AUDIO INTERVIEW TRANSCRIPT

Seaton, Anthony: transcript of an audio interview (16-Aug-2016)

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TT: Thank you very much for coming down from Edinburgh, Anthony. Why did you become a doctor, what influences made you choose medicine as a career?

AS: Yes. Childhood was straightforward, middle class. Born just before the war. Earliest memories are bombing, air raid sirens, running to the air raid shelter or being carried, so I've got a good memory of my very early years. And after a few years my father went into the army, went abroad. We were in Liverpool at the time, in the Liverpool Blitz. And father suggested we went to stay with his parents in Harrogate in Yorkshire, so we moved there to the relative peace of the Yorkshire countryside, and I went to school there. Little prep school. And after the war, father came back, the family moved back to Liverpool where father was in tropical medicine. He'd been in the tropics during the war. At that time I was given the option of staying as a boarder or going to Liverpool. And since all my friends were in Harrogate, I opted to stay, so I started boarding at the age of eight. Which wasn't unusual at that time. After that I went to a minor public school called Rossall, on the Lancashire coast, and I decided very early on, in my first school actually, that I was going to be a doctor. To the point that the teachers used to call me "Doctor". I had a best friend who was top of the class, I was second, usually. He denies that but it's true. He became an art historian, and we're still friendly from the age of about five or six, from 1943. He became Keeper of Modern Art at the Tate Gallery. He was known as the "Professor", I was known as the "Doctor". It was simply because my father was a doctor; it was the only job I knew. Although I didn't know my father really, as he'd been away all my young life. He became a doctor because his father was a doctor; who became a doctor because his father was a doctor.
And the great-grandfather was what we call in Scotland ‘a lad-a-pairs’, he was someone who came from a poor family in what’s now known as the Gorbals in Glasgow. His father was a weaver, so he was the one who broke out, went to university in Glasgow and became a doctor, and then migrated south to Leeds. So that’s in a nutshell the family history of medicine, going back to 1840.

TT: You say your father was in tropical medicine. He was a physician?

AS: He was a physician. He qualified from Cambridge and Leeds University, and he went into tropical medicine before the war. He worked with famous Warrington Yorke, FRS, who was professor of tropical medicine at Liverpool, and he was the blue eyed boy of Warrington Yorke, but unfortunately Yorke died during the war, and the tropical school changed its interests from what was essentially chemotherapy for tropical diseases to mechanisms. And father remained a Lecturer in Tropical Medicine in Liverpool all his life, got very disaffected unfortunately.

TT: What was his main speciality?

AS: He was interested in malaria, and generally in tropical diseases. He was the Lecturer on Helminthology, actually, that was his thing. And interestingly I’ve got a son who also did tropical medicine, he’s now an Infectious Disease Consultant. He went to the School of Tropical Medicine to do his DTM [Diploma in Tropical Medicine] in Liverpool. That’s another history and it’s fairly interesting, and you probably know about it.

TT: Well I know a little about the Liverpool School, there’s a proper history written by Helen Power.

AS: Yes, there is. And father gets scant mention in it though there are some pictures of his car, and him I think.

TT: Did your father do clinical work?

AS: Yes, he did tropical medicine for Liverpool, after the war there was a fair bit amongst people back from the Far East, ex-servicemen from the Far East with tropical diseases. So I was lucky. When I qualified from Cambridge I went to Liverpool to do the clinical work, and so I got to see him at work. Father taught me how to do liver biopsies, and I became the liver biopsy Registrar in Liverpool in the early days. He showed me tropical diseases, and when I took my finals in Cambridge, one of the examiners asked me which hospital I went to, they used to say to the Cambridge people ‘Which hospital did you go to?’, thinking it would be Barts, or Mary’s or somewhere. And I said ‘I went to Liverpool,’ and he said ‘Liverpool, that’s a hotbed of tropical medicine isn’t it?’ I said ‘Yes, there’s a School of Tropical Medicine.’ He asked ‘Have you ever seen a tropical disease?’ That was a gift to me, so I had no problem passing my finals.

TT: We’ve jumped ahead a little bit; we’re getting to finals. It’s interesting you talk about the influence of your father, an almost genetic influence to get into medicine. But as you say you probably didn’t see much of your father’s work. You were boarding in Harrogate, then you were boarding at school. So did you see much of your father’s work, did you have any understanding of what it was he did?

AS: I have memories of medicine from the very early days during the war. I remember mother worrying about paying the doctor’s bills. The first essay I ever had to write at my first school was, I remember the teacher said ‘You’re going to be a doctor, aren’t you, they’re going to nationalise doctors, write an essay.’ And I wrote an essay in favour of nationalisation, just before the health service actually came into being. That was my first essay and I’ve been writing essays ever since. I had a sort of understanding about what medicine was about. My desire was to become a doctor, just in general to become a doctor and to help people who were ill. That was the simple idea that I had. Very early on, I got an understanding of what nationalisation and socialisation in medicine meant, very early on, while I was still at prep school, and stuck to that all through my life. I’ve always been active on behalf of the NHS, and never did private practice, for example, which I disapproved of. But that’s another story. My father, I got to know him better when I was a medical student at Liverpool, doing the clinical work. It was a wonderful place, Liverpool, to do clinical medicine,
because there were so many hospitals, so many sick patients, and you saw so much, it was absolutely marvellous. That was what I wanted to do, I wasn’t terribly interested in the basic sciences at all. But I really loved seeing patients and understanding patients. And the teachers there had, unlike in the London hospitals, relatively few students, and they gave a lot of their time to teaching. So that was a great time, and I think many very well-known people, I mean, for example, David Weatherall was Senior Registrar in Liverpool at the time I was a Registrar there. There were a lot of very good people around who subsequently made their names elsewhere, and in Liverpool of course.

TT: And before you get to Liverpool, can I just go back to your schooling? You decided you wanted to be a doctor, so you did science A levels?

AS: I have to say that my main interests were English and Latin, funnily enough. Those were my best subjects at primary school. I don’t remember doing any science at primary school at all. I suppose we must have done a bit. I liked art, I liked English, I liked writing and I liked Latin, very unusual but I did. They were my best subjects right through to O levels, but I was in the science stream because I wanted to be a doctor. So I was introduced to science seriously at Rossall. The biology teacher was the one I remember best, the most influential. And the thing that he taught us about that really struck me was evolution. That was, I suppose, at the age of 14, I started understanding, well not understanding but hearing about, evolution and thinking about it. That has been a stream in my life ever since, thinking about how we’ve adapted to our environment. There’ve been two influences I look back on in school - my English teacher, who taught me Latin as well, Mr Denis Curry, who was a wonderful influence; and my biology teacher, Mr Harry Edwards in Rossall, who was a human being, not many teachers were human beings in those days, but he was. He was a really nice person, and you felt he was a sort of father figure to a lot of us. Very good teacher. So that was where biology, I got a real interest in biology at that time.

TT: You then went to Cambridge. Did you think ‘I want a broader education,’ to do Tripos and then specialise in clinical medicine?

AS: No, it was the done thing in those days. If you were at a public school they wanted you to go to Cambridge, so I went there. I was too young, in retrospect, I was still a schoolboy of 17. There were a lot of ex-military service people there. I enjoyed it very much but I enjoyed it too much, and didn’t work very hard. I didn’t get terribly interested in the academic side. I was into sport a lot, and having a good time. I got a second.

TT: Which College were you at?

AS: King’s. It was a nice time, but in retrospect it would’ve been much better if I’d done National Service first, and I’d been a bit more mature. Looking back, I can see that I wasn’t mature enough for it at the time, and I didn’t make the most of the opportunities that I could have. But I got to meet some very interesting people there, very interesting people. And King’s was a nice college because you got to meet the dons, they would talk to you and sit at table with you, that sort of thing. A lot of very well-known people around at the time. But what really lit me up academically was going to Liverpool, and actually seeing patients, because in my head all the time had been this idea, I wanted to see patients and help make them better. In the end I didn’t do very much in that respect I suppose. But I did my bit.

TT: How was it structured? You went up to Liverpool to the Liverpool Medical School for your clinical? Or was this directed from Cambridge? Because it wasn’t usual to go to Liverpool.

AS: It was unusual, but there were three of us at the time who came from Liverpool, and went to Liverpool to do the clinical. I think in my case it was clear, I was the first of five children, and my father was educating all his children privately. All of us, and he ran out of cash, and he said to me, I had an interview to go to Barts to do my clinical and they offered me a place, and he said ‘Sorry, I can’t afford you to go and live in London.’ So I went to Liverpool and lived at home. And that was not easy, because I had all these young brothers and sisters around who got in the way when I was trying to study, that sort of thing. But I did get
to know my father better over that period, and that was the bonus of that, as well as being in a very good centre for learning medicine.

**TT:** Is there anything in your clinical years you particularly enjoyed? Did you have any inkling then of a specialisation?

**AS:** Yes. The subjects I liked best were cardiology and neurology, because you could relate very easily what you found when you examined patients to what you knew in terms of anatomy and physiology. And it was the sort of excitement of examining a patient, asking the questions, examining them, and then visualisation what was going wrong inside them in almost mechanical terms, that really appealed to me. And so I did a lot as a student, I had a lot of interest in those two subjects. Chest medicine didn't make an impact at that time, partly because chest medicine was tuberculosis [TB] in those days, and that was separate, and we got to go to the TB hospital for a day or so, and that was it. So I didn't have much to do with chest medicine at all, really, to start with, as a student. But interest in neurology, fascinating. It was long before the modern imaging of course, it was quite complex investigations had to be done. But it was the physical examination that I got interested in, and got interested to the point, well I got interested in the stethoscope and Laennec as a student. On one occasion I hitchhiked to Brittany, and went to visit Quimper, where Laennec came from, and retraced his steps when he went to the north of Brittany to work with his uncle from an apprenticeship. So to that extent I got interested in chest, Laennec and the history of the stethoscope and that sort of thing. That was down to a teacher, actually who introduced me to it.

**TT:** A teacher in?

**AS:** Liverpool.

**TT:** In chest medicine?

**AS:** They were all general physicians in those days. The cardiologists and neurologists were specialised but everyone else was a general physician. There was a chap called John Robertson who was quite well known. Some people thought him awkward, I rather liked him, he said what he thought. But he told us, he had an obsession with the nomenclature of the sounds that you hear through the stethoscope, and he’d gone back to Laennec, and read his work, and tried to sort out, they called them rales and rhonchi in those days. They differentiated rales from rhonchi. Rhonchi were wheezes and rales were crackles. And of course they weren’t to Laennec, rale was the French word and rhonchus was the Latin translation of it. He got obsessional about this and wrote a lot about it. And he won in the end, he did change the nomenclature. It was a chap called Charles Williams, who was a London Lecturer, who mistranslated Laennec’s work, and caused all that confusion. That I do remember as being one of the interesting things as a medical student, and perhaps my first introduction to medical history.

**TT:** The other thing that you mentioned earlier, being fascinated in school by evolution. How did it persist as an interest in medical school? Was it something that you were consciously keeping?

**AS:** Yes. The anecdote is that I went to, I used to commute across the Mersey, either by boat, on the ferry, or on the underground. If I was a bit late I used to get the underground railway. The Professor of Medicine was Lord Cohen, Sir Henry Cohen, yes he’d been made a Lord by then. He was a very good teacher but he didn’t often come because he was very busy. But I remember one lecture that I went to he introduced us to René Dubos, and it was interesting because he was a very good clinician, but this lecture was about the wider public health. And he told us to read a book, and he recommended a book to us by Dubos, called *The Mirage of Health*. And I went out and bought it, and it’s an amazing book. It was all about the place of mankind in general evolutionary terms in the ecology of the planet. And how the ecology of the planet influenced man’s health and vice versa, to some extent. But it was a broad ranging book, and it had a huge influence on me, which I largely forgot, that it had had an influence on me. But later on through my career I found myself teaching about this, the place of humans in the wider ecology, the competition between us and microbes, not seeing them as the enemy but seeing us as competing for our little part of the place on
the planet. And it led me in all sorts of interesting directions, as I went through my career. But I would often quote this book to students when I was teaching, but I’d forgotten what I’d read in it really. A year or so ago I looked for it and realised I’d lent it to somebody and it had not come back, as happens with books a lot. So I went out and bought a copy of it and reread it. It was amazing, I found all these things that I’d been teaching, they were all there in this book. I realised that there’s nothing original in my head at all, I’d got it all from Dubos. So that was, not sure it was a turning point, but it was a huge influence on me, that idea, and it came I think from the lectures and teaching in classes in biology, and understanding about evolution and so on.

TT: That’s quite forward thinking, the Dubos book was 1959, so really very early to be starting thinking about those larger issues, and ecology, evolution and mankind’s place. That's really very much at the forefront I would've thought at the time.

AS: It was. He was an important figure in the discovery of streptomycin, and I didn’t know this at the time, but I subsequently discovered when I’d been reading about the history of TB, that he was one of the soil biologists who discovered streptomycin. As you know I’m sure, the discovery of streptomycin was explicitly made by soil biologists who were looking for a treatment for *Mycobacterium*, something to kill *Mycobacterium tuberculosis* in the soil, because they knew that the soil is an ecology with competing organisms. And they knew that if there was the TB organism there, there would be other organisms that competed with it, and they would produce something which stopped it proliferating and becoming the dominant soil organism. And eventually Dubos found an organism which was antibacterial, but unfortunately its product was too toxic to be used in humans. But his colleagues discovered *Streptomyces griseus*, which did compete with it, and became the basis of streptomycin, and that was a fascinating story. Dubos very sadly lost his wife to TB at the time he was working on it, and he became a very famous philosopher of science. One of his books on *The White Plague* is a history of TB.

TT: Were you alone or unusual in being influenced by Cohen to read this book? Did your colleagues read it? Was it a generational thing at the time or something that clicked with you?

AS: I suspect I was the only one, because I never asked anyone. It was a guilty secret that I went and bought this book. I really don’t know. We were a rough rugby playing group of people in Liverpool. There were one or two intellectuals there who became quite well-known, but by and large we talked about the things medical students talked about. Girls and rugby, there weren’t many girls among us, a few in those days, but we were mostly boys. It wasn’t an intellectual powerhouse, medical school.

TT: There are a lot of different routes, ways that people develop their careers.

AS: It is very interesting that everyone was terribly cynical about the public health lectures. We had more or less compulsory public health lectures, which actually people managed to dodge. I don’t know how they dodged them, but I used to go to them because I thought they were fascinating. They talked about the history of public health, and I liked that. There was a core group of like-minded people who went to those lectures, but most avoided them. And then 50 years later one of the lads decided to have a reunion, and some of us, a lot of us met together, and I was amazed to find out how many of those students had ended up doing public health. Making up for lost time. I don’t know what it was, but lots of them, particularly the women, I suppose for career reasons in those days, it was more easily adapted to having a family. But quite a lot of them had ended up doing some sort of public health, some aspect of public health. So there must have been some who got the same sort of broader interest. But by and large we wanted to be doctors. The more extrovert wanted to be surgeons, and the more introvert wanted to be physicians. A few expressed an interest in general practice, though many did actually end up in general practice. But it wasn’t an attractive career in those days. It was better for money but that was the only thing about it.

TT: When you qualified what were your ambitions in medicine? Did you have any clear ambitions or were they still unformed?
AS: Unformed. I did two house jobs, as we all had to. One medical and one surgical. The medical one had an interest in cardiology, partly, but it was mostly general medicine. The surgical one, I actually failed to get the surgical job I wanted, it went to a friend of mine, and I was told ‘Why don’t you do the orthopaedic job, they’re looking for someone for orthopaedics?’ So I did orthopaedics, gosh I loved orthopaedics, it was fun setting fractures and things like that. At the end of that I couldn’t make my mind up whether I wanted to be a physician or an orthopaedic surgeon. I should say that as a medical student, and I saw this in my son later on, my eldest son who did medicine, everything I did I got interested in, and thought ‘that would be interesting, psychiatry, would be interesting to do that,’ then orthopaedics and surgery, you went through paediatrics. I got interested in and then forgot about it as we moved on to the next thing. So I was completely unformed, and I enjoyed the medicine but I have to say that orthopaedics was more fun. As housemen we did casualty as well, so we were stitching people up and setting fractures in the evenings as well as all the hard work during the day. So what I did, this is true, I couldn’t make my mind up so applied for two jobs, I applied for a job in surgery, an SHO [Senior House Officer] job in surgery, in casualty, at what we now call accident and emergency. And I applied for a job as an SHO in medicine in a cardiology unit. And I decided that I’d leave it to fate, and fate gave me the SHO in medicine, cardiology. That came up first, and I got an offer of that job.

TT: This was still in Liverpool?

AS: Yes, it was in a little hospital called Mossley Hill, in a little annexe, where they actually did the cardiac surgery. And I’d decided if I got the medical job I’d do the MRCP [Membership of the Royal College of Physicians], if I did the surgical job I’d do the first part of the surgical fellowship. So I did the MRCP, and I got it first time.

TT: You got it very quickly, didn’t you?

AS: Within 18 months, I got it. I met a friend when I got the MRCP, from Cambridge, from King’s, Brian Greenwood. He was hardworking, in contrast to me, he got a first, and he also got Membership the same time as me, I remember when we went to the ceremony to pick up our diplomas, Brian saw me and his jaw dropped when he saw me. Years later he and his wife and my wife and I met at a King’s reunion, and my wife asked him about this, and he said he was a swot, which I suppose he was a bit of a swot. But we both agreed we’d been a bit immature when we went to Cambridge. I worked very hard, it was hard work anyway, it was a cardiac surgical job, but I was a physician in the unit, and I was in charge of the patients post-operatively, plus the day work, the post-operative stuff was mostly night work. It was a lot of getting up and seeing seriously ill patients, and dealing with problems, measuring blood gases, all sort of things, monitoring them. But also I got a local Senior Registrar and asked him to give me tutorials; that was the tradition in Liverpool. You got a Senior Registrar to grill you and give you a viva over a patient once a week. A chap called Clive Aber did that for me. I did a postal course, writing essays, because the MRCP included some compulsory essays in the first part in those days.

TT: It did indeed, and was always something historical or a foreign language.

AS: I think there was translation in French, German and Latin. But that was dropped the year I did it. But I had prepared myself, I could read French and Latin so I was all right for that. But it wasn’t necessary in my case. What was necessary, and was a great shock, was that they introduced a multiple choice questionnaire. We were the first people to do that, 1964, it was. They introduced it on a trial basis, alongside the standard three-part Membership. It was a shock because we had no idea how they marked it. Do you get marks subtracted or not, and hundreds of questions. Anyway, I worked very hard, and obviously did well enough to pass it. We had three parts, the first part was the multiple choice, plus the essay questions, six questions, all compulsory, I’ve still got it at home, but one was ‘fungal diseases of the lung,’ about which I knew absolutely nothing. But I invented an answer to it, just on first principles and a bit of biological understanding. Anyway, there were the essays, and then there was the clinicals, we had to trail down to London to do all these things, from Liverpool, so it was quite an expense. We were earning about £600 a year in those days. And then we had the clinicals, which we did in the Middlesex hospital, they were easy, fairly easy. I remember one patient
in the clinical, poor chap, he had obviously got high blood pressure, changes in retinas, he’d had a stroke, he was a very nice patient, and he had lots of physical signs, and I was feeling very pleased with myself, I’d found out all these signs, the effects of high blood pressure, he had a big heart and so on. And at the end I remember something I’d been taught for exam technique: when you’ve finished with the patient you say ‘is there something I’ve forgotten?’ and the patient said ‘well they mostly take my blood pressure’. That’s true. And I just assumed his blood pressure was very high, and indeed it was, but I’d completely forgotten to take the most basic step, I would’ve failed had it not been for that patient. So it’s on these things that your career hinges. So I got through that and the short cases, and then you had to go for the second part, which was simply going down for some vivas. I think there were two lots of two, and you were asked pretty well anything by any of these people. I got a stroke of luck there, because by then I’d seen quite a lot of chest X-rays, working in, well it was a Cardio-Thoracic Unit, so I’d seen lots of chest X-rays. And I’d been told there was one examiner who had a missing eye, from a war wound, I think. He had a patch over his eye, and the rumour was that if he took the patch off his eye and you found yourself looking into an empty socket, you’d failed. This is a story that was told about the examiners, lots of stories told about them. I went to this table and there were two examiners sitting there, one with a patch over his eye. He said ‘Seaton, what shall we do, look at this X-ray.’ Popped an X-ray up on the screen, and I looked at it, and it was a fairly straightforward coin lesion in the lung. So I looked at it very carefully, and then I looked back at him and the patch was off. I knew then that the rumour wasn’t true, because I hadn’t answered a question, so I told him what it was, and I remember some other questions, and it ended up with ‘Jolly good, you go over to the next one.’

TT: What was his name?

AS: I don’t remember his name I’m afraid, it was famous in those days. There were two examiners who were feared, he was one and the other was Donald Hunter.

TT: I’ve heard stories of Donald Hunter.

AS: He wasn’t examining, he had just stopped examining that time. But I’d read his book of course, everyone read his book, so everyone knew about occupational diseases when they went for Membership in that generation. Sadly that’s changed now. I liked his book, it was full of mistakes, and the index was hopeless, but it was a very interesting book. All that stuff about the industrial revolution, I loved that.

TT: So you got your Membership, you’re on a charted career to become a Consultant Physician. One thing I was going to ask you, National Service, did this rear its head at all?

AS: I was exempted, that was usual in those days for medical students because they wanted you to go in the army as a doctor, and you went in straight away as a lieutenant or even a captain, I can’t remember. But National Service was abolished halfway through my medical student career, so I never did it. Which I regret, to some extent, but I didn’t do it. We had to manage without but at school I learned how to take a Bren gun to pieces and put it back together again, how to march. We did all those things, we were all trained at school to be officers. We were expected to be officers, go to Sandhurst, and if you didn’t go to university you’d go to Sandhurst.

TT: After your Membership, you carry on as a Medical Registrar?

AS: It wasn’t as simple as that.

TT: These things rarely are.

AS: I did a year as an SHO in the Cardiac Surgical Unit, really. I got very interested in cardiology, and then that came to an end. As it came to an end I was doing my, I’d got through to the third part of Membership, but I hadn’t got Membership, and I expected to fail because about 80% at least failed Membership in those days. And I started applying for jobs, and I actually was unemployed for a couple of months, because I just had
one interview after another, and I was going for Registrar jobs. I had eight interviews; my wife was working as a nurse at this time, and she supported me over this period. And eventually I applied for a job as an SHO in Geriatrics at Hope Hospital in Salford, my first application was for a Lecturer's job in Oxford, only two applicants, neither of us got it, because the Professor had given the job to someone else before we went there, so it was expensive going down to Oxford, having an interview. The two candidates were myself and someone else, and we both became Professors later.

**TT:** Who was the other person?

**AS:** Leo Kinlan. Do you know him? Professor of Epidemiology in Oxford. He and I sat there, and we went in to see the Professor, the Regius, and he was lying there on a chaise longue, made us wait for two hours, Professor Pickering. He came in late, we were interviewed, he asked me 'What school did you go to?' Told him. 'Play rugby?' ‘Yes, I did, I was quite good at rugby.’ ‘Good, thank you very much.’ That was my interview. Leo Kinlan went in before me, he came out looking shell-shocked after about two minutes. I went in thinking ‘Oh gosh, I must have this job,’ I went out thinking ‘What the hell was that about?’ They didn’t tell me for a month; this was the month that I was unemployed. Rang them up after a month saying ‘When are we going to hear about the result of the interview?’ and the chap I spoke to said ‘Oh God, didn’t we tell you, terribly sorry.’ The reason he was late, he’d just come back from America and while he was there he offered the job to a jolly good chap he met over there. Those were the days, it was absolutely awful. Anyway, I ended up, eight interviews later, at Hope Hospital Salford, two applicants, and I failed to get it. And I thought ‘What the hell’s the matter with me, I just don’t know.’ I applied to, the last application was for a Registrar job in Stoke-on-Trent. A Registrar job, I’d been applying for SHO jobs, and I got it, and I was told there were over 100 applicants for it, and why I got it was that I’d got the first two parts of the Membership, they thought I’d go there and in the course of being there I’d get the Membership, and at that time they were looking for people to go there, get Membership and improve their reputation, because they hoped to become a Medical School. They were vying with Nottingham for a new Medical School, which they didn’t get at the time.

**TT:** This would be the late 1960s?

**AS:** No, it was 1964, 1965. So I got a Registrar job at Stoke, and I did go there. It was very good, hard work, it was very hard work, general medical, one in three rota. Up all night, when you’re the one admitting 30 or so patients per night to two hospitals. So I got a lot of practical experience there. That was a good year, and then I applied for a job back in Liverpool, there were people there who wanted me back, so I easily got back into Liverpool.

**TT:** And this was as another Medical Registrar?

**AS:** That was another Medical Registrar. They’d said ‘Where would you like to work?’ I said ‘I don’t want to work in the Royal Infirmary, I’ve been a houseman there, a student there.’ So I got a job at the Royal Infirmary! But I’m glad to say I was able to engineer a transfer to the Southern Hospital, none of these hospitals exists any more, to do neurology. In those days, a young keen Registrar would try to get jobs in different specialties, you had to make your own career, you didn’t get training at all, you had to make your training. And we all looked around, and cardiology I’d done a bit of, neurology I wanted to do. And I got a job which taught me a lot of neurology, and I did that for a year and a bit. And then I had a bust up with my boss, there’s an anecdote here. I had a boss who was very keen on private practice, and didn’t turn up very much. I was a little young socialist, and didn’t approve of this, but you had no choice, you just had to do it, and primarily it meant doing his clinics for him. He used to get people referred by other senior Consultants around Liverpool, including Cyril Clarke, who was then Professor of Medicine after Henry Cohen had gone. And on one occasion, I got used to doing his clinics for him, seeing these patients, dealing with them, and on one occasion my wife was in labour, and I rang my boss said to him ‘Do you mind if I go home a bit early because my wife’s in labour?’ And he said ‘No I’m sorry, I can’t come in today.’ He was obviously doing his private practice. So I had to do his clinic and my wife got into trouble in labour, and there was I stuck in the clinic, it was awful. So I started writing in my letters to the GPs [General
Practitioners] and to the Consultants, ‘I saw your patient in the unexpected absence of Dr X,’ and all my letters went out with that. And I think, I don’t know if this is true, but one of these was probably to Cyril Clarke, and I think someone took my boss on the side and said ‘This is unacceptable,’ my boss took me on one side and said ‘Seaton, you mustn’t write that, you must write ‘I saw your patient on behalf of Dr Hughes’.’ Sorry, I said the name, but it doesn’t matter, he’s long dead. I said ‘If you’re not going to turn up to clinics, I’ll bloody well write what I want.’ He looked me in the eye and said ‘Don’t ever ask me for a reference.’ So people say that happens, well that happened to me. And I thought ‘Neurology is not going to be my subject,’ because he was an influential person. But apart from that I enjoyed it very much, I did all the reporting of electroencephalograms [EEGs] in Liverpool for a year. He was an expert on those, but he said to me ‘Here, this is a pile of EEGs,’ he taught me roughly how to interpret them, he said ‘I’ve written a book on it, buy it.’ So I bought his book and read through it, and thought I knew something about EEGs. It was interesting, I learnt a lot of neurology, and after a year or so I applied for another Registrar job that I knew was coming up, and it was again in cardiothoracic surgery - Medical Registrar in the Cardiothoracic Surgical Unit.

TT: Where was this?

AS: Broadgreen, still in Liverpool. So I was then back in what I was more familiar with, which was management of cardiothoracic surgical patients, from a medical point of view. That’s when I started getting a bit interested in the lungs. I did my MD there.

TT: You’d already published, you had a single paper, your first paper in the BMJ [British Medical Journal] in 1966. That sounds a rather unusual thing to have done or was it not? First of all, to any modern person, you think ‘How does a young chap at that level get a single author paper?’

AS: Funny that you spotted that, it was a complete one off. It was a case report, but it was a very interesting case report. It was a youngish lady who had atrial fibrillation, this was just before cardioversion came in. And she’d developed atrial fibrillation and one way of treating it in those days was quinidine, which was fairly toxic stuff, you had to be very careful, but I gave her the standard treatment with quinidine, and she developed a very frightening arrhythmia, which I think there’s a name for it nowadays, is torsades de pointes, these days? Essentially it was recurrent episodes of ventricular tachycardia/fibrillation, very frightening. She went unconscious and we resuscitated her, and I was at my wits’ end. I was the Registrar, the Consultants wouldn’t have known anything about this sort of thing, I’d only done a bit of cardiology. And there was this new drug come in called “propranolol”, and as a desperate measure gave her some of that. And it just put her right again. I wrote it up, recurrent ventricular fibrillation treated with propranolol. And I sent it to the BMJ, because that and The Lancet were the only journals I read, and they did take the occasional case report in those days. And they took it, and it acquired some sort of notoriety at the time, I remember being asked by the drug company that made it, which was ICI, to visit their laboratories.

TT: Well it wasn’t very far from you, Alderley Edge.

AS: That’s right, and they invited me to go up there, I don’t know why. They must have thought I was some tame doctor who would do drug trials for them.

TT: This is the James Black period wasn’t it?

AS: It would’ve been, the first β-blocker. It was just a one off thing, I’d not thought of it between that day and this, but it was my first publication. In those days, you had to get the Membership, it was Membership, publish something, do an MD, go to America, become a Consultant. That was the sort of standard rule. This was Phase 3 of that, do a Membership, publication. And I remember at that time thinking about publication, how on earth do you get into it, and have ideas. When I was in Stoke I had ideas, for example I had an idea about connection between the heart and the brain, it was known at the time that people who had subarachnoid haemorrhages got ECG changes, and I wondered why that was. And so I started looking into that with a pathologist in Stoke. So I was already having some sort of ideas about research, for example
when people had died of subarachnoid I went in, looked at the post mortem and dissected the heart with the pathologist, and found that you could indeed find subendocardial haemorrhages.

TT: Did you publish that?

AS: No, never got as far as publishing it, because I didn’t do enough, and then I changed. But at that time I remember thinking ‘How do you do research?’ Because I wasn’t a trained scientist, I was a clinician. How do you get from being clinical to answering more basic questions about patients?

TT: Sounds quite extraordinary to a modern person that you were on your own trying to work this out. Nowadays with training courses and PhD, MD placements, the idea that you’d have an idea and not be able to talk to somebody and do something, is alien.

AS: That’s how I felt, I think I was a bit unusual in that respect, I think, because when I went back to Liverpool, when I was still in neurology I was asking questions about why do people with respiratory failure get a flapping tremor, do you remember the flapping tremor with liver disease?

TT: I’m not clinical.

AS: Sorry, you’ve got so many medical fellowships I forget. But the people with liver disease, advanced liver disease, you get them to hold their hands out and they go like that, and it’s a sign of late liver disease. But it also occurs in people with respiratory failure and carbon dioxide retention. And I wondered, no one knew why this happened, and I started getting interested in that, and trying to investigate that with electroencephalograms and things in the intensive care unit, which we had at the Southern hospital, I think the first general intensive care unit in Britain. It was set up by a Senior Registrar there, so we had patients with all these serious diseases. But then when I went back to Liverpool I got a message from Cyril Clarke, who was the Professor there. Cyril of course was a very famous medical geneticist, as well as being a good clinician. And he had one of these MD factories, really, that you’re referring to now that people get into when they want to do higher qualifications, and his was looking at blood groups, and various diseases. And he called me in, obviously wanted me to be one of his geneticist people, and he’d got hold of Peter Harper, a whole lot of them who became Professors of Medical Genetics. And he said I’d like you to think about looking at blood groups in the Chinese population of Liverpool.’ And I thanked him kindly, and said ‘I don’t want to do that,’ that’s not the sort of thing I wanted to do at the time. I just didn’t have a great feel for doing that sort of research, and I was beginning to be more interested in cardiopulmonary medicine, particularly pulmonary embolism, which had, I think it may have been my second group of publications was on pulmonary embolism. While I was at the Southern Hospital a friend and I had done a survey of all the cases of venous thrombosis and pulmonary embolism over the course of a year. And that was something I wanted to do, and he and I did it, and we wrote something up on that, we did lung scans on them all in the early days of lung scanning.

TT: Was this Spencer?

AS: Yes. I remember he said ‘Do you want your name first or should I put mine?’ He was the senior chap so I said ‘If it’s going into a radiology journal, you put your name first.’ I think we probably sent it to the BMJ first and they rejected it, with my name first, so we sent it to British Journal of Radiology, and that was just a sort of collection type, looking at how these things presented in a general hospital. And that was an interest in pulmonary embolus which at the time was becoming recognised as an important thing happening in hospital patients stuck in beds. And then I got the job at Broadgreen Hospital with a very nice man, Colin Ogilvie who was the general physician, interested in lung disease. The man who had first introduced a particular lung function test called diffusing capacity, and I worked in the night looking after the patients, but I also learned lung physiology there, and ran the lung function laboratory with the Senior Registrar. After a year I became the Senior Registrar myself, as he went to a Consultant job, so I had a couple of years there doing cardiology, looking after the patients mostly, but learning a lot about chest diseases, particularly things coming to the surgeons, and lung function testing. We had the Senior Registrar and a local engineer
had designed a lung scanning machine, a moving lung scanner, so you could scan people’s lungs sitting upright. It was a one-off machine that they’d designed, and I cottoned on to these, they called it the “MD machine”.

TT: I’ll ask you about the MD machine. When you say scanner, are you talking about ultrasound?

AS: It was a radio isotope, we used technetium, radioactive technetium, we used to inject it and do ventilation-perfusion scans. I did my MD and again it was just a one off thing, designed and done by yourself really with Colin Ogilvie took an interest. We had a very primitive computer which had put the results out in punch tape.

TT: Presumably it was called the “MD machine” because it generated MDs?

AS: Mine was the first.

TT: Can we come back to your MD in a minute? I just want to ask you about Cyril Clarke. You must have made an impression for him to ask you to think about doing an MD with him. He was obviously interested in your career, saw something in you that he thought was something to take forward into research?

AS: Yes, I suppose so. He must have known, he knew my father of course, that’s one thing, so that’s an advantage I might’ve had, I don’t know, possibly. But I was the first person in my year to get post-graduate qualification. You couldn’t have got it earlier than I got it, you couldn’t take MRCP before 18 months after qualifying. So I was the first person in my year, and that obviously sent a signal to the Prof of medicine that here’s someone who must be brighter than we thought. An awful lot of luck in this, as I explained to you. But I didn’t actually have anything to do with him after that, because I turned down his kind offer of doing this with him, preferred to go on to this sort of physiological side of things. The Registrar job I had was known as a Physiological Registrar, because it involved running the lung physiology lab. And that was good, I learnt a lot in that on the lungs, and did the MD.

TT: So your MD is lung function in mitral valve disease. That’s combining all sorts of interests.

AS: Yes. Mitral rheumatic heart disease in those days was very common from the pre-antibiotic era, we’re talking about late 1960s. So people who had rheumatic fever as children were coming up at that time with mitral and aortic and tricuspid valve disease. So it was the early years of cardiac surgery, so we had lots of those patients, and I took the opportunity of looking at patients with mitral valve disease, who got lung functional abnormalities, and we had a lung function lab, they all had their lung function test done. Nowadays that doesn’t seem particularly unusual but this was quite early days of lung function laboratories in general hospitals. And so I’d combine the two, ‘Why did they get these lung function abnormalities from mitral valve disease?’ And the answer is they have chronic build-up of blood in their lungs, and they end up with fibrosis in their lungs, with chronic left ventricular failure, or left atrial obstruction of the mitral valve. Pulmonary venous hypertension, it’s called. That has a backlog effect on the lungs, and the lungs eventually end up inflamed and fibrosed. And it involved doing lung scanning of them, showing the changes in the distribution of perfusion to the lungs from the lower parts to the upper parts in the upright position.

TT: This is when you were using the MD machine.

AS: Using the MD machine, and that must have churned out, including my brother about 10 years later, it must have churned out about 20 MDs over the years under the general and benign supervision of Colin Ogilvie, who was the boss in those days.

TT: Could you say something about how you did your MD, because compared with modern day for example, you have specific study leave periods, you can see why I’m asking the question.
AS: I was at Broadgreen, on a one in two rota. When I say a one in two rota I mean a one in two rota, alternate nights I was on call. What was I on call for? Any medical emergency occurring in these very sick post-operative patients, plus a thing called pacemaking had just come in, and I’d learnt to do cardiac catheters, I hadn’t mentioned that but I was doing right-heart catheters a lot at that time. There I was being trained, actually, that’s one thing I was trained in funnily enough. And so I learnt from my predecessor, who was the Senior Registrar, he showed me how to put pacemakers in, in the very early days of pacemakers, you used to stick them down the jugular vein into the heart through the tricuspid valve and into the atrium, in the end of the apex of the right ventricle. And then we coupled them up, to a box by the bed, with the wires, you plugged them into a machine which then gave a little shock to the heart, and kept it going. So I did all the pacemakers, and patients came in with a heartbeat of 30, 20 a minute, passing out all the time, and you’d have to do this. So there was a lot of emergency work, so study leave wasn’t invented in those days, you didn’t get study leave, you got four weeks holiday a year, and you were on whatever it was, the rota there was one in two, so you didn’t have time to do it, on the other hand there was enough time during the day, and I set aside a half day a week to do my lung scans on the patients. So that, I was able over time to accumulate enough data to write a thesis on it. I was pretty innocent of statistics in those days, completely innocent, I got a little book on statistics, but fortunately Colin Ogilvie had a friend who was a statistician, so I took all my results to him, and he very kindly did the statistics for me. That was it, and then I accumulated enough to write the dissertation while I was there, but I didn’t have anyone to type it out for me, and I couldn’t type myself at that time. So I took all this paper and all these data with me to America, where I made friends with a secretary who typed it out for me.

TT: We’ll get to America in a minute, but this will sound extraordinary to modern trainees, the question of how you fitted that in your rotas. What about your private life, you were married with a family by this team?

AS: Yes, I had a wife, still got her, and two children, the younger one was born while I was doing this very busy job. They were preschool, so my wife was off work and she looked after them. I used to see them at the weekends I was available, and in the evenings. I didn’t play much part, I’ve changed now. The second one was born just before we went to America, so I got more in the way of feeding and nappy changing. It was difficult, it was very difficult. The first boy, Andrew, who’s now a Consultant in Glasgow, he wouldn’t sleep at night. I remember for 15 weeks he just yelled all night, he was forceps delivery, he was rather weedy at birth, and rather vulnerable I think, at first, and then he needed feeding almost every hour. And I remember my wife, she put him on the breast, and we had a primitive electric stove in the bedroom, I remember, and we used to keep a bottle warm on that, and I used to bottle feed him and then she breastfed him, and we went on like that for 14 weeks. And of course that was the nights I wasn’t called in. I was living at home, quite close to the hospital, and then we got so exhausted I said, we only had one bedroom, it was so exhausting, I said ‘I’m going to put him in the bath.’ Can you believe this? And we put some blankets and things in the bath, stuck him in that, shut the bathroom door, shut the bedroom door, and we had our first night’s sleep, it was so wonderful, we didn’t hear a thing. And after that we had no problems with him at all, we just left him overnight. It was a struggle, more of a struggle for my wife than it was for me, and at the end of it I got an offer of a post in America.

TT: You’ve got the Membership, you’ve got a publication, you are on the way for an MD, so now you’re going to get your BTA [Been to America]?

AS: The BTA yes, but I thought I wanted to do something different, I wanted to go to Africa.

TT: Can I ask why Africa? Was this the family link with tropical medicine?

AS: I wanted to do some tropical medicine at some stage in my career, and it sounds so chaotic actually, it must have been, when I was in Stoke I got interested in gastroenterology, and coeliac disease, and I’d got myself a little Crosby capsule, a little thing you could get people to swallow, and you could do intestinal biopsies with it. Something I taught myself to do, so I was doing that as a Registrar in Liverpool, if anyone needed an intestinal biopsy I’d do it, or a liver biopsy I’d do it for them. And I decided I wanted to look at tropical
sprue, and I met somebody who was Professor of Pathology in Nigeria who was interested in this, met him through my father. I can't remember his name, he was Professor in Ibadan, and he said 'Come out to Ibadan,' and so I agreed that I would apply for a job with him. And then the civil war broke out in Nigeria, and of course Ibadan was the Ibo centre, and all the Ibo left, so all sorts of problems, and we'd just had the second child, and I thought 'It's not sensible.' At that time Colin Ogilvie had been contacted by a chap called Keith Morgan in the United States, in West Virginia, asking if we'd take one of his young doctors to come and work with us. He was called Dominic Gaziano, he was a West Virginian, and Dominic came across with I think five children, he was a good Catholic, he had five children aged one, two, three, four… He brought them all across. He and I worked closely together on the MD machine, doing scans of this, that and the other disease, it was all new stuff in those days, only us and the Hammersmith, and people in Montreal were doing this sort of work, so we were unusual and there were opportunities for all sorts of things at that time. So Dominic Gaziano came across to us, and when he went back Keith Morgan invited Colin to send me across. So that's how I went to America. I'd been to Canada once, I should mention this as a little anecdote. When I was doing my MD I wanted to visit Peter Macklem and Milic Emili in Montreal, because they were doing that sort of work.

TT: Was this in McGill?

AS: McGill, yes, and they were the leading people in the world with the Hammersmith people on regional lung function studies, so I wanted to go and see them. There was an opportunity to get a job as a ship surgeon on the Canadian Pacific ships which in those days went from Liverpool to Glasgow across to Quebec and Montreal. So I managed to wangle myself a job as a ship's surgeon for my annual holiday, two weeks, and I did a trip across to Montreal, and visited them at McGill. So that was an interesting trip, you got one pound or two dollars fifty, that was the exchange rate in those days, what is it now, one dollar two now. But it was two fifty to the pound in those days, so you got that for a sea sickness injection. So you made your money from that. But you had to look after anyone who fell ill, it was my only private practice, you had to look after anyone who fell ill unless it an accident, where you couldn’t charge them, but otherwise you could charge them. I never actually charged anybody but I was very lucky, I was a Senior Registrar, very familiar with cardiology. The only things I got, I got someone who went into acute heart failure one night, and I got several people who fell out of their bunks and broke their limbs. And of course I'd done orthopaedics, so I was very lucky, my panic was that I'd have an acute appendicitis or something that I'd never done. But I was lucky, I got fractures, you had to give them an anaesthetic, I never got the X-ray machine working, but I was good enough at orthopaedics to know what they'd fractured by feel, and put them back, plaster them, without competent X-rays. And anaesthetics, just an intravenous injection of pentothal in those days, which they had in the little sick bay there. So I did that, and I made a bit of money out of the sea sickness injections, the Canadian Pacific paid me £20 for the trip, which was a fair bit of money in those days, and I made some money from the sea sickness.

TT: What were you injecting for sea sickness?

AS: Some anti-histamine, I can’t remember. So I can say I’ve been a ship surgeon for two weeks. And I’d had my car stolen just before that, that’s another story; yes, I had a little Mini which was on its last legs, very last legs, before we went to America. It was stolen just before I went away. While I was in the hospital putting a pacemaker in, I came out at two in the morning to get my car, and someone had just taken it; we got it back about two months later.

TT: So you were going off to West Virginia, with your family, for one year? Two years?

AS: I went for one, originally on a fellowship, they kindly found money for a fellowship for me, wasn't much but it was enough to live on. In those days we were absolutely broke, overdrawn at the bank, and I’d just put down a mortgage on a house, and so on, we were completely broke. I had to take a loan from my boss when I arrived because I just literally had no money apart from my wife had managed to sell our car for £100. But the plane was late, we’d had to stay in New York when we arrived there, so the £100 had gone. Anyway I got my first month’s salary in advance, and we survived, and that was a wonderful time. It was
West Virginia, it was a very very backwards state, but a really nice Hospital, a nice Medical School, a lot of very good colleagues, slightly eccentric people, because no one in America would dream of going to work in West Virginia, it was the pits to them. The feeling it was isolated, it was like going into the third world, going in to West Virginia, rutted roads from Pittsburgh airport into West Virginia, a single lane road with potholes. It was like another world.

TT: Almost like you were getting your tropical experience.

AS: Except it was a good hospital, a modern hospital with all the facilities and really excellent staff, really committed staff. I was working in a unit, it was actually a US Government Unit. NIOSH, National Institute of Occupational Safety and Health Unit, though I was employed by the University of West Virginia. I then became a Chest Physician and started looking after patients with TB and things like that.

TT: What about registration and certification? You had to do that?

AS: You had to take an exam called the ECFMG, the Educational Certificate for Foreign Medical Graduates, which you came down to London to take, and it was like taking finals again actually. You had to do, I don’t think there were clinicals, you had to answer questions on gynaecology and paediatrics and everything. So a basic medical/surgical exam, plus an English test. You had someone in a broad Texan accent read something out and you had to write it down. ECFMG, so you had to pass that, and then when you went to, certainly in West Virginia, to practice you had to get a West Virginian qualification. That involved driving down a great distance from where we were in Morgantown in the north of West Virginia to Charleston in the south, through the hills and forests, having an interview with some board down there, then they gave me a West Virginia qualification. It was a formality. Then you could practice medicine, so it was not arduous at all, most of my time was available to do research. I went on the eight o’clock rounds in the morning and played some part in looking after respiratory patients, and I also had my own TB clinic in a rather wild part of the northern West Virginia.

TT: Was this more a rural community?

AS: It was a rural community in northern West Virginia, a place called Moundsville, and it was the site of the state penitentiary, so we saw patients with TB, who were being treated locally, and we made sure that they got the right treatment. In those days it was streptomycin, PAS [para-aminosalicylic acid] and isoniazid, the standard treatment. The first couple of months in hospital usually, and then outpatient supervision. So that’s where I learnt my TB, which in those days was essential for a Chest Physician. And I became a Chest Physician; for example they had intensive care patients on respirators and things like that. I was familiar with some of that from my Senior Registrar post in Liverpool. After a few months there, because I’d published a few things, they offered me a post as Assistant Professor, and I got a proper salary then, and that was nice. That enabled me then to stay on, they wanted me to stay, and I did stay an extra year. But my aim was always to get the experience of working in America to do some research, and to go back and work as a full-time NHS Consultant. That was my career aim, I’d finally decided I wanted to be an NHS Consultant. The research in America was a very contentious time, they’d just introduced a law known as “the black lung law”, which was to compensate people with pneumoconiosis.

TT: This was late 1960s?


TT: The black lung law?

AS: It was to compensate people for pneumoconiosis. So there was a lot of dispute about the disability related to pneumoconiosis, and I was very much involved in researching lung diseases in coal miners. And it was there that I became aware of the uncertainty surrounding chronic obstructive lung disease in coal mining. And I proposed to my boss that we studied this. We started, and Keith Morgan was my boss, and we did
lots of studies of coal miners, and it was a very productive part of my career, that, you can see from my CV, I've got lots of publications on coal miners. It started partly because I had this facility for writing, and LeRoy (Lee) Lapp, who was a very bright man, who is still alive, and I'm still in touch with him, Lee was a very good physiologist, he was very good at science. Taught me an awful lot. So Keith and Lee were the two medical scientists working in the laboratory. There was a physiology laboratory, they were also doing a lot of field epidemiology, using lung function and radiology in the field, surveying American coal miners. So this was a huge pan-American research effort. And I came in, in the middle of this, and my facility for writing enabled me to help them write their papers. So I was seen almost as the scribe of the unit. It was a very productive time, and some of the work, I was involved in doing the studies, some I was simply involved in discussing, analysing and writing the papers. And LeRoy and I wrote quite a lot of papers together on lung function in coal miners. Later on it led to a dispute between Keith Morgan and myself. I believed at that time that the evidence suggested that coal dust caused chronic obstructive lung disease. Keith didn’t, he was clear that it was not that, it was smoking. We never sorted that out in America, but that’s where I started thinking ‘How can we sort this out?’ And we did later in my career, convincingly. But at the time we were just interested in looking at the data and finding out. Some of my own personal studies there were related to looking at small airway disease in coal miners, and indeed in controls. My controls were mostly academics from the Medical School, very bravely came down and swallowed tubes for me, and had blood taken, sorts of things like that. But we did a lot, small airway disease was one of the big physiological interests at that time. So I became quite expert at things like frequency dependence of compliance, which you won’t understand but it was a vogue at the time, one or two units were looking at this as a way of detecting emphysema physiologically at an early stage.

TT: When you say compliance you mean lung compliance?

AS: Yes, you measure changes in lung compliance. It’s a physical measure of the elasticity, or lack of it, of the lungs, which is effected by emphysema. And at the time, people were thinking of the early stages of chronic lung disease occurring in small airways, and we’ve all got so many millions of small airways, you can get a lot of disease before it actually can be measured by what were then the standard tests, and still are the standard tests of lung function. So one way of looking at it was looking at diffusing capacity, but that really looks at the function of the alveoli and the blood going to the alveoli. So people were looking for a way of measuring the small airways, early obstruction to small airways. There were two ways, one was the flow volume loop at that time, and the other was changes in compliance, with different rates of breathing. It was a very complicated sort of test to do, and no wonder it’s been dropped by everyone, it involved swallowing a tube, a body plethysmograph, lots of very complex measurements. Very laborious. But it fascinated me, at the time I was interested in physiology, and I was very interested in it, nobody would have heard of it in these days.

TT: What were your relationships, or what was your knowledge at that time, working on pneumoconiosis, about work elsewhere in the world? Particularly back in Britain and Wales for example?

AS: I did know about what was going on. What I didn’t know about was the Institute of Occupational Medicine, but I knew about the Pneumoconiosis Unit in Wales, I knew about John Gilson, and Colin McKerrow and the people who had been working there on applying lung function epidemiologically and so on. I knew Archie Cochrane’s work, yes I knew about that, and Keith knew about it all as well, and he was modelling his studies on the work being done by the Pneumoconiosis Unit, I did know about that.

TT: Was there any direct link between these two groups?

AS: No. The Americans were influenced heavily by the MRC’s [Medical Research Council’s] work, yes. They were in the process of overtaking them at the time that I was there. They were doing a lot of studies on the use of X-ray radiology in epidemiology, which I got very involved in as well. Looking at variability between readers and using the ILO [International Labour Organisation] scale for measuring. There was standard
films produced by the ILO, standard films for grading pneumoconiosis. There’s a scale for pneumoconiosis which was introduced for epidemiology.

TT: For compensation?

AS: It wasn’t, but it’s been abused for that. It’s used widely in America for compensation purposes, and to some extent in the UK, but its primary purpose was for reducing the variability of radiological reading in epidemiology.

TT: Were you tempted to stay in America? You’d been there for two years, obviously fascinating work, clinical and scientific.

AS: I was, and my wife wanted to stay, she loved it there, our social life was much better, she saw more of me as well. I didn’t have much on call at all, very little.

TT: And your children?

AS: The elder boy remembers it, the younger boy doesn’t remember it, he was under one when we went, he was three months or something when we went. But they’ve both been back to visit in their adult life. I was tempted to stay, and I got offers, not just at West Virginia, but I did get offers to go to other places, as people got to know my publications. But I had a firm career objective, which was to become a Consultant in the NHS, at that time, and so after I’d been about 18 months I started applying for jobs, got the airmail BMJ jobs list, and I applied for two jobs. One was a TB job in London, and the other was a Consultant job in Cardiff?

TT: What was the TB job in London? In the Brompton?

AS: There was a TB Epidemiology Unit, run by Mitcheson. I don’t remember but it was quite a well known academic TB unit, I applied for that, and they invited me for an interview, but I got the interview in Cardiff first, and the Cardiff job was a NHS Chest Physician job. They invited me to interview, they said they’d pay my fare from Heathrow to Cardiff. There were quite a few people applied for it, I subsequently learned. Some of them became my friends, but I got it and flew across, had a day or two with my parents up in Liverpool, and then had an interview in Cardiff. A big table, lots of people, I remember being asked if I was interested in research, and I said ‘Well, primarily I’m interested in looking after patients, but yes I am interested in research.’ They said ‘What would you do?’ I said ‘I’m afraid I don’t know, I have to get in the job and find out what the opportunities are.’ But I remember saying ‘My track record shows that I do get interested in things,’ but I didn’t have a clue actually about research when I got the job, I was just interested in doing an NHS job. And it turned out actually that three people had retired, and I was replacing all of them. And it was a busy job, but it gave me such an experience of chest medicine so quickly, I was put in charge of the chest clinic, I had 100 beds shared with a colleague, a great colleague called Bill Foreman, in Sully Hospital. Then we opened a Ward in Llandough Hospital, and we opened an Acute [Medicine] Ward. I got interested in asthma, about which I knew next to nothing, another person retired, Dr D. A. Williams, one of the great figures of allergy in Britain. He retired, and he asked me if I would take over his patients, I got his patients as well. He also had an Asthma Research Unit, and he asked me if I’d take that over, so I took that over, so I was running the chest clinics in Cardiff, I was running the Asthma Research Unit, I had 100 beds at Sully, and I had 25 beds at Llandough hospital, and I was on call one in three. And I just did so much, and learnt so much in a short time, and then I wondered about research, and asthma was the obvious thing, the Asthma Research Unit. And at that time asthma was terribly badly treated, and I persuaded my colleagues to allow us chest physicians, three of us there were at the time, to admit all the acutely ill asthmatics to our Ward at Llandough Hospital. And so we persuaded the bed bureau and the local GPs to send all their patients to us. So we started doing research into how to treat acute severe asthma, which had been called status asthmaticus. I changed the terminology, I decided it should be called “acute severe asthma”. Defined it in practical terms, so you could study it, and we did the first controlled trials of that. I also got
interested in fungus, *Aspergillus fumigatus*, which was an interest, there was a mycologist in the research unit, so he and I worked together on that.

**TT:** It's rather ironic considering the essay you wrote in your Membership.

**AS:** Isn't it, yes. But it's a fascinating story, which is still unfinished. But the question that struck me is ‘why do patients, so many people, get this thing called allergic aspergillosis, when there’s a choice of 100 or more different fungal spores in the air that we all breathe in every day, and yet there’s only one that causes this disease’. And it actually turned out to be a not uncomman disease, particularly in asthmatics and cystic fibrotics. So I got interested in that, it was something I took through my career as a hobby, but we found that it’s right back to that book I was telling you about, it’s competition between microorganisms, and in this case *Aspergillus*, something comes off its surface, off the surface of the spore, which paralyses motile organisms like Amoebae, *Paramaecium* and so on. So you can get this stuff off the surface of *Aspergillus* spores, and put a drop of it in a plate of soil organisms, and all the soil organisms, which are zipping around, they slow down and then they stop. And then the *Aspergillus* spore, on the surface of these organisms, starts to germinate, send out hyphae, and it sort of feeds on the other organisms that it’s paralysed or killed. And we never found out, because we didn’t have the facilities, what this substance is, it’s a low molecular weight substance that comes off, and has this profound biological effect. And that was something I published in *The Lancet*, called “*Aspergillus, Amoeba and Asthma*”. It’s a thing I’m proudest of, of all the things I’ve done. It’s been very little cited, it just didn’t strike. That’s one of the nicest biological studies that, well I say I did it, but I had a series of people working with me. Mainly Maura Robertson, my research assistant who did all the biological work on that.

**TT:** Can I go back to you moving to Cardiff? The MRC Pneumoconiosis Research Unit was there. And that would almost seem to be an obvious link for you, given your work in West Virginia? What were your relationships? Had you initially thought you would develop continuing interest in pneumoconiosis? Or was it not encouraged?

**AS:** Yes. I should’ve said, when I was in America I decided that there wasn’t enough known about occupational lung diseases, and I suggested to Keith Morgan that we write a book on the subject, and so I wrote that book with Keith in my early years at Cardiff. And it was published I think in 1975, the first edition of it. And I knew John Coates, I knew John Gilson sort of, or I knew of them, but they knew who I was. I opened a lung function laboratory, they hadn’t got a lung function lab in Cardiff, a proper one, so I opened one when we built our new outpatient clinic there, in about 1972 or so, 1973. Colin McKerrow was the physiologist I was most friendly with, and he offered me the opportunity of working with him. But unfortunately I remember the day he rang me up to say he was terribly sorry, but he’d got multiple myeloma, and he’d just gone blind, and he died very quickly after. And John Coates was the other physiologist there, John was not an easy person to get on with, and I never struck any professional relationship with him at all. He was a nice enough person, and very clever, but several of his colleagues, of his young people, George Miller, who became a quite well known, sadly died rather young, cardiac epidemiologist, George Miller was working with him. I met George in America, he was a Liverpuddlian. And also Ross Anderson, who you may know of, Ross became Professor of Public Health at St George’s. I worked with both of them, Ross came to my clinics and he’d sat in my asthma clinics with me, that sort of thing. But I never actually got to work with the physiologists in the pneumoconiosis unit. I was very friendly with Chris Wagner, and I’ve always liked pathologists, they’re jolly people I think, and Chris and Roger Seal, who was the other pathologist in the Cardiff chest pathology particularly, I worked closely with them, but not in research. So I didn’t develop any research with the pneumoconiosis unit, though I did do some investigations of asthma with George Millar. We were interested in exercise induced asthma.

The MRC Unit - they were falling apart. They were all strong personalities, Peter Oldham, the famous statistician there, as far as I could see did nothing. John Coates was difficult to work with. Chris Wagner was a jovial and friendly chap, who didn’t get on with any of them. John Gilson was a sort of father figure, who didn’t seem to be sort of directing them. And the fact is they’d lost direction, they’d completely lost direction. Chris Wagner and John Coates were the two who had an international reputation. John because
of his book on lung function, Chris because of his work on asbestos. But they didn’t speak to each other, they didn’t get on. John Gilson retired while I was there; the MRC looked at the Unit, decided that it should continue. Curiously, and I don’t suppose this is known generally, the younger people in the Unit came and asked me if I’d be interested in applying. And I was very early in my career, and I was quite sure the MRC wouldn’t consider me as a suitable person, so I said ‘No.’ But also I saw that it had lost direction, and it was going to be impossible to get; it’s rather like Mr Corbyn and the Labour Party, if you’ve got to lead a Unit you’ve got to be able to get people behind you, and that wouldn’t have been possible. Peter Elwood was offered the job - I don’t know if he applied or offered - Peter the very amiable nice person. But he didn’t manage to get them working together, and by then completely coincidentally I was asked if I would go and run the Institute in Edinburgh, which I knew very little about.

**TT:** Before we get to Edinburgh, talking more about Cardiff, particularly the beginning of your interest in asthma. You took over Dr Williams’ Research Unit?

**AS:** It was called the Asthma Research Unit, it was a personal thing to him. He’d been an early figure in the understanding of aerobiology and its relation to asthma. He’d started one of the first asthma clinics in the UK, but he’d got together in the 1940s I think during the war, he was a bad asthmatic himself. He’d got together with a man called Hyde, who was a palynologist. In fact he was a paleopalynologist, he’d studied pollen grains as part of archaeological digs, so they could say what crops grew in different eras, and archaeological time. And Hyde had produced an atlas of pollen spores, so they had started measuring pollen and fungal spores in the air. This Asthma Research Unit, one of its main themes was measurement of these things in the air, trying to relate the spores, or the pollen that you find in the air, with outbreaks of asthma in populations, that was their interest. So I got interested in that, because it was something I’d never heard of before. And that got me into the *Aspergillus* stuff, but also I was interested in trying to improve the care of asthma clinically at the same time, so we continued doing research under the general title of Asthma Research Unit, but what it was, was a mycologist and some technicians. The technicians I converted into lung function technicians, but one of them kept measuring the air, the spores and the pollen in the air.

**TT:** Asthma really became more prevalent and took off as you became a Consultant?

**AS:** The big thing in the 1970s was that there was an epidemic of death from asthma, a sudden spike in the rates-I did a study of death from asthma. D. A. Williams had done one a decade or so before, but in the 1970s there was a steep spike in deaths from asthma. It became a topic of conversation amongst doctors, all these patients coming in dying of asthma, suddenly. Why was that? And it was confusing, and one thing that we did was study retrospectively people, all the records we could get of people who died from asthma. John MacDonald and his wife Elspeth did this work. We identified reasons that people were dying. Someone else was doing a similar study in London at the time, and that put me onto improving the care of asthma, and I wrote a fairly well known leading article, the first editorial in *Thorax*, about 1978 or 1979, about asthma, how badly it was looked after and how we should improve the care of it. Part of the reason for the increase in deaths was that there were more people with asthma, and that had started coincidentally just about the time I was appointed, about 1971. So you look at the graph of prevalence of asthma, or admission to hospital, so on, you see the prevalence as going up. Coincidentally, I went to Scotland about eight or nine years later, and the same thing happened in Scotland at the time I went to Scotland, so I made a joke about that, but I don’t think they’re causally connected. But there was an increase in asthma, and that was something that interested me very much, and that led to the research on diet of course later. In Cardiff, I was primarily a very busy clinician, one in three, and my interest really was trying to improve the care of asthma, and we had the advantage of new drugs at that time, both for TB and for asthma. We got it together by admitting all the patients, we had a self-admission service, which we introduced, so patients on our list could ring us and say they’re getting bad, and they could come up straight to the hospital, and we’d see them, admit them if necessary. We tried to standardise the treatment of acute severe asthma, how much drugs, what way they drugs should be given and so on, so did a whole lot of studies that culminated eