

The Royal College of Physicians and Oxford Brookes University

Medical Sciences Video Archive MSVA 051

Sir Austin Bradford Hill, CBE FRS in interview with Max Blythe

Ambleside, Cumbria, 26 March 1990

The interview was filmed in three parts. In the editing of the videotape some off-camera, audio recording was inserted between parts one and two, and parts two and three.

Part One

MB I came to Ambleside in 1990, with my colleague, David Dillon, to record an interview with pioneer medical statistician, Sir Austin Bradford Hill. I began by asking about his father, the physiologist, Sir Leonard Erskine Hill.

ABH He was a physiologist. In his young days he wasn't sure whether to take up art, because he did these pictures and he was a very good artist. But he consulted an academician - I think his name was Hughes, an ARA [Associate, Royal Academy] - should he take up painting as a life's work, and physiology as a hobby, or the other way round? And the artist, I think, very wisely, advised him, 'The other way round.'

MB And he had a distinguished career in science.

ABH But you've got a certain career in medicine, research, if you're any good, whereas the art is luck and precarious.

MB He also, your father also taught in the University of London, and was a Fellow of the Royal Society.

ABH That's right. He got in at the Royal very early, I think he was only thirty-six.

MB That's remarkably early.

ABH Very early indeed.

MB Do you remember him very early in life, as an active bustling person? Or a remote figure or ...?

ABH Oh no, no. Active, and a great enthusiast for gardening and walking. And he went into, which I couldn't do, he'd get up about six in the morning and ride the bike through Epping Forest to a pond. All the year round he'd dive into the pond.

MB Really?

ABH Yes.

MB That freshened him for the day. It sounds a powerful start to the day.

ABH It would shake me. I wouldn't do it. And he went on, I think, until somebody going by on the road called out, 'Silly old fool!' He said, 'I didn't mind being called silly, I didn't mind being called a fool. Then I began to wonder: old, was I too old to dive into the pond?'

MB And that's when he stopped?

ABH I think he stopped then.

MB Do you remember going to see him at work in the London Hospital, as a boy?

ABH Yes, certainly. I went once with my brother Brian, who was a year older than I was, and I think the old man was taking us up there for the day while my mother went out. And in his room he had an iron staircase, a circular one, going up on to the roof. And Brian and I went up on to the roof, and were discovered looking down through a skylight at a class in anatomy. I don't think we were very shaken by it.

MB But there was a whole class, dissecting?

ABH There was a whole class cutting up corpses. And they chased us away.

MB Did you, very early on in life, start to have a feel that you'd go into medicine? Was that something that started to happen quite early?

ABH Yes. I don't know how early. But, you see, the family were largely lawyers. And I had in my ancestors, a judge of the high court, an uncle, and a solicitor general, who was a cousin. And a big firm of lawyers in Liverpool.

MB So there was a feel that law was in the family, but there was a choice to go towards medicine and more towards your father's...

ABH Yes. Nobody had ever gone into medicine.

MB But that struck you as what you wanted to do?

ABH And I think... well, I didn't want to go into law. I certainly didn't want to go into the church. And if you think of the middle-class families, I wasn't very keen on being a banker or anything of that kind. And I thought medicine might be fun, and so I chose medicine.

MB And did you have any doctors who came to the home who impressed you, or was this just going into the London Hospital seeing father?

ABH No, I think it was seeing him.

MB Right. So he was the keystone there?

ABH Yes, I think so. And I know when I was a boy he was working with my boss,

later, Major Greenwood, on caisson disease [compressed air illness], and they worked at a factory called Ciba Gormans (?), on the Westminster Bridge Road where there was a tank and divers would go down, while they fooled around with them.

MB Looking at gas compression situations.

ABH Yes, that's right.

MB Whether they got nitrogen problems, nitrogen bubbles in blood.

ABH That's right. And what was a decompression. I think the argument was with Bayliss or from Schafer, I forget which. I think the old man favoured coming straight to the surface and then going into a decompression chamber. And they liked doing decompressing steadily, bit by bit all the way up. I'm not quite sure which was right.

MB I'm not quite sure which idea won in the end either.

ABH No, I don't.

MB I don't know where that went to. But that must have been fascinating to be...you went and saw some of that work going on?

ABH Well, what was fascinating was they dressed me up as a diver, when I was about twelve. But I went down in this tank, under the water, with a helmet on and all the rest of it.

MB Really? That must have been fascinating for a boy.

ABH Yes, it was. I was very proud of that. He came to the Chigwell School, where I was, and gave a lecture on deep sea diving.

MB This was Father, or Greenwood?

ABH My father.

MB Your father did, yes.

ABH Yes.

MB Can we talk about Chigwell at this stage? You went to Chigwell, which was a grammar school? It can't have been too large at that time.

ABH It had about ninety-five to a hundred boys.

MB And you went there at eleven?

ABH Let's think. I went there in 1908. Yes, that's right, I went there at eleven.

MB And stayed until seventeen?

ABH No, sixteen, actually. I stayed late because, you see, when I came to leave, the First World War was on, so I couldn't do as I had intended, to go into medicine, I'd got to join up.

MB Where would you have gone? Can I just ask, where would you have gone into medicine? Would you have gone to the London Hospital?

ABH Oh, undoubtedly. He was there, and I knew the London. I'm sure I'd have gone.

MB But it wasn't to be. You were going to wear military uniform and have a career in the forces for a time.

ABH That's right. I'd be called up when I got to nineteen, you see, that was the calling up age.

MB And what happened? Can you tell me about that period? I'd be fascinated.

ABH Well, he advised me to leave at eighteen and do my pre-clinical year, which was wise, I think, but I was dubious.

MB And that you did?

ABH No, I didn't. I'd said I wouldn't, because at that time, I think the chances were pretty remote, for there were good-natured ladies of middle-class going about with white feathers, and if they saw a chap walking about in civvies who looked jolly fit, they might offer him the white feather.

MB Right. You didn't chance that?

ABH No, I wasn't... I said, 'I'm not going to chance it. I know it's remote. I'll stop on at school for another year and apply for a commission.'

MB Which you did?

ABH Which I did. But the question was which service, the army or the navy? There was no air force in those days. The army had a Royal Flying Corps, which were said to be choosy, and I've got this deaf ear.

MB Yes. That started quite early on, this deafness?

ABH I think it came from measles when I was a child.

MB And therefore you moved away from the Royal Flying Corps, and moved towards the navy?

ABH Thank God! If I'd have gone into the RFC I wouldn't have been here today. Their expectation of life on the western front was about six weeks. The mortality was absolutely appalling. The navy was quiet.

MB That must have been quite a phenomenal time to be alive and to be in the forces?

ABH Well, my first ship I was posted to was HMS Crystal Palace. Do you remember the Crystal Palace?

MB The Crystal Pally, yes. And that was, that was the training ...

ABH Great glass box.

MB That was a training establishment, was it?

ABH They'd taken it over for square bashing. And it had its quarter deck, which you saluted. And you slung your hammock. And if I wanted to go and see Josie Collins in the West End, I applied for shore leave. And what made me want to fly, I've no idea. Of course, I'd seen, when I was at school I'd seen the Zeppelins, and I'd seen two come down in flames. But if I visualised myself as a hero doing that, I was much too late. Once the tracer bullets and the inflammatory bullets came in, they were doomed. Their day was over.

