart Association, a man called Barnes. He was the head of a Section. There were actually two cardiology sections. Another man who was there, who was very distinguished and later became the Editor of "Circulation", was a man called Howard Burchell. He was originally from Ontario and he still said 'oot' instead of out, which is a typical way of those who lived and worked in Toronto spoke and of course, reflected their earlier Scottish traditions and origins. Howard Burchell was a very scholarly sort of fellow, who remembered and studied things very well and he was quite an influence on me. The man who impressed me most as a Clinician was not in Cardiology but in Peripheral Vascular Disease, a man called Nelson Barker. The Mayo Clinic had a section for Peripheral Vascular Disease. I was working later on that section and the like of those patients I'd never seen before or since. That section, Allen, Barker and Hines had published a book on Peripheral Vascular Disease, the first edition of which was sitting on my father's bookcase shelves at home. Of those three, the outstanding one was Barker. He subsequently lost his vision, he was very short sighted and he had detached retinas, but he was a gentle sort of person and he just knew so much about Vascular Disease. It was a great education. It was at that time, of course, that anti-coagulants were being introduced for the management of various vascular problems. I spent six months working on the cardiac floor. It would be five and a half days, you didn't work after Saturday lunch time. You worked quite hard and at night and on Wednesday night, alternate weeks there was a meeting of the staff, there would be papers given for an hour and a half, preceded by pathology discussion. On Wednesday at lunchtime, there was a clinico-pathological discussion about

Ischaemic Heart Disease presenting the history and then the autopsy findings. The Cardiac Service would hold its weekly meeting at seven o'clock in the morning on a Monday or a Tuesday and it was there that I saw or heard about my first case of a condition which I hadn't heard of at all before that, of pulmonary hypertension. This was in a young woman. It was a disease, which of course, is now recognised as being not uncommon but still has many unknown factors and its aetiology, apart from being thrombo-embolic or associated with systemic scleroses. It was quite simulating and a bit tiring. The salary was one hundred and fifty dollars a month, nothing found. So you lived in digs, you found somewhere to board, you would get your bed for a dollar a day and in some cases, it meant that you would have the use of the washing machine, but you had no food provided. There was a club, a building called the Wilson Club which was provided particularly for single fellows, and one would get breakfast there for forty cents. That gave you two cups of coffee, some cereals, some fruit juice and eggs, bacon and whatever. It was there that in the later part of January that it was announced to me 'that your King had died'. I said, 'I beg your pardon', 'well, you're British, aren't you?', 'Yes', 'Well it is your King, he has just died'. That was the way that I learnt about the death of George the Sixth. We would have breakfast and lunch there, six days a week, much depending on what you wanted to spend of course, but with any luck you would get away with lunch for about one dollar ten to a dollar twenty. This meant that you probably spent the better part of two dollars seventy and then you found the evening meal and then you had all those other things like dry cleaning, toothpaste, getting your haircut. A haircut was a dollar twenty-five and the hairdressers would talk about how little money we had, but they did not hesitate in taking a dollar twenty-five. At night, it was a question of finding where the meals were at a reasonable cost for the evening meal and one discovered, in one instance that on Tuesday nights in the cafeteria at the Colonial Hospital they had stew for forty cents, so that was an essential time to go there. Whenever we came across itinerants, particularly itinerant Englishmen who were surgeons travelling through the States, to have the IHBTA qualification which is: 'I have been to America', because this was a sort of a tour. There were a number who came and spent a year working there. But we would always come across them in various ways and tell them where to get the cheaper food and that to try and encourage them. It was an educational time on both sides.

After the six months in Cardiology, I did three months in Thoracic Medicine and this was before flexible bronchoscopy, and oesophagoscopy. Bronchoscopies were done by surgeons in those days. It was an interesting service and one learnt a lot about chest disease. There wasn't a lot of tuberculosis around because that was being treated at a sanatorium further north, but streptomycin had become available sometime before and the Mayo Clinic had something to do with all that. A man called Hinshaw had been one of those who had worked with Feldmann in the original papers and he was on the clinic staff. A Nobel Prize had been awarded to two members of staff from the Mayo Clinic in, I think, 1950, Hench and Kendall, and Reifenstein, who was not from the Mayo Clinic. It was for the development and the use of cortisone and Hench made the observation that women who had rheumatoid arthritis and became pregnant, that their arthritis improved. It was the isolation of cortisone by Kendall and Reifenstein that led to this group of men being awarded the Nobel Prize. Hench was a Rheumatologist and I never had very much to do with him. He had come to the Mayo Clinic in 1927 and was a very pleasant man, and I think he had a son who was subsequently on the staff.

I went to Rochester originally to spend two years at the Mayo Clinic and then I thought I would have a year in London depending on what I could get to. In Rochester, the Graduate School awarded either a PhD or MSc in Medicine or a PhD in Medicine and this meant that one turned around and wrote a thesis and had done research.

END TAPE 2, SIZE B : TAPE 3, SIDE A

This is the continuation of an interview with Dr Peter Hetzel of Beaumont. The date is 14 August 2006.

I was talking about the degrees that would be awarded for academic work and study and there was a masters and a PhD in Medicine or you could do it in some other field, in surgery.

I wasn't very happy about doing exams, but there was quite a severe, I was told, entry examination before you would be accepted as a PhD candidate. I really didn't know whether I would be able to reach any sort of standard, as I hadn't done very much of anything, apart from pottering around with the kidney. So I decided I would do a

degree in Physiology and what would have to be a Master of Science in Medicine, with a minor field in Physiology. Having been very interested in the kidney and being familiar with the literature, I went to talk to the man who was the renal specialist in the Physiology Department. He described some very interesting experiments about rat kidneys, and that sort of thing, as I was very familiar with the literature I knew that that experiment had been done by a Scotsman called Addis at Stanford in the 1920's and I didn't see any reason for it to be repeated in the 1950's. He wasn't a very inspiring man, but the people who were doing interesting things which I didn't know much about, or what anything really meant, were those who were doing cardiac catheterisation. They would write up on the board the results with letters like SVC, IVC, RARV and I gradually understood what it was about. The cardiac catheterisation laboratory had actually started in 1946 and was still relatively new stuff. It was right heart catheterisation with a catheter being introduced into the antecubital vein, quite often through a needle under fluoroscopy, guided to various chambers of the right side of the heart and depending on the anatomy of the heart, perhaps into the left if there was a shunt.

The man who ran the cardiac laboratory was a man called Earl Wood, who was a Minnesotan. He had come up from the University of Minnesota where he had done a combined MD, PhD degree. He was born in 1912 and his family had lived in Mankato, where his father had a wood yard. He was an instrument man, he was well trained in Physiology and had been involved in the human centrifuge and aero-medical unit during the war. One person who had worked in that aero-medical unit was a man called Hugh Le Messurier who subsequently became Acting Professor of Physiology in my year, doing Physiology in 1945, while Sir Stanton Hicks was away controlling General MacArthur, as he put it. So Le Messurier had been there and they told me about him and they had difficulty pronouncing his name and they called him the Lamageria and the most distinguished thing they said about him was that he developed a cocktail. Hugh Le Messurier had a distinguished career here as an aero-medical unit set up by the Department of Defence at the University of Adelaide in the Physiology Department.

I went to talk to the people in the Physiology Department, Earl Wood, and I started in October 1952, working in the Catheter Laboratory with a couple of colleagues. We

were Fellows and we were going to be there for at least nine months. The techniques of diagnosis then were not anywhere near as skilled but it was possible by virtue of measuring pressure samples of blood and the technique called Indicator Dilution Technique to pretty well work out what chambers were where and what was shunting where in congenital heart disease. Also in mitral stenosis or mitral valve disease to be able to assess what the left arterial pressure was. The technique was facilitated by the fact that Earl Wood had developed an instrument called an Oximeter. This measured in line as you withdrew blood from a catheter or from a needle situated in the radial artery, you could determine what the oxygen saturation was, but blood samples would be taken to measure oxygen content via what was called the Van Slyke Technique, which was well known and I had used it in physiology as a medical student. It was a very demanding technique, but this was the way in which everything was categorised. To do the Van Slyke would take at least twelve and sometimes twenty millilitres of blood to examine and assess percentage saturation. Subsequently there are machines that do this, measuring oxygen tension, but that was the technique at the time. The Oximeter meant that we could take a lot of samples and only a few Van Slykes needed to be done to check.

The measurement of cardiac output – the standard measure for which cardiac catheterisation was developed was called the Fick Method and we would measure the oxygen consumption of over perhaps five minutes and take a sample of blood from the pulmonary artery and another one that would be equivalent to the left atrium, the radial artery. In this way, we were able to calculate the cardiac output or the blood flow through the heart.

What was the name of that method?

Fick. There was another technique which had been developed a long time before, well no, which had been developed in the early 1900's by a man called Stewart, called the Indicator Dilution Technique. You'd inject a detectable substance, in this case a dye T1824, into chambers of the right heart and measure the concentration at various intervals in blood taken, say from the radial or the brachial artery. The technique which was the simplest way of doing it, was to take samples at five or ten second intervals and you would get a curve which had a sharp upstroke and then a down stroke which was broader and then a recirculation pattern. Now, a man called Hamilton, working in

Kentucky and later in Georgia, devised a method which was really a statistical fluke. You plotted this again with concentration on a log scale and time on a linear scale, so that you then got a straight line of the washout and you could separate the recirculation pattern. You then measured the concentration of dye, which was done by plotimetry or arithmetically under the curve and the time and you could work out then what the blood flow was from a formula, which made it easier. The quick output and the indicator dilution output didn't necessarily agree. Of course, one was done over shorter interval of time than the other. One would hope that there wasn't a standard difference between the two. We spent quite a lot of time doing indicator dilution curves. My project initially was to show the curves that was done with injection in the forearm, in the superior vena cava and the pulmonary artery did not disagree and that they were compatible within a reasonable level and that was the way it began.

It was the custom for the Fellows to go to meetings of what was called The Federated Societies, held usually about Easter time to present papers. A man called Elliot Newman had written up about the Indicator Dilution Curves and he said that the down slope really reflected the volume of blood in the lungs. Of course, my down slopes were all different depending where I injected it the dye. So I presented a paper at the American Physiological Society in Chicago in Easter 1953, in which I described this technique and my results and sort of poured doubt on what Newman said. Newman became a bit worked up and he got up. Instead of standing back in the audience, he took the rostrum (laughter). I don't know how he could defend his opinion, because it misled a lot of people. I won't go through the technicalities of the argument, but it all depended on where the dye had been distributed and what volume it had been diluted in over the time and the lungs were part of where it had been diluted, but a lot of the other part of the body's circulation as well. Anyway, the technique of plotting the dye was really tedious and a lot of measurement, and I looked at the initial part of the curve and came to the conclusion that that would represent, depending on the injection site, a pretty fixed proportion of the total area of the curve. So I would make the measurement of the peak concentration, the time it took to that and devised a formula where by you could do a quick calculation and measure the cardiac output that way. It worked to some extent. It certainly worked if you had a shunt from, say the left ventricle to the right ventricle, so the blood was being diluted as it went through. This

made it very difficult to measure the output because the washout curve would be much prolonged on the descending limb of the curve. But using the technique that I described, it would be possible to estimate the pulmonary blood flow. That was one of the upshots of this and it was an observation and the paper was published by a colleague and myself as second author, using this technique I had developed.

Many years later when I was Director of the Cardiovascular Investigation Unit, a couple of registrars had been to a meeting in nuclear medicine. They said that they were talking about me, and I said 'what do you mean?' and they said that 'you have a technique for measuring pulmonary blood flow'. This was used by those who were selling the radioactive indicator technique and had said that this was the technique they used to calculate from a left to right shunt. It was interesting, as one doesn't always know what happens to things one does.

Thirty years later!

Well, it was certainly twenty, yes. That method of measuring, what was called the Forward Triangle Method, of course varied because the shape of the curve varied with the injection site, but it proved to be quite useful. When I later wrote a monograph about Indicator Dilution Curves at the end of my time in Rochester, I was able to explain the use of these concepts.

I finished my thesis or I was finishing my thesis and it had been somewhat expanded because it wasn't just the injection site, but the other calculations. The International Physiological Congress in that year was held in Montréal in August and I went with Jeremy Swan, a colleague and his wife. We went up to Montreal and picked up his mother and drove back again. The meeting in Montreal was fascinating. I had never been to an International Meeting and I presented a paper. Two of my colleagues who started in the lab at the same time as I did, presented their work and a man called Louis Katz sat and listened and he was a fairly sharp character from Chicago. He had known my father in the days of University College and subsequently. Anyway, he got up at the end and said, 'well when I came to sit in this meeting, I didn't think there would be anything anyone could say anything about Indicator Dilution Curves, but I would congratulate those who are talking on explaining it and making it so interesting'. So that was nice.

We drove twelve hundred miles in two days, each way, with Jeremy's wife being pregnant and suffering from hyperemesis gravidarum. I was the only one amongst my colleagues who was unmarried. They had established their families and that sort of thing and it of course, meant that I could work at night and get all my work done, whereas they had other responsibilities and cares. One of my friends related how his daughter, when he came home and said that he had to go back to the lab, his daughter said 'well thank you for dropping by daddy', at the age of about three. Margaret at this stage, having been trained in physiotherapy had gone to work in England. She went to London in 1952 and this was now 1953, the coronation year, and she was exploring the whole of the London social scene. She had travelled in Europe and she had also been to Scandinavia with a friend and I felt life was slipping away a bit. I wrote to my father and said I would like to go and see Margaret and he was very kind and supported me, because on five dollars a day, you couldn't go anywhere. Money was tight and I had some money left in the bank unbeknownst to me, but anyway it was very difficult to bring money out of Australia and into America because of the currency regulations. There were four Australians in Rochester by this stage, by Christmas 1952, and one was a man called Desmond Hurley, who was a Melbourne graduate, who had been in general practice, had his English Surgical Fellowship and he came for a year for surgery. Because I was an Australian working in cardiology and he had to spend a quarter in the clinic, he came into cardiology with me and we became very firm friends. He had been to Xavier in Melbourne, captain of the school and all sort of things and came from a good Catholic background. We got on extremely well together and that made a lot of difference in terms of friends who weren't married. We spent a lot of time talking. He didn't live in the same place, he lived with a whole lot of Irishmen, some of whom he liked and some of whom he didn't like. On Saturday nights we would all go out to dinner somewhere and have a steak sandwich and then we would go to a place called the Heidelberg, which was a tavern and we would drink beer. This beer was ten cents a glass, it was pretty low alcohol, so we sat at the back so we could get to the toilets, if needed and we would just talk. We were all bachelors, except there was one man who came, but he really didn't enjoy our conversations very much, he was from Liverpool and he was older and had a family, but they were back in Liverpool. Anyway, it was part of the social life that we enjoyed and there was one night I remember, that we walked home in our various directions on opposite sides of

the road. There had been an argument about the place of Latin in the curriculum, which was an insoluble argument, and some of us thought it was important and some didn't and I can remember it was just one of those discussions, those eternal discussions that we all have about education or we used to in those days.

Desmond Hurley left and came back to London in about April 1953 and I refused to give him Margaret's address, because I thought he was there and I wasn't, because he was a delightful man. I spent a year in the laboratory and then I went to England to see Margaret. I had completed my thesis and I was going to do certain things, perhaps take the London Membership, but the first thing was that at the end of a month, Margaret and I became engaged and then made arrangements about where we could get married. We ended up getting married, being both Presbyterians, we thought of getting married at St Columba's Church, but this had been bombed and not rebuilt. So we were married in Holy Trinity, Brompton. Margaret was living in South Kensington and working as a Physiotherapist in London and this was where, with a number of her friends she had been to church and therefore she was on the electoral role of Holy Trinity, Brompton. This is situated alongside the Brompton Oratory with the statute of Cardinal Newman out the front, it's just off Knightsbridge. When we were getting married, our Bans needed to be called in three churches! Margaret had moved to Chelsea and I was living in Holland Park and each of those churches had to have Bans called in those districts, plus the other one. Not that Bans cost very much but it was a fiddle to get it all sorted out. When I arrived in London, I went to do a course initially at Queens Square, a three-month course in Neurology, which was a magnificent educational experience, in terms of clinical training, some pathology and a wide experience of seeing patients with a variety of neurological conditions. Queens Square, the National Hospital for Nervous Diseases was situated near Russell Square and it was a wonderful part of London to walk around in at lunchtime and explore. Dick Rischbieth, who was a few years junior to me at the University and at school, he also took the course and later he became a neurologist. I did the course for three months and I found it fascinating and neurology was, as it still is, very much a clinical science. The next three months I spent at the London Hospital doing a course in general medicine, which was an eye opener in many ways. The Hospital was somewhat run down and when you saw a man sitting in his dressing gown in bed for the draughts that were coming through the window,

you didn't realise until you stood in front of the windows that the sash was so ill fitting that the wind came around it. You can remember that.

There were very interesting teachers: Russell Brain, who wrote a textbook on Neurology, he was a dull lecturer, but he was quite an interesting person. He was not at Queens Square, he was at another hospital called the Maudsley, which was also partly psychiatric, but he was President of the Royal College of Physicians at that time and later. There was a wide variety of good teachers and I thought 'well, on the basis of this, I might have a crack at the London Membership', the Membership of the Royal College of Physicians. Statistically my chances weren't good. It needed very bright people like Hugh Gilmore, who had got it at the first crack. I really hadn't done enough general medicine, but getting married and taking exams don't necessarily mix too well. There were two three-hour papers and then you did the clinical. I had a patient I considered had mitral incompetence, I still think he had mitral incompetence and when I told the examiner that, he said 'it is a very rare disease', so I failed.

Devastating results.

Just reflected on the fact, that if he had seen one, he wouldn't have known what it was probably. His name was Harris, Sir Thomas Lewis at University College had described him as the only female house surgeon he had ever had. He was also the senior physician there eventually, when Chris Nordin was doing his medical course. In any case, we got married in May and the month before we got married I got a Western Union message, a cable, from Earl Wood in Rochester, offering me the opportunity of working half time on developing the heart lung project and half time in the cardiac laboratory, with a salary of five thousand dollars. Well, that was riches and I accepted that. But life was more complicated. My parents had come to the wedding and so had Margaret's mother. Her father had died in 1945 and unbeknownst to Margaret, her mother had cancer of the bladder and Margaret was not allowed to be told. Now I knew it and my parents knew it because my father had been looking after Mrs Mackie. She and my parents came by sea to London coming via Colombo in the usual way. Margaret's mother stayed with her and she moved out of the flat where she was living to a place in Poulton Square in Chelsea. A pretty small flat but it was lovely in a lovely situation. Margaret was, of course, horrified to learn that her mother was so unwell. We got married on Tuesday, May 4th and Margaret's mother, having been advised and

gone to the Middlesex and things arranged as far as we could, flew home. In those days, she didn't fly with a catheter in her, which would have been appropriate, but she was terrified that something would happen on the way to her bladder and she would be off loaded, say in Singapore or somewhere. But she got home and immediately went into hospital and things eventually sorted out. It was clear that Margaret, as the only daughter, needed to return home. So six weeks after we were married, she caught a ship and sailed back to Adelaide and then in October, her mother died. Just before that she had been involved in a road accident, a Morris Minor of her brother's that she was driving, the steering gave way one Sunday morning on what is now called Greenhill Road, the car went into a tree and she was thrown out. The engine ended up in the back seat and she had a fractured cervical spine and an injured lumbar spine. She was taken to hospital and they recognised who she was and called my father and she was put into a room off Sturt ward, where Sister Fairfax was in charge. Sister Fairfax was very diligent in looking after Margaret and Margaret helped to look after Sister Fairfax later when she was working at the Julia Farr. Margaret came out of hospital in a big splint and that sort of thing and they were concerned about her neck, but nobody had really taken much care of her lumbar spine, not much that I suppose that they could do. Her mother died and then Margaret came and arrived in America in mid-January 1955. I guess that was really where we started our married life. After she had arrived, it was of course, mid-winter with snow on the ground. In Rochester, it would snow around Thanksgiving and because it was so cold, the temperature was well below freezing right through the rest of the winter. It would be about Easter that the thaw started. It meant that you couldn't wash your car outside, you couldn't hang the clothes to dry outside because they would freeze. There would be occasional thawing, it snowed fifteen inches, for instance, in my first winter, every Friday in March. One quite enjoyed it and in fact when I first went there, they said wait until the summer, summer is the wonderful time. The sun would shine in the wintertime, with clear blue sky, apart from when there was a blizzard or just snowing. Spring really didn't exist. It was all over in two weeks. The snow had all melted and then everything burst forth and it was not a very long season. It was corn growing country. It would start to rain in May, June and July and the result was in summer it was extremely humid and intolerably so. The time I was there for my first summer I thought winter was a much better season. The best season of all was the autumn. The colours, the weather, the climate, and no more

rain and it was crisp and clear. Everything turned into beautiful colours and then of course, come November it would snow again. You had to be cautious, when the sun shone on the pavement, the snow would melt and then at about four o'clock freeze and that was very slippery and you couldn't sustain yourself.

Arriving in England was to me a revelation of course, because one has heard of, so when I went over on the 'Mauritania' as a tourist class passenger and came back on the QE again, because there were three classes. There was first class, cabin or tourist, this was the middle one. When one went to travel from Minnesota to New York, you went by train and you sat up and it was a day and a night's journey. I enjoy train travelling so it was no great suffering. The first Christmas I had was to visit Basil in New York City and I don't quite know how I afforded it but I flew. It was snowing and the plane got held up in various ways but I had a Christmas there. It was a wonderful two weeks that I had in New York City staying with them but walking around New York in the middle of the day. It meant we could go to the theatre and see Kathryn Hepburn performing in The Millionairess by Shaw. I always found New York City an interesting place and I always take the Staten Island Ferry so I can have a look at Manhattan. I think that the time then that Margaret came back to Australia and then I went back to America, I visited Basil and then I went up to Boston where a friend of mine was working and then I took Basil's car from New York, it's about twelve hundred miles to Rochester on my own. I was bothered by my excessive sleepiness which was something which has troubled me for many years.

The next part relates to my work back in Rochester in 1953 and 1954 with the open-heart surgery program and carrying out cardiac catheterisation.

END TAPE 3 SIDE A : TAPE 3 SIDE B

It was August 1954 and I was in Rochester and we started to do experimental work using the heart/lung machine. In mid-September 1953, after the Montreal meeting, the University of Minnesota and the Minnesota Heart Association arranged a meeting in Minneapolis on Recent Advances in Cardiac Physiology and Surgery. A man called John Gibbon gave a paper relating his experiences in developing an open heart surgery

machine, that would take over the function of the heart and lungs, so that surgery could be performed on the inside of the heart. Gibbon had worked in Boston and then in Philadelphia before and after the war and had received quite a lot of support from IBM. He related his experiences with four operations. The first one, the patient had an atrial septal defect and the operation was carried out successfully. The next two patients had patent ductus as well as atrial septal defect. If the patent ductus is present, it's not possible to keep the heart free of blood because it circulates and comes back into the left ventricle all the time, having circulated through from the pulmonary artery through the lungs and back again. This meant it wasn't possible to get a clear view. Because of those mistakes in diagnosis, these next two patients died. The fourth patient was supposed to have an atrial septal central defect and did in fact have a number of atrial septal defects, but before going onto the machine, the patient sustained cardiac arrest. The patient was placed on the machine and the machine carried forth its work, but it was not possible to revive the heart to get it to take over afterwards. Gibbon said that he felt that there was certainly a place for the use of the heart/lung machine because of the time it allowed to repair defects. Up to that time hypothermia which was used to reduce the body temperature to below thirty degrees Celsius was a technique that was developed and you could then stop blood going into the heart by clamping across the inferior and the superior venae cava and operate on the heart and then get going again. The heart would recover. But this was a technique which carried quite a significant mortality. Kirklin, who was the cardiac surgeon at the Mayo Clinic, had developed a technique for repairing atrial septal defect. The patient would be lying on their left side, the right chest would be opened and a piece of rubber, like a surgical glove, would be stitched like a funnel with the narrow portion downwards and that narrow portion would be stitched onto the wall of the right atrium and then an incision made inside the funnel and then that would be filled with blood from a rapid transfusion. Then through that opening, it was possible for the surgeon to repair the atrial septal defect. This was a technique that carried a very reasonable mortality compared to the hypothermic techniques. So what Gibbons said was that he felt that there was an appropriate place for the use of the heart/lung machine. He wasn't going to do any more work and he gave his blueprints, with IBM approval, to the Mayo Clinic. I was at that meeting and heard that talk and I was fascinated, but I didn't realise that the

Mayo Clinic was to build a machine, which it did, until I got the telegram offering me a new opportunity.

Using dogs, we started to develop the way in which things could be measured, the way in which the techniques would be developed. The person who was really basic to the program, was a man called David Donald. He was a Scotsman, by training a Veterinarian, who had come to do a program on experimental surgery which he had carried out. He became a very close friend. I had seen him before, he was the sort of man who would walk miles in the snow without any trouble and he had married. His wife Geraldine and David became very good friends to me in the period before Margaret arrived. I spent New Years Eve with them. No, I spent Christmas with my other friends the Huizengas but we went first footing at New Year in the traditional Scottish fashion. David and I got on very well and we could work well together. He ended up as Professor of Physiology at the Mayo Clinic and he was a very skilled surgeon and a very skilled physiologist. He died two years ago as a result of an accident, his wife had died earlier, but David fell off the roof and was found dead. He was on his own and lived out in the country and Geri was Diana's Godmother, they were good friends.

We developed the techniques and my task was measuring things, measuring the pressures and samples of blood and that sort of thing. In and out of the machine and overall assessing blood flow. We worked twice a week and John Kirklin would then come over and he would get into managing the technique. In those days, Diathermy was not in use for some reason I don't fully understand, so it was pentothal, oxygen, ether with nitrous oxide and this was used on a series of dogs. Then, having worked out all the techniques, we then turned around and did a specific series of dogs for survival. As I remember it, nine out of the ten dogs survived. We then turned to the clinical application. Formalin was used to sterilise the machine and the machine was trundled over from the Medical Sciences Building, probably about three or four hundred yards through the tunnels or subway as it was called because you couldn't walk around there in the wintertime. So there were subways everywhere and taken over to the Colonial Hospital. We took it over early on a Sunday morning and did a dog in the human theatre, much of course to no one's knowledge, to make sure that the technique was right and that everything would work well in this situation. You had

to have a specially wired operating theatre, you had to have a special recording room to record all the data, the physiological data. That worked, so it was planned to do eight patients. This was in March 1955. Margaret can remember the excitement of it all because she had arrived in January. We were very busy. The idea was that there would be eight patients done no matter what. John Kirklin was a very good surgeon. Born in 1917, he was thirty-seven when the program started. He had been trained, he had lived in Rochester from when he was about eight, his father having been a radiologist and he was Boston trained and then he had come back to Rochester and had only recently gone on the staff, two or three years before. A trained thoracic surgeon and trained, as things were then, in cardiac surgery.

We would have a meeting every Friday and there were three of us who were not on the staff, Harry Harshberger, who was a fellow in Surgery, David Donald, and I and we would discuss the cases for the last week and discuss the cases for the next week. It was an open sort of discussion where, even though we weren't on the staff, we had a view and were listened to. Of the first eight patients, four died. In one, the sutures had come apart, post-operatively after the patient had come off the by-pass. Another one did quite well for forty-eight hours and then started to fail and it was felt that this was related to the fact that they had quite a severe scoliosis and it was a respiratory death. Another one, with Tetralogy of Fallot, this child really couldn't take over after by-pass and at the autopsy, it was considered that the right ventricle was under developed and was too small to support it. The fourth death was due to inadequate blood replacement of the coronary venous return and was underfilled. The patient did not really survive very long off by-pass. In preparation for all this, the Mayo Clinic or John Kirklin, went to a lot of detail. Sir Russell Brock, who was a famous cardiac surgeon at the Brompton and at Guys Hospital was coming to give a specific lecture about pulmonary stenosis on which he was an international authority. Brock was a fairly tiresome and aggressive person and what John Kirklin didn't want, was this man, who was quite a bit older than he, and very forceful in the operating theatre, at least for the first two operations, so Dr Claggett, who was the senior thoracic surgeon was deputed to keep Brock out of the way, which he managed to do. Brock was a bit irritated as he thought that something must be happening and he couldn't tell, but he was later allowed to come onto the floor for an operation the following week and that

mollified him. I can talk more about Sir Russell Brock a bit later. At the time, so that there was material for the press, an article was published, prepared for the publication in Proceedings of the Staff Meetings of the Mayo Clinic and this was in March 1955.

Sorry the date?

Sorry, 1955, there was a preliminary paper describing the machine and then there was a report of the animal experiments and the preliminary work using the machine. Then in May 1955, at the staff meeting, the results were reported and another paper was published of their experiences. From then on, at two cases a week, it progressed. At the same time, or earlier in 1954, in Minneapolis, a surgeon called Walt Lillehei, was carrying out open heart surgeon on children using a parent as the oxygenater, being of the same blood group. This of course, had its ethical problems, because you were in fact, placing particularly the mother at risk for the sake of the child who had a problem. It stopped when as a result of one case, there was a death. They then turned around and produced working things, and they produced an oxygenator, which was a bubble type oxygenator and there was quite a bit of competition. These were the two places in the world carrying out open heart surgery ninety miles apart. There was a bit of hoo-ha. We went to watch the operation. There was a man called Vario working with Lillehei and we, David Donald and I, sat and we observed. They worked very well together in repairing a ventral septral defect, but there was this ethical question and we felt that we were on better ethical grounds using a machine, rather than using a person for the oxygenator.

They were exciting times and I worked on that project until September, the last quarter in 1955 when I went back to my Fellowship and my salary went back down to one hundred and fifty dollars a month. I worked in neurology, metabolic disease including diabetes and peripheral vascular disease and for all these cases, it was on the hospital service. It was a busy service. Ward rounds would take most of the morning, one would be on for the rest of the afternoon and one would be on all night and then be off again at the next morning. Neurology I enjoyed, because when you worked in neurology at that stage you spent six weeks working in the clinic and you would see four patients a day. I saw patients with things I had never heard of, like temporal lobe epilepsy. I had great trouble interrogating this patient about was happening and what he was experienced and that sort of thing. Then he went to see the consultant and he said, ‘well

I'm glad Dr Hetzel didn't ask me any more difficult questions as I was having an attack at the time'. (laughter) I found it interesting, but at this stage I wasn't going to be an Neurologist. The peripheral vascular disease I have talked about and the metabolic disease was interesting as it had to do with a number of things I had worked on at the time of my MD thesis.

It was early in 1953, that I got a message from my father to the effect that the Institute of Medical and Veterinary Science was interested in publishing my thesis and I thought 'well that's pretty good'. I had moved on a bit, but that was very nice, I thought. I had got my degree in 1952 in March and as usual took it in abstention. I wrote to a man called Gamble, who was a paediatrician in Boston whose work on extra cellular fluid and his text was fundamental to my learning and he gave me the authority to print one of his diagrams. It was printed by the South Australian Government Printer and I don't know whether there were two hundred or three hundred [copies]. It had a narrow range of interest and I was so busy doing other things that I couldn't be bothered putting an index in it, which was a mistake, but there it was. It was published under the title of 'Studies in Fluid Balance'. It took me a long time to work out where the money came from. Dr Poynton had long since left the Institute and, in fact, it was only a couple of years ago that I managed to work it out. It was the money they had from my salary from the Red Cross that hadn't been spent. Sixteen months of a salary of nine hundred a year, minus six hundred a year, was a few hundred pounds and that's where the money must have come from.

Publication of this paper?

My monograph. So, it is amazing how long it takes you to work out what happens sometimes.

There is no one there to tell you but at least it had been put in safe keeping.

It is nice to give my children a copy anyway. I read a review in the *Australian and New Zealand Journal of Surgery* after I had returned to Australia and it was rather cool, you would have to describe it, critical of the fact that there was no index. But it was written in the way of providing guidance in the use of intravenous fluids. There was an experience of about one hundred and seventy different patients.

By mid 1956, Diana, our daughter had been born in late 1955 and she was thriving, but she had a period of respiratory infection in April 1956 and she had a raised fontanelle and what was known as benign intra-cranial hypertension. This was all pretty alarming and we had her baptised with our friends, Ken Huizenga as her godfather and her godmother Geraldine Donald who was David's wife and another one was Patricia Mankin who was the wife of a close friend of mine. She got over that, everything went well and she progressed.

In the middle of that year, they were needing more workers to work in the cardiac laboratory and so I was offered a position for six months as an assistant to the staff which was the highest category other than going on the staff in physiology. So I spent another six months working in the cardiac laboratory. Overall I spent two and a half years of the four years and so many months, but over a period of five years in Rochester. In that time I prepared a monograph for publication about the use of the Indicator Dilution Technique for measuring cardiac output and for its diagnostic purposes.

Cardiac catheterisation in those days was a hazardous procedure because we did not have an external defibrillator. These did not come onto the market until a few years later. If a patient went into ventricular fibrillation, which was always possible, you had to open the chest and I saw a number of occasions when opening the chest was a waste of time, because you didn't have enough time, even though you might have intubated quite quickly, but you couldn't revive the heart. You could use an internal fibrillator on the heart, that was why you had to open the chest. When external defibrillators became available, (and certainly in Adelaide we brought our first in 1960), it made all the difference to the safety of the technique and particularly for coronary arteriography.

I went to work for another six months and this time the salary had gone up and I was on seven thousand a year, which was a great help. I went down the street and bought two suits, which was a mistake, because that last six months were very busy.

There is one aspect that I haven't dwelt on. We needed to know in the laboratory what the normal values were. We needed to know what the cardiac output was at rest and what happened at exercise. We needed to be able to work out what the oxygen

saturation was under these conditions. To do this, we needed normal subjects and in 1953, we set up various programs to measure things. We would catheterise ourselves. Earl Wood, who was Head of the Laboratory, who had himself been catheterised by one of his colleagues, carried out cardiac catheterisation and you would be on the table for seven hours while all these measurements were made, from which, of course, you were benefiting. I had catheters in both arms, an arterial catheter in one femoral artery. I had a small needle in the radial artery, quite a decent bore needle and the other leg, we exercised with a bicycle. We were lying flat with something like a bicycle attached to the end of the table which you pedalled with one leg. It was not very comfortable. This was so that we could get a variety of data. There was another technique where you breathed nitrogen with the idea of just a few breaths so that the blood would go through the lungs without giving up oxygen, so that you could get the mixed venous blood without putting the catheter in the pulmonary artery. It was known as the Schmidt Technique. There were the measurements of pressure in the aorta and the arteries, with a needle in the dorsalis pedis in the foot to show the way in which wave amplification took place from blood flow. They would take at least twenty samples of twenty mls of blood and so we were rewarded with fifty dollars.

In those days, the Mayo Clinic and still does, relied on the outlying towns for the supply of blood because they did a lot of surgery. So what would happen for those people, they would get twenty-five dollars for their donation and they would be pledged to it, so that the clinic would advance money which would be built into the church hall or some other sort of thing, so that the people were committed to come and give blood every three months. That secured their supply and they still rely on that. Only it is much more wide spread, with a whole lot of satellite general practice clinics throughout Southern Minnesota, Northern Iowa and Wisconsin in the surrounding districts.

I was, in fact, catheterised three times. The third time was in February 1955 after Margaret had arrived. For various reasons, I didn't warn her that I was going to have this done and I had a needle with a catheter in my left radial artery and when it was taken out, it formed a bit of a clot around the catheter inside the needle and I developed an embolism in my fourth finger, my index finger, my thumb and my middle finger. It was hurting, so I consulted Howard Burchell, Co-ordinator as to what I should do, and

he said, 'what you had better do is buy a bottle of whiskey and take the whiskey'. So I went and bought a bottle of whiskey and I bought a bottle of brandy for Margaret, as she would occasionally have a brandy and dry. I came home and I had a few glasses of whiskey and Margaret wanted to know what was happening and I said 'I think my habits have changed'. I didn't want to tell her because she would be horrified, but I had to tell her in the end, of course. Just as I was telling her, the people with whom I had boarded with came to pay a visit as they wanted to know what Margaret was like (laughter). They were strict teetotallers and it was quite difficult, but we got over it all. Sometime later, we were out to dinner with an English couple and the lady started relating what terrible things went on in Earl Wood's laboratory and the fellows there. There was this fellow who had some trouble with a thing and he came home and drank a lot of whiskey and he abused his wife. I was sitting there and the husband was trying to stop her as he knew what the story was really about, he was trying to stop his wife telling this story. This is the way things get in a circular fashion in a small community.

It was this time that the question of staying and going on the staff of the Mayo Clinic came up. I was offered the opportunity to go into one of the sections, but not the one I wanted to. I had a feeling that I wasn't well trained clinically. I had spent a lot of the time at the laboratory. In the time that I visited London, marrying Margaret, Hugh Gilmore was just getting ready to leave and he had been working at Hammersmith and then at the National Heart Hospital with a man called Paul Wood. Paul Wood had come to Adelaide in November 1951 on his way around Australia, talking about congenital heart disease. He had been born in India where his father was in the Indian Civil Service. He had his primary education in Kenya then his father decided to retire from the Indian Civil Service and settled in Northern Tasmania to become an orchardist. So he went to Launceston Grammer and then to the University of Melbourne and he was a contemporary of Dr Geoff de Crespigny who was the son of Sir Trent de Crespigny. He must have crossed somebody in Melbourne because he did very well in his course, but somebody must have got very cross with him because they failed him in medicine and they blocked him doing his internship in Melbourne. So he went to New Zealand and did his internship there and married a girl that he met there. He worked in New Zealand for two or three years and then he went to England. Having been born in about 1908, this was of course, well before the war and he was training

as a cardiologist. He had completed his training and then went off to the [second world war] war. He served first of all in the emergency medical service and then he was in North Africa. He came back to work at Hammersmith, which was the time that cardiac catheterisation in 1946 was just developing. He became Director of the Institute of Cardiology and a Senior Physician at the National Heart Hospital and it was there that Hugh Gilmore came and worked with him for at least a year. He was his senior Registrar and he has always said that Hugh Gilmore at that time was the best Registrar that he had ever had.

Hugh was very kind to me. I had heard Paul Wood talk to the general physicians in the Hospital and they had been showing him some cases of congenital heart disease and he pointed out to them that they couldn't be what they said they were, because they hadn't interpreted the x-rays and it was a revealing thing to see somebody not very gently sort of draw attention to the ignorance of some of the senior physicians. When I was in London, Hugh took me to a lecture where Paul Wood spoke and he was impressive. He was the man, at that time, above anyone else in the world, who related the clinical findings to what was found in the laboratory. He published a book in 1951 on Disorders of the Circulation, which was a classic. It got to the second edition and the third edition was written after his death and wasn't anything as valuable. I had seen him and heard him speak and also Hugh was very good in introducing me to the Junior Cardiac Club, which was a group of Senior Registrars talking to one another and waiting until they could get a consultant's job. There was also the Medical Research Society which published Clinical Science and Hugh would take me to these meetings. This was over a period of probably two or three months before he came back to Australia. I felt that I wanted to have more training. My father wrote to me and said that there was a Scholarship from the Grocers' Company for someone who was not English trained to get further training and research before coming back. This was a Scholarship which I applied for. The idea was that the Scholarship was to be taken up in October in 1956. I got the Scholarship which would give me twelve hundred pounds a year tax free because I was a charity of the Grocers Company and would give me my fares from wherever I was back to wherever I wanted to be at the end, with the expectation that I would return to Australia.

I decided that I did not want to stay in Rochester and the other thing was, it was a small town and we didn't know that it was an ideal place to bring up children and a family. We were unfamiliar with the educational system, not that it was impossible, certainly many others found it acceptable but we both agreed that we really didn't want to live in the States. So I said 'No' to the Mayo Clinic and in December 1956, we left Rochester with our belongings and with one child, Diana, we crossed the Atlantic at Christmas time and arrived back in London at the end of December 1956 – having been awarded the Grocers' Company Medical Research Fellowship.

END OF TAPE 3 SIDE B : TAPE 4 SIDE A

This is the fourth tape of an interview conducted by Joan Durdin with Dr Peter Hetzel of Beaumont, South Australia. The interview is taking place on Wednesday 13th September 2006.

We are up to December 1956. I was leaving the Mayo Clinic and going with Margaret and Diana, who was born the previous year, to England. I have reflected a bit on what the years at the Mayo Clinic had really been. I had spent probably the better part of four years and three months spread over five years at the Clinic and in that time, I had spent eighteen months in general medicine in various sub-specialities and I had spent something over two and a half years in the cardiac catheterisation laboratory and the experimental laboratory. I had been author, senior author or co-author of seventeen papers, a thesis and a monograph. I had been trained in cardiac catheterisation and was skilled in those techniques and I also had been involved in all the planning and carrying out for the first year of open-heart surgery at the Mayo Clinic. At the end of all this, I had been offered the opportunity to become a member of the staff. Margaret and I discussed this but we really didn't want to settle in the States, particularly in a small town of thirty five thousand people. The tradition was that your children went to primary school and then the high school and then left town to go to College and you would see them intermittently only after that. That was the natural course of events. We were unfamiliar with the educational system and we felt that we wanted to live in a larger town. Professionally I felt that I hadn't had sufficient clinical training and I wanted to work with Paul Wood, about whom I will speak later. My father told me

that there was a Scholarship from the Grocers Company for a non-English graduate to work in research for two years. I applied for the Scholarship and I was awarded it.

This was to be taken up in England?

In London, or anywhere but you made your own arrangements. So I wrote to Paul Wood and asked, with this Scholarship, could I come and work with him and he said 'yes' and was very good to me. When we arrived in London, it was the end of December and I went to see the Grocers Company soon afterwards and learnt something about them. I was a charity of the Grocers Company on the stipend I had and therefore it meant that I paid no income tax but it also meant that I didn't contribute to the National Health Service and needed to be covered for private health. The Grocers Company was situated in Princes Street in the City of London near Bank Station and they owned a lot of property. They pointed out that they had started off in the eleventh century and they had their minute books going back that far and they had at some stage joined the Pepperers but they had nothing to do with the trade since the seventeenth century. They had basically been an organisation dispensing charity. One of their famous benefactors was a man called Steven Laxton, who had owned a lot of property in London, had been Lord Mayor of London and the reason their minute books escaped the Great Fire of London is that they were in his garden. He was one of many benefactors. The company's affairs were really run by the Master and quite often he would have been a banker as was the man who was Master when I was in London. He would take a year off from his occupation and spend that time supervising the affairs of the company. They were prosperous. As they informed me, they had the endowment of the living in three of the churches around the City of London, particularly St Stephen Walbrook, which was just around the corner and they also had a private school, Oundle. I had heard of Oundle as a boy because CA Gilham who was the Physics Master who had taught me for six years at Saints, had just come back in 1937 from a year on exchange in Oundle.

I didn't catch the name of the school?

Oundle. It is one of the big public schools in England and it is a boarding school and it had the tradition that in one week of each term in the year, three terms in the year, every boy would have to spend it in the workshops. They built all sorts of machines, bowling machines, a variety of things. When I heard that, I asked if they could arrange

for me to have a visit to Oundle and this was not right at the beginning of my scholarship, but I might as well talk about it now.

It was a very interesting place. I caught the train to Peterborough then a bus and it was situated in the village of Oundle. It was a big school with a lovely campus and the headmaster, who I met, asked me about Mr Martin Ketley who was a Master at Saints and had been at Marlborough, they had both been at Marlborough together, so that the network for school masters and headmasters is very much like the network of medical colleagues. I had lunch in one of the houses and was shown over the school. There were a number of sculptures in and around the school and these had been done by Lady Scott, the mother of Peter Scott, the widow of Robert Falcon Scott and she was really very skilled. There was one other curious thing about this school. There was another school in the village called Laxtons. If you lived within a pony ride of Oundle, you could go to Laxtons for your tuition, which was conducted in Oundle. You didn't have anything to do with Oundle with playing games and discipline or anything else, but all your classes were actually in Oundle and you could be a day boy. There seemed to be quite a lot of demand for dwellings within the pony ride (laughter) of Laxtons village. The most extraordinary sort of arrangement that only the British could think of having and doing, but it obviously provided discipline and success in the way in which it provided the possibility for education for boys whose parents could not necessarily afford to send them to the main school but could get taught by those masters.

I went to see the Company soon after I arrived, as I said, to sort of establish my credentials and they were very pleasant. So I went off and started to work, but it had been my impression that I would get paid three monthly, but we had arrived and had been living in London for about three weeks and there was no money coming in and, we did have some money from the time we were married that had been in the bank. Having not been on a lot of money in Rochester or in Adelaide, I didn't have large resources and we were particularly running out. I rang them up and I said that there must be some misunderstanding and they said 'Oh, I see' and then they rang me back straight away 'Dr Hetzel, we were going to pay you three monthly on the understanding that you took your position up in October, we were going to pay you at the end of December'. I said 'Well, could you live in London for three months in advance without any money'. The man said 'Oh, I see what you mean', so they had a

special meeting of the Court, which consisted of the Master and four other officers and they agreed to the fact and they pointed out very carefully that they would pay me in advance, but at the end there wouldn't be any money. I said' I'm not expecting anything like that, I just need to be able to survive'. So we were then paid three monthly in advance. That has its disadvantages because once you set aside the money for the rent and the electricity and that, then you seem to go from feast to famine. We lived higher at the beginning of the quarter and then became much more frugal towards the end of the quarter, but we were very fortunate and they were very good to me.

I went to lunch there one day with a few potential liverymen. If you were a member of the Worshipful Company of Grocers, you had the freedom of the City of London and that gave you a certain amount of right as far as parking is concerned, which is really quite extraordinary. The policeman would salute you and say 'yes, I understand Sir', if you were complaining about him giving you a fine and so when you told him you were a Freeman of the City of London, the fine would be given up or rescinded. It was quite a luncheon, they catered, one of the things they had and they had several log fires within the premises and they had a disastrous fire a few years ago. They provide very good dinners for the liverymen, the ordinary members of the Company. Such that they also provide accommodation for many of them who had come down from the country and it really is an extraordinary institution and each time that I have gone back to London, I have visited them and always expressed my appreciation of what they have done. I may tell you a little more about that later on.

In Rochester, I had sometimes started work at six o'clock in the morning and always no later than eight. Debating what time I should start and it was a Tuesday and Paul Wood came to the Brompton Hospital in Fulham Road where I was going to work. He came all day Tuesdays and all day Thursdays. I knew it was no good going at eight o'clock, so I went at nine o'clock, but he didn't actually arrive until ten o'clock and it was a busy day. He was very kind to me. I had actually met him when he had visited Adelaide in November 1951 and I had driven him to the Adelaide Club afterwards, because I had some free time. Hugh Gilmore had much respect for him as I think I might have observed, Paul Wood had described Hugh as the best Senior Registrar that he had ever had. Paul Wood, I anticipated that he would be demanding and peppery but he was always very pleasant to me and gave me a lot of support. I was there in the

role of a supernumerary registrar and I shared in the ward rounds, I worked in the clinic and I also worked in the Catheter Laboratory. But by the time I was in London, I had no night work at all and I didn't have to work weekends. This was a degree of freedom to which I was totally unaccustomed and haven't, of course, seen since. But it meant that I could spend more time exploring things, we weren't particularly affluent, but we could do things and it really was wonderful. First of all we stayed in East Sheen and then in Richmond and I would go to the Brompton on the number 14 bus and I would read on the bus going and coming. It was a very simple existence.

The Senior Registrar was a man called Hugh Fleming. He was a New Zealander, a couple of years older than I and he had worked at the Brompton and he had also worked at Sully with Dr West. He had worked at Hammersmith and now he was the Senior Registrar. He and I got on very well together. He was pleasant. There were two other supernumerary registrars, one Graham Nielsen, from Queensland and another one, Dick Richards from Sydney. It intrigued me that Dick Richards had a scholarship from the Australasian College of Physicians and had already had his honorary appointment at the Royal Prince Alfred Hospital and obviously had done very well. Graham Nielsen was very pleasant and he subsequently became Director of Cardiology in Brisbane at Prince Charles Hospital. Anyway, work was very busy. I learnt the technique of left ventricular puncture, which was new and had just been sort of described in the previous year by a man called Peter Fleming working in a different institution. You gave a prick of local anaesthetic over the apex under sterile conditions and then you introduced a needle about as long as a pencil and measured the pressure within the left ventricle. There were certain things you learnt that you wouldn't do. Somebody had an episode of myocardial infarction, you wouldn't with this technique because the muscle was possibly fairly thin and wouldn't close over when you took the needle out, because there was not a serious risk of tamponade under ordinary conditions. There was a technique which, of course, we used a lot and I introduced it when I came back to Adelaide. It was, if you couldn't pass the catheter tip across the aortic valve in the investigation of aortic stenosis, then this was one way of measuring the left ventricular pressure. If you had the catheter tip in the aorta then you could easily record the gradient across the aortic valve.

How long had this technique been used, when was it first introduced?

1956.

It hadn't been used before that?

No. In America there was a technique for measuring. It was always difficult to measure the left atrial pressure. You could sometimes measure the left ventricular pressure but there was a big problem in patients, for instance, with severe mitral stenosis and heart failure. This, of course, was before echo-cardiography to assess whether or not there was mitral stenosis. With heart failure, the murmurs would be much obscured by the low blood flow. In America, this technique was developed by a man called Fisher and you put the catheters in the usual way in the pulmonary artery, you had a catheter tip there. You had a needle in the radial artery and you would turn the patient over so that they were face downwards. You would put some local anaesthetic into the right chest, I think probably about the sixth intercostal space, and pass a very long needle through the mediastinum avoiding the aorta, into the left atrium. Then you could measure the left atrial pressure and get the difference between the left atrial pressure and the pulmonary artery diastolic, for instance, and this would give you an idea of what the gradient might be. To be successful, the technique depended on the fact that the left atrium would be of some size. I did two patients with this technique, but it was very difficult. One of the patients that I was assisting at only had a small left atrium and was actually suffering from primary pulmonary hypertension, but of course it was necessary to try and exclude mitral valve disease. When the needle went in, he sort of felt the jolt as it perforated the left atrium and he raised his head and straightened up. The result was that the needle then went on into the aorta and he bled and had tamponade and we turned him over. In those days, there was no external defibrillator and it was not possible to resuscitate.

There was a mortality associated with cardiac catheterisation in those days, because if something went wrong and the heart fibrillated, you had to open the chest to apply the defibrillator blades because there was not an external defibrillator in existence. Such an item didn't really come on the market until about 1960. Under certain circumstances, particularly when you are doing coronary arteriography, you need to be able to defibrillate immediately and that's what we were always able to do. So that technique of applying a needle to measure the left atrial pressure really was practised but given up, and replaced by a different sort of technique which I will describe later.

The Brompton was an interesting hospital, because it also had a reputation of being a surgical chest hospital. It had treated tuberculosis but it was now alongside the Marsden Hospital, there were patients having various thoracic operations not only to do with tuberculosis but also for cancer. There were a number of interesting surgeons. One who was not a cardiac surgeon was a man called Norman Barrett. Barrett's family had been brewers in Melbourne and in Adelaide and he had been born in Adelaide, Norman Barrett. He had gone to Queens School. His father then was bought out by other relatives and the next part of Norman Barrett's CV reads Eton, then Trinity College Cambridge and then St Thomas's Hospital. He was actually a pig of a man. He was rude, objectionable and unkind and not a good surgeon. He did some thoracic surgery, but he was really a man whom I found I didn't want to have much to do with, except when John Kirklin visited and then he was astonishingly rude to Kirklin. I learnt at a later stage that Barrett had actually been a Fellow in Surgery at the Mayo Clinic in the thirties, but he is distinguished for one particular thing. By using an oesophagoscope, which was a rigid instrument in those days, he described changes in the epithelium lining of the oesophagus at the gastro-oesophageal junction. He didn't understand what it was but thought it was various things, that it came from reflux, but it is now known as Barrett's oesophagus and there is an incidence of cancer associated with the bottom end, it is a very serious complaint to be diagnosed with.

Another surgeon was a man called Tubbs who was very pleasant and he did mitral valve and other sorts of surgery, but he wasn't involved in any of the open-heart surgery. The other person who was there who came from Hammersmith, who, of course at Hammersmith and Kings College Hospital, was William Cleland. WP Cleland was the son of J Burton Cleland, known as Bertie, who was the Professor of Pathology at the University of Adelaide from 1920 to 1948 and he was the Cleland of Cleland Reserve and a great naturalist and a very delightful man. Bill Cleland had been educated at Scotch and then the medical school at the University of Adelaide and gone to England before the war and trained as a general physician particularly in thoracic medicine. During the war, he became involved in surgery and whilst his mother had said that he wouldn't be any good at surgery because he wasn't any good at carpentry, he pointed out that it was more plumbing than carpentry. He then became a cardiac surgeon and he was probably the pioneering open heart cardiac surgeon in the United

Kingdom and he developed the machine with Melrose, Dennis Melrose, an unsuccessful ENT surgeon who couldn't pass the Primary, they developed the heart/lung machine and the program at Hammersmith. They had started and had great difficulty and stopped and visited Rochester at the time I was working in the surgical unit with Kirklin as well as in the laboratory. He was a very pleasant man and he played quite a part in assisting the development of things in Adelaide later on.

The other one was a man called Sir Russell Brock. Brock was also a surgeon at Guys and he was a very forthright man and had written a very considerable series of papers particularly about pulmonary valve and stenosis. I had heard about Brock and the way in which he managed medical registrars or cardiac registrars in the operating theatre, way back in the mid-west. People told me how he just bullied the cardiac registrars. It was the habit at the Brompton, there was no open-heart surgery but they were carrying out hypothermia to close atrial septal defects and also do a very quick operation on the aortic valve. The cardiac registrar would go to the theatre to measure the pressure across the aortic valve before and after to see how effective it was. I went to the theatre one day, I had previously been spoken to by Brock seeking my advice about the definition of a case of ostium primum atrial defect, because he knew in Rochester we had learnt how to diagnosis this ostium primum type defect from the electrocardiograph. The atrial well operation that Kirklin did, or if it was under hypothermia, that others were doing, it was virtually impossible to repair what is known as the common atrial ventricular canal defect in that the defect was in the region of the tricuspid and the mitral valve and below adjacent in the ventricle. So Brock had spoken to me before. In the theatre, he put the needle in and I said 'the pressure is forty over five sir', 'Huh' he tried again, and I said 'Well, that's forty-three over five sir', 'Oh, it's a waste of time', so I packed up and afterwards I said to him, 'Sir, you had that needle in the right ventricle didn't you?' and he said 'yes' and that is the reason that I don't have much time for Sir Russell Brock. He later became Lord Brock, President of the Royal College of Surgeon. Whatever he achieved, I don't know, he was skilled, but he didn't need to behave like that, but that's the way he behaved.

He was visiting, as I might have said, in Rochester at the time of the beginning of our open-heart surgery program. The first case was done on the Tuesday and he knew something was happening and it was important to keep him out of the way because

Kirklin didn't want Brock breathing over his shoulder. Claggett, who was a very good thoracic surgeon, who had actually visited Adelaide in April 1950, managed to keep Brock well away from everything and, by the following week, John Kirklin had done enough work, so it was alright and Brock was allowed on the floor. Brock operated on people with atrial septal defect and the technique was known at the Brompton as hypothermia where the body temperature would be dropped by circulating blood through a coil in a container filled with ice so that the body temperature would be dropped to about thirty and the chest would be opened and clamps applied around the inferior and superior vena cava. The circulation would be stopped, the heart would be arrested and the right atrium would be opened and the atrial septal defect would be stitched up and the circulation restored after the heart was defibrillated. This technique carried a considerable mortality and it was quite often that the operation might have been performed but the heart could not be resuscitated. I had come from an institution where open heart surgery was successful and atrial septal defects were being closed by the Gross arterial well technique and Brock, I remember hearing him say one day, 'Of course, to do this blind you have to be very good and you can't expect to do it properly'. One of the things about the atrial well technique was having started open heart surgery in 1955, and with a considerable low mortality for the operation of the atrial well for closing the atrial septal defect, it wasn't until 1961 that the Mayo Clinic gave up that operation, and all atrial septal defects were closed by the open-heart technique using the machine.

It was a bit depressing to go from a very good surgical institution to come to the Brompton, but there was another man who came, had been in Minneapolis working with Lillehei, a man called Paneth and he was trying to get things going, but in the eighteen months that I was there, there was no open-heart machine work done. Cleland was by now working very successfully at Hammersmith. With all the things that went on, it was still a wonderfully inspiring place to work. Paul Wood, as I said, was very kind to me. In May 1957, it was the tercentenary of the death of William Harvey and the College of Physicians had arranged a celebration and Paul Wood invited me to share in that, in a session with a man called Gustav Nylin, I think, from Sweden. He had measured cardiac output using the indicator dilution technique and he and I had a discussion together about measuring cardiac output and the use of the technique of the

dye curve and how we were able to use it in America and then the way it was used for diagnostic purposes. It was all very kindly and as I said, it was close circuit television where you were in one room and it was put up on a big screen and another in the theatre. It was very kind of Paul Wood to include me in that.

In 1957, I took the examination for the Membership of the Royal College of Physicians London. This time I passed. There are always times that you have luck. When I took the exam the first time, when I had come to woo Margaret, I was shown a patient that I diagnosed as having mitral incompetence as I had seen quite a lot of people with various valve diseases, and my examiner, this was the long case, my examiner was a man called Kenneth Harris, who was a senior physician at the University College Hospital and his comment was that was a very rare disease and I failed. It wasn't, of course, a rare disease, but that was the extent of his knowledge. He was the Senior Physician, however, at University College and distinguished. When I took the pathology viva and the x-rays for the membership in May 1957, I had a stroke of luck.

END TAPE 4 SIDE A : TAPE 4 SIDE B

One of the examiners was Dr Scadding and the other examiner put up a chest x-ray and said to me 'what do you think of that secondary in the rib?' Scadding burst out laughing and I hesitated 'there is a secondary in that rib Sir' and I passed the exam. I think I had done better in the other parts as well, but I got through. One of the things that used to happen if there was doubt, if you went to the College for the final viva, they would ask you questions, but if you done well enough, they didn't ask you questions. I was always in fear and trepidation that I would be asked questions, but I wasn't. So I passed the exam and they said 'Congratulations' and you went to the next room and you had to write your cheque out immediately for forty-five guineas (laughter). On my certificate with my signature it is somewhat shaky, the pen wasn't very strong and I was a bit overwhelmed with the fact that I had finally passed, because I knew that if I was coming back to Australia I had to have a clinical qualification. I had not taken the Australasian exam because I hadn't done a period as medical registrar or anything.

With my work at the Brompton - I was really a research registrar - was measuring cardiac output under conditions of aortic stenosis to try and assess the gradient and what the flow was. In the presence of heart failure, the pressure differential between the left ventricle systolic and the aortic systolic would not be as high as it would be for the same degree of obstruction if the ventricle had not started to fail. The problem was to have adequate equipment to measure the cardiac output. In Rochester, I had been using an oximeter/densitometer for detecting the dye we used in the indicator dilution technique, but such a piece of equipment wasn't available in England. Paul Wood arranged for the chief technician at the National Heart Hospital Institute of Cardiology to design and manufacture one and we spent quite a lot of time together. This was going to be, what would be called a densitometer. The problem with air densitometers is that with the light shining through the pinna of the ear it can get very hot, so this had to be air cooled, as a way of detecting it. You could calibrate it and that's what we used on a particularly fast printing recorder from Honeywell. This equipment was really going to be quite expensive, so Dr Wood said 'why don't we try that company of yours and see if they will give it to us'. So he wrote to the Grocers Company and yes, they gave us the money to have this built and when I left, Paul Wood said 'you should take it with you, because you won't have it back in Adelaide' and I took it with me, which was very good. It was used when I first came back. It was the way in which we used to measure cardiac output. I had this technique and was also developing the use of left ventricular puncture.

In Rochester, the procedure of cardiac catheterisation was carried out under theatre conditions with sterility being primary and of course, gloves. When I arrived in London, gloves were not worn, which appalled me, apart from the fact that I don't like blood on my hands because it is sticky. I felt it was unclean, so I insisted and I am pleased to say that after a while, they changed to using gloves, but I wouldn't catheterise without gloves and they accepted that. I don't know whether Paul Wood ever got round to using gloves because he was a skilled catheteriser. He had written a book, published in late 1951 on heart disease and I wanted to work with him because he was the man who had related the findings in the laboratory to the findings at the bedside. He was an excellent teacher. You could examine the patient, you would look, for instance, at the jugular venous pressure and observe the waves of the pulse and

come to some conclusion about an A wave being elevated which, of course, indicated that the right ventricular pressure was up. You learnt to interpret the chest x-ray, you learnt to interpret the findings and relate the findings in the catheter room in measuring particularly dealing with say mitral stenosis, to what you would find at the bedside. As I said, he was a good teacher.

Paul Wood was actually born in India, his father was in the Indian Civil Service. He had his primary schooling in Kent and then his father retired from the Indian Civil Service and of all things, set up to be an orchardist in North Tasmania, goodness knows why, and I, of course, never asked. Paul Wood went to Launceston Grammar and he was quite a good rugby player, he was a man of slight build. He went to medical school at the University of Melbourne and was a contemporary of Geoffrey de Crespigny, the son of Sir Trent de Crespigny and later practised as a General Practitioner and then a paediatrician at the Children's Hospital. But Paul Wood had apparently fallen foul of one of the physicians at the Royal Melbourne or the Alfred, I'm not sure and they failed him in his final exam and then they wouldn't let him do his internship in Melbourne, so he ended up going to New Zealand. There he met his future wife and then he went to London when I was initially at the Brompton, I was told that he had started training as a psychiatrist, but this doesn't exist in his obituary, but he trained as a cardiologist. He told a story about when Sir John Parkinson had invited him out to dinner. Sir John Parkinson was sort of the Senior Cardiologist in the town and at London Hospital. They passed round a bunch of grapes and Paul Wood having been used to grapes being plenty in Australia, took most of them and then passed it on. Parkinson said to him 'I'm so glad that you enjoyed the grapes' and he suddenly realised what he had done.

These are the sorts of stories that Paul Wood always told about himself. He was a cigarette smoker but he was a keen rose grower and it was always important for him to get to the Chelsea Flower Show. He would work at night until about four o'clock in the morning going over his record, therefore he didn't ever start work before ten or eleven o'clock in the morning. He would come back, he would take all the records of the catheters and go over them and measure them again and look at them and note them. He really was a very hard worker. He died in 1962. He had a heart attack and in those days, resuscitation techniques were very poor and whilst it was possible that he

might be resuscitated if everything was done quickly enough, he was in dread of the fact that he might not be resuscitated appropriately and he would be brain dead. He was admitted to University College Hospital having had chest pains and diagnosed as a relatively small infarct. He had an episode of ventricle fibrillation and having given those instructions, he was not defibrillated and he died. He would have been fifty-four, fifty five, so he was a relatively young man. He had made a major contribution and he had produced a second edition of his book just after I was in London and he was very good to me, always asking my opinion. He knew I had seen quite a lot of congenital heart disease and was always pleased to hear what I had to say and he would, on occasion, if all the residents went out to dinner together and I was given to expressing an opinion, he would say 'you know Hetzel, I think you would make a good politician'.

It is interesting in terms, you say he was fifty-four when he died, was that long after your association with him?

I left in 1958. I saw him in 1960 in America and Hugh Gilmore was, I think, due to travel, I think Hugh had arrived in London at about the time he died. Hugh had gone to an International Cardiac Congress in Mexico City in 1962 and he was going back to London then or one way around.

He just happened to be in London at that time.

Working in outpatients was always interesting and we would be working quite late and then do a ward round. I can remember it was about seven o'clock at night and we were going up the stairs to the ward and he stopped and said 'you know, it's at this time you start to make mistakes because you are tired and you don't catch things as well' and I have never forgotten that. Because I think it is true, we think we are doing very well later in the day, but if you have had a long hard day or a long busy day, you are not as good clinically in picking up either details from the history or the physical signs, but that doesn't mean you don't have to do it.

He wouldn't give himself a break and then go on?

Yes, we wouldn't have dinner.

I see, you would go right on, but then you say he used to…

We might have had lunch.

But you said he used to work until four in the morning.

At home, yes. He would go home, have dinner and then go on working. Yes, he was an interesting man. He was quick, he was sharp, but he was one of the best teachers I had and there were a number.

Before I left Rochester I had met a man called Kempson Maddox, who was from Sydney, subsequently Sir Kempson Maddox and he was a friend of Howard Burchell. I was offered a job to be Research Director of the Halstron Institute, the Cardiac Institute associated with the Royal Prince Alfred Hospital in Sydney. I received that offer before I left Rochester, but I wrote back and said thank you very much but I want to get more training and I want to work in England. When I arrived at the Brompton, of course, in the usual sort of, I think I'm a relatively open person, but anyway I talked about this. There was this man called Richards who was there and would have known all about it. In about April the next year, Richards had gone back and the job was advertised. Hugh Fleming had known about it and he lodged an application and so did I. My application was never actually acknowledged. I got no acknowledgment that they had received it, I never heard another word, but Hugh Fleming was appointed. Paul Wood knew that we both had applied and Hugh Fleming had got the job and I said to Paul Wood, 'no good hanging around here, because you can't support me'. He said 'No, I'll support you, but I had to support Fleming because he was my senior registrar'. I thought I had been a bit rude to say it even. Anyway he said that I should apply for the position here, that Fleming had left, so I applied for the position of Senior Registrar at the Brompton. First of all they said I was an Australian and I couldn't have it, so I pointed out that I had been born in London and hadn't been in Australia in six years, so they appointed me.

At this time, Philippa was born and that was in May 1958 and again, the question of settling in London came up. If I was going to be a Senior Registrar it really was, I was putting my lot in to be appointed on the NHS. Paul Wood said that if I stayed my future was secure I would get an appointment and I would work in Harley Street and he could see no problem with it. My problem was that it would be another four or five years before it came. I was thirty-three, with a wife and two children and I had never earnt very much money. The only thing I had was a life insurance policy worth five thousand pounds Australian. I could not see. It wasn't settling in London that I expected a lot, but my salary would drop anyway, because I would be paying tax and I just didn't feel

that it was justified to go on like this I didn't think that I would ever probably be in a position to own a house. Salaries in the National Health Service were not much improved and many people like Paul Wood made their money out of consulting in Harley Street, which is where he had his rooms, but you had to be established. The question of educating, I had two daughters, the question of sending them to a good school and having a house and getting established, I thought it was going to be too difficult, too long. My father wrote to me and said that there was an appointment coming up for a Senior Registrar, part-time, at Royal Adelaide Hospital and this would probably be the only thing that would ever happen. So I applied for that and the other person who applied was Hugh Gilmore. He and I were both appointed. Hugh, at this stage, had made the break from being Senior Lecturer at the University Department of Medicine to go into private practice as a physician. He had made that decision and I think he found that he wasn't sure. He said afterwards that he had made a mistake, but if Hugh had pursued a career in cardiology there wouldn't have been much of an opportunity for me.

Hugh continued to work in cardiology and played a fundamental role in many of the things that happened and he and I were both Associate Cardiologists at the Children's Hospital and ran outpatients there as a cardiac outpatient service for a long time. We were joined by George Maxwell when he was appointed Professor, but Hugh and I carried out cardiac catheterisations.

Coming back to Adelaide, we had a small child and a baby. The Flemings, when they left, they went through the Red Sea. You came by sea and they had trouble with their baby with all the humidity, so we came back by the Cape. We left in July 1958 and it was a five-week voyage on the 'Dominion Monarch'. I had my fare provided for by the Grocers Company. The Grocers Company when I went to say goodbye and thank you very much, they said 'Dr Hetzel it has been very interesting having you. We think we will return our scholarship to the humanities in future' (laughter). I had cost them a bit of extra money and I was a bit different, I think, I don't know. I don't suppose anyone had ever questioned when he got the money or when he got paid, but they were very nice.

This was the only occasion when they did give it to … ?

Oh no no, this had been of long standing. There was a man called Rose Bradford, who was a pathologist at the beginning of the century who had been a Fellow. I might have been the last. I have been meaning to ask, I'll find out sometime. What I needed was my fares to bring back my family, so I wrote to the Hospital Board and said to come back I need to have my fares paid, so they did. They bonded me for four years, which meant that I was to remain in their employment for at least four years or else I would have to pay the money back. I didn't mind that, it was money that I didn't actually have and if I wanted to get out, I had to make arrangements then, but at least it was money at the moment I didn't have to spend. Coming back around the Cape, we stopped at Capetown and visited with some very good friends of ours. We were there for thirty-six hours and we came to Fremantle. On the way into Fremantle, I developed a headache and a fever and I was given antibiotics including penicillin, but it didn't make much difference. There was an x-ray machine on board, but it was not of a sufficient capacity, it would have been alright for x-raying a child's forearm, but it wasn't any good for my chest. Margaret at this time was breast feeding Philippa. The medical staff on the Dominion Monarch were two. There was the Senior Medical Officer and he basically spent his time, apart from a mild problem with alcohol, playing bridge and talking about test cricket. The other one was a New Zealander who had been trained in obstetrics but also in public health. They told Margaret because I had this bad headache that I had a cerebral tumour. This was awful for her and of course she didn't tell me and they didn't tell me. I could have told Margaret that my headache was due to a fever. She lost her milk. It was terrible. We sent a message to my father because the boat came from Fremantle to Melbourne, so my parents met us in Melbourne and we came back by train and I went into Sturt ward. A chest x-ray showed that I had a patch of broncho-pneumonia. I was put onto erythromycin or something and it cleared up, but I didn't work. I got back on August 21st and went straight into Sturt. August 21st is an interesting date because that is the date when Dr Eric Gartrell turned sixty, which meant that he had to retire and his position was advertised. I had come back sick but I wasn't on sick leave as I hadn't started work. Zero income. I applied for this position and the Board immediately ruled it out of order. I said that if I don't apply for this position there is no other job going to come up. John McPhie was the logical person who had been working as a Clinical Assistant in the

Cardiac Clinic. Dr Gartrell was a Physician and he had been appointed Honorary Cardiologist in 1955, no beds, but just as a consultant service and that was the start of the Cardiac Clinic and John McPhie had worked as a Clinical Assistant in that area. He had done an MD with Professor Robertson over the correlation between the ECG and the pathological findings for left ventricular hypertrophy which to do that from practice was a considerable achievement.

John was, I guess, a bit threatened by my application and by my presence. It was difficult and he came to visit me in hospital. He was travelling to England and this was for the first time, but he had a wife and family. He wasn't there to do any work but to observe and he never had the opportunity to learn to do cardiac catheterisation or any of these things. In the meantime, Hugh had started catheterising and had the equipment and I joined him and we both started doing cardiac catheterisations. Well, he had done a few, but we started to do more. The room we used was G12 on the ground floor of the McEwin, alongside was G13 and in my day as an intern at the hospital, this had been part of the urology suite. We had the room on the corner given to us and one of the first tasks I had was to turn it into a laboratory. That was an interesting exercise. I had seen a lot of laboratories in my time and so we managed to produce that with a changing room in the middle of it and do all the plumbing and make desk space and all that. The room next door was where we could do cardiac catheterisation, but this was a shared room. The neurosurgeons used it for their stereotactic procedures and the vascular radiologists used a particular x-ray machine, an Elema-Schonander machine for displaying the peripheral arteries in the legs particularly.

It was on a day or session basis, you said the one room had to be shared, so you had certain days of the week.

Yes, certain mornings of the week. We had a Tuesday morning and Thursday morning. The Senior Radiographer in the X-ray Department always sort of kept us at arm's length and there were never any promises of anything extra.

Interesting, isn't it? With the building of McEwin, with some of the facilities beyond what they had before, they were deficient of the facilities you would have liked at that stage.

That's right. There had been a man called Peter Kerley who had visited Dr McCoy, who was the Honorary Radiologist at the time, and they had bought a roll film, biplane

charger for angiography which would take supposedly twelve frames a second in two planes, but this machine never worked. There was something wrong with it and it turned out to be parts of a six and parts of an eight and another were twelve and we managed to get that straightened out later on. There was no image intensification at that stage and as I said there was no external defibrillator but we were catheterising children with congenital heart disease and I was able to use my densitometer in terms of defining the site of the defect particularly in cyanotic heart disease. I got into trouble once, because we were using a dye called Evans Blue T1824 and each injection would be five milligrams, but up to sixty milligrams particularly in a child. There would be a discolouring, you would have a grey colour and this child had Tetrology of Fallot and when he came back from the catheterisation, and transferred back to the Children's, his colour didn't look good and they were giving him oxygen all the time to try and improve it. Dr de Crespigny who had been a friend of Paul Wood's was very critical of me that I had not told them that this was not cyanosis. You don't think of these things. Hugh and I started working together and we were always good friends and we worked together quite well and later on we were joined by John Waddy.

In May 1959, it was also a meeting of the Cardiac Society and the Royal Australasian College of Physicians in Adelaide. I read the regulations of the College in terms of the membership and it said that if you had done four years of research you could apply to be exempt from the papers. So having read that the regulations I applied, and a month later, Mark Bonnin said 'Bad luck, you had been in practice for a month so you weren't eligible'. I had to turn around and take an examination, two three-hour papers in General Medicine.

What was the significance of you being in practice for a month?

Well, that meant that I wasn't a researcher. Apparently, it was the way it was interpreted. The College of Physicians in Australia had always gone through various changes over the years and sometimes it exempted a person from taking the papers and sometimes it didn't when you had the MRCS. It was one of the phases it didn't accept, then later on other people got in with not having to take the papers.

You were able to make up that deficit?

I had to take the exam in the ordinary way. Two three-hour papers. Four essay type questions. The only cardiology in the two papers was a fourth part of four questions, in other words it was about sixteenth of the paper or a thirty second of the whole thing and it was about ventricular ectopics. Anyway I did manage to pass the papers and then you had to do the long case and then you had a series of short cases. The long case, you would go and sit with a person in the hospital, take the history, examination and come to some conclusion. You could ask for information later on, but you basically had to reach a diagnosis. The patient I had was a woman in her late fifties, she had episodes of syncope, she had diarrhoea, she had fatigue and was vague. On examination, the blood pressure was normal, the only abnormal finding was that she had a large spleen and I really didn't know what to make of it. So I went in to examine this patient and I struggled with it. The examiner was a man from Melbourne called Bill King and I really couldn't put my finger on what it was. In those days you were expected to make a single diagnosis to explain everything. I couldn't do that. This woman might have had intermittent heart block for all I knew, but that couldn't tie up to her spleen anyway. Dr Ray Hone, who was contemporary of my father's, was in the room. He was probably a Vice President of the College, just as an observer, he said to me 'Come on Peter, come on, get off the fence and tell us what is wrong with her'. I found that a bit rough. First of all I didn't like to be addressed by my Christian name in the middle of a serious thing like the exam. Before I could say anything, the bell rang which meant that was the end of it and the examiners filed out of the room and Bill King was standing at the door. I said 'Excuse me Sir, I know I made a mistake and I stuffed it all up, would you mind telling me what was wrong with that patient'. He said 'God only knows. The main trouble is that Mark Bonnin thinks that she is such a red-hot case, we have to put another poor bastard through it this afternoon'. (laughter) I passed. Well that encouraged me, then I went on and I had eight or nine short cases, all of which I got right. He didn't know what I was going to do with the short cases, but it built my morale up again.

The Cardiac Society meeting was in Adelaide and the Cardiac Society was very much in embryo and I became an associate member. I was also responsible for really taking notes of the whole thing and writing a report of the meeting, paper by paper, which was a good exercise. The other thing that happened about this time was we had been

sending a few children who were desperately sick to Sydney to be operated on. At the Children's Hospital in Sydney and the Royal Prince Alfred, they had been doing open heart surgery. The children we sent over never came back. Admittedly we sent children with pulmonary hypertension, they had risks, but we thought it was better to do that than to send the low-risk patients. Darcy [Sutherland] had visited Rochester while I was there and I had shown him all the organisation, the team and everything like that and he shook his head and he said 'that's not for me'. He had already built a team to deal with thoracic surgery, so I said when I came back at about this time, it was about April, I said 'Well look, we are either going to have to do it here or keep on sending them interstate. I think we should be able to make a project'. So he said that you write it all up and prepare the thing and we will see.

END OF TAPE 4, SIDE B : TAPE 5, SIDE A

This is tape 5 of the interview with Dr Peter Hetzel, conducted by Joan Durdin on the 13th September 2006, continuing from tape 4.

Darcy had said go ahead and I drew up a proposal for the future development of cardiac surgery in South Australia. I related what was required and I tried to work out the incidence of particular defects and also the fact that there would be within the community a number of teenagers and adults who would have these defects. I arrived at a certain figure and, in terms of the incidence we had, there were some conditions, for instance, single ventricle, transposition of the great vessels, for which, really, the techniques available then were not possible. The result was that I showed that there was a reasonable number of people in the community of South Australia and that the rate per thousand was 0.58 and 0.66 percent and I cut those figures in half, because I didn't want to over emphasis the matter. The result was that there was a demand, as was already being experienced, of patients needing surgery for congenital heart disease.

I drew up a proposal about the personnel. Mr Sutherland would be the surgeon, he was already the Honorary Thoracic Surgeon to the Children's Hospital, the Royal Adelaide Hospital and the Repat. and Howard Brown was also an Assistant Surgeon in those positions. I drew up and also talked about, who would be required for anaesthesia and

– – –. (problems with recording equipment). I drew up a proposal for the staff, including the nursing staff and also the need for a full-time investigator and for additional technical staff. We already, at that time, had two technicians. We had Mr Neville Martin, as the Cardiological Technician and employed a school leaver Wilda Montrose who had got a Commonwealth Scholarship to attend the University, but that of course, didn't provide any living allowance, so that she wasn't able to go to the University at that time and we were training her as our laboratory technician. She had been working in the Department of Biochemistry at the Institute of Medical and Veterinary Science and came back to us because we needed technicians to perform the Van Slyke technique for measuring oxygen saturation and oxygen content in blood. So we were looking for further electronic staff and further a physiological technician. We looked at the possibility of a machine and I included the cost of a Mayo Gibbon machine because at that time that was the one I had experience of. Mr Sutherland changed that to the Melrose machine because he didn't want to run the risk of it all falling apart and spending too much money, because it was possible that the Mayo Gibbon machine would cost twenty thousand pounds and probably the Melrose machine from Hammersmith would cost perhaps, six to ten thousand pounds. Then I talked about the need for an operating theatre and recording room. The proposal was accepted by what was then called the Cardiac Advisory Committee. I set forth a training program and the costs for the first year, with a capital expenditure on the machine, the maintenance and then the staffing thereafter. This gained the approval of the Board and went through and was confirmed and approved by Cabinet within a month.

This was the proposal that was coming up for application in the coming year in 1960. With regard to my position at that time, I had indicated the need for a full-time hospital appointment or at least some hospital appointment, of a cardiac investigator to be permanent, also with clinical responsibilities. John McPhie had been appointed Honorary Cardiologist in January 1959. I was finally appointed in January 1960 to the position of Director of Cardiovascular Investigation Unit for five [weekly] sessions, Honorary Clinical Cardiologist two sessions, with the remaining sessions available to do what I liked. I had to be an Honorary to have clinical control of beds, because the system was in those days that while there were salaried officers full time as the Director

of Anaesthesia and also as an Assistant Director in Radiotherapy, these medical staff did not have what was called clinical responsibility.

In Eric Gartrell's time they had gained, I think, two or four beds and we pointed out the need for additional beds, so for me, clinical responsibility was vital, otherwise I was just being treated as a super technician, standing in the corner, catheterising people who were chosen by someone else. With my experience in America and in the United Kingdom, the system in the United Kingdom where Cardiologists did the catheterisation seemed to be the appropriate one, and certainly Hugh Gilmore from his experience, agreed with that.

My appointment took place in January 1960 and of course, this was a proper appointment for me and put me on the hospital staff which I felt was important because at this stage I was now thirty-five. I was lucky, of course, to have a job so young, relatively to what usually happened. The three sessions [for work of my choice] were spent in private practice in North Terrace in the rooms of my father, which he and I shared. That appointment gave me some status. Hugh Gilmore and I were also, of course, working at the Children's Hospital in an unpaid capacity seeing patients over there in a clinic we conducted at Friday lunchtime. We would then refer patients back for our management at the Adelaide Hospital.

Can I just clarify that the appointment was – – –?

Director of the Cardiovascular Investigation Unit. It was a term chosen by Mr Rankin, it later became the Cardiopulmonary Investigation Unit until 1972 when it reverted back to Cardiovascular Investigation.

The Honorary system was still very much a part of the hospital structure and it wasn't until 1970 that a change occurred. By 1968, when Robert Craig was appointed as Assistant Director to the Cardiopulmonary Investigation Unit, as it was then, salaried staff could have beds and clinical control. So for him it was a very straightforward position that he was able to fit into as soon as he returned from overseas. In 1969, having really worked extremely hard and long hours on this arrangement, which for me, was satisfactory, I became very weary and I decided that I needed to go full time. So in 1969 I was appointed full time. The attitude of the Honorary Medical Staff at that time, to the question of being salaried is interesting, Dr Mark Bonnin said to me,

when I was appointed full time, 'Why did you go over to the other side?' which sort of horrified me, but it made realistic what the clashes and difficulties were in the hospital. Despite my asking Mr Rankin a number of times about the possibility of superannuation, the way the Public Service Act and other things stood then, part-time public servants were not eligible for superannuation. That didn't apply all the time, because John Waddy, when he was appointed Honorary Cardiologist at the Queen Elizabeth Hospital in about 1965 or 6 was also granted superannuation and when they said they had made a mistake, he said 'tough luck, I have rearranged all my affairs accordingly'. Alan Kerr Grant, when he was appointed Director part-time of Gastroenterology at the Queen Elizabeth Hospital, had already been granted superannuation privileges. Mr Rankin pointed out to me when I quoted this business of being five sessions paid, two sessions Honorary, 'we have got you not for five sessions but for thirty seconds of every minute'. And I must say that the demand was that equivalent, because there was no one else to do [the work] – – –. there were certain things that I was required to do. It wasn't that I objected to it, but I was getting worn out.

And to be recognised for it [the work].

If I hadn't gone full-time, I would have had to give up and leave the hospital and just go into clinical practice, because it was being too demanding. But I was fortunate that I was able to have that position created for me by a sub-committee that had been set up by the Board under Norrie Robson as Chairman, which was able to produce what you could call a compromise position. It was pointed out to me by Mr Alan Lendon, that the confirmation of my appointment as a member of the Honorary Staff would only occur after ten years. In other words, if I had left my salaried position and continued with my Honorary position, I wouldn't be able to do that until 1970, because my clinical position was only in relation to my salaried position. What I did, of course, before that was to resign my Honorary position and become a full-time salaried specialist.

In May 1959 at the meeting of the Cardiac Society, my old friend Hugh Fleming came for the meeting, from Sydney to Adelaide. He had at that stage been working for a year. He had been given no clinical privileges, he'd had to struggle for everything and had found it extremely difficult and there was no prospect. So here was the Research

Director of the Hallstrom Institute resigning and returning to England because the conditions of service were so appalling. I was most fortunate that he got the job and that I didn't because clearly what I was able to achieve in Adelaide would not have been achievable in Sydney, because of the entrenched attitudes of the staff. In Adelaide, I was on my home ground, people knew me and the opportunity was created for me and I was most fortunate, but I think it probably worked out fortunate in both ways. I continued to be relieved by the fact that I didn't get to Sydney because it would have been a much more – – –. well he couldn't persuade them and he was a reasonable sort of person. They subsequently appointed Tony Jose, who was a member of the Adelaide family of Jose who had got a Rhodes Scholarship and done all his medical training at Oxford and at the Middlesex in London and then gone, after a period at the Heart Hospital, then worked in Baltimore. He wanted a full-time position at the time that Hugh and I were embracing the half-time position and subsequently, in I think, 1960, 1961 he was appointed to a position at the Hallstrom, which he held for ten years, nine or ten years, and then left and went to America to work in Los Angeles and he died not long after that.

Again, in this phenomenal year of 1959, the hospital was physically inadequate and the Honorary staff had been attacking the government for many years to try and have it rebuilt. In 1959, there was a serious committee made up of representatives of the University, the Honorary Staff and the Board, looking at rebuilding the hospital. Bob West was on that committee and he came to me one day and he said 'Will you draw up the plans for a new cardiac service?' I was just a part-time senior registrar, but what I did was to prepare a proposal using all the rooms in the areas that I could think of and I was including electronics, I was including pulmonary services and also peripheral-vascular. I produced a plan for rooms and all sort of things. I didn't include electro-cardiography or clinical because that was John McPhie's area and it was separate from what were going to be the laboratory services. It so happened that the plan that they were examining at the time consisted of the hospital being of four towers with a central block, something like Rochester Castle. It just so happened that the area that I had created, manufactured, was the area equal to one tower. Well that proposal fell aside, but I had established a claim for this much area and so when in the beginning of 1960, the approval was given for rebuilding the hospital, I was able to claim, or we

were given a whole floor in the theatre block. That, of course, has undergone many changes since, but it was the basis on which we were able to plan our work. It didn't come around until 1970 and in 1962 every Tuesday afternoon, Sister Betterman, Theatre Sister, and I spent time with an architect going over it room by room, plan by plan. We were criticised or the architect was criticised for spending so much time with us. His name was Crosby, he was an Englishman, a very pleasant person and we had quite a large area, obviously. We worked it all out, a large cardiac catheterisation room and another room for pulmonary investigation and offices and workshop areas, setting up areas, cleansing and all this and a balance room, fume cupboard and places where mercury could be disposed of – an exhaust for spilt mercury and a conference room, a library, a staff room and staff toilets and change rooms and all that sort of thing. We were really fortunate that we got it in 1970. We had to wait that long. When we were finally given charge of it all and it was all made over, the State Government Department was known as the Architect-in-Chief's Department and they had the architects and had control over the contracts and everything and I wrote to the man at the Head of the Architect-in-Chief's Department expressing my appreciation and thanks for all that they had done for us. They had never before, ever, received a letter of appreciation and they stuck it up on the notice board in amazement.

The things that people take for granted.

Yes. Iris Betterman and I knew what we wanted, we got what we wanted and the mistakes were ours. And there weren't many mistakes.

But you did have a good working relationship and you ironed out a lot of them along the way.

The other thing was, there had been other laboratories before that because there was one – – –. the first laboratory had been in G13, in a room on the ground floor of the McEwin and that wasn't big enough. I had found some space and we had taken some space in the basement of the East Wing for an electronics workshop and we had a room on the same floor further down, where Michael Drew set up part of his laboratory when he came back. Michael Drew had been trained in thoracic medicine and physiology in England and had spent two years in Houston and came back to Australia in 1962. The only sort of position it was possible to create for him was Senior Thoracic Registrar, within the Cardiopulmonary Investigation Unit, and Michael Drew set up a Pulmonary

Function Unit. The first room that he had was on the ground floor of the East Wing near the Pharmacy. It had power but absolutely no plumbing, which produced quite a difficulty, but he managed. In the interim phase, the Blood Transfusion Service which occupied the second floor of the McEwin building needed more space. It was proposed to put in an additional floor above the surgeons room on the first floor and we were offered this extra space then on the third floor. We were fortunate in gaining a large area which then became Michael Drew's laboratory and we had some offices, including an office for a secretary as well. That area is still in existence but I think it may be part of the sleep study area, I'm not sure. That was the next laboratory and the final laboratory we got was the one we finished up with in level six in the Theatre Block.

Continuing this interview on Wednesday 25th October 2006, with about fifteen minutes of this tape left, tape 5. Go ahead Peter.

To go back to 1959, it really was an eventful year, because it was the year I was given the opportunity to plan laboratory space which I have just talked about, it was also the year in which we put forward the plans for the development of cardiac surgery. Also, there was the College of Physicians meeting, Australasian College of Physicians meeting in Adelaide in May. Having the membership of the Royal College of Physicians London, I thought that there might be some sort reciprocity because the two had obviously sometime recognised the other in terms of those who had the one qualification could perhaps get some sort of relief from doing the whole lot for the next one. This was not the case at this particular time. It was having to do the whole lot. I read the regulations of the Royal Australasian College of Physicians and it said that if you had had four years of experience in research, you could apply for recognition that way and, subject to approval, be granted membership without other qualification. Well I had done at least four years research, so I applied for it and membership under those conditions and Mark Bonnin said to me 'Oh bad luck, you've been in practice a month' so I was excluded from that regulation. So I had to take the exam and it consisted in those days of two three-hour papers with four questions, essay type questions and the only bit of cardiology was a quarter of one of those questions. They were challenging things, but I seem to have done reasonably well and to this day don't understand it because there was a question on porphyria that I really hadn't worked up very well. It then came to do the long case and the short cases. In the long

case you would be expected to examine a patient in the hospital, take the history, do the whole examination and then come and report on the case to the examiners, explaining what you thought about the case and what your diagnosis was and what investigations you want. I found this extremely difficult. There was a woman in her early sixties, she had episodes of syncope, diarrhoea she had a large spleen, she had so many different things wrong with her and of course, the teaching in those days you had to put it all together into one piece. Well I couldn't, I really couldn't get it all together and I was a bit flustered when it got to the discussion and it was led by a man called Bill King from Melbourne. He wanted to know what I thought and I related all that and Ray Hone who was a Vice President of the College at that time, and a senior pillar in the College and a colleague of my father's and he had taught me and had been one of this clerks in Medicine. He said to me 'Peter, for goodness sake, get off the fence'. I was somewhat embarrassed because in an examination I was always fairly formal and I was surprised to be addressed by my Christian name and the second thing was I didn't know what was wrong with the patient. So I said 'I do not know what is wrong with this patient'. I had struggled with trying to explain what I had found and what it might mean and the bell rang. Now the bell rings at the end of the time so that the examiners can go out and have a cup of tea. I had finished and I was pretty uncertain about it all, but I really didn't think I could lose anything, so as they were filing out I said to Bill King 'Excuse me Sir, I know I made a mess of that case, but would you mind telling me what was wrong with her?' He looked at me and said 'God only knows' He said 'the point is that Mark Bonnin thinks it is such a red-hot case we have to put another poor devil through it again this afternoon'. (laughter) So after that I felt considerably cheered and I was only expected to do eight short cases, but they gave me twelve because I kept getting them all right. (laughter).

You could breathe more easily.

It was a comfort and of course, I was at that age, I was thirty-four, I think if I had taken the exam five years before and that had happened, I don't think I would have had the courage to speak up. The College of Physicians meeting was at the same time as the Cardiac Society Meeting and this was the time that I met with Hugh Fleming.

By 1959, at the end of the year, the planning was taking place for the development of cardiac surgery and I was appointed Director of the Cardiovascular Investigation Unit

in February 1960. My contract was that if I served in that position for ten years I would have my Honorary status confirmed and if I left there being the Director, I was paid five sessions and I had two sessions as an Honorary and the rest of the time I was in private practice up the street earning a living. By the time you divided the salary in half, it was sixteen hundred and fifty pounds a year, so for the hospital, it was the solution and of course, there was no alternate to the Honorary service because that was the only way you could have clinical responsibility. That is why, I don't know who thought it up, but Alan Lendon had quite a lot to do with it, and so what happened in the long run was that later on, after nine years I was wearing out and so I was able to engage full-time. So what I resigned was my Honorary status because by then a salaried officer, with consultant status, could have clinical care of the patients.

Darcy Sutherland and I were to go then on a study tour. John Waddy had already been sent off on the 1st January to work at Hammersmith and Darcy and I were following. Life became very complicated just at the beginning of March, because my brother and I were both going away and my father got sick. He had retired from the hospital in 1957 at the age of sixty and he suddenly developed a lot of headaches, loss of consciousness and he ended up having bilateral subdural haematomas. He wasn't on asprin or anything. He knocked his head cleaning the car and ten days later started to develop headaches. It was certainly a very concerning time but Jim Dinning and Donald Simpson operated in the middle of the night and relieved it all. I remember thinking at the time, what was I, I was thirty-five, poor old chap he is coming to the end of the road. (laughter) He died at the age of eighty-one and now that I am approaching eighty two and I continuously feel guilty about having that sort of thought about him because he continued in practice until just before his eightieth birthday. Not in clinical practice but he had a part-time job at the disabled place at Gilles Plains which names escapes me as usual. Not Hillcrest – – –.

Strathmont

Strathmont, yes that's right. He would spend four sessions a week there and his sessions which started at eight o'clock in the morning and finished at two o'clock in the afternoon. I think it was a good thing for him because he wouldn't really have known what to do with himself.

He had never had time to develop any other interests?

Any hobbies, no no. Darcy had gone and I set off then in March 1960. It was a very interesting journey to London, because it was on a Comet, which was the first jet passenger liner and subsequently one blew up in the Mediterranean, when Chester Wilmot, a distinguished newspaper correspondent was killed. I had to go to Sydney the day before and then catch the plane. We went to Darwin, to Jakarta, then from Jakarta to Singapore and Singapore to Karachi. Karachi we got off the airplane, had a shower and breakfast at the rest house and then got back on the airplane. The thing about the airport at Karachi that really intrigued me was this enormous rusting iron shed and in the days of the Zeppelins flown by the BOAC, Karachi was the terminal for India and this was where the Zeppelins would have been stored. They, of course, R101 and R100, one of them blew up and the service, I think, probably finished after about a year in the very early thirties, but here was this same shed. I didn't ask anyone, but it was obvious what it was for. Then we went from Karachi to Bahrain and then Beirut, Beirut to Zurich and Zurich to London. Breakfast was, on this day, at Karachi, lunch was near Beirut and then we had dinner on the way to Zurich. Then we had afternoon tea to get into London at six o'clock (laughter).

What was the time you left Adelaide?

Left Adelaide the morning of the day before. It was a very pleasant, one of the most pleasant journeys I have ever had, I think because when I was travelling abroad, I was travelling first class. (laughter)

End of Tape 5A : TAPE 5, SIDE B

In London, Darcy and I stayed at London House. Darcy had stayed there when he was in London before, I believe, certainly on another occasion and knew the Institution well. I had never stayed there at all, although I had tried at one stage to live in, for Margaret and I to live in one of their flats they had for married doctors, but anyway it was very pleasant. We spent our time working quite hard. We spent a lot of time at Hammersmith with Bill Cleland and we also visited Westminster where a man called Charles Drew, who had been in Rochester at the time I was active in the bypass unit and we had entertained him in early 1955, no early 1956, and he was operating on

small children and taking their temperature down to about twelve degrees Celsius and then turning off all the pumps and repairing the ventricular septal defect and then rewarming the child. It is a technique that I don't think in an adult, one could have managed to cool the body to that degree in a reasonable time, but it was possible and the child's heart was resuscitated but everyone left the room, the anaesthetist as well, while the surgeon did the job and then he called people back from morning tea or something. It was really quite surprising the tissues being so cold, I often wondered how they, when you suture them, because they would be relatively stiff, how difficult it was. I understand that nowadays it is not uncommon, at least in infants, to drop the temperature, not quite as low, but I think he gave that up eventually. We also visited Great Ormond Street which was if not the most famous, certainly one of the most famous Children's Hospitals in the world and there was a man called Bonham Carter who was a friend of Paul Woods'. He was there and the surgeon was a man called Waterson and they had both, in the time that I was at Rochester in the Unit, had visited, so I had some acquaintance with them.

It was quite a stimulating time and I also went up to Cambridge to Patworth, where Hugh Fleming was and the man who was training to be the profusionist for that unit was Claude Lum. Claude Lum was an Adelaide graduate and a contemporary of Roger Angove. He had been a sort of Assistant Medical Superintendent when I was an RMO and he had roasted me on one occasion for seeing a man in Light [ward] in the middle of the night who was drunk, difficult and incoherent and he had an aortic aneurysm from syphilis and of course, I missed the whole thing. Claude really had no mercy on me, anyway I remembered that. But it was very pleasant to meet him because he was a very pleasant man. His name was Lum and his father was a Chinese herbalist called Lum (Samuel) Yao, who married a nurse. The marriage didn't last for ever, but Mary was in the habit of collecting antiques in England and bringing them back to Australia to sell. She made an annual pilgrimage like that. I think Claude must still be alive, but I'm not absolutely, I think he is because in the College Lists, the College of Physicians he is still alive, but I have not been in touch with him since then. He was actually a very able physician and if somewhat merciless to a junior medical officer, well that could be excused. It is a good learning process.

While I was there it was necessary to go up to Stockholm to visit the company called Elema-Schonander who made the roll and cut film cartridges which we used for angio-cardiography. When I arrived back in Adelaide, one had already arrived, but it never worked because it was not put together. It had pieces of a second machine and twelve a second. Anyway, I visited Stockholm and spent some time with the people at the Elema-Schonander Unit and the man called Grimm had the job of entertaining me and John Waddy who had come with me and we were taken out to dinner at three o'clock in the afternoon because he wanted to get home, but it was a satisfactory visit because they corrected the problem and we had that machine which worked for a long time. It was subsequently replaced by the machine that Elton Goldblatt had bought for the Children's when he changed his laboratory and I think the unit is somewhere still in the hospital. It was, in terms of providing the detail, for instance, of the state of the pulmonary artery and tetralogy and investigating complicated congenital heart disease - it really was most valuable. It was the Swedes, of course, who had developed all that and produced one of the early texts on angio-cardiography, which unfortunately has been stolen from the laboratory library after all these years.

I came back to London on a Friday. I had got up early in the morning and did a bit of essential shopping because we were going to leave at Saturday lunchtime to go to New York and we had to arrange a party for all the people who had been so good to us. Darcy and I arranged a party at London House and we needed to calculate how much champagne people would drink. Those who cater for these sorts of things said six glasses to a bottle and so you need so many bottles. We found to our surprise that people drank exactly twice as much as what we expected. The result was that we went out after the party and there were a number of people, a very pleasant cardio-thoracic surgeon at the Brompton called Oswald Tubbs who had been known to Darcy and we all went out and found dinner and got to bed very late. I actually decided to pack before I went to bed which was a good idea because Darcy went to bed because he was worn out and I went to collect him to get him to have an early breakfast and he hadn't packed, so we managed to pack Darcy up. My brother-in-law who was working at Great Ormond Street, Dean Mackie, drove us out to the airport and we caught the plane and crossed in a Boeing 707, again travelling first class.

We got to New York and it was the day that daylight saving came in, so we lost a few hours there and we were travelling west and what happened was, we gradually losing time. Then we went out to dinner with a friend of mine, and by the time I got to bed, I worked out I had had one hour's sleep in about forty-eight hours of travel all that way.

Darcy and I went up to Boston and stayed with a man called Dwight Harken, whom Darcy knew and he worked at the Peter Bent Brigham Hospital and other hospitals as well. He was one of the first surgeons to perform effective mitral valvotomy and he was an interesting man. He had the style of a revivalist preacher in which he spoke about the things he was doing and I found him intriguing. He was fairly conservative by nature and I don't know whether he really ever developed open heart surgery to any degree of skill because I never had any further contact with him, but he was an interesting man. He was kindly and they arranged, while we were there, for Bill McCoy and his wife who were from Adelaide (Bill McCoy was training as a radiologist) to come to dinner. It was an interesting occasion because Bill McCoy was, I don't know how old he was, but in the course of his conversation, he was in fact complaining about the low salaries that were being paid to people. I didn't have any sympathy with him because first of all I always felt that, alright I had a low salary but I thought I had a golden opportunity, but he seemed to not look at it that way. He came back and was a very successful radiologist in his father's practice and then he became the Director of Radiology at the Children's and subsequently he became Chairman of the Health Commission.

He went into Medical Administration.

Medical Administration at the Children's and then, but I was embarrassed somewhat by the way in which his conversation went and he wouldn't drop it. You couldn't say very much, so I just shut up, but I felt at the time there are various ways of looking at what happens. Well alright, you might have been used as slave labour but that was the only way it was done.

You could look at the plus side as well.

From Boston we went to Philadelphia to a meeting which was about congenital heart disease and then we went to Rochester and we spent a month in Rochester. I introduced Darcy to John Kirklin. We stayed with some friends and I probably imposed on my

three lots of close friends, the Mankins, the Huizengas and the Donalds. I had a very interesting time as I had only left the place about three and a half years before and there were various people that I knew very well, including a man called Jack Sinclair, who had been working at the Brompton. I think, because of my interest and enthusiasm about what I had done at Rochester, he got a Fellowship to work in Rochester, he ended up as a Professor of Physiology, he was a New Zealander, Professor of Physiology at the University of Auckland. It was an interesting time and I spent time with friends, the Donalds. David Donald being the one who had been running all the perfusions, but he was by now Professor of Physiology, doing a lot of experimental work. One lot of work that he did, which was highly significant in a sense, was that he, being a skilled surgeon, created a heart block in greyhounds and they survived. This was before pace-makers came in, but what he was able to establish was that the denervated heart, under exercise conditions, could still function quite well. This was basic work of course, when it came the time of heart transplants. He was by profession a vet, having been trained in Edinburgh, but he was a very good experimentalist and he and I would exchange great conversations about how you would measure this and determine that for many years. But he died a few years ago as a result of an accident, falling off his roof.

From Rochester, I went down to visit a friend in Memphis, Tennessee, on my way to the annual meeting of the Society of Thoracic Surgeons in America, where Darcy was, we were both going. A lot of thoracic surgery, this was in Miami Beach, but I met – – –. in Memphis Tennessee I stayed with my friend Leo Wright and he had just had installed an image intensifier, which was the technique by which, using low intensity radiological beam and using electronics, you could look in a mirror and see the image and then record it on video or on a sixteen millimetre film for angiocardiography. It was some time before we got that technique in Adelaide, but I didn't have to wait until 1970 for it because the radiologists had got some themselves. From there I went down and spent a pleasant time in Florida. It must have been in April and the weather was quite pleasant and there were times when I didn't feel obliged to go to the meetings because they were talking about tuberculosis surgery. So I sat on the beach. The beach would have been no wider than fifty feet. It wasn't very crowded, but it was quite pleasant.

From there I went to Houston with Darcy. The Dean of the Medical School of Houston was a man called Raymond Pruitt, who had been one of my guides when I had first arrived in Rochester. He came from Kansas and he had been a Rhodes Scholar in 1936 at Oxford and had heard Sherrington lecture and said he was one of the worst lecturers he had ever heard. Sherrington is a very famous name in neurophysiology. It was the first time that I had ever driven in a car with air-conditioning and believe you me, it was so hot and humid in Houston, so this was really quite comfortable. But I did catch up with Michael Drew who was there at that time. In Houston, in the theatre, I saw for the first time a resection of the left ventricular aneurysm and it was quite an interesting operation. The surgeon, a very famous surgeon trained by Blaloc, his name will come back to me sometime, insisted that I watch. Actually it was quite interesting, because I was appalled at the amount of blood clot that was attached to the left ventricular wall. Resecting this particular aneurysm, of course, that operation proved to be quite useful in the particular patients, those who had a particular amount of destruction from a myocardial infarction of the heart muscle. I don't think we did very many of them in Adelaide, but when you did, by resecting this muscle you improved function. There are cleverer things done now.

Then I went to Salt Lake City to visit another old friend and he was a Professor of Physiology at University of Utah and he had been in Rochester while I was there. He had devised a particular a method of simplifying the indicator dilution curve which I further simplified. Then we went to San Francisco, to see a very distinguished surgeon called Frank Gerbode. He had been in Sydney and had been responsible for introducing open heart surgery there. I think he must have been there for about a month and one particular person who was working there was a man called Bruce Johnston, who had been an Aberdeen graduate of about the same age as I was. He had been at Rochester when I was, training as a Thoracic Surgeon. In the summer of 1952, his wife who was with him, was pregnant. She was also a doctor doing a Fellowship in Paediatrics and she got polio. There was a very prolonged, severe episode of poliomyelitis and she had been ventilated and she ended up being a paraplegic. It was the summer quarter from July to August/September and her mother came out and they only had a one room flat and I had at this stage, been given a house by a friend of mine Harold Mankin, had gone to Europe for the quarter, so I was looking after his house. I said to Bruce, 'look

I have a house, come and live with me', which he did and he was always most appreciative. His wife, it was a disaster, but she completed her Fellowship, but then, when I was working at the Brompton in 1957, Bruce was working at the Brompton in Thoracic Surgery, he didn't have a position in Cardiac Surgery, though he had worked with Kirklin. In 1960, he was learning with Gerbode and in 1962/63 he was appointed to be the Cardiac Surgeon at the Prince Henry Hospital, University of New South Wales in Sydney. I subsequently visited him. But what happened to this poor man, was that in about 1964 he had a cerebral haemorrhage from an aneurysm and in those days the main treatment was to tie off the carotid artery, which they did and he was rendered hemiplegic. He couldn't operate, of course, and then he turned around and did some pathology, but he died after they went back to England a few years later. The wife, she continued to work she changed from paediatrics to psychiatry. They had four children and she went back to England and I haven't heard anymore. Some families really do have a miserable time. But in San Francisco in 1960, it was still really quite exciting.

I came back to Sydney and then to Adelaide and I had been away three months. Darcy got back soon after I had and then, of course, we started preparations. John Waddy returned in July and we started preparations for the first lot of open-heart surgery. We did our dogs, because having a Melrose Machine, which had been tried and used, we really didn't have to prove anything about the machine. What had to be done was to make sure that everyone was familiar with the techniques and the equipment worked, that the monitoring equipment worked and everything else. So we selected six cases, Hugh Gilmore and I, we were both, as well as being at the Adelaide, we were both Associate Cardiologists at the Children's and spent a session there at lunchtime, each week, looking at children. That's how we knew how many children there were waiting to be catheterised and waiting to be operated on.

Open heart surgery went from then on to great strengths and in 1961, we had a visit from Bill Cleland and had what you could call a National Meeting. There were a whole lot of people from interstate, surgeons, perfusionists, and cardiologists and it really was quite interesting. At that time – – –. (tape stopped)

In December 1962, an article was printed in the Medical Journal of Australia, titled 'Initial Experiences with Open Heart Surgery' Sutherland, Hetzel, Waddy and Pauline

Daniels, the anaesthetist. In this article, we described how it all began and what we did and we listed the first hundred cases that were done. They were mainly congenital heart disease, six out of the hundred died, which was, of course, a very acceptable mortality at the time. There were ten cases of pulmonary stenosis, all of whom survived. There were eight cases of Tetralogy of Fallot, of whom one died. There were thirty-seven cases of ventricular septal defect, of which one died. There were ten cases of aortic stenosis, which had been a debridement operation removing the calcified material and sometimes replacing a cusp, one of those died. These figures, without going into any detail about them showed what a skill Darcy Sutherland had and that all our preparations were working well. When the article was published, there was an addendum to the extent saying 'since this article was submitted for publication, a further seventy-five patients have undergone surgery'. This meant that by December 1962, or two years basically, one hundred and seventy-six patients had been operated on.

Three deaths in hospital had occurred in this group of seventy-five. One of that was a man aged fifty-six years with severe aortic stenosis and associated coronary artery disease, which of course in those days you didn't do anything for the coronary arteries. One of a man aged sixty years with an extensive aortic aneurysm and that was a thoracic aneurysm. And one was a child aged six years with ventricular septal defects, severe pulmonary hypertension and a very small shunt.

By the mid 1960's, Royal Adelaide Hospital Unit was performing twenty five percent of all the cardiac surgery in the country, with a highly acceptable mortality. The units in Melbourne and Sydney were not going as well. There were units at the Alfred, Royal Melbourne, at St Vincent's in Sydney, the Royal Prince Alfred and then subsequently Prince Henry. These units were changing, when anything went wrong, they always thought it must have been the machine, where, of course, some of the time it might have been the machine, because most of the machines were home-made machines, locally produced. It was thought to be easy to produce a heart/lung machine, but it really was an example of what you could do with a very good surgeon. Whatever you had about anything else, if you didn't have a good surgeon, you might as well not do it. Open heart surgery is not like opening the abdomen, if you didn't have the right

diagnosis, you would be in trouble. There were not many occasions when the diagnosis was wrong.

The diagnosis, of course, depended upon the input of those other associates like yourself.

That's right. In talking about this in 2006, I pointed out that there were in effect two teams. There was the diagnostic team, which did the investigation and there was the operating team, which did the repair. Various people were in both camps. For ten years, when I was in town, I went to every operation, generally to put in the monitoring equipment, but also to make sure that what I had suggested, what I had indicated was the diagnosis was right and if there were any complications, to give some advice if it was wanted by the surgeon.

Darcy Sutherland was a very skilled patient man and he was not a slow surgeon by any means, but as he said, 'he was a good Japanese surgeon'. He could copy anyone and certainly we benefited from the work that he put in until 1976, when he left to go to Melbourne. Surgeons like operating, physicians don't always understand that, but the big thing in the surgeon's life is being in the theatre. That's where the task is done, that is where the drama is. Of course, he was approaching sixty-five years of age, which was the time that you retired from the hospital, but generally people were not considered to go on operating. There was nowhere else doing open heart surgery in Adelaide, but the Adelaide Hospital, so Darcy got an invitation to help re-establish properly the unit at the Children's Hospital in Melbourne, which he did. There was a young surgeon there, Roger Mee, who subsequently went to the States, but it got going. Darcy was there, I think, for two years, and then he came back to be Director of the Institute of Medical and Veterinary Science for a few years and then when they got their affairs reorganised, Darcy went out to Flinders to help organise their Outpatient Department. Finally he gave up, but he hadn't operated since he left Melbourne. We had this celebration in February of this year [2006] taking note of what had been achieved in forty-five years of open-heart surgery, but perhaps I will talk more about that later.

In the 1960's, there were not a lot of people who were interested or concerned or who wanted to know about the advances in Cardiology, but in each State there were. In 1963, Bruce Johnston invited me, in April, to go and talk at a meeting at Prince Henry

Hospital. This was, of course, before he had his sub-arachnoid haemorrhage. So I went and talked and gave a paper about the rhythm disturbances in myocardial infarction, where we are talking about the blood supply to the sinus node and the AV node. Brian Barrett-Boyes from New Zealand [was there]. He was a pioneer cardiac surgeon there, who had been in Rochester when I was there. He was the same age as I was, and he had established an open-heart surgery unit in Green Lane [NZ] from about 1958 onwards and was very successful. About that time, he was developing a technique of using homograft aortic valve tissue and they would take autopsied material, sterilise it, freeze it and then reconstitute it and then use it to replace calcific aortic stenosis or aortic incompetence. It was very successful. It was about the same time as a man called Ross, who was South African, working at Guy's and at the National Heart Hospital, again developed the technique similarly.

In 1964, the College Meeting and the Cardiac Society Meeting were in Christchurch, New Zealand and I went with Margaret to spend some time. We travelled to New Zealand and we spent a week in Auckland, talking with and watching what Brian Barrett-Boyes was doing and then we went to the meeting of the Cardiac Society and the College of Physicians in Christchurch and I gave a paper on pulmonary blood flow in congenital heart disease and then we toured a little bit and came home.

In 1965, the New Zealanders had arranged a meeting, again in Auckland at Green Lane this time, by Barrett-Boyes and he had invited John Kirklin and a number of other surgeons, particularly from Australia, but also a man called Christian Barnard from Cape Town. Kirklin was, of course, well established. The meeting was held over a period of two weeks. There was a lot of discussion about the physiological changes and Brian Barrett-Boyes, with Jack Sinclair and a cardiologist had arranged a very good meeting. Kirklin spoke, I think about Tetralogy of Fallot and I gave a paper on a number of cases of very complex congenital heart disease. Afterwards, I remember John Kirklin saying to me, 'well I'm very glad they don't send those cases to me to operate on' (laughter). Christian Barnard was an interesting man. John Stace and I, with a New Zealander David Kelly spent the weekend – the meeting stopped over the weekend, so we went down to Taupo and various places as tourists and David Kelly, who was at that time a Registrar at Green Lane, drove us around. Christian Barnard seemed to have only one topic of conversation and that was where he could get a

woman anytime he wanted. It was appalling. He had worked in Minneapolis, but he hadn't done any cardiac surgery. He had worked with Professor Vangensteen, who was the Head of the Department of Surgery, but it was abdominal surgery and when he had gone back to Cape Town, he had started to develop thoracic surgery. But by February/March 1965, he had only really done closed heart surgery and didn't have much experience. He was a great talker and it was always a fact that in 1968, when another man operating at Stanford had all the material ready for the first transplant, had done all the experimental work from his days in Minneapolis and also in Paolo Alto in California, Barnard stole the gun and performed the first heart transplant.

END OF TAPE 5, SIDE B : TAPE 6, SIDE A

This is tape 6 of the interview with Dr Peter Hetzel being recorded at his home in Burnside on Wednesday, 25th October 2006.

John Kirklin came on to Adelaide after the visit in Auckland and it was an interesting visit. The meeting was held in the Verco lecture theatre which was in use then because the Robson theatre hadn't been created. And he talked about Tetralogy of Fallot. It was interesting, the mitral valve replacement was at this stage becoming established as well as aortic valve replacement with artificial valves. Kirklin was doing the procedure through a sternal splitting incision, whereas Darcy was doing the procedure through the left side of the chest as you would approach the mitral valve for a mitral valvotomy. They both had feelings about the way to go about it and they both, as far as I could remember, had a similar mortality and morbidity. So, later on, Darcy switched to doing it through the sternal split incision. I think when it was done as a left thoracotomy it was basically less physically disturbing as far as pain was concerned than it was with a sternal split incision. It was interesting to have John Kirklin visit because, of course, I had known him for something over ten years at this stage from my time in Rochester. He actually left the Mayo Clinic in 1966 to go to Birmingham, Alabama to head the department of Surgery at the University of Alabama. It was curious to reflect on what might have persuaded him to leave, but it had to do with being already head of the Department of Cardiac Surgery, but I think he wanted to have more of the academic challenge. He certainly set up a very major Department of Surgery and in 1970, Margaret and I visited Birmingham and I spent a week at various things. They were at

this time, of course, automating the intensive care, computerisation, measuring everything right, left and centre.

In mid-1965, I went on another study tour to familiarise myself with what was happening in terms of radiological equipment particularly, but new advances, as it was five years since I was last away. I went to Singapore and in Singapore I met a very pleasant Indian, English trained physician. Cardiologists were not really established at that time and I was asked by the Professor of Paediatrics to give them some advice about setting up an open-heart surgery unit which I spent some time doing and sent it back to him. Curiously enough, I never heard another word. Then I travelled on, from what I remember, from the Singapore Club when I got acute diarrhoea which caused me considerable problems all the way from Bahrain to Vienna. In Vienna, I almost missed the plane because I was in the toilet when they called it. I didn't hear. (laughter) Then I was off colour for about a week after that. I went and visited the Brompton and Hammersmith and attended a meeting at the College of Physicians. It was interesting as they were talking about the Tetralogy of Fallot in which there is a ventricular septal defect and pulmonary stenosis. Many do not survive infancy. Blalock did the operation as advised by Helen Taussig in Baltimore, what is known as a Blalock operation which was to connect the aorta or the subclavian artery on the left side to the pulmonary arteries to bring an increase amount of blood through the lungs. The degree to which cyanosis was a major feature depended not, of course, on the size of the ventricular septal defect, which was probably about in area, probably seventy-five percent of what it was through the aortic valve. But it was the degree of obstruction within the main pulmonary artery or the branches of the pulmonary artery. If the obstruction wasn't very severe, then the degree of cyanosis wouldn't be very severe. The people in London were saying that you shouldn't operate on them and I got up and I said, 'if you can't operate on them successfully, how can you expect to do the more complicated ones', which was not particularly welcome. I felt it was so arrogant of them to get it around the way in which, you don't operate on people who are asymptomatic, but if you are operating on someone with that condition, you should have good experience and of course, Darcy's mortality for operating on Tetralogy of Fallot was something in the order of five percent. Nowadays they operate in infancy when the diagnosis is made and great things happen.

I went from there to the States and I visited New York City, particularly to see Abraham Rudolph, who was a Professor of Paediatrics at Columbia. He had been the National Heart Visitor at the meeting of the Cardiac Society in Christchurch. I spent a very pleasant time with him and I also met a man called Fishman. Rudolph was a South African and had been trained in Boston, but then was working in New York City and then went off and worked in San Francisco, where he very successfully began working on calves, sheep and lambs in utero. He was able to show the direction of blood flow and the perfusion of the various organs that took place in utero, using radioactive beads. A very clever technique. I think he has retired now, he still lives in San Francisco. They entertained me very nicely for the weekend and I went to a restaurant called the Boathouse with them, which was where it was alleged Elizabeth Taylor and Richard Burton frequented.

Anyway, I then went to Detroit and visited a friend from work and then I went to Rochester and spent some time there. I also went to Cleveland because I wanted to visit Mason Sones, he was at this stage, of course, the main one developing coronary arteriography. I wanted to find out what sort of equipment he was using so that we could be equipping our laboratory in due course. I didn't realise that it would be another five years before we got it. At that time, Sones was playing with using stereo imagery and stereo recording. It was a good way of being able to display in 3D within your own head. You got to the state where the coronary arteries were and what they were doing, but it never succeeded. When I arranged for our audits to go out for tender, I had been talking to one of the representatives about it all and they tendered for that and for some other equipment, but in the end, it was Siemen's equipment we took. I was horrified to be told by this man that the tenders had been approved from the hospital's point of view, but I could still change my mind and it made me realise that there was a fair amount of leakage must go on within the hospital in terms of somewhere in the tendering system, because he hadn't been advised officially what my decision was. I hadn't told him. But Mason Sones – – –.-

How do you spell his name?

Mason Sones. He would have a cigarette between each case and he was really slick and really developed the technique. Then I went to Washington, and a man called Eugene Braunwald, who subsequently became Professor of Physics at Peter Bent

Brigham at Boston, Harvard, was at the Institute, the National Heart Institute. It was a dynamic institution with a lot of work going on and I found it really quite fascinating. For a week, I spent the first part with the Professor and then I spent each weekend walking around Washington, which of course, you wouldn't do now. Then I went and visited Robert Craig, who was at this stage working in Durham, North Carolina. Robert, I had known a little bit from his time in Adelaide, and he had been a Senior Registrar and we had talked about what he might do if he had gone to spend a year in San Francisco. Then he was spending a year in North Carolina and then he spent two years in Boston at the Peter Bent Brigham. After visiting with Robert and seeing what he was doing, it was interesting. Then he went to Boston for two years and I visited Boston beforehand to see a man called Richard Gorlin, who ran the Cardiac Laboratories at the Peter Bent Brigham and make sure that Robert had a good opportunity. I went from there to Salt Lake City again, that's 1965, and then to San Francisco and home.

In 1964, I was on the State Committee of the College of Physicians and I was invited by the College to give the Silberberg Oration for the College of Physicians. Silberberg had been a Melbourne Cardiologist, who had bought the first ECG machine back to Melbourne before the First World War. This was a fairly formal occasion and I also had to get dressed up in dinner jacket and present it to the locals, or then it was my colleagues, in Adelaide. The lectureship rotated between various states and New Zealand.

It was Adelaide's turn.

And I spoke, it was December 1964, as I remember it. My topic was on aspects of left ventricular function. I really learnt a lot in preparing it. The other part that was interesting was that I got a fee of fifty guineas for the effort. I remember writing to Robert beforehand, before seeing him, and he commenting that it was an interesting topic. It was good to see him because then I could think about what opportunities might be available for him to come back. So that was 1965. While I was in Auckland, I was approached by one of the cardiologists to know if I would come and be a post-gradate lecturer for a couple of weeks in that year. I said 'No', I said 'I was going to be away a lot and I really didn't want to be away from my wife and family'. Well, the invitation came for the next year and I was invited to come to the Hawkes Bay area, which

consisted of Napier and Hastings and Gisborne and to be their post-graduate lecturer for two weeks. They would pay for my fares and my living and they would also bring Margaret too. So that was very pleasant. So in 1966, in September, we had two weeks and they worked me quite hard. I think, in thirteen days, I had the Sunday off, I think in thirteen days or fourteen days, I gave thirteen lectures and demonstrations.

They got good value from you! (laughter)

I got a fee of two hundred guineas for that, two hundred pounds, I think. Margaret had a good time and I made some very good friends. It really was an experience because they were very enthusiastic group of people and as you would know, when you are teaching and talking to people who have that quality and enthusiasm, it makes it a considerable pleasure.

That's right, very satisfying and a lot of exchange too. You gain as well as giving them, sharing your knowledge. You are gaining from the interchange with them.

In talking about that, I omitted to tell you about when I went to New Guinea in October 1962. Darcy Sutherland had taken a team from the Adelaide, nursing staff and anaesthetists, John Stace and I believe Val Gurr, up to New Guinea some years back to deal with tuberculosis surgery and it was planned that he would go again. The suggestion had been made to the National Heart Foundation that somebody should go and have a look at the sort of heart disease they were having. So I went with Darcy and I spent a week in Port Moresby, a few days in Goroka, Wewak, Madang, Lae and then Rabaul. I found it fascinating from the clinical point of view, because in Goroka I saw two twelve-year-old boys with the most advanced cor pulmonale, heart failure due to lung disease, that I had ever seen. These children's fingers were clubbed, their lungs were totally destroyed, but to see that at this age, this was the sort of disease that you saw in the English Midland, in middle age. To see this in prepubescent boys, it made one realise how awful the infection process was. It was enjoyable and interesting because of the enthusiasm of the medical staff, the young medical staff one saw.

Was that when Margaret Brown was up there? She was in gynaecology actually, but she was at Goroka during the time that I was – – –.

Well this was in 1962. I didn't meet her. Medico Frank Rhodes was in Goroka. In Port Moresby, Lae and Rabaul there was each a physician in each town. They were Sydney graduates in general. A man called Campbell, a very pleasant and able man, was in

Port Moresby and he subsequently came down to the School of Tropical Medicine and later he was the physician in Alice Springs. In Goroka it was Frank Rhodes, who was originally South African but had the London Membership and then in Lae, it was a man called John Duke and in Rabaul, a Melbourne graduate from St Vincent's. But there were two groups of doctors. There were the young ones who had done a cadetship. Basically, they had had fees paid, with a living allowance for the last three or four years of their medical course, to serve two years and at the end of that two years, they got a trip to UK and then if they came back, for another two years. I lectured them about all sorts of things, about clinical signs and also about electro-cardiography. They were a keen and enthusiastic lot. When I was in Rabaul, I met John Alpers who was an Adelaide graduate and was working there and the Health Department had some sort of launch/boat that they would go down and survey people in various places. One helper had gone for over a two-week period and he found a high incidence of streptococcal infection which they wondered which was the basis of what might have been a lot of rheumatic heart disease. The man who was the local superintendent in the health area wanted me to stay and go and repeat the survey and examine these children. I would dearly have liked to have done it but I had three weeks off and I really was due back at home. It was interesting. John Alpers, of course, at a later stage, came back to Adelaide and was a Registrar in the Cardiopulmonary Investigation Unit, then at Flinders and now he has retired.

He is retired now?

He has worked at the Medical and Legal Unit.

I seem to associate him with chest – – –.

Yes, he is a chest physician. He was a chest physician for Flinders Medical Centre and ended up as Professor. The usual thing was to go and get the Diploma in Tropical Medicine and Health in Sydney and then the next rung up was to go and do the London Membership, which was what he did.

I found the weather in Wewak and Madang and the sweating, pretty oppressive, but on the other hand, one survived.

What month were you there?

October. Then I spent a week in Rabaul and Darcy was operating in Port Moresby and went to operate in Rabaul. I found a couple of cases of mitral valve disease and a few patients with ductus. Then there were other patients. We brought down three to operate on here and then there was a boy, whose father John was the curator of the Botanic Gardens in Lae. It was Ross Womersley. His grandfather had been a very distinguished botanist, associated with the museum and his uncle, Brian, who I had known at the University, was a Professor at the University of Adelaide, whom I still see occasionally. John was the older brother of Brian and Ross came down and had an atrial septal defect. We investigated and operated on him very successfully. As one should.

I remember going snorkelling in Rabaul. I can remember Rabaul as a boy, at the time of a volcanic eruption and this island appeared in the middle of the bay. It was still there, this whale of a thing. The Japanese had explored all the caves in this part around the harbour in Rabaul and they found underwater caves which they used as a submarine base. I went snorkelling in this area and I found it incredible and talking to my son-in-law about it and he had dived there later on he had been through the same lot, he is a keen diver and had dived there. I remember going off, snorkelling across, you come to the edge of the reef, there was nothing there but total depth (laughter). It was quite disconcerting and you come back .. … … … (laughter)

[This fish] play a game with your toes. I did my only snorkelling off the north east coast of Papua, Dogura area, where you could never imagine that there was that sort of scene underwater, like falling into an overstocked fish bowl.

Yes, Margaret and I did a lot of snorkelling since then in various places. Anyway, we are getting back to 1965. In 1968, Robert Craig returned and he was appointed Assistant Director of the Unit. It was fortunate because most times, for instance, when Michael Drew came back in 1962, the most one could achieve was that of a Senior Registrar. When I came back I was a Senior Registrar. But it was very good [for Robert] because he could then immediately have an outpatient session in the clinic and the right to private practice. By this stage, it was no longer considered necessary to be a member of the Honorary staff to have clinical responsibility. I don't remember exactly when that ended but Darcy Sutherland became full-time, probably around about 1965/66, not earlier. I hadn't gone full-time until 1969. I had always – – –. how

much time have we got? (Pause) In the 1960's the Queen Elizabeth was, of course, well established and the Adelaide Hospital was running in its usual way, but a lot of us felt that the Honorary system did not provide enough time adequately for the care of patients. Senior Physicians would spend two half day sessions a week, doing ward rounds. Assistant Physicians would spend two half day in outpatients and would have four beds. Teaching was conducted by both groups and, of course, Physicians would come in, in the case of emergencies to advise. The Surgeons would spend three half days, two of which were operating days and would always do a ward round associated with their operating days. The Assistant Surgeons would, I think, also spend three sessions, but I think they had two outpatient days and one operating day. Clinical Assistants had no status at all and had an annual appointment. If you were appointed an Assistant Surgeon or Assistant Physician, I think it might have been reviewed at three years, otherwise it was until you reached the age of sixty or had completed twenty years as a Senior and then you should retire. Of course, with some people, war service was counted, if you had served in the war that was additional time you were granted in the twenty-year rule, which meant the Honorary Staff retired at sixty.

There was a group of us who were the younger ones, both at the Adelaide and at the Queen Elizabeth and we held a number of meetings trying to see how we could go about changing the system. The question came up in the late 60's and there was a lot of discussion and a lot of anger. Anger on the part of some people because they didn't want to change. Concern on the part of some people because they thought the government would gain more control over their everyday life and they didn't want to be salaried, and the conservatives felt that the system as it had been was perfectly all right. I was a member of the Honorary Medical Staff, which was the Staff Society and I can remember talking quite strongly about this in the staff meeting in the Verco lecture theatre, advocating the need for change and that really what the problem was that the physicians in particular needed to spend more time in the hospital to be effective. I might as well mention his name. After I had spoken once, Allan Lendon who was a very conservative surgeon got up and said, 'If Dr Hetzel's father had been here and heard him speak, he would have taken his son from the room, put a bag over his shoulders and led him sorrowing, with his head bowed in shame at what he had been saying'. My friends around me remonstrated with me not to reply, but the thing

was, of course, that my father was in total agreement. He had retired from the hospital in 1957, but he could well see that he needed to spend more time in the hospital. When you were looking after your patients outside, you saw them every day, when you had them inside RAH you didn't see them every day, you were dependent on the Registrar or RMO to keep you informed.

So, discussion went on and it came to a head when the members of the staff of the Royal Adelaide Hospital and the Queen Elizabeth met together with the AMA. JR Magarey was a key proponent for the Queen Elizabeth Hospital and I think Darcy Sutherland and some of the other ones, I don't remember, but the Honorary system ended in 1970. In the discussions with it, they made it clear that the medical staff should be allowed to continue until 65, until the twenty-year rule was moot point. I'm sorry, until they were 65, instead of 60. The salaried staff could go until they were 65.

In working out the payment, I don't know who it was, but I think it might have been JR Magarey, pointed out that because they weren't getting superannuation, the payment that was made to the visiting staff on a sessional basis should have a component that was recognised instead of superannuation. That, of course, was very helpful. The AMA interstate, I remember a man who had been the treasurer of the AMA, he was subsequently knighted from Sydney, he said that was - to stop the Honorary system and change to a salaried system was the greatest disaster in Australian medicine. That, of course, was the conservative attitude. The other states, of course, followed in the same way. I don't know who came first but it didn't really matter. One of the problems that remained was that the salaried staff, by virtue of the Public Service Act, if they were full-time, could get superannuation. I was not full-time but I was employed under the Public Service Act and I complained many times to Mr Rankin, the Administrator of the Hospital, about not being able to have superannuation. It so happened that at the Queen Elizabeth, Alan Kerr Grant, who became part-time Director of Gastroenterology, had been granted superannuation, even before the Honorary system went out. When the changeover took place and John Waddy was, by this stage, the Honorary Cardiologist for a few sessions at the Queen Elizabeth, he was given superannuation as a part-timer. Somebody made a mistake and they said to him a year later, "We made a mistake." He [Waddy] said, "Well bad luck, I've rearranged my affairs accordingly". He wasn't going to change back. So he could

get it and here was I. I complained about this and my position. This was before Robert Craig came back, and I was saying, here I am working five sessions and getting paid and for two sessions Honorary. Rankin said "You don't understand it, we have you for thirty seconds of every minute' and that's what it was like. That's how I was getting worn out because you were sort of virtually perpetually on call. We hadn't started a coronary care unit." At that time, but we did soon afterwards and it really was very demanding. It got to the stage in 1968, that I thought I would have to either go full-time or leave, get out of the hospital and figure out what I wanted to do.

END TAPE 6, SIDE A : TAPE 6, SIDE B

In my clinical practice, I had a number of friends of my father or those of his generation, who were surgically oriented in their profession and really were not in the position to stop work. They had absolutely lived up to the height of their income, which had always been considerable and they needed to go on operating, but their referral base of course, was falling away. Their fees were not being stopped, but when they were leaving the hospital at sixty and some of them were Knights, they really couldn't afford to stop work. The plight of the visiting staff, not having superannuation, again concerned me and in 1980, I became President of the South Australian Salaried Medical Officers Association, which was the organisation which was basically set up a few years before to look after the affairs of all the doctors employed by the government. This meant those in the prison service, those in mental health, those in the hospital service, everyone.

My contact with the Salaried Medical Officers Association was as a member and initially had to do with things called 'service charges'. Mr Rankin, the Administrator of the Royal Adelaide Hospital, introduced a scheme whereby those of us who could have the right of private practice in the hospital (because there was nowhere else cardiac surgery was being done) were using the facilities of the Adelaide Hospital for investigations, such as cardiac catheterisation, electrocardiography, certain techniques there and in the radiology department. Also John Waddy, as perfusionist, but under the Medicare schedule, there were items attached to these things. He [Rankin] deemed that we should pay half the fee as a service charge. That was in a sense all right, but it

was, of course, if you say they were using equipment, the surgeons never got billed. The surgeons might be using equipment to do a cystoscopy or the surgeon might be using a bronchoscope, or the surgeon might be having the facilities of the heart/lung bypass machine and they were using their skills and we were using our skills to push a catheter into the chambers of the heart or plunging a needle into the heart. We never got anywhere. I don't think the administration would take the surgeons on. The rest of us were small fry and this was a continuing argument, added to which was the question of the right of private practice in the hospital. As far as I was concerned, when I started to work in the hospital as a Consultant, it was important to have the right of private practice because you brought people in to catheterise them, you did various things. You had them sick and you brought them in because you wanted to have them in the hospital. You might have had people in the Memorial or Calvary with heart failure, but complicated things – – –.. So then, was the question that if you were full-time, what part of your income that you gained in private practice might be taken. How much would be deemed appropriate, and if you earned more than twenty-five percent, then you paid the rest into a particular fund for the department for whatever purpose, travel or expenses or something like that. When it was first promulgated, it was twenty-five percent net, which, of course, as far as I was concerned it was alright, as I paid my service charge in what I had left. The hospital didn't really understand that distinction between net and gross (laughter) and we had to provide a return each year from our accountant and you did that. Somebody submitted the whole thing rather than their net and the Department woke up and started to make a fuss about it all. Then we argued about the service charges and that sort of things. This is how I got involved into the affairs of SASMOA.

I had various ways of calculating it and tried to show it and I put forward a proposition to Brendan Kearney, who was at that stage in the Health Commission, but I didn't get anywhere because he didn't get round to fixing it. In 1980, when I became President of SASMOA, I tried to find a way in which we could provide superannuation for the visiting staff and I talked to someone who said that there is a Section 27 AAA of the Income Tax Act which governs parliamentarians and may be relevant. The AMA had a man called Graham Thomas, who was their sort of insurance advisor and I spoke to him. He and I would go and talk to the Taxation Department at eight o'clock on a

Tuesday morning to try and point out what we needed to do. Because what I realised was that because there had been within the scale of money provided to visiting staff there was this clause about superannuation. So I worked out that if we took ten percent out of their salary before they got it that could be the contribution that the government made. The government didn't need to spend any more money and continue to put in five percent. Anyway, I prepared all this and sent it up from SASMOA to the Crown Law Office. The Crown Law Office said that this is immoral that they are getting something for nothing. They didn't understand, I couldn't believe that people couldn't understand. What we wanted to do was set up an arrangement with the Tax Department so that it wasn't taxed, so that we could establish a fund. It took us a long time, because the man with whom we had to deal in the Taxation Department hated doctors. In his competition to be President of the Local Tennis Club he had been defeated by a doctor (laughter). Finally, we had to complain and we then dealt with someone else and we got approval. We were then able to establish a Visiting Medical Officers Superannuation Fund. The government approved it, as it didn't cost them anything, because it was then a salary saving, because this ten percent came off and we didn't get taxed on it. This could be invested to create a fund. The big thing was to persuade the doctors to join. Some said they couldn't afford it. It wasn't compulsory, you see, you took a salary drop if this went on, it wasn't a big salary drop of course. One of the problems with some of the younger ones who were under forty was, there was a limit on what they could take for superannuation, so they were prohibited from putting only five percent in, which is what happened if you were under forty.

Anyway it went on, and I got this established and it then overcame the argument of the visiting staff saying that they weren't getting superannuation. I felt that professionally, it may seem odd, but that's was one of the proudest achievements in my life. I had understood a bit about superannuation because I had become Chairman of the Council of PGC/Seymour College and I understood about how their superannuation ran and what they did.

It meant that in the time that that was created and they retired, some retired with a lump sum of one hundred and seventy, one hundred and eighty thousand dollars. It had been difficult to find and then to sort out what company, what insurance company the money could be deposited in. We sent out to tenders and Graham Thomas was a great help in

that and finally it worked out. I think we used Colonial. When I retired from the hospital in 1989, I stayed on that Board for the Superannuation Fund, which was made up of the Medical Officers, for another couple of years, but in that time we had investments of thirteen million. Of course, later, superannuation was all taken over by the government and it has all changed. I don't know what has happened since.

But you had to work to get something established to make it equitable. So you gain many skills as you go along, don't you?

You do, you learn new things. I had prior to this, in 1980, after the Bright Commission had gone over and changed all the arrangements for the hospital, I felt it was time to change my direction. In 1968, I applied to be Professor of Medicine at the Queen Elizabeth. I got an interview with an interviewing committee of thirty-two people, but I didn't get the job, for which I am thankful. I also applied for the position of Dean at Flinders Medical Centre in 1969/1970 and I worked quite hard on my preparation. I got an acknowledgement but no interview. In 1980, before I became President of SASMOA, I applied to be Chairman of the Health Commission. I got an interview and I got a second interview and they wanted me to take the position of the Deputy Chairman. I had always thought the Deputy Chairman would have the financial responsibilities and would need to have all this sort of guidance. A man called Bernie McKay got the position and I continued to be Director of the Cardiovascular Investigation Service. My friends, whom I got as referees from outside, endeavoured to persuade me not to take the job. I got a fair way, but I didn't think I had the skills to be financially responsible. Brendan Kearney was appointed later.

McKay came in first and then Brendan?

Brendan became the Assistant, he did the job they wanted me to take.

Yes, I see. That was the one where you felt that your knowledge of the financial aspects – – –.

I didn't think I had those, I had some skills, I knew about budgeting and that sort of thing, but I thought I was better of to be up there, the ideas person.

He had a different background, what was the difference.

He had been a Medical Superintendent. So that was my exploration into, what you could call industrial affairs.

Yes, absolutely, involvement well and truly.

The other aspect that I experienced as President of SASMOA was to make an industrial claim relating to wages. This, of course, was a source of continuous illumination because the people who arranged these things made things called 'Ambit Claims'. You ask, for instance, for eighteen percent and hope that you might get twelve. The Public Service Office were very difficult. Two years before, the Resident staff had decided not to apply for an application for increase wages, as it was supposed to be done on a two-yearly cycle, because they were concerned about the fact that some of the recent graduates may not have the opportunity to get an internship and they thought that their contribution would be not to ask for a salary increase, which was, of course, was in their sense a sacrifice, but it would also have to be described as a noble act. When we came along in, I think it might have been 1981, to go through the machinations with the Industrial Court to receive an increase (because the Government never offered anything.) I was amazed to find that the Public Service Representative abused the Resident staff for the fact that they hadn't applied two years before. That to me was a reflection of the overall attitude of those people in the Public Service Staff. It is no wonder the people are always so irritated. In any case, we went through with the assistance of a man called Brown, from the Federal AMA office, who knew about all these things. I sat in court and heard a number of people who had given evidence and a number of people who produced charts of the hours that they had worked and the whole issue was really about being paid for out-of-hours duty. At that time you were on a fixed salary. The man who was the Industrial Commissioner, a man called Russ, who came up through the metal trades, he seemed to be fair, but he bailed out because he said that 'we were scholars and gentlemen and therefore our salary included everything we did'. Of course, later on this was corrected but the other part of it that I found really strange, was at the end of the hearing which went on for some day, we took him out to lunch. I couldn't see how proper that was, but he seemed to except it as routine and certainly Mr Brown accepted it as routine and all I could do was be slightly surprised if not slightly horrified. We got, I think, a small percentage which was something like twelve percent from memory, but it had no reflection on any of the other issues such as private practice. It really was a most unsatisfactory judgement, but that reflected just the attitude of both the Industrial Court and the Public Service Commission. I'm glad I never had to do that again.

Perhaps I should go back a bit and talk about the techniques of cardiac catheterisation. When I had my initial training in 1952 at the Mayo Clinic, I learnt that the whole procedure was conducted like an operating theatre. It was gowns and gloves, masks, the whole lot. You had a sterile area, cleaned an area in the forearm or the groin in which you worked, which you cleaned up and it was all suitably draped. Great care was taken to clean the catheters each time because they were not disposable and they were really quite expensive. The result was, that one was used to using gloves. When I went to the Brompton, in the beginning of 1957, I was absolutely horrified that they didn't use gloves. They just used gowns, no masks and they cleaned up the area, and those conditions were sterile, but there was the tradition that you could twist the catheter much better if you were using your bare hands. I insisted that I be given gloves, because I didn't think that was sterile. Anyway, having put up with me they went to gloves too, but Paul Wood never used gloves and I think that he was a good manipulator but so was Allwood and so was I, a reasonable manipulator by this stage. We could pass the catheter and get into the various chambers without too much trouble. Our access was to the right side of the heart and many patients we saw had mitral valve disease and there was a question of assessing them properly, because of their mitral stenosis or mitral incompetence from rheumatic heart disease. The difficulty was learning what the left atrial pressure was. So it was discovered that by working the catheter in a smaller pulmonary artery, what you got was a reflection of what the pressure was in the pulmonary veins. This of course was a reflection of what the pressure was in the left atrium. In Rochester there were a lot of measurements to compare, done in the operating theatre from patients who were undergoing mitral valvotomy. Then there was found a very satisfactory way of measuring the left atrial pressure. You could see if this was in sinus rhythm and you could see the A and the B waves and the X and the Y dips characteristic, without any difficulty. With mitral incompetence you had a large V wave and, of course, quite often the patients were in atrial fibrillation.

Before I left Rochester, a technique had been introduced of trans-thoracic left atrium puncture. The right heart catheter was introduced and the tip was placed in the pulmonary artery and the needle was in the radial artery. The patient was turned over so that they were face down. The back was cleared and was cleaned and sterile and a

long needle was introduced from the right side of the chest in advance of the aorta and at a particular height and under fluoroscopic control introduced into the left atrium. This was a hazardous technique. I remember on one occasion where the needle went through an intercostal artery on the way in recording the pressure and then it recorded the same pressure as the needle came out. The problems with patients with pulmonary hypertension (and you must remember that this was before echocardiography, many years before), was to determine whether or not they had mitral valve disease. Under these conditions when the cardiac output was very low and the patient was in heart failure, the murmurs were not as readily heard. I performed this technique a couple of times with Earl Wood directing me, but on one of the occasions in which he did it and I was assisting, when the needle went into the left atrium, the patient sort of gave a sort of a gasp and then jumped and arched his back a bit and he then started to deteriorate. He died before we could do anything. At autopsy, he had a small left atrium and when he had made that movement, the needle had gone on through and pricked the aorta so that he tamponaded very quickly. That was a very awful experience because the conditions of cardiac catheterisation were anyway, primitive at that time, because we did not have external defibrillators until 1960. It was the anticipation that you had a thoracotomy tray and with a pericardial hook so that if the person did enter into ventricular fibrillation you had to open the chest immediately because that was the only way you could expect to defibrillate.

I saw this happen a couple of times and, of course, no patient survived this procedure, mainly because they had something wrong with their heart which made it a bit difficult to revive them anyway. Internal defibrillation was the established technique for the surgeons who already had the chest open but it was really fairly unsatisfactory, so that when external defibrillators came in, it resolved that to a considerable degree. If you acted quickly, you could re-establish normal rhythm. So the problem was to measure left atrial pressure. There was a technique developed by which a bronchoscope was used and from the left main bronchus, a needle was introduced to the left atrium. This was unsatisfactory because you weren't always able to determine exactly where you were. The next technique that was developed was a Ross needle and then modifications at the … … … …

… needle. An incision was made in the right groin and a catheter sheath was passed up into the right atrium and through that sheath was a long needle and the needle was curved at the end. You positioned it under fluoroscopic control so that by advancing it you had to cross the atrial septum, then you could pass that catheter across into the left atrium. It wasn't an easy technique and the modification by a man called Brockendrough produced a sharper point and a narrow point, so you could go across more easily and of course, you withdrew the needle. Many people developed skill in this with being able to pass a catheter from the left atrium to the left ventricle. I remember doing this on one occasion. We used it quite a number of times, never very comfortably, but on this occasion I passed the needle across and felt it go through some tissue and thought I was in the left atrium but I was actually perforating the area of the right atrium. I aspirated, as you did, to see what colour the blood was, and I got pericardial fluid and I thought to myself, it's a mistake, but perhaps it a good way to do an aspiration and then I can take out the fluid while I was there. Then I thought again, I thought no, if I alter the dynamics of what's in the pericardium the person will bleed afterwards and I will get a tamponade or at least blood in there. So, I put the fluid back and took the needle out and did it again and that time with more success.

Literally thinking on your feet.

The technique that I learnt at the Brompton was left ventricular puncture. The patient lying on the table face upwards as usual and local anaesthetic introduced about the apex of the fifth left intercostal space and then you passed a long needle attached to a manometer through the chest wall expecting to miss the lung and go directly to the left ventricle. This was a very satisfactory technique when you were studying aortic valve disease, in particular aortic stenosis. It was common practice to, what was called the … …. Technique, a needle into the femoral

artery, with a wire passed through the needle and then a catheter passed over. The needle was taken out and the catheter passed with the needle inside and then you introduced the catheter and you could then remove the wire and pass the catheter retrograde up the aorta, and approach the aortic valve; and if possible, cross the aortic valve. In aortic stenosis this was sometimes difficult, so it was important to be able to measure the gradient, the systolic gradient between the left ventricle and the aorta in assessing this. The other part of it was essential, of course, that I maintained, was to

measure the cardiac output at the same time, because you were expecting to have a gradient of eighty to one hundred millimetres of mercury. But if the patient was in heart failure and output was low, that gradient might be forty to fifty and you might wonder whether if that was high enough. But if you measured the output, then you were able to make some sort of calculation using a thing called a Gorlin formula, which, with various assumptions, was used as a means of grading both mitral and aortic valve disease, particularly stenosis. When there was any degree of incompetence, this made the measurements much more difficult to assess.

It was important in using left ventricular puncture to know whether the patient had ischaemic heart disease, because if you crossed an area of infarction then that would leak. I had seen a patient die from pericardial tamponade under those conditions at the Brompton. Fortunately back in Adelaide when I introduced the technique, we didn't have any of those complications, but we used it for many years. I don't know whether they do now, but they don't do many what you could call measurements of gradient and most people are able to get the catheter across the aortic valve retrograde. Of course, that technique, the retrograde catheterisation of the aorta, is the technique used nowadays, largely for performing coronary arteriography, but I will come to that a little bit later.

Those were really the basic techniques that we used for measuring pressure. Measuring cardiac output was either by the Fick method which required, as .. … had shown, mixed venous oxygen content from the pulmonary artery, or the indicator dilution technique as developed by William Hamilton in Georgia, probably about the time of the Second World War. That was the technique in which I had been trained and found very useful in Rochester and it was the technique that we basically used, though we would occasionally do a Fick output, but the Indicator Dilution Technique was what gave us the cardiac output. Some years afterwards, the whole thing was computerised and the machinery did the answer, because it was a technique that after the measurements were done, the process was a somewhat tedious thing, but it wasn't impossible, and it was reasonably accurate and repeatable. Those were the conditions under which we made measurements.

In 1952 to 1963, our technique using x-ray was just by fluoroscopy, and patients received quite a considerable dose of radiation under these conditions, particularly if you were having difficulty. Then image intensifiers were introduced. I saw an image intensifier in Memphis, Tennessee, when I went to visit this friend of mine and he showed me his image intensifier. In those days, you used mirrors to look at it but the image intensifier was basically used as a television camera to give you a better picture. You had to sometimes look at the mirror to see it initially, but then it was available fluoroscopically, but what it meant was that the radiation dose could be considerably reduced. Therefore, if necessary you wouldn't be so concerned about radiation. In due course, it meant that the operator got less radiation. Nowadays, those who do a lot of coronary arteriography wear a shield for the thyroid and also some glasses which protect their eyes from radiation cataracts because there are many more procedures carried out now for coronary arteriography. So the introduction of image intensifiers meant that we had access to cine-radiography and we would inject the radio opaque dye, if it was into the chambers of the heart under ordinary circumstances, such as when we used the … … … … … … machine that I mentioned earlier. It would be a powerful injection to deliver perhaps forty mls very rapidly for taking pictures. When you outline the coronary artery, you use a hand injection and perhaps up to eight mls of radio opaque dye. The advantage, of course, an overwhelming advantage of using image intensifiers, is that you could record it on video and look at what you had achieved in doing it. It was also recorded at that time on sixteen-millimetre cine film, subsequently developed using a Tagarno machine, then you could run the film back and forth and examine in great detail, which, of course, you needed to do for coronary arteriography.

In 1962, a man called Mason Sones introduced a technique of coronary arteriography. He introduced it using a cut down on the right arm, whereby an arterial catheter was introduced, one for the right and a different one for the left coronary arteries. An injection was made into each of those arteries in turn and the patient was lying on a cradle which then turned and rotated so that you could get the view in different planes. This enabled considerable detail. Another man had performed or attempted some coronary arteriography earlier, but this was before defibrillation.

END OF TAPE 6, SIDE B : TAPE 7, SIDE A

This is the beginning of tape 7 of the interview with Dr Peter Hetzel. The date is the 1st November 2006.

I was just commenting that before Mason Sones, somebody had performed four attempts at coronary arteriography and the patients had all died from ventricular fibrillation because there had been no external defibrillator around at that time. I visited Mason Sones in my 1965 study tour and observed his technique, and you will recall that I had been learning about stereo-radiography, but this was not the technique that we used. Cardiac catheterisation progressed but it wasn't however, until Robert Craig arrived back from his four years in the States, having performed coronary arteriography in Boston. He was the first person to perform coronary arteriography, here in Adelaide. We were able to do this, of course, in 1970, with much more skill, but we had actually performed some coronary arteriography from 1968 onwards. It wasn't, of course, until 1970 that the techniques for coronary artery surgery had really started to be applied, at least in Adelaide and elsewhere, following the surgical developments of the Cleveland Clinic. When we achieved our new laboratory, then we were able to perform coronary arteriography with greater zeal. Robert Craig and John Waddy, I did some initially, but they were the two who went on performing the technique together until each of them had become satisfied at their own skills and they operated separately. Could you just stop for a moment?

Cardiac pacemakers became available in 1965, but there were models that could be introduced, with catheters that could fire off as a single chamber in the right ventricle. In 1965, there was no really satisfactory implantable device. It was possible that the first lot that came could be surgically introduced and then the technique developed where a trans-venous electrode could be introduced through the … stop for a moment, thank you.

The electrode, which was very much like a cardiac catheter and covered in the same way, was introduced via the right atrium into the right ventricle in the venous channel and then from the venous introduction, usually in the subclavian vein, the connection was made with the battery unit which was implanted below the diaphragm, usually in the fat on the right side of the abdomen. Then, rather uncomfortably, the electrode was

passed down through a series of manipulations subcutaneously so that it could be connected to the battery. The first lot of pacemakers were fixed rate and the rate was generally fixed at about seventy and it beat willy nilly, no matter what was happening with the patient's heart. It was a device that, of course, helped many people who were otherwise dying from heart block. Heart block at this stage was a common feature in the elderly and the technique was really very satisfactory. It had taken some time to overcome the problems of infection which were experienced and I saw something about this in 1965 at St Georges Hospital (London), but this way of placing the battery source underneath the subcutaneous tissues in the abdomen was really very satisfactory. Subsequently, introduction was made through the left subclavian vein and the battery unit was implanted below the left clavicle, which was alright unless you were left-handed and wanted to shoot a rifle.

The machines have gradually, of course, become more sophisticated and now there are dual chamber electrodes which overcome the problem of losing atrial contraction, but before that, there were those that could be turned off, so to speak, when a ventricular beat occurred of its own accord, then the pacemaker didn't compete. There are many people whose lives have been prolonged for something like twenty years as a result of having a pacemaker introduced. Of course, there were some elderly people who had been thought to be demented, who were running at heart rates of forty-five and then when we introduced a pacemaker and they paced them when they were in their eighties, and they took on a new lease of life, which really was quite amazing.

Functioning returned.

Battery life was probably of the order of three to five years and now it is of the order of ten years, and units are much more complex. Nowadays with evidence that defibrillation is the common mode of leading to death in patients with heart failure, medication was used initially but now defibrillators, internal defibrillators, inserted in the same site as where the pacemaker is put are inserted and this leads to prolongation of life. These units cost about twenty thousand dollars each.

There were these developments that took place and have gone on since. The problems with x-ray equipment, like everything else, was persuading the hospital that they didn't last forever. The hospital and the government's policy was never to amortise

something so that there was money available and set aside when replacement was necessary. We got our new cardiac catheterisation laboratory in 1970. By 1978, it really wasn't up to modern standards. I prepared a document at some length and I maintain with a certain amount of skill, but certainly not enough persuasion, to point out that we needed to replace this equipment. In the meantime, further changes were taking place and we did get a replacement but not in the ordinary way, we got new equipment in a new laboratory on level six in the theatre block. This became available in 1982. The corner area had been taken over and changed. We had new clean up areas and that sort of thing and there was some argument with pulmonary colleagues, particularly Dr Antic, over sharing of space.

The laboratory that started in 1982 proved, of course, very useful and angioplasty was introduced at that time. Dr Mahar carried these out initially. I retired from the Cardiovascular Investigation Unit in January 1985, having held the position for twenty five years. Robert Craig had come back in 1968 as an Assistant Director, but in 1976, he felt the need to establish a greater private practice, particularly at that stage I think he had four sons and later to have a fifth. He then became a Senior Visiting Specialist and, of course, continued to catheterise and have access to the laboratory and that was the way things operated for some time. There was no other Assistant Director appointed. I had a number of trainees going through, two of whom, Philip Ludbrook and Christopher Wyndham, went off to the States and I had an extra position created in the early 1970s, but neither of them was willing to return and I lost that position. Then when Robert moved to be a Senior Visiting Specialist, there was at that time no other appointment. Leo Mahar had come in to work in Cardiology after he had served his time in the army. He did not go to Vietnam, but he was trained as a physician during this period of compulsory selective service. He came back to the hospital and was working in cardiology, preliminary training for the MRACP. In 1972, he became interested in becoming a Cardiologist. He had all the necessary training and in 1976, he had received a Heart Foundation Fellowship and was spending a year at Hammersmith. Subsequently he was able to spend a year in Rochester, Minnesota, working in the paediatric catheter lab and generally gaining further experience. He returned and then we got him an appointment as a Staff Cardiologist and it was he who went on and became my successor in mid-1985. He has continued to and is now the

Director of Cardiology and then subsequently the Director of Cardiovascular Services, following the retirement of Robert Craig. [Just stop for a moment please]. Echocardiography became available in the early 1970s and John Sangster embraced this particularly, as well as Leo Mahar, and the Echocardiography Service was established three or four times a week initially. Of course, it is a very frequently used service now and many changes and developments have taken place. It had always been the difficultly in catheterising in congenital heart disease when you had a central vessel, which might be the aorta, which might be the pulmonary artery, in which you found arterial level pressure and you had to try and establish what that vessel was. Whether it was a case of truncus, for instance, or whether it was the aorta coming in at an abnormal position. Echocardiography did help in that way, but, of course, it wasn't carried out when the catheter was in place, but it helped to establish the position of the main vessels as well as the chambers. It is a technique which has reduced the need for cardiac catheterisation in many circumstances and it has certainly helped in the study of myocardial disease. One of the difficulties in managing people with heart failure initially, had been to distinguish between constrictive pericarditis and myocardial disease and certainly echocardiography has facilitated this. One of the problems of constrictive pericarditis in terms of looking at the pressures, is that it is very much the same in diastolic pressure style for both myocardial disease and for pericardial disease. There are many other contributions which, of course, echocardiography has made. It is portable, taken around the hospital if necessary. It can be used in an emergency to pick up tamponade, to detect abnormalities which may have occurred in the aorta. Of course, nowadays, coronary arteriography is performed in emergency situations, so that it is necessary for the laboratory to provide a night service, which overcomes some of the difficulties and may well save some patients from having myocardial infarction. Thrombolytic therapy has assisted in terms of dealing with myocardial infarction, but it's not usually the role of a cardiac laboratory.

The other aspect which was developed particularly as we got our new equipment in the new part of the building was exercise and stress ECG. Patients were exercised on the treadmill at standard rates and at standard times under what is call the Bruce Protocol and you compared these things. How a patient got on, for instance, how long they could last, what their expected duration was and then what happened to their ECG

at the time and if they developed chest pain, what changes there were in the ECG. The use of radionucleide was a further assistance to this. We would exercise the patient and at peak performance they would have an injection of a radionucleide given intravenously and the heart immediately scanned to see what the perfusion was like. If there was severe ischaemic disease, of course, there would be patchy perfusion. But if there was, in fact, ischaemia and you would compare the findings, for instance if the test was done in the morning, the patients would come back some hours later and at rest, you would compare the pattern and the distribution of the nucleide. If a patient had sustained a myocardial infarct, there would be evidence of a scar, both on exercise and at rest. If there was no evidence of a scar at rest, then obviously the signs that were present on exercise were those of ischaemia. This was a very useful measure in assessing chest pain before proceeding to coronary arteriography. The techniques for cardiac catheterisation and cardiac investigation, of course, have undergone further change with the introduction of MRI and this is not for me to discuss.

One of the hopes that one always had in running a laboratory and measuring things was that we would be able to conduct a certain amount of research. I've indicated that we were very busy, or at least I was, particularly in the period until the arrival of Robert Craig from overseas. I had carried out some studies on aortic valve disease and in particular on the relationship between flow, ejection period and pressure in trying to sort out those patients who had some degree of aortic incompetence. I gave a paper on a couple of occasions to the Cardiac Society but nothing was further published because there were other things to do and I was busy. But when Robert Craig arrived in 1968, I felt that we would be able then to start a research program and one of the different ways in which I wanted to approach things, was through mathematical modelling of the heart. The Professor of Applied Mathematics was a very old friend of mine, Ren Potts, and I approached him to see whether he had any Honours students who would be interested in coming to work. A man came whose name was Arieh Helfgott. Arieh was born and educated in Israel. He had served in the Israeli army in the 1967 war. He had been trained as an engineer with a considerable mathematical background and after he had completed his training and post-graduate training from civil engineering, he had gone to work for a research institute in Geneva called Battelle. This was a private research institute that would send a man off, or a woman, to study particular

mathematical problems. One of the things that he had worked on was working for Boeing, positioning the engine in the tail, the third engine in the tail of a particular Boeing, the number of which escapes me. He came out to Australia to work on a sampling problem for Western Mining. He liked the country, he found it attractive and he had approached Professor Potts to see if there was any opportunity. Well, we talked at length about the heart and the function of it, Robert and I, and then spent time with Arieh and with a man called Tuck, who was at that time, I think, Reader in Applied Mathematics. The result was that Arieh Helfgott came to work with us and, interested in activation and the way in which the heart was injecting, I had established a relationship with the Weapons Research Establishment and they had some very fast cameras used for tracking rockets. Believe it or not, with Darcy Sutherland's agreement, we were able to photograph the exposed heart at a speed which enabled us to look at the way in which it contracted. It was quite a technique. The cameras would be brought in and lined up, but the light was the important thing. For instance, we were initially framing at five thousand frames a second for about three seconds and that was far too fast. What happened was, we had to have the camera and the light so positioned over the exposed heart, (the whole procedure only had to take a matter of a few minutes because it really was in the middle of an operation.) Then you had to build up the intensity of the light without burning the heart, so that then the camera could operate on, so the whole thing was very careful and clever timing, which was done by a very able technician from Weapons Research. He was fascinated by it all, of course, and we were able to then develop a technique of splitting the image, by putting little platinum markers on the ventricles and splitting the image with a mirror so that we were able to get 3-D pictures. This really was quite a technique. I had got a grant from the National Health and Medical Research Council of a few hundred dollars to assist and this paid for it all. At the time we did it, we were then able to cut down the rate to about two thousand frames a second, which, of course, gave us a very clear picture of what was happening. After this was done, I went overseas on a study tour and we didn't do any more and we never wrote it up, which was a pity in a way. It was written up by the technician from WRE and it was published in a technical journal, but we never got a copy of it. But Arieh has kept these particular films because the whole of the laboratory has changed and he tells me he has them in his possession.

He was doing a PhD in Applied Mathematics on the subject of Mathematical Modelling of the Heart. My problem was that he kept on going, because every part of it became more interesting and I think it took him ten years to complete this thesis, but within, it had seven different theses. It was a really quite a remarkable document and when it came to the question, we had published a little bit of theoretical work earlier, but when it came to publishing it in seriousness, his attitude and mine were different. I believe you carry out research and you publish it for the world to know, but he had been exposed to the atmosphere of a private research institute and he was concerned about intellectual property, so we really didn't ever publish it. His thesis, which is probably a couple of inches thick, is really quite a considerable volume because he looked at all sorts of animals, in particular in the way that the squid contracts to eject water and everything like that.

I tried to get – we got some small grants – but when we wanted to get a major grant to support him, my problem was, as interviewed, I was rather taken to task by those interviewers, that I hadn't published anything for some time and that I really was looked upon as being old hat. The difficultly about getting research money with unfamiliar ideas, is that the people who serve on committees are willing to support things that they are familiar with, but anything that is slightly innovative and different is foreign and unattractive. So we couldn't actually get any further …

They are suspicious of about the results.

That's right, unfamiliar and therefore disliked and I think that still holds. We were actually dealing at one stage with the engineers but they weren't interested either. So, it was always difficult. Arieh moved to Flinders and became interested in electrophysiology, but he found the atmosphere there uncongenial. He had ideas and he found that his medical colleagues were more interested in stealing them without giving him any credit. He came back to the Adelaide, but that didn't work very well. He doesn't do any more research now, but he is very clever with the stock market and has the most fantastic memory. He was chess champion of the Israeli army and that meant, for him, he sat in a room, sort of facing the wall, fifteen other players each with a chess board in front of them would sit down the other end of a room and all he needed to be told was what their move was. I said to him 'how do you do that?', 'Oh' he said, 'it is just a matter of memory'. To be able to play fifteen people at once without looking

at a board and keep it all in your head, was really remarkable. He is a very generous minded man and we are very good friends, we always have been and it was a very interesting phase of my life. I tried to get some money from a man who had been a friend of my father's and was a patient of mine, who had once had said that he had a bit of a problem about how he had eight hundred thousand dollars that he wanted to put into a bank to earn money and he wasn't sure how to do it or where to put it. It was a bit of a problem. Fancy having eight hundred thousand dollars cash! So I approached him for some support money for Arieh. I started off with five hundred thousand, I got five. Public spirit is a rare commodity these days in terms of people giving money. If you look at some of the families who gave, like the Darlings, who gave a lot of money to the university and there is a Darling building on the Adelaide Campus and there is a Darling building on the Waite Campus and they had done quite a lot. This was, of course, in the 1920's, but there are not the people with this sort of generosity except for Robert Gerard who is the only one in our community who really gives anything, but that is another matter. But certainly, to establish research was difficult.

The other technique that was introduced about the time that I was getting ready to retire was electrophysiology, in which, Arieh was fascinated by this and shared in the work that Julie Bradley developed, to study the activation of the heart and to see what the various problems were with re-entry. I don't really think there is any point in going into the details of it all, but what it meant was that patients had electrode-catheters introduced from the groin and the arm, but generally from the groin and placed in various positions in the region of the sinus node at superior vena cava and the region of the AV node in the right ventricle and also in the coronary sinus and under some circumstances in the left side of the heart. With stimulation it is possible to track what is happening and where there are abnormal pathways bypassing, for instance, the AV node. A considerable amount of information and learning has come forth. So much so that Leo Mahar has been able to establish a specific cardiac electrophysiology laboratory and there is a professor who is now doing studies and the aim is to understand more about atrial fibrillation in particular. But it is really quite remarkable that further changes have taken place just in the last five years or so.

The cardiac laboratory depended very much on the staff. Iris Betterman, was the first sister duly appointed. Sister O'Loughlin who was on the staff of the Cardiac Clinic

carried out the first lot of assistance when the equipment used to be wheeled across the courtyard from Flinders to the McEwin Building, but when I came back and we were starting to try to develop things, two new staff were appointed to the Cardiac Clinic, one was Iris Betterman and the other one was Pam Grylls. Sister Grylls continued working in the Cardiac Clinic. What's it called, the CNC? Clinical Nurse Consultant. Iris Betterman came to work in the laboratory and she had been trained at Calvary and she was so meticulous that we had no problems really with infection. Our catheters were not disposable initially, they are now, but in the years that I worked in the laboratory they were not, so that cleanliness was a real, not so much an issue, because the regime was so good that we didn't have a problem. But you could imagine, bits of blood clot if the catheter wasn't cleaned properly and what a disaster that would be. We had no problems that I can recall with embolus or any of those other unpleasant complications. She retired and she was followed by Kathy Read, who had been trained in the intensive care area and she carried on the tradition that Iris established. Iris Betterman just recently celebrated her eightieth birthday in August.

Right, we are getting towards the end of this tape.

The technical staff were, of course, very important. Neville Martin was the original technician appointed in March 1958 and then we had Wilda Montrose, who was a school leaver, who joined us in 1959 and went to work in the Department of Biochemistry at the Institute to learn the techniques of Van Slyke analysis for oxygen content and capacity of the blood. Wilda was a very competent and very pleasant technician. To further her career she went back to the Institute and trained there. She died tragically in England from an embolus when she was pregnant. Another technician that we had came - David Philp joined in 1960 as one of those we required for the development for open heart surgery. He had been a technician in the Chemistry Department of the University of Adelaide and, of course, was well versed in laboratory techniques. He as a very able fellow and he was classified as a physiological technician. The other person who joined us in 1960 was Hubert Stacy who was an additional electronic technician assisting Neville Martin. A number of other technicians succeeded him under Neville Martin, particularly one remembers Graham Elsegood.

END OF TAPE 7, SIDE A : TAPE 7, SIDE B

The organisation started off being called the Cardiovascular Investigation Unit but when Michael Drew joined us and became an Assistant Director, the name was changed to Cardiopulmonary Investigation Unit and it had four divisions. There was the Catheter Laboratory for which Robert Craig was the Assistant Director and because Darcy Sutherland didn't really have much infrastructure, we had Cardiac Perfusion with John Waddy as an Assistant Director. We had then Michael Drew who was Assistant Director in Pulmonary Function and for Medical Electronics we had Neville Martin, as the Head of that Unit. Medical Electronics was part of things until 1972 when we broke it all up and it was back to being Cardiovascular Investigation Unit. My association with Medical Electronics continued in that I served on two committees of the Standards Association of which Neville was also a member. One was Cardiac Equipment and the other one had to do with ECG machines and also with wiring and defibrillators. It was an interesting experience for me to go to meetings with those who were not medically qualified. Occasionally there was someone there from interstate who was medically qualified, but these meetings were held in Melbourne or Sydney, and the key worker was a man called David Dewhurst who was in the Physiology Department at the University of Melbourne. It was an interesting experience and I would go to these meetings and learn more, but I did make a contribution in terms of looking at all the experimental work that went on with external defibrillation and the belief that some people had, that you could use extraordinary amounts of electricity to defibrillate the heart and it wouldn't matter, which clearly you can't do. I was able to work over all the experimental work and we made a contribution at the International Electronics meeting held I think, somewhere in Europe in the 1970's, in which we were able to establish the sort of limits to which the defibrillators should be designed to the amount of current they could produce. Part of the problem was that there were those in America who believed that if they could use a machine to defibrillate a horse that would be satisfactory for man. But these people were engineers and not doctors.

It was, as I say, interesting and one of the things that led on from all that or with it at the same time, was that Neville Martin and I became involved with Maurice Sando in planning the Intensive Care Unit to be Q4 in the new hospital. We worked in detail

with a man called Robert Blewett, the Architect, for about three days continuously, planning the rooms, planning the wiring, planning the sort of equipment that was needed and in the end, of course, we ended up with a seventeen-bed complex. Six beds were for the Coronary Care Unit and six were for ordinary intensive care and five were bridging for whatever was necessary. The Coronary Care Unit had been established in the McEwin Building on the third floor in about 1966/67. When we asked the Board for the equipment to do this, they wrote around to all the hospitals interstate and found that everyone they wrote to had already had one for a year. Coronary Care Units were successful because of the availability of an external defibrillator and the capacity to teach the nursing staff how to monitor the rhythm and maintain the standards and to defibrillate on the spot, rather than having to call a doctor. This was a major contribution that arose from some work by a man called Desmond Julian, an Englishman working at St Vincent's, I think, in Sydney.

What was his surname?

Julian. He followed the rhythm disturbances of a hundred patients admitted with impending myocardial infarction or thought to be. Of course, Coronary Care Units are now standard and we were able to establish monitoring in country hospitals. We had money for Sister Schubert to be trained to go around and keep the standard going within country hospitals and occasionally we would visit or I would visit to see how everyone was going. The hospital at that time, or at least the Hospitals Department at that time, had a committee called the Coronary Care Unit Committee, of which I was the Chairman. Then in February 1979, I can remember the day very well. Peter Last, he was sort of Director of Human Resources in the Health Commission, as it was established at that time and the policy was to cut out the central contribution and there had been zones developed for Flinders, Queen Elizabeth and the Adelaide in the country and this money instead of being provided from the central part of the budget was then to be provided by each of the hospitals. As one might expect, it was put at the bottom of their budget and the whole system, which had really worked very well, folded.

At the same time we had to provide arrangements for looking after the electro medical equipment in the country hospitals. There had been a move by Jim Bonnin to take over the Medical Electronics Service in the hospital and to run it all from the IMVS and a

committee was set up to deal up with that proposal and we managed to squash it because we felt that it was necessary for the hospital to maintain its own services. What we did provide – we had been providing, the technical staff to look after all the radiotherapy equipment which was a new venture, and we were able to establish a countrywide service with its headquarters at Northfield. A man called Peter Sen, who was one of our technicians in the hospital and he recently retired and one of the technicians who had worked in the hospital for a very long time, Ray Liddle, has taken over the function and has transferred from Hampstead, sorry I always call it Northfield, Hamsptead to Thebarton.

Who was the man who preceded Ray Liddle? The first man there?

Peter Sen. The Department of Biomedical, what was called Medical Electronics is now Biomedical Engineering and Neville Martin became its first Director. They established themselves on the third floor of the McEwin and are still there now in what was Lomman and Lundy wards. It is quite an established service and, of course, functioning very well. From my time, most of the personnel have changed, but Graham Elsegood and Robert Thoroughman are still there, which a help.

Many changes then, have taken place over the period of the years. As I have said, we did some research with Arieh Helfgot. We also did some research on what you could call a sociological project, studying patients who were undergoing coronary arteriography. There were ways of going about it. A series of groups were set up, in one there was no information, in (group) two there was a certain amount of information, and in the third there was a lot of information provided. The responses from the patients were analysed and this was a project for a Master of Psychology student at Flinders. The project worked well and everyone undertook the study with great assistance. It was supervised by a man from the Neurology Department at Flinders, but when it came to discussing the statistics, one of the examiners disagreed with the way in which it had been done and it needed to be reanalysed. So the student was granted their Masters Degree, and that was appropriate, but it was never published. The student was one of my daughters, Penelope, who found, her two elder sisters having done medicine, she decided she wanted to do that but defines herself as a Clinical Psychologist. Julie Bradley had a Scholarship, a Dawes Fellowship, she graduated in 1978 and she did some work on studying the …

She graduated in Medicine?

Yes, she is a Cardiologist now, working in the unit at the Adelaide. In some studies that she did looked at the animal heart, particularly in terms of looking at the right ventricle. There were difficulties with it and she never published any final data. Our research development then was really not very great, but there is much more research being done now. Thank you, I think that is probably almost come to the end of all that.

Resuming the interview on 7th December 2006 and Dr Hetzel will briefly refer to his activities at the hospital after his retirement from the Cardiopulmonary Investigation Unit and then we will move on to his work in relation to medico-legal aspects. So, over to you.

I stepped down from being Director of the Cardiovascular Investigation Unit, as it was back being called, in January 1985. I had been in the position for twenty-five years and I thought it was an appropriate time. I was now sixty and therefore I wanted to continue in the hospital, and it was possible then for me to move across and become a senior visiting specialist, working in the ward and the clinic and not working any more in the laboratory. I did this for the next period of four and a half years until 1989, November. I had a outpatient clinic still carrying on, which I really quite enjoyed because these people, many of them I had been seeing over a very long time and there were always new patients to assess. I worked in Coronary Care on a roster basis, except on the last two years when I really felt a bit sick of it all. The night work and being called, but it was really a conclusion to that aspect of my work.

In my time as full time Director in the hospital, I made sure and it was allowed and permitted, that one had a restricted right of private practice and I would conduct consulting sessions in the Cardiac Clinic, two sometimes three sessions a week. There was very careful regulation of the amount of money one was allowed to earn at that time, twenty-five percent of one's salary as a Senior Director and one needed to put in a return every year and the excess was put into a particular fund which was set up for Cardiac Services in various ways to provide for travel and other support. That has continued but I do not know what the rate of restriction is now, but a number of my colleagues have gone to be eight tenths, rather than ten tenths and make arrangements and consult outside the hospital. When I retired from the laboratory and was no longer full time, I was able to transfer my practice to Robert Craig's rooms in North Tce, Kent

Town. You will recall that he had left a full time position in 1976 and had established a private practice outside. Before I became a full time Director from 1958 to 1969, I conducted my private practice outside also, because I was part-time and there was no limitation on one's earnings. One paid service charges to the hospital for catheterisation and ECGs and there was always a source of irritation that the surgeons never paid anything, even though they used the services. It was such a tough nut to crack and the surgeons were such tough people that no administrator was going to take them on. Us lesser mortals such as physicians, cardiologists and the like, including the radiologists and the anaesthetists, they were easy. It was to me, always important to have a private practice, because you saw patients for the first time. I've not always been good seeing patients through other persons' eyes, for instance, when an Intern or a Registrar would be presenting a case to me, whether it was some defect in my memory concentration I'm not sure, but it was always easier for me to ask two or three direct questions of the patients and get an answer to make sure that I knew what the real problems were. The history was always an essential part from my point of view of the assessment. With modern technology it is possible to do very clever things and carry out an exercise test and do an echocardiography, but unless one has some idea of what the symptomatology is, you can do all those investigations and not be quite sure what you are going to do next. If you got an understanding of what the patient's symptoms and complaints are at the beginning, you then allocate the investigations accordingly and you can progress. You have fixed in your mind what the problem is from the patient's point of view. In ischaemic heart disease, you didn't always operate on patients after a coronary arteriography unless you had some clear understanding of how severe it all was, how inconvenienced they were.

So, private practice was not a difficult thing to re-establish in Robert Craig's rooms and I would consult there for three half days a week. We, thus, continued that until December 2002. My practice was shrinking, because the referral base was lessening. One's colleagues were either retired or some of them were dead and you didn't have the same basis on which patients were referred, but you still collected some. You had your old patients, but I felt it was appropriate then, at the age of, goodness me, at the age of seventy-eight, that I should retire from clinical practice. But one of the things

that I had been doing over many years was carrying out medico-legal work, but before we do that, let me talk about final retirement.

When I left the hospital, I did miss the staff and I missed many of my old patients. I got my letter from Richenda Webb a day before my birthday. It was a two-line letter, thank you very much, goodbye. There was a function arranged in the Board Room for those who were retiring at the end of the year and we were under strict instructions that we were not permitted to talk. Robert Dawes had spoken at his retirement ceremony and taken the opportunity to be very critical of the hospital's senior administrative staff and the hospital in particular. That prevented – the memory of that reigned strongly in administrative areas – so we were not given the opportunity to speak and certainly we couldn't interrupt the presentation and things. There were all sorts of things one wanted to say, in terms of having worked at the hospital for a very long time.

You might have had quite a lot of laudatory things you wanted to say.

Well, I wasn't given to be rude and critical, but there it was. It was a very straight forward departure. My colleagues gave me a very pleasant dinner at the Adelaide Club and I was given a set of the works of Samuel Johnson, not his dictionary, but all the rest of the essays, which is really quite a treasure and an edition that was published in 1827. I thought that when I got it home, I would see if I could read one essay a day, but I haven't got to that stage, but I do like reading essays. That was the conclusion of my time working in the hospital, from when I first entered the hospital as a Medical Student in September 1945 and I had continued, except for the seven years overseas, right up until 2002. I felt it a great privilege to work in the hospital, it gave me my professional opportunity. In 1969, I was getting a bit worn from working thirty seconds in every minute as Mr Rankin described it, and I came to the conclusion I would have either have to go full time or step back from my position and step back from the laboratory and those things I had been doing. So I went full time, that was in 1968, about the time Robert Craig arrived that I felt pretty weary.

1969?

Robert Craig came back in '68, it was at that time I felt pretty exhausted, but I didn't go full time until '69 because that was when it could all be worked out. I do recall that

at the time that I went from being half time to full time, I had to apply for the full-time position and I pointed out that I wasn't stepping down from my half time position, but I was applying for a full time position. I was curious because they advertised the position and then re-advertised it. It was not until many years later that Robert Craig told me that the reason that they re-advertised it was because Mr Rankin was trying to persuade him to apply for the position, which just confirmed the fact that I had suspected before that I didn't think Mr Rankin was either very fond of me or else he wanted to do things for Robert. It was Robert's loyalty that prevented what would of been quite a difficult situation. Bernard Nicholson never confessed to any knowledge about it, he always passed over it when I asked, but anyway I was appointed full time. It was, to me, I enjoyed my time in the hospital and when I left the hospital, I certainly didn't work nearly as long hours but it was to me a great privilege and I was fortunate as I have pointed out, that there were opportunities, firstly in the laboratory establishment and secondly in the laboratory planning and in building up, in what I consider, a first-rate cardiac investigation Service. Thirdly to contribute towards the establishment of the Open Heart Surgery Program and the fourth thing which is in a way quite different, was to establish the visiting staff superannuation fund, which overcame in my view, the lurking difficulties between the visiting staff and the salaried staff. Those opportunities don't often arise.

One of the things that I had begun in 1968, John McPhie and I together, had been some medical-legal work in which some of our colleagues had expressed extraordinary opinions, so we thought we had better be prepared to take on medico-legal work. Some doctors don't like it at all, I found it quite attractive. I found it interesting to talk to the patients who probably had a workers compensation problem, that's what most of it was about initially. Then to work out what had been going on and try to establish the facts and the influence. It was very seldom a heart attack caused by work but what happens was that people had their heart attack and then went on working and that provided an aggravation and exacerbation of the infarction process. So, one became involved with lawyers. On one case I spent two days in court. Sir Cedric Stanton Hicks, the retired Professor of Physiology, was doing a bit of medico-legal work and he had claimed that a man who was loading material on the 'Karatta' [at Port Adelaide] had been hit on the side of the neck and that was the cause of his myocardial infarction six

months later. I went to court and they kept asking me the same questions, the Council for the applicant, kept saying the same things and finally the judge, Mr Justice Richards said, "Mr Cleland, if you can't think of any other question to ask Dr Hetzel, I suggest you let him stand down. Even I know that he doesn't believe in Pearson's Hypothesis'. (laughter).

Going to court was, of course, one of the things makes people determined not to do this sort of work. I always prepared a document from examining the patient, or if it was a matter death in relation to employment, one always prepared a document that you were prepared to stand by when you went to court. You had to be careful not to say things that you shouldn't say or couldn't say that were outside your realm. Then you were always open, of course, to cross examination. I can remember a few occasions where the lawyer on the opposite side, asked a very detailed complicated question, with a lot of suppositional clauses and a few a negatives thrown in and it was very difficult to understand what it was all about and whether you said yes or no, or whatever you said, you would surely – – –.-. So what I used to do in that case, I would say 'would you mind repeating the question', which made everyone laugh and then they would repeat the question in one line and then I knew what they wanted. And the other thing is you had to be prepared to think on your feet and you have to be prepared for people who had evidence that disagreed. I have continued to do that work since I retired from clinical practice. I wouldn't be spectacularly busy but I enjoy it and I believe it is important to be challenged, it takes a long time some of it, because you have to work out what can happen. In parallel with that, I was approached by Legacy, in the early 1970's about applying on behalf of a war widow, on the influence on the things that might have happened in the war on subsequent health. This had a lot to do with smoking. Tobacco was easy and in the air force, particularly in those who were on submarine patrol in the flying boat – Sunderland – they would go out for fourteen hours at a time, with a crew of eight and the pilot would change every two hours, but tobacco smoking was one of the ways in which they could cope with all this. It was very boring, because not often did they see a submarine over the North Sea or in the North Atlantic. Fourteen hours was, of course, a long time and a lot of that was limited by the petrol that they could carry and the depth charges that they could drop. In the end, they carried more depth charges and had less fuel, so that they were out for a

lesser time. But the influence of tobacco in all this was really quite interesting, because there was good evidence that if people stopped smoking, it did make a considerable difference to their cardiovascular risk, but it also meant that with some of those people who had stopped smoking, a lesion that may have developed, for instance, in their abdominal aorta, became an aneurysm. This was progressive and did not improve after one stopped and it just went on. So twenty-five, thirty, forty years …

Why did some of these people stop? Was it just on the basis of …

They just gave up smoking on the basis sometimes of a heart attack and sometimes on the basis of being told to stop.

So they took the plunge and stopped and many of them found that …

You would find that their coronary arteries were improved. But the Department of Veteran Affairs accepted smoking, if you could prove that they started smoking in the war and it didn't have to be proven severely, it had to be just established as a matter of fact and then people had a good chance. There were another group of patients who suffered nutritional problems. There was a battery, there were four batteries at Milne Bay and they were heavy batteries, you couldn't always find out what a heavy battery was, but their food chain was slow and, of course, the ones on the battery that was furthest, had the less good selection of food provided to them on the barges that would come out, because the first ones, would have had the first go. This provided some nutritional influence and some of them did suffer from vitamin deficiency. The Kokoda Trail was an example. During the withdrawal down the Kododa Trail, which took place over sixteen days there was no food eaten to any degree. There might have had a few leaves and they might have been assisted by the indigenous people, but they were so fatigued that they would be carrying a stretcher and it would take four men to carry that stretcher. When they came down, some of them had evidence of Beri Beri, particularly in their legs which were swelling, they were all examined and within three weeks, some of them went back and spent the next two years walking all over New Guinea, fighting the Japanese. Of course, that was the only way you got anywhere in New Guinea. Airplanes and landing fields were just scarce and along the coast. – – –.

There was one group called K Force, which just spent two years doing that and I saw one of those men a number of years later. He had been admitted to The Queen

Elizabeth on a number of occasions in heart failure. When he had been discharged he had never been very robust. He pursued his career as a hairdresser, but he couldn't work the whole day and he had been written off as having ischemic heart disease. One of the things you always had to do was to go through all the files you could get and I found, finally at The Queen Elizabeth, he had a echocardiogram, which showed that his left ventricle, he had myocardial disease. We were able to establish this. Why I say it is like detective work, you have to look for traces in the notes and, of course, it is fascinating and it is fun. He had no history of rheumatic fever and anyway, if anyone had heard the murmur, they wouldn't have been accepted. Aortic stenosis and with calcification incompetence as well, some of these people, once one was able to establish that, one would then look at the history of what happened during this service and the fact that they had this condition and that it was probably congenital, almost certainly congenital, meant that they were entitled to, or their wives were entitled to a war widows' pension. A lot of the work was done on that sort of thing, of course, was all done for Legacy. It meant that you studied the campaigns in the Western Desert, in Greece and I found it interesting.

END OF TAPE 7, SIDE B : TAPE 8, SIDE A

This is the beginning of tape 8 of a series of interviews with Dr Peter Hetzel. The date is the 6th December 2006. We are continuing the discussions of Dr Hetzel's Medico-legal work in the latter years of his active practice and continuing on into his retirement.

The association with the lawyers was, of course, a new sort of experience and I developed a number of friendships. There was a thing called 'The Medico-legal Seminar', which was a name for a Committee, and we would hold a meeting once a year, perhaps in the Barossa or at Whalers Inn at Victor Harbor or Hotel Victor, a weekend with lawyers and doctors. The lawyers were a bright lot and included the young ones as well as the older ones. The doctors included the orthopaedic surgeons, psychiatrists and some of the general surgeons and an ophthalmologist or two. There would be a series of papers presented and I spoke a couple of times about employment and myocardial infarction and also a bit about stress and hypertension. There would always be an annual dinner and I spoke on one of those occasions and another lawyer,

who subsequently became in charge, spoke. I tended to go on a bit long, but I wasn't really clever enough, funny enough, but I found it difficult to create funny stories about these sorts of things. I enjoyed it all and now I don't know that it is still going, it gradually stopped and those I knew particularly had retired or passed on. I have not been involved in the Medico-legal Seminar anymore, but Diana, our eldest daughter, and I were both going to meetings and enjoying all the cut and thrust of the legal profession. I gave a paper once on autonomy and the importance of making the patient understand about consent. After I had finished, one of those who was a Supreme Court Judge later, said to me, 'I don't care what you say, I want you to tell me what to do'. (laughter) That provided an aspect of my work. It also made me realise that there was always a lot to learn.

Alongside that, was an interest in ethics, what we now call Biomedical Ethics, or Medical Ethics. We had lectures as medical students, we had one lecture. That had to do with how you got on with your colleagues and how you arranged a second opinion on a patient you had, and who went through the door first. (laughter). It really didn't have anything to do with patient care. Nowadays, it is at the forefront of many things and there are people that are now referred to Bio Ethicists, who have a function in guiding research and the ethics of conducting medical research on certain subjects and that sort of things. It is a fascinating aspect. I went back to the University in the 1990's and did a course, a first-year subject or half a first year unit in Philosophy 1B, which I found interesting. Then in the next year I did logic and I thought that Mathematics and Logic were quite similar, anyway, I did get a pass so that I could continue. I attended for listening purposes to a course on the Philosophy of Science. I didn't take an exam in that. I took an exam in Bioethics and I quite enjoyed that and I learnt about other things and it was really quite stimulating. The Philosophy Department of the University wasn't particularly active or inspiring, but there were a couple of people whom I quite enjoyed. I thought I might at one stage I might go on and finish my degree, but I had got so many first-year units that– – –.. (laughter)

This would have been part of an Arts Degree?

Yes.

Out of interest, was this rather unique amongst your colleagues, that you should take this, at this stage in your life, almost in retirement?

There was another colleague who was a Gastroenterologist, Andrew Paul, who was attending and listening, this was where you were auditing and it didn't cost you too much money, but now it does.

Even to audit?

Yes. I was intrigued by the fact that the University had such a complete record of the courses that I had done, including my first year Psychology course and my first year course in Maths 2C and all those sort of things, but I never got round to doing anything more about a degree.

To come back to the subject of ethics, I wrote a paper for the Uniting Church Bioethics Committee, which was Chaired by a man called Ian Olver, from the Cancer [unit]. He was a Melbourne graduate, who had done a PhD on the subject of autonomy and he was the Senior Director of the Medical Oncology Service at the hospital. He was a live wire, a very serious student and then he was doing subjects at Parkin Wesley, but he was the Convenor of this Committee in the Uniting Church. I became a member after I wrote a paper on euthanasia and submitted to them. I do believe in euthanasia and I think that there's a group of patients in whom such things are justified. Much is written about the fact that you can control pain and I think that it is possible that with palliative care you can, but there are people who suffer when they are dying from heart failure, who suffer severe and persistent awful breathlessness and can't sleep. Even though you give them medication and do your best with diuretics, but they are a group of patients that I think warrant consideration for the legal aspects to be so dealt with, that everyone is happy. If there is good evidence that they didn't want to go on for ever suffering, that those people, there could be arrangements made so that their support systems were reduced and, if necessary, terminated.

It is a very thorny issue and a very emotional issue. Another aspect of it, is those who suffer from severe dementia, which is such a loss of dignity, when you can no longer make any decisions about yourself, or recall. I feel, for instance, if I become demented, perhaps it is when, I would like to think that life wasn't going to be prolonged. Some people think that they are happy. I suppose some people are happy, but some people suffer because they've got a lurking awareness of what they have lost.

I see it at home.

Yes, well there you are and I saw it in my mother and you see it in a number of people. It is a very distressing condition, so that one would hope that this could be dealt with appropriately. It is interesting to see the issue of stem cell research is now become more acceptable. Certainly one doesn't want to feel it is appropriate to clone individuals, but then on the other hand, when you see these families who determine that, by having another child, it would be possible to cure the illness of the first one, you wonder about all this. That a child is created for the purpose of supporting the first, but onus is on the family to take care of the second child and to make it all respectable and appropriate, because otherwise it really is totally improper. These are the issues which I found interesting, and which I was always willing to discuss. Termination of pregnancy, which I much prefer to the term 'abortion', is another one where there are positives and negatives, but at least the situation is better than it was forty years ago or fifty years ago, because I can remember when I was a Resident on the Gynaecology Service and the young women coming in who had had a backyard abortion and how desperately ill they were, with severe septicaemia. Nobody actually died but gee, they came near it. You would have seen it.

I came across it in Da Costa a few years earlier.

Yes. Then, of course, as I say, there are issues of autonomy and consent. These are raised, of course, when people are in what appears to be a vegetative state and totally unaware. There are interesting cases where somebody has woken up recently and it will be interesting to follow it, like all of it.

When I look back over my years of clinical practice, I realise what a privilege it is, it always has been, that people would come to you and trust that you were going to be able to help them, or at least understand that there is no magic – and there is no magic when dealing with heart disease, because it is not, in itself, curable. You can cure appendicitis by taking out the appendix. You can operate on the heart and improve things, you can replace an aortic or mitral valve and make a lot of difference and to get people back into the workforce. You have medication that will help and nowadays, of course, you can interrupt the process of myocardial infarction in a matter of urgency, with thrombolitic agents and also with emergency thrombo-plasty and stent insertion and that is really quite a tremendous change. You haven't cured the disease but you have made a lot of difference to whether or not a myocardial infarction has occurred.

For me it was, as I have said, it was important to be able to talk to patients and to hear what they had to say. To be able to support them and guide them, provide them with the appropriate choices without being forceful. I think that unless one has developed over the years a sense of compassion - and you don't develop it suddenly - you develop it with understanding. I think it all starts when you become a medical student entering the wards, that you see and you identify at that stage very much with the patients rather than with the doctors and you have a different slant, which perhaps you lose after a while. You are sensitive to the way in which the doctors are looking at the patients. For me, I suppose the basic model I had was my father, who always went anywhere to do anything for anyone. He was, in his way, as somebody described him in a obituary notice when he was Dean, that he was a figure of authority. If he said something should be done, he expected it to be done, not least by his children. He was always a fair man, but the other thing was after he died, a number of people expressed their affection and respect for him. It just wasn't isolated.

A softer side.

Yes. It was for the warmth of his personality and what he had done for them.

Occasionally patients would say to me - and there were a few of them - they would say on their way out of the consulting room, they'd say 'Dr Hetzel, I know and you have explained to me what I have got and you

not being able to anything to alter things very much, but to me it has been a great help to come and talk to you and I feel better now than I did before I arrived'. When someone says that, that is perhaps the greatest compliment that anyone could pay you. I never got cross with anyone, I might be firm and say 'you should do such and such, or so and so'. I had one patient in the Adelaide Hospital who took exception to me because I thought he was ready for discharge. We had done quite a lot for him and his coronary artery disease wasn't a problem, but he wrote me a very aggressive letter, so that I had to speak to the Medical Insurance and the Medical Indemnity Insurance and also to the hospital authorities because it seemed that he was likely to sue me because he thought that I was such an arrogant so and so, and because I had discharged him under these conditions. It turned out that he actually had secondaries in the brain from colonic cancer and the matter subsided, but it was, even though I felt I was justified in

what I had done, it is very disconcerting when somebody attacks you from the professional point of view, and suggests that you had been arrogant or negligent. There are times when, of course, we make decisions about clinical care, which are matters of judgement and things don't work out and that happens. When you refer patients to surgery. Nowadays, we have means of assessing these sorts of things and whether the ventricles are underdeveloped or not are much better than they were in the 1960's and the 1970's. There is one particular case that I will not forget of a girl who was born in 1958, the same age as our second daughter. I saw her in the early 1960's, probably about 1964, she was cyanotic and she had a very complicated lesion. Her right atrium was in the left side of her chest. She had what was called atrial inversion and the right atrium anatomically accepted the venous blood. Her left ventricle and her right ventricle were in the right position in relation to where they were in the chest, in other words the left ventricle was on the left side, but it received the blood from the right atrium. She had a ventricular septal defect and pulmonary stenosis and she also had an extra partition in the atrium. I waited a long time, but in about 1973, I put her up for operation. There had been developed an operation for transposition of the great vessels using an atrial baffle and I thought that could be inserted in the right atrium to divert the blood from the right atrium to the atrium that was receiving the right ventricular blood. Also she needed an operation to correct the pulmonary stenosis and close the ventricular septal defect.

She was about fifteen at this stage?

Darcy Sutherland did the operation and she had a long perfusion, but what happened was, that the baffle that was made out of pericardial tissue to divert the blood was too big and flapped and it obstructed the inflow of venous blood into the atrium. So it had to be taken down again and she had actually about a three-hour perfusion. For ten days she did not wake up and she was in the Intensive Care Unit and she was ventilated and that sort of thing. Within a month she had developed a tracheo-oesophageal fistula. The intensive care staff had not deflated the bag on the end of her tracheal tube and so she got necrosis. They did numerous operations to try and correct this awful business. The heart operation had been a total success. She died. The parents, the mother was in favour of the operation, the father was against it. There was a younger child, who was subsequently killed in a road accident, the whole family was totally destroyed. To me,

there was nothing different that I could have done. The operation had been alright, it was just a disaster and the magnitude of it. You just think about that and these are the sorts of decisions that you sometimes made and things didn't work out.

You can't help thinking about the problem from a nursing point of view. There was an error, there was a lack of understanding of what needed to be done.

When I look back at this stage, now at eighty-two, at the influences that guided me, I would have to say my father acted as a model in terms of the standard of care that he set. I worked with him as a clerk, but I also worked with him as an RMO and I found that he – it wasn't that he particularly said you do it this way, it was just that you saw the model and you tried to do it because it seemed to be effective and it seemed appropriate. Another person who influenced me and for whom I have the greatest respect is Hugh Gilmore. He was, when I first went to the hospital, he had recovered from his tuberculosis and was the Registrar in Clinical Pathology and he taught us about red and white counts and examining urine and those sorts of things. He was meticulous. When I was a Resident, he was a Registrar in my father's unit and he taught me a lot about emergencies and managing very sick patients. I can well remember somebody with pneumococcal meningitis, this was at the time of sulphamethazine and penicillin. It was given intravenously and we had to keep the fluids up and it was just that Hugh was so competent in all that he did. He was, of course, very kind to me when I came to London, just before he was leaving. He took me to a number of meetings of the Clinical Research Society and the Cardiac Society and showed me around and then he came back to Adelaide. If he had made a decision to follow Cardiology rather than General Medicine, my path would have been different. But we worked together in the laboratory, and his clinical judgement was, of course, superb and he was an excellent teacher. I think one of the best teachers there were in my time in the hospital. Diana served on his unit as a student and she found him remarkable.

The other person whom I found a good teacher was Ivan Magarey, the paediatrician. He was essentially a very patient man, but he always talked to the mother and that inspired me. When we came back to Australia and I asked him to look after our daughters at that time, what always impressed both Margaret and me, was the fact that he would talk to her and not to me. That was not what a lot of doctors do. He was a

kindly and able person. I was reading Alan Campbell's notes in his oral history. When he was still in naval service, he had some pneumonia and he was put into Daw Park to the hospital there and somebody told him he had miliary tuberculosis. He was very depressed and Ivan Magarey went over him very carefully and said 'you haven't got miliary tuberculosis, but atypical pneumonia'.

What a relief.

Yes. When I went to America there were a number of people who I worked with, who were, in that sense, my bosses. There was a man called Howard Burchell, who was a good clinician. Widely read and a fairly gentle person, but had a very wide knowledge of cardiology. There was a man called Earl Wood, who was Director of the Laboratory, from whom I learnt the techniques of cardiac catheterisation and the need to do things in a progressive fashion and the need to prove everything. When we were working in that laboratory, particularly dealing with complex congenital heart disease, we had to really start from scratch because the clinical relationships weren't that well understood, so basically what we were working on was proving the clinicians wrong, in the typical way in which young people act. There was another man, Nelson Barker, whom I may have mentioned, who was Peripheral Vascular Specialist and his capacity to study the peripheral circulation and to talk to the patient, he really was most inspiring. I worked with a man called David Donald, who really ran the pump with the open heart surgery program. We worked together very well. We were able to devise ways of measuring things in experiments, we complemented one another. He subsequently became a Professor of Physiology at the Mayo Clinic and was head of the Experimental Laboratory and did a lot of work and I might have mentioned that earlier. There was John Kirklin and then there was a man called Jess Edwards, who is still alive, producing books in his nineties. He was a Pathologist and they had the most fantastic collection of examples of congenital heart disease in Rochester that had been collected over many years, even before he had arrived, just after the war, World War II. He was a very persistent and able pathologist. Then, of course, there was Paul Wood, whom I worked with in London at the Brompton when I got my Grocers Company Fellowship. He was actually very kind to me. He tried to persuade me to stay on, stay at the Brompton as a Senior Registrar and in a few years' time, become a Consultant. He thought my path was pretty straight forward. I didn't feel that I could expect, with two

children and nothing, that I could continue in that way and I came back to Australia. He was always very supportive.

Back in Adelaide, my colleagues who were a great assistance, apart from Hugh Gilmore, included Robert Craig. I enjoyed working with him. He is also retired now. He had a different attitude and well, you know, we didn't think exactly the same way and that's a very fruitful thing because that's what provokes discussion.

You can respect each other and be prepared to explore them.

Yes. The thing was that you always had to say, having gone to America and worked there and started there so to speak, in my specialist professional life, I encouraged a number of the others to go there. Leo Marr went and Peter Steele and there is one young man there, Malcolm Bell, who said to me one day, his family had come from Scotland and he lived at Elizabeth, in modest circumstances and he was very bright. He said to me 'Well, I want to go to England'. 'Oh well', I said, 'why do you want to go to England? Why don't you see about going to America, we'll see about the Mayo Clinic'. He is there now and he still says to me when I see him from time to time when he comes back or when I saw him when I went to Rochester in May last year, that he is very grateful to me for getting him there. I am pleased. Another, Michael Brown, said to me 'what should I do?' and I said 'I think you should go to the American Heart Meeting and listen to the bright people and then approach them about getting a job'. And he did that and he got two years working in St Louis. I always said, when we were sending people away, of course, we never had a guaranteed job for anyone, I said, 'that when you come back you have got to be better than I am, otherwise nothing will ever improve'. 'If you don't bring back greater skills, new techniques' I said, 'where are we going?'. That was always my philosophy, but some people didn't agree with me. Unless they are better there is no progress.

It is a challenge for them to stretch themselves – they had the capacity, it was encouragement from someone they respected

So I think that's enough.

Well, the little red light is blinking, so perhaps it tell us it is an appropriate place to stop. Thank you very much, I will put this on tape for putting such a tremendous thought and preparation into this. It has been a long interview.

Sorry it has been quite so long.

I don't think you need to apologise for that. It seems to be through very many facets to the story, so I think they needed to be explored.

You would have to say I was the most, I would say lucky and she [Margaret] would say 'blessed', in so many ways.

END OF TAPE 8, SIDE A

END OF INTERVIEW