MB You were actually stationed at Crystal Palace when you were offered the chance to fly? Is that right?

ABH No. No, I got into the Royal Naval Air Service.

MB On the basis of flying?

ABH Yes. Oh yes, that was my commission, to be in the Royal Naval Air Service.

MB And what about the training? Can you tell me a little bit about the training for flying? That must have been a horrendous... a rather horrendous time!

ABH Well, of course, the planes, you see, were made of canvas and wooden struts, and a nice mahogany propeller. If you broke it you'd get the station carpenter to make you a cigarette box or a walking stick, so it didn't matter too much. But in my day, a little wind was regarded as a dangerous thing, and if the flag was hanging at mast, hanging down the mast, you didn't fly. I think it was crazy, but that was it.

MB Did you have any difficult experiences in the early days of flying?

ABH Well, I started all right on what was called a 'grey and white box kite'. The box was politely called a Nessell (?). You didn't sit on the wing and push your feet up to the rudder bar in space, like the Wright Brothers.

MB But it was nearly as bad?

ABH We were more sophisticated. We had the Nessell. It was open to the air, it had no canopy.

MB So you were dressed up fairly well?

ABH We were dressed up in a fur helmet and goggles, and fur gloves and fur scarf, and fur overshoes; everything you could lay your hands on to keep warm. And then you hit what was called 'straights'. I think this was daft in hindsight, because there are only two things difficult in flying: one is taking off and the other is landing. Once you're up it's easy, so long as you're not doing Red Arrow nonsense.

MB But tell me about straights.

ABH Straights. You were... you got to the end of the aerodrome, and you revved up the propeller. You had two chocks under the wheels to stop you moving. You got up to, say, 2000 revolutions, then you said 'Chocks away!' Well, to begin with you had to get the petrol in. There was a ritual to this. There was a mechanic on the ground, and you were in the Nessell. And I said 'Switch off,' and he said 'Switch off'. 'Suck in.' 'Suck in.' And he made some turning of the propeller to suck in the petrol into the cylinders. 'Switch on.' 'Switch on.' Then he pulled the propeller down with a jerk, and with any luck, it fired. And it sounds as if 2000 a minute is going to get your arm cut to pieces. It wasn't that difficult. I did it myself scores of times. If the engine fired, you revved it up till you got your 2000 revolutions, then said, 'Chocks away!' 'Chocks away!' And you started opening the throttle until you judged you'd got flying speed. Then you gently pulled the joystick, which is what you steered it by, up and down, and the rudder was going sideways, and you'd just slowly pull back the joystick. And when you got up to about thirty feet, you switched off and landed.

MB So it was all take off and landing?

ABH In order to take off and land in about thirty seconds.

MB It sounds pretty dangerous.

ABH And you've got to keep your wits about you. It would have been much more sensible, I think, if this came later, doing 'circuits and bumps' as they were called.

MB Did you see action? Did you see action in that war?

ABH Yes, I did, a little. But to begin with, I'll tell you one thing. In the squad I was in - it was called B Squad - when you first went there you didn't fly, you absorbed the atmosphere, which was mainly petrol fumes and Castrol oil. And in my B Squad was Ivor Novello, the chap who wrote...

MB The great musical writer?

ABH Yes, that's right, who wrote 'Keep the Home Fires Burning'. And we had to... one of the chores that B class had to do was to push the machines in at the end of the day. And we did this to the music of 'Keep the Home Fires Burning', and Ivor joined in.

MB That must have been a great time.

ABH [Sings to the tune of 'Keep the Home Fires Burning'] Keep away class stowing though the lorry's going, though the lorry's due to leave the aerodrome. There's

another Morris waiting out there for us, we must shove the damned thing in, or we can't go home!'

MB And this, Novello actually sang with you? He was part of the team pushing the machines in?

ABH And one of the Morris fireman machines, which was (?), was flown by Ben Travers, who wrote all the farces.

MB Yes, and who I met in the fifties.

ABH And he went up in a Morris fireman, with a shotgun across his knees, to see if he could shoot a Zeppelin down!

MB Those were remarkable days.

ABH Absolutely crazy.

MB We have to move on a little bit. Tell me about your 'in action' period, can you now?

ABH Well, before I get to that, I must do one thing.

MB Okay, don't let me push you too fast then.

ABH No, no, no. I got on to a more sophisticated machine called an Avro, and I taxied the Avro out to the end of the - not a runway because there were no runways - to the end of the aerodrome, and took off, and sailed over the road, over the hangars, over the road, glorifying in my power. I was over the reservoir at two hundred feet, the engine stopped dead.

MB That was a bad feeling.

ABH Well, (?) when I wrote this up for the *BMJ*, I said, 'If I'd been more intelligent, or better trained, I'd have glided in, put her nose down and glided in.' Because they would glide easily. We had no parachutes.

MB But you didn't glide in, did you?

ABH I stopped to think, 'What do they do next?' And the weight of the engine immediately told me that.

MB Yes. So you hit the drink?

ABH Into a reservoir from two hundred feet. The water's hard. That machine never flew again.

MB But you were okay?

ABH I was okay.

MB You swam out?

ABH I got a black eye and a bloody nose, and sat on the wing. I think I wept. It was as though the whole world has gone to pieces around you. And someone said to me, 'I suppose they came out in a helicopter for you.' I said, 'Good gracious! The helicopter was forty years later. They came out in a rowing boat.'

MB I am pushing you on, just a little bit. You told me about how you went and saw action in the Dardanelles.

ABH And I was posted to the Dardanelles.

MB That was on fleet protection duty?

ABH That's right. Well, yes, we were patrolling the Straits, where the Turk was sending submarines in and out. And the Germans had two battleships locked up in the entrance to the Bosphorus, the *Goeben* and the *Breslau* I think were their names. And one time I got sent alone to a tiny island called Tenedos about a quarter of a mile from the Turkish coast, where there was an English battleship called a monitor, a small battleship. And the captain was a windy kind of chap and they came and tried to bomb him, and he asked for air protection.

MB And up you went?

ABH So I went across and I protected him absolutely superbly. The Turk saw me arrive, he knew I was there, so he never came near the monitor. After about three weeks they took me away. The Turk came back next day; he saw me go. And he was a sensible chap, the Turk.

MB Yes. And bombed it when you'd gone?

ABH Yes. Only once did I see one... I got out... he'd gone. He was a bit late, I think, going to another island and coming back across Tenedos. And I shot out of my hammock, in my pyjamas and went up in them, and I was just too late. He'd just got by and was about six hundred yards away. There was no hope of getting him. But the feeling was more of curiosity than hostility. I pressed the button to see whether it really did shoot through the propeller. It did.

MB Yes, you didn't hit the propeller. That was quite a tricky piece of engineering, wasn't it, to keep the propeller out of the line of...

ABH Yes, to synchronise it like that with what, 2000 revolutions a minute.

MB You could soon make a mess of a mahogany or a hard propeller.

ABH Yes. Well, I came in one day, when I was out there with an engine failure. I had four engine failures in less than a hundred hours flying, and this was the last one. And I had an observer with me, and the engine failed at 11,000 feet.

MB And this time, you glided in.

ABH This time I glided in, but I had to come in over a great salt lake, and looking down was shades of that bloody reservoir. And I thought that I would overshoot. The grassy aerodrome was about one hundred and fifty yards long and about fifty yards broad. It was a bit tricky to get into one hundred and fifty yards, because if you landed twenty yards on, you were off the other end.

MB You made it, though?

ABH No, I didn't. I did an S-turn to lose height, because I saw I was going to be too far, and I made it just too much, and I was ten feet short. And the salt lake sand that looked like sand, was mud.

MB You got wet again?

ABH So, no, it stood on its end and broke the propeller. But I wasn't hurt at all, nor was the observer. And I got a very nice walking stick out of that propeller.

MB But that was the last brush with air danger?

ABH That's right. And then I was invalided back, you know.

MB Yes, this I was coming to. This was the rather sad end to the whole story at that point, when you contracted tuberculosis.

ABH Yes. And, well, when it came to working in preventive medicine, I knew all the mistakes that could be made in medicine. I went to that young naval medical officer and with hindsight gave him a classical description of TB. Because I used to be able to run and swim, but I felt malaise, and I'd got a cough in the morning and no feeling of any strength. And he painted my throat with iodine.

MB That was his response?

ABH What he thought he was up to, God knows.

MB This is 1917?

ABH Yes.

MB Summer, 1917?

ABH I think he'd been out there for about two years, nothing to do except an occasional crash or injury. No illness, they were all fit young men.

MB But eventually it was recognised that you had a serious infection, and you were ...

ABH Well, then this is the part that staggers me. I've never been able to understand it. They invalided me home, but they sent me first to the Naval Hospital in Malta, called Bighi, to wait for a hospital ship. And Bighi was full of skilled nurses and skilled doctors, because they'd taken them off the hospital ships because the Germans had torpedoed one. And I was there for about two months. And to go ashore, you had to walk down two hundred steps from the ward, whistle up a boat like we whistle up a taxi in London, go across the harbour, up in a lift the other side into this main street of Valetta, full of goats, Maltese fever, and sit and booze with the other invalids, or flirt with the nurses.

MB You'd be sorry to leave there?

ABH Yes. Then we'd go back, and as I wasn't a stretcher case, I walked up the two hundred steps to the ward. Why I got away with it and didn't have a haemorrhage, God knows.

MB Amazing, wasn't it.

ABH I only had one lung affected the whole time. Anyhow, that was pretty poor treatment. They then sent me back as a walking case, on a hospital ship, and it came into Avonmouth near Bristol. I remember being glad to see if there was a fog. I thought that delicious after all that heat. And they sent me by train from Avonmouth to Chatham Hospital.

MB So you were there for a while?

ABH Somewhere round the edge of London, straight to Chatham Hospital. And as a routine, they took my temperature; it was 105°. That was the first time I'd seen anybody alarmed and run.

MB How long were you at Chatham? They kept you at Chatham for a while?

ABH I think only about a fortnight, because my father had me out straightaway.

MB And got you home?

ABH And told the DGMS [Director-General Medical Services] what he thought of them. And my mother...

MB This wasn't inappropriate, given the treatment you'd had.

ABH And then they invalided me out, and they made the biggest clanger of the lot. They'd misdiagnosed me, mistreated me, now they showed me how prognosis could be wrong. They gave me 100% disability pension index-linked for life.

MB Which you still get?

ABH I still draw. I said, 'At least it will keep me in bourbon and gin.' I think when I was thrown out it was £210 a year. With index-linking, and, I guess, a bonus or two, it's about £4,000.

MB So it's a nice bonus.

ABH Tax-free.

MB Which you haven't needed for a long, long time.

ABH And it was tax-free too. So I've been 100% disabled for seventy-one years. 1917 to 1990. No, it's more than that, isn't it?

MB It sounds like it.

ABH Seventy-three.

MB Seventy-three years. Guinness Book of Records stuff.

ABH I wonder.

MB I'd be interested to find out whether anybody else has ever had a 100%, index-linked disability pension of that duration.

ABH Well, the Pay Master General, I think, will be writing to me in a week's time, because I shall get a raise, the cost of living raise every year. And if I do, I shall write to him, and say, 'Do you have any other 100 % disabled on your books, which you have to pay 100% disability pension to after seventy-three years?'

MB Sir Austin, can I take you on to that convalescence period, that recovery from tuberculosis. You were home for a year and a half, two years?

ABH Well, first of all, I was nine months in bed, never getting out at all.

MB That was in the house?

ABH That's in my house, my mother nursing me. She was a very good nurse.

MB We haven't talked about Mother. We can talk a bit more about her in a moment. But she was a super nurse?

ABH Super nurse, yes. And I was in and out for about another year. And I had a wheelchair, and the gardener would come in and wheel me down the stairs - I was terrified he'd let the thing go - and wheel me to a bed somewhere in the garden. We had a big garden of about two or three acres.

MB And so you had the chance to sleep out.

ABH And I could choose where I would be and have a different outlook, and so on and so on.

MB Did you sleep out, like many people with tuberculosis? They slept out for periods of time.

ABH No, but I think the windows were wide open. Plenty of wind and air.

MB What do you remember of the treatment? What did they do? How did they treat you at that time? How did they handle tuberculosis? You just got well, bed rest and food?

ABH That's all. Good feeding and bed rest. Nothing else.

MB What we haven't referred to is, you lost a lung though, some time in that period, you lost a lung.

ABH Yes, well, they couldn't take it out in those days, that would have been fatal because there were no antibiotics. But they took me to a sanatorium down on the east coast, a place called Mundesley, and they induced an artificial pneumothorax. Well, whether that's ever did me any good, I don't know. I guess it did me some harm, because it was induced without any X-ray control, and, I guess, with dirty needles, because the next thing I had was a lung abscess and a chest full of pus. Well, I had that drained off twice. And that, I did jump when they put that needle in.

MB Not the best experience you've ever had, is it?

ABH I'd got used to having these little ones introduced with the artificial pneumothorax, but the big one to get the pus out really was something.

MB So the balance sheet on all that was, time from being a young man and lively, taken out of a war where you'd been very active, and the loss of a lung.

ABH That's right. Well, I found lots of things to do, because I read.

MB Tell me about that please.

ABH I read enormously. I read the whole of English literature, going back to Fielding, and Jonathan Swift, and (?) Smollett, and Laurence Sterne and *Tristram Shandy*. And then coming up to the modern, there was always Thackeray, Dickens and Conrad, H.G. Wells, Arnold Bennett. You name it, I read it!

MB Made the most of it.

ABH Yes.

MB And you did some embroidery. Needlecraft.

ABH Yes. My sister taught me how to do embroidery, and I got really too good at that, and I took to tapestry. I did this ship up here somewhere. It's not a very good one, I don't think.

MB Well, it looks pretty good to me.

ABH But I did stool tops, which were lovely. They were what you call a Florentine pattern.

MB Very colourful and...

ABH Very colourful.

MB Beautiful.

ABH Use about ten shades.

MB Any of them still in existence?

ABH Peter has one at Alveston, which I must have done in between 1923 and 1930.

MB And it still looks good?

ABH Still looks good.

MB That must be very satisfying.

ABH And I've got other ones which were much later, of course. And I was doing some sewing up to ... oh, ten years ago.

MB And enjoying it?

ABH Enjoying it. But then I started designing, because I was doing cross-stitch, and the only cross-stitch I could buy was so tiny, so I couldn't see to do it. So I said, 'Well,' to my daughter, 'get me a piece of linen and hem it for me, of table-cloth size, if you like, or tea table this size, and give me a pencil.' And I made the crosses the size I wanted in pencil, designed it, what I wanted it to look like. I could do a ring with a wine glass, another ring inside it, a sherry glass, and lines to join it.

MB And it worked?

ABH And made these pencil crosses. And when you washed it, all the pencil marks came out. And so I found myself designing as well as just sewing them.

MB Sir Austin, I want to go right back to the period we were talking about, with the tuberculosis, for two reasons, if I can. One, I said we hadn't said enough about Mother. You, perhaps, would tell me a little bit about Mum, because she was an important part of your life, she nursed you so well. But we hadn't talked about her at the time we were talking about Father. We moved on and carried on into a career in medicine, following that. Tell me a little bit about Mother.

ABH I think Mother may have been, in hindsight, a bit of a snob. She didn't know many people in Loughton. She was very choosy in the ones she would know. And she had an old mum who lived about two hundred yards away, I used to go and see.

MB Was she a good gran?

ABH Very good. She was bedridden because she had arthritis. And her husband, who had been a banker, had died. And I took her ... I think she lived to be eighty-six, because I took my daughter, Rosemary, when she was just born in 1924, to see Gran. And I don't think she saw David. So I think she died in about 1924, 1925.

MB In the mid-twenties, yes.

ABH And she was eighty-six.

MB Was she a wise lady? You learnt a lot from her?

ABH No, just fun and ...

MB Just fun.

ABH And a pleasant person.

MB But you've always enjoyed young people as well. She enjoyed young people. Did some of that rub off, do you think? You've always had a love of young people, and being fun for young people.

ABH Well, my father did too, you know. He wrote stories for children, and liked them around and bringing them up.

End of Part One

MB In brief discussion of family history, another story emerged.

ABH Well, you may remember, of course, my great-great uncle was Rowland Hill.

MB Stamps.

ABH Who introduced penny postage. He had nothing to do with stamps, you know. What he did was really a statistical problem. He said: 'The cost of a letter going from A to B is in the collection at one end, the staff needed to collect it from the letter box, and sort it, to de-sort it the other end, and deliver it. How far it goes is quite immaterial. It doesn't matter whether it's a mile, or ten miles, or a hundred miles, you pay for all the costs in collecting and de-collecting. And the penny postage would probably increase the number of letters sent.'

Part Two

MB We haven't talked about the end part of your recovery/convalescence from tuberculosis, and your early career, which began to form at that time. It wasn't possible to go into medicine; you might tell me about that, and how you chose an alternative route.

ABH Well, this was [Major] Greenwood at play. He knew a great deal about the university. And, of course, he had owed his career to my father, because he - my father - made him his demonstrator. But I can remember my mother - I must have been about eight or nine - saying, 'I hope, Leonard, you're not going to appoint that cynical little man to your staff.' Then my father said, 'That boy has brains. He'll never be any damned good as a doctor. I must give him a chance in science.' And he appointed Greenwood, who never forgot it. He held him in admiration and affection for the whole of his life, and called him 'chief' always. So Greenwood was out to repay that. And when I was recovering, he suggested I should take a degree, external to London University, a bit like the Open University, you could do in those days. You didn't go to university, you just went to sit the exam

MB And did it all at home?

ABH Did it all at home. And I got a commercial body called The Cambridge Correspondence ... not training ...

MB College?

ABH College or something of the kind, yes. And they told me what to read and set you questions every week and marked them. And if you were sensible, you didn't look up the answers, you wrote them out as well as you could.

MB So a kind of self-teaching programme, really?

ABH That's right. By the time you went up to take the exam, you could answer questions in your sleep. You'd been answering them every week for the best part of two years.

MB So you passed well. You got a London University external degree in economics.

ABH I got second class honours. I missed a first, but who cares.

MB That's right. It didn't do you any harm, I don't think.

ABH And I got the degree, and as a result of having got the qualification... Greenwood, the cynical little man - and I think critical would have been a fairer word - had become a very powerful person. He was a pal of Walter Fletcher, the first secretary of the Medical Research Council, one of his advisers. And on the other side, he was a pal of the chief medical officer of health, whose name at the moment I've forgotten.

MB Was that George Newman at that time?

ABH George Newman, that's right. And Greenwood got Fletcher to give me a grant for a year, to investigate the movement of young people from country districts to London, or to big towns. Because at those ages, about twenty-five to forty, twenty-five to thirty-five, the death rates in the country were higher than those in the towns, and no other age. So it was a (?) mixed up with migration, because all the girls were going into service, and the men going for jobs. And the question was: they'd never had contact

with TB; did they get TB and go back home and die, and that swelled the death rate in the country, or did they go to the towns and strengthen the towns, and if they didn't find pavements paved with gold, at least they felt it a good place to be? And I think there was no doubt that the second was right. You didn't have to do many sums to see it, because along with an old parson who gave me introductions to the schoolmasters and the clergy of the place, I went to every clergy in Essex and asked them to give me particulars of people who had gone, and where to, when they migrated, and what happened. And you found, actually, you didn't need very much in the way of sums, because if somebody had gone to Coventry, two or three people from that village had gone to Coventry. In the next village somebody had gone to Worcester, and two or three people had gone to Worcester, so that they certainly didn't come back and die of TB. They told their pals, 'Well, you won't make a fortune, but it's good. Come along.'

MB That must have been a fascinating time for you, having been in bed for quite a long time and convalescing, all of a sudden to find yourself looking into new situations with real people with real problems. That must have been fascinating.

ABH It was. It was.

MB It must have been a great awakening.

ABH Yes. Yes.

MB You knew you'd got a career there. Did you feel you'd got a career there for life, that was you?

ABH No, I never felt secure in that way. Of course, all through my life I've always felt insecure, that I wouldn't be able to hold down a certain job, till I'd tried it and found I was rather good at it, as a matter of fact. But I always had this feeling... not quite diffidence, but ... well, I wonder.

MB Really? Given the record of how much you did, that's difficult to take. But it's interesting to have your view, that from the inside, from where you sat, it wasn't as comfortable and straightforward as it seemed.

ABH No. No, I was horrified when I succeeded Greenwood.

MB That was remarkable, wasn't it. That must have been... because Greenwood really made a great name there, and a great School, hadn't he?

ABH He was a great scholar.

MB We're talking now of the London School of Hygiene and Tropical Medicine, which Greenwood really built in its classical early days, and really built a great establishment.

ABH Yes. But he... with hindsight, I can see I had assets which I didn't realise. Greenwood was a great teacher of history; that's what he wanted to be. He didn't want to go into medicine, he wanted to be an historian. But he had to go into medicine, his father made him. But he became an historian, because he gave a course of lectures on

the history of medicine, going back to Herodotus, and Jenner and Sydenham. Everybody you can think of, all the way down the ages.

MB Did you hear any of these lectures of Greenwood?

ABH Yes, I went to them. And then they published them as *Epidemics and Crowd Diseases*¹, and I've got a volume, which Peter has, thanking me for my help, which was reading proofs really.

MB But that was the big side of Greenwood the historian.

ABH Yes. But he was a sensitive person at heart.

MB You enjoyed a good relationship with him?

ABH Yes.

MB So what Mum hadn't seen, you found, and you rather treasured?

ABH Yes. But I was always nervous of him.

MB Were you?

ABH I think so.

MB You were never on first-name terms?

ABH No.

MB It wasn't possible?

ABH No. And he had only that one name, Major. And what they made of it in the war when he was Major Captain Greenwood, I can't imagine. Or Captain Major Greenwood, rather.

MB It must have been quite hard going.

ABH And I know people who didn't know it was his name would call him Major, and he'd be irritated by it, which I thought was a bit unfair, because who could imagine Major as a Christian name.

MB Quite. Going back to those early studies, you started off looking at this migration problem, but then went on very soon after that, moved on into industrial health, which was to remain the great centre of your work.

ABH Well, you see, Greenwood got me that grant. He got it renewed, and I wrote a report, one of the MRC Reports, I think it's number ninety-five, on internal migration

¹ Greenwood, M., 1935. *Epidemics and crowd diseases; an introduction to the study of epidemiology*. London: Williams and Norgate.

and its effects on the death rates. And that was finished. But at the same time, Greenwood had been with my father on the health of munition workers in the First World War, and that had become a permanent body called the Industrial Fatigue Research Board, later changed to Industrial Health Research Board, which investigated illnesses in industry. And Greenwood got me appointed as an investigator. That was the first secure job I had.

MB That was in...?

ABH 19...

MB '24?

ABH Well, I got married on it, so it must have been 1923, I should think. Yes, from 1923 to 1930, I was on the MRC.

MB Can we just break that particular line of thinking there, because you say, 'I got married on it.' It would be nice just to talk about meeting your wife, and getting married at that stage, to keep us right in line with your personal development, Sir Austin. Could we just talk about your meeting with your wife, and that marriage?

ABH Well, I met her sister first at some bazaar, I think, in aid of something or other. And I was there, and she said, 'Come along and have some tea with me,' so I did. And then she said to my wife, who was called 'Queenie' and hated it, 'Come and see my boyfriend.' She said, 'No, I'm tired, I can't be bothered.' But in the end, she did. And then we fell for one another.

MB In a big way?

ABH In a big way. And she was in a job then. She was in the insurance world – Eagle Star and British Dominions.

MB This was in London?

ABH In London. She went up daily for it.

MB Where was she living?

ABH Buckhurst Hill in Essex. And I'd lived in Loughton, which is the next village, and never met her until this occurred. And I used to meet her at the station when she came back from work. Then, of course, when ... I think she had a ... oh, what's the name of the operation? They clean out the uterus.

MB Oh right, some kind of D and C [dilatation and curettage] operation.

ABH Yes. And she went away to recuperate, and I followed her down, and kept her company. And in the end, we decided to get married in 1923. Well, I had got then - I hadn't got a new grant - I had got this job now with the Industrial Health Research Board. I'm not quite sure how much I was paid.

MB And the fat war pension.

ABH I'd still got the £200 war pension. Well, it had gone up by then; I don't know how much. But I found this, these industrial jobs, fascinating. The first one I was put on to was in the weaving sheds in Lancashire where there was this coarse cotton that they used. It wasn't good cotton; they added a lot of clay to make it, weave it, and they had to keep it wet. And there's no way of keeping it wet, except by injecting moisture, steam, into the whole of the weaving shed. And all the weavers had to abide that particular temperature, and whatever you like to call it, it's not steam, but...

MB There was incredible humidity in those sheds.

ABH Humidity, yes, that's right.

MB Phenomenal humidity.

ABH There were dry sheds and humid sheds. And so I investigated this, but I was determined not to go to investigate anything I hadn't personal knowledge of. One is, I think, you may make mistakes because you don't know what these terms relate to, and secondly, you may miss something; it may give you ideas as to what's going on. So I went to Lancashire and stayed there, and travelled through the weaving sheds and saw the trade union chaps who were arguing it was deleterious, and the bosses who said it wasn't.

MB It was felt that it gave rise to chest illness? Is that right? Respiratory disease.

ABH And to rheumatism. Particularly in weavers they thought it was rheumatism. And so I investigated that with the dry sheds in one place and wet sheds in another, and I could find no difference.

MB This was on the basis of sickness and absence data?

ABH That's right, yes. There was absence from work, and insurance policy...Lloyd George.

MB Yes. And no difference between dry or wet sheds?

ABH No. No, I couldn't find any difference.

MB But it must have been horrific to see the conditions under which weavers were working?

ABH It was. They were getting up at six, with clogs on, and going down to the shed, and the sheds are pretty crude, and frightfully noise - deafening. You couldn't talk to them unless you shouted at the top of your voice. And each (?) looked after four looms, dodging from one to the other and mending it if it got a break in the cotton. They'd mend it with a rapid twist of the fingers. They were mainly women.

MB What did it do to people? They still had a sense of humour after all that?

ABH Oh yes, yes. And they'd come out and have fun. It was just a way of work; you had to get through it today. I'm not sure what the hours were.

MB Probably twelve hours a day at that stage.

ABH No. I doubt it, no. Not at that stage.

MB Not at that stage?

ABH This was about, what...?

MB 1920s.

ABH 1920s, you see. But then I went on to the cotton workers, and that was quite a different story. They were spinning, and they got what was called 'card-room workers' asthma', in the blow room and the cleaning room, where they had machines which sucked all the dirt out from the cotton, and then it reversed the process and threw it all out into the air.

MB So they were inhaling this?

ABH So they were inhaling all the dirt that came out. And this certainly gave them illness, not surprisingly. It's now called byssinosis.

MB And that was the first real study carried out on that particular problem, that you carried out in the later 1920s.

ABH Yes. And I thought there was no doubt of it, again, because it didn't exist in the weaving sheds, this morning cough. It was something I hadn't seen anywhere.

MB Quite specific to this cleaning of the fibre.

ABH Yes. That's right. And then they'd said they'd finished it, they'd stopped it. And I was dubious, because it took a long time before it could show up. But they were susceptible, and they'd only changed the process for about five years. And I said, 'Well, it's certainly true, but whether you've cured it, I don't know.'

MB This was when they came to, was it vacuum stripping, and cleaning the industry up?

ABH Yes. Yes, yes.

MB But it wasn't enough, because the air was still pretty bad.

ABH It had improved, but it wasn't enough.

MB But they said, for many years, that it was, it was improved.

ABH Yes.

MB Was this the first of your introductions to the beginning of your experience of employers, and people who were running sheds and running industry, actually believing that it was easy to stop things, and it was nice to get industrial health people off their backs?

ABH Yes. And I got to know the trade union people too. They were really trying to wish on you, 'Yes, this is positive.'

MB So you had pressures from both sides?

ABH Yes.

MB That must have been uncomfortable?

ABH No, I don't think it was. I've got a logical mind, you know. I could see logically what they were getting at.

MB And you stayed clear.

ABH And I've got a logical mind and considered judgement. And in the School's [London School of Hygiene and Tropical Medicine] last annual report for 1989, they said, in statistics I set a standard, which has still prevailed, of considered judgement and logic, and algebra is subservient. Well, it had to be, because I didn't know any algebra! I still don't! I don't know today what the differential calculus means. Not the slightest idea. But I know how to make observations and designs for enquiries. I know how to design a controlled trial.

MB It's said in the literature that you were the pioneer of the controlled trial. When did the controlled trial really become something that you keenly promoted?

ABH Well, when I wrote my articles for the *Lancet*, in 1937, which became my '*Principles of Medical Statistics*'², I had a final chapter in which I pointed out that you really did need a control for observations. But I didn't use terms 'randomization' or 'random sampling numbers' because I felt that might scare the doctors off. So I suggested they should do alternate cases - on the control or on the treatment. And if, and it's a very large if, I guess if that were done strictly, it would be random. But, of course, it wouldn't be, they'd dodge the issue. They'd think, 'Well, he's going to get the treatment. I'll put somebody else in, let my pal have the treatment, and not be the control.'

MB But that period of publishing in the *BMJ*, [the *Lancet*] that was the time that you really started to put forward the views that had distilled out of the work that you'd done in industry over the ten years before?

ABH Yes. So that when the...what happened was, streptomycin came along. The Americans had found it in 1944, and they tried it on a few humans, but not as a trial, and it had been tried (?) on a lot of animals. But it came to this country in 1946. And there were three factors in it, making that a strictly controlled trial. One, I had written those

² Hill, A B., 1937. *Principles of Medical Statistics*. London: Lancet.

articles ten years earlier, and I'd used random sampling numbers in a less emotive field - the trial of whooping cough vaccine, where we had a control called an 'anti-catarrhal vaccine', and I said I felt the ... if they didn't get the whooping cough vaccine, at least they'd get one which I hoped they wouldn't get so many colds. Well, I did hope it: I never believed it, but...

MB You did hope. When was that work on the whooping cough, Sir Austin?

ABH About the early 1940s.

MB And so that was one step on the way towards the streptomycin trial? That was the next step.

ABH Yes. The other step was that the MRC had a unit in tuberculosis with a chap called Dr D'Arcy Hart³.

MB Yes. Who I met recently, and is still looking very well.

ABH Well, he was in charge of it. And he was fed up because they'd been plagued with gold as a treatment for TB, and nobody had ever made a trial. And I think he was dying to have the opportunity to make a trial. I was dying too, from the statistical angle. So, I could argue with Sir Geoffrey Marshall, who was the chairman of the committee - MRC special committee - I argued from the statistical side, that as we hadn't got much streptomycin, it would mean...it wasn't a question of being moral to make a trial, it would be immoral not to make a trial. And the medical side, D'Arcy Hart, would look after, with a chap called Marc Daniels, and he was superb. And the third factor, you see, he was ready for it, I was ready for it. This was immediately after the Second World War, and we'd exhausted all our dollars on the war, and the Treasury were adamant that we couldn't buy enough, more streptomycin than was necessary to treat fifty patients. And in those circumstances we could make a trial. And so I designed it as strictly controlled, fifty patients on bed rest and so on - pneumothorax if they liked, anything available - and fifty on streptomycin. But I thought, 'If streptomycin really does work, it will show up.' And it proved so.

MB Dramatic results.

ABH And, I am not sure, I can't remember the figures, but it was something of the order of about twenty of the fifty were dead in the control group, and about three in the treated group. I got on the committee various people who were willing to back us, like Guy Scadding and one or two others - I've forgotten their names, oh, Eric Bywaters - and they would have said yes. Then Sir Geoffrey Marshall agreed that we should have a strictly controlled trial. And I divided them up into two groups. And Marc Daniels said, 'When weighing up if a patient is suitable for the trial, I don't want him to know whether the patient will get the treatment or be a control.' And I said, 'No problem. I'll write it on a piece of paper, treat, T, or C [control], and put it in a sealed envelope. And after he's decided, yes, this is the right patient to come in, he'll open the envelope, and he won't know until that envelope is opened which way the patient will go.' So that's the way we designed it.

³ MRC Tuberculosis Research Unit, directed by Philip D'Arcy Hart.

MB Was that the first time blinding had been used in that way?

ABH Oh yes, undoubtedly.

MB A great moment.

ABH Shall I tell you a story of a double-blind trial? A ridiculous one. This was of a long-term illness like rheumatoid arthritis, so the patient could serve as his or her own control. And she didn't know, and you couldn't identify the two treatments. They were absolutely alike, there was no way of distinguishing them. And the patient didn't know and the doctor didn't know. I knew, and I started them on one, and after so many weeks I changed to the other. Then later I changed back, and they couldn't tell. But one day, the girl said to the doctor, 'Doctor, why have you changed my treatment this week?' Well, of course, he didn't know he had. So he said cautiously, 'What makes you think I have?' And she replied, 'Well, doctor, those pills you gave me last week, when I threw them down the lavatory, they floated. This week, they sink!' The best laid schemes of mice and men.

MB That's right. So, just going back to the streptomycin trial, Sir Austin, which worked a good deal better than the double-blind that we've just been talking about, can I just ask, in the course of that trial you must have felt very, very enthusiastic about what streptomycin was going to do, re. tuberculosis, I mean, having had tuberculosis?

ABH Yes, that's right, I did.

MB You must have emotionally been slightly involved in the outcome, feeling how miraculous that was going to be for that disease problem. Change the world.

ABH Yes, absolutely. Then BCG⁴ of course, came along later.

MB That must have been an incredible moment for you, though, as someone had had TB, all of a sudden seeing how it could be cleared up so quickly and so efficiently.

ABH Yes. Yes, yes, after that two years in bed.

MB After the streptomycin trial came another big event that was going to be quite, quite enormous for epidemiology, that was your linking up with Richard Doll. What a marvellous partnership that was to be. Could we talk a little bit about meeting Richard Doll and him becoming part of your team?

ABH Well, I got to know Richard Doll slightly. He had been working with [Francis] Avery Jones, the gastroenterologist.

MB Right. At the Middlesex?

⁴ Bacille Calmette-Guérin – a strain of tubercle bacillus that does not cause tuberculosis but possesses antigenic activity; it is therefore used to prepare a vaccine against the disease.

ABH At the Central Middlesex. And they were making a survey of peptic ulcers, what kind of people got them. And Richard Doll had been going round interviewing people who'd got a peptic ulcer, doing the classical method, of course, with controls, to see whether he could identify any variables. And he came... I think I was acting as adviser to the committee, and I think I wrote when I wrote this up, I said at the time: 'Forty years later, and forty committees later, I didn't much remember much about it.' But I think I did advise Richard Doll. And I had in the School of Hygiene, I ran a short course of three months, 'Essentials in Statistics', and I had both doctors coming and laymen. The laymen were statisticians who wanted to go into medicine, and I could teach them the kind of problem they were going to meet. The doctors were medically qualified and wanted to apply statistics to their work. And I could tell them what simple methods would be useful to them. And to that came, Richard Doll and his wife-to-be, Joan Faulkner, who was on the MRC administrative staff, and I got to know them both well. And when his work with Avery Jones came to an end, I was just starting out on the investigation of smoking and lung cancer. Now, I needed a doctor to act for me, and a qualified practitioner, and I invited Richard Doll to come, first of all on a grant from the MRC, and we investigated it. We got notices of cases of cancer of the bronchus, as it really was, carcinoma of the bronchus, from London hospitals. And we had our own almoners, social workers, and I drew up a fearsome questionnaire because I didn't want the patients to know that I was interested in smoking because it might bias them. So we asked them where they'd lived and what jobs they'd had; and whether they ate fat foods or fried foods, and plain bread and so on; whether they had electric cooking or gas cooking; whether they lived near the gasworks. A whole series of nonsense, and the only thing that came out of it was the smoking. And what it showed was, it didn't show just smokers against non-smokers, it showed it was cigarettes rather than pipe and cigars, and it had what was called a 'biological gradient'. If you didn't smoke at all, you got a death rate from cancer of the lung down here. But there were cases, but the interesting point is that they were of a different histology, which I thought added to the evidence that the smoking was a factor. If they smoked five it went up a little, and ten it went up a bit more, and twenty it went up here, and if you went forty or fifty a day, well, away here.

MB A convincing dose response rate.

ABH So you got a...yes, a response rate of a steadily rising...Well, then there were some objections to this looking back way, after all, they were all hospital patients; that was one thing. A lot of hospital patients might have a cough and get brought into hospital, and the others didn't, and so on. So I turned it on its head so to speak, and at this point I asked Richard Doll if he wanted to go back into clinical medicine, or whether he was going to throw in his lot with me and preventive medicine. And he decided to stay with me and join the Unit. And later took, became its boss. And what I did, having done a job of work for the BMA, for Charles Hill⁵ - you remember, the radio doctor? They were arguing about what doctors should be paid when the Health Service was set up. And the BMA had taken a sample of doctors and got them to record how much they did. And, of course, the Ministry of Health argued, 'You chose chaps who you knew worked hard, and you've only got to do it for a short time, and had worked very hard.' And for the consultants and the question of how much they were

⁵ Charles Hill, Secretary of the British Medical Association, 1944-50. He was created a life peer in 1963, taking the title Lord Hill of Luton.

paid, when I did a group of ones who were paid well would answer, and the ones who were paid low wouldn't answer, and so on. And so they came to me and Charles Hill, and said, 'Could you design a trial? A real sampled basis'. And I said, 'Yes, if you give me the staff. You do the donkey work, I'll tell you what to do. You must circulate all the doctors on the medical register.' And there were about 60,000 or 80,000, and we got 40,000 answers. A very simple questionnaire because I didn't want to frighten them off with a lot of questions. 'Did they smoke? What did they smoke? How many, if they were cigarettes? And when did they start and when did they stop?' That was the lot.

MB So you were coupling a population that had been used for, initially, a salary and work exercise within a smoking study?

ABH Yes, I was repeating it, in a way. Yes.

MB Right. So that was nice, using a population that you knew would respond fairly well.

ABH I knew they'd respond, and I knew Charles Hill would do the work for me because I'd done it for him.

MB So that was very tidy.

ABH And I thought doctors would be likely to be interested, and would answer.

MB And so it turned out.

ABH And secondly, it would be easy to identify them on their death certificates because their qualifications would be there. And we collected their death certificates every three months from the Registrar General for England and Wales and Scotland. And then I learnt also how wise I'd been to choose Richard Doll. He became obsessional. I think at school he'd been obsessional, a religious one. And then he'd become obsessional left-wing. I never asked him whether he'd joined the party, because it was nothing to do with me. As long as he did his job, I didn't care a damn. And I made him obsessional for research.

MB Which he's never stopped being.

ABH Which you can't ... once you've got obsessional on research, you haven't time for communism or religion, or anything else at all.

MB And he's still going at it.

ABH And he followed these doctors up; left, right and centre, to Australia, all over the place, to see whether they were still alive or not. And then we set them out into their groups, and sat down and waited for them to die. 'Callous,' said somebody. And I said, 'Well, I'm not asking them to die, they've got to die. Why not make use of the death certificates? I can't see that it's callous.' And then another one, at a cocktail party said, 'You're the chap who wants to stop us smoking.' I said, 'Not at all. I'm interested if you go on smoking to see how you die. I'm interested if you stop because I want to see

how you die. So you choose for yourself, stop or go on. It's a matter of indifference to me, I shall score up your death anyway, and it will be very useful to me. I want to know does stopping do you any good?' I didn't think it would, as a matter of fact. I was surprised that it did.

MB And in a big way.

ABH Yes, that you could insult the body too long.

MB Was the fact that so many doctors stopped in so reasonable a time a bonus you hadn't expected?

ABH It was. It was. And we could get to them, we could do it with no selection whatever, because we could get the death rate of all doctors, whether they answered us or not. And the death rate had gone down. So there was no selection, I used the whole population. But so many had stopped that it did make a difference. But I didn't rely on only those who stopped.

MB But the difference it made was really related to their pedigree as smokers.

ABH Yes.

MB Wonderful quantitative study.

ABH Yes.

MB I mean, that must ... has there ever been anything that gave you as much satisfaction as seeing how that just came out numerically?

ABH No, it was very exciting to see it come out, bit by bit. An astonishing thing, Max, was, I had an attack of influenza after the classical one, looking backwards [the retrospective study], and I was thinking of a forward one, and concluded that doctors would be right. And I took it back to the London School, and told Richard Doll, 'I'm thinking of this,' and he wisely said, like good experimenters, 'Let's try it out on a sample.' So he drew a sample. And this, I swear, was drawn absolutely at random. And it included [Sir Harold] Himsworth of the Medical Research Council. He wouldn't believe us, he said we'd put him in. And I said, 'It's absolutely true, Harry. You came out. You came out in the random sample. You bloody well answer us!'

MB That was a wonderful partnership, off to a remarkably good start, and Richard Doll, and you have had the most wonderful relationship professionally and as friends.

ABH We wrote them up after about ten years, again after twenty, and I think I put in that preface I wrote about Richard Doll, that over all those years, of course, we altered things to suit one another, but we'd never had a serious difference of opinion from start to finish.

MB A great partnership.

End of Part Two

ABH Sir Austin, in our break you mentioned Fisher, R.A. Fisher⁶. Would you like to make some observations about that? You nearly worked with him at one time; or at least he wanted you to work with him.

ABH He asked me to go to him, and I went out and had a lunch with the boss of the place at Rothamsted, and said it was an honour, of course, to be invited to work with Fisher, but I wanted to stop in medicine, I didn't want to go into agriculture, and just thanked him warmly. But then later on, of course, he started attacking me over the smoking and lung cancer.

MB Yes. What provoked that? There'd been no bad blood before then.

ABH Well, I don't know, except that he became an adviser to the tobacco industry. He was vain enough to think that people wouldn't connect that with him. And I don't know whether it was that or what, but he asked me if I could let him have the details of the evidence on smoking and lung cancer and inhaling, because, he said, the inhalers seemed not to get so much lung cancer as the non-inhalers, and this didn't make sense. So I let him have it. And we'd done the investigation in two parts, first in London and then other places. And I gave him the two separately, and he only used the London one, which suited his bill, because the other one didn't suit it so much; he left that out. And I thought that was a bit crooked.

MB So you had a dialogue in the literature about it? Did it get into the press? Did you have a confrontation?

ABH No, I never did.

MB You kept clear of that.

Part Three

MB In the fifties, if I can take another route that you took, as well as working with Richard Doll, you started to have really high executive responsibility at the London School of Hygiene.

ABH Yes. That scared me stiff.

MB You became dean?

ABH Yes. I was the acting dean when Andrew Topping was dean. And he had a brain tumour, and so when he died, I went on as an acting dean. And then to my

⁶ Sir Ronald Aylmer Fisher – Rothamsted Experimental Station, Statistical Department, 1919-33; Arthur Balfour Professor of Genetics, University of Cambridge, 1943-57.

astonishment one day, Archie Gray, who was chairman of the board of governors, said, 'I think Bradford Hill's been acting dean long enough, from tomorrow he shall be dean'.

MB From tomorrow?

ABH Well, nobody on the board could say, 'To hell, I don't think he's worth it.' He jumped the gun. And then later on he said, 'Will you stop on? Resign your chair and become dean?' And I said, 'Archie, not on your life. I want to get back to my department as soon as ever I can. I don't want to decide potty things as to whether a new laboratory should be built there or here, and so on, I want to get back to research and to teaching.'

MB And that's what happened?

ABH That's what happened. I went back.

MB And a new institute, a new unit, initially, came out of this. You started to spin a Rockefeller Unit was it? Funded by Rockefeller.

ABH I think it was ... I ... from my experience in the Industrial Health Research Board, I thought the School ought to have a department of occupational health. And I'd known Richard Schilling because he had been secretary of the Industrial Health Research Board, so I knew him well. He'd resigned from that; I think he was working in Manchester. But I attracted him back to the School to set up a department of occupational health. And now they're talking of closing it. I think it's been one of the great departments of the School.

MB Tell me about the beginnings of that School.

ABH Well, the School itself, in 1929, was set up by Wilson Jameson and George Newman, and I think it had been funded in Baltimore. There was a Baltimore School of Public Health, where I went and lectured many times later. And they gave this money for this London School, in 1929. And I think I'm the only person alive now who was there when that was opened. And I can vaguely remember, they had a slap-up lunch with Lord Mond⁷, who was minister of health, a champagne lunch, and I was in some outer room. But I believe the architect, while it was being built, consulted the professors who had been appointed. And I have a memory that Greenwood was consulted. And the architect said that the library was going to be the showroom of the School. It would be a beautiful design, and beautiful balcony and so on and so on. It would mean a little less room for the books, but it really would be a show room. And I think Greenwood said to him, 'Don't you think, Mr. So and So, we might keep the books somewhere else altogether?' Which must have endeared him to the architect.

MB Going to the unit of industrial health, can you tell me about setting that up, Sir Austin? Can you tell me about, in the mid-fifties, setting that unit up?

⁷ Alfred Moritz Mond, Lord Melchett.

ABH Well, it was set up on a very minor scale to begin with. I think there were three of them: Richard Schilling, a lecturer and a clerk, or something of that kind. But I relied on Richard to make it if he could. I tried to make these things, but it was up to him; that he did.

MB And it became one of the prominent units, one of the prominent departments in the School.

ABH Yes. I have a vague memory, it had some of the ugliest women on its staff. Because Heather [Schilling] couldn't possibly have been jealous. But they were efficient and we wanted them.

MB Can you remember some of the projects they undertook in those early years? I know all too little of that unit.

ABH No, I think not. He certainly took up and went back to byssinosis, and we worked on that.

MB One of the great areas was they did so much teaching as well, and they put so much into the School.

ABH Yes. And the School had electives, you know, the DPH [Diploma in Public Health], you could do an elective in statistics, or an elective in occupational health, or in public health, special elective, and the occupational health got a large number, particularly from overseas, applying for it.

MB But it fulfilled, as it grew and developed with TUC money, as I said, in the 1960s, it grew into quite a big outfit.

ABH Yes, it did. In fact, I think they got a lot of people coming from abroad.

MB Yes. And did a lot of work in a lot of areas of industry, fulfilling your earlier ambitions, in a way.

ABH Yes, yes.

MB And now, we've arrived, here we are in 1990, we've arrived with a proposal that it should be closed.

ABH I know. I think it's appalling.

MB How do you feel? Give me your views on it.

ABH I think it's absolutely appalling.

MB To turn to a happier note than the closure of the industrial health unit, which worries me as much as it does you, to turn to a happy note though, going back to the development of your own career, that had many happier notes. You became a Fellow of the Royal Society.

ABH I did.

MB You were honoured with a knighthood, and generally became recognised internationally, widely, as a father figure, a pioneer of medical statistics and research in epidemiology.

ABH Yes, I suppose so.

MB That must be very satisfying, to have done that much.

ABH Yes. I also had a very satisfactory married life. My wife was not academic at all, and when I took her round the world with me off on these jaunts - all of which we did by ship and train, we never flew - and she said, 'I'm upset in America. These women are all either working in real estate, or they're taking some diploma, and I'm only a housewife.' And I said, 'Here, my dear, you cut out that only. You're doing the only, the devil job of the lot. Anybody can work in real estate. Anybody can take a lousy diploma. But to bring up a husband and three children, and run a house efficiently, that's a job which really is hard. You're doing the best job of the lot. Don't you worry about that.' I think she was satisfied that I could keep them quiet too. If they said so, I'd tell them perfunctorily. Look at that for a home. Would you like to live in a home like that? Dirty place, poor meals. But think of the real estate.

MB What happy years they were with Lady Q. What happy years.

ABH They were. And I got this love of small children, which was part of my life. My father had had it before me, so it may have been partly inherited. But it centred when we went to the village in Buckinghamshire. It's pictured up there - Greenacres. I got a letterbox...

MB Yes, you just mentioned to me, this wonderful letterbox.

ABH This was a real Victorian letterbox in a wall near my father's house in Chalfont St. Peter, and a workman came one day and took it out, and put up a pillar box by the roadside. And he said, 'What are you going to do with that old one?' And they said, 'Oh, chuck it away.' Well, whether he gave them half a crown for it, or pinched it, I've no idea. He certainly brought it to me.

MB And you used it?

ABH And I used it. And I put it under a great hedge, up in that garden, where I had two acres - a huge macrocarpus hedge, and it was in the middle.

MB Hard to find.

ABH And you had to find it, there were clues on the way. There was a wheel somewhere, which was the witch's wheel, and you had to find your way through the orchard and find the letterbox and open it and see what was there.

MB Sir Austin, while we're talking about children, and your happiness with children, you had happiness, of course, with three children of your own. Can we just

talk about the three children that you had, and their lives? Just briefly put that into perspective for me?

ABH I had three. A daughter, Rosemary, and a son, David, and a son, Peter. I can remember Rosemary... we had a little house in the Hampstead Garden Suburb, 215 Addison Way. So the clergyman who married us said, '215, the Church's one foundation.' And so I said, 'We live in the Church's one foundation'. And it was a terraced house, and about every four there was a hole, so to speak, down on ground level, and it joined at the top as you went through to the garden and the back door. And I can remember her going through this hole with clogs on, and watering the garden, and one day turning the hose on to herself and staying there screaming because she didn't know what to do next. Didn't think of turning it away.

MB She was the first child?

ABH She was the first child.

MB Then David was next?

ABH Then David came two years later. Born regularly - 1924, 1926, 1928.

MB A good steady programme.

ABH Yes. And David was quite a dear chap for riding on horseback. Now, I didn't ride and my wife rode, and I can remember going to a farm in Devon; they put me up on a horse. And I should think that horse got schizophrenia, because they were saying 'Gee up! Gee up!' and I was saying, 'Whoa! Whoa!'

MB And your third child, Sir Austin?

ABH Peter. He was rather a shut in creature. He wouldn't talk sometimes.

MB He changed over the years.

ABH He changed over the years. I've now got six great-grand children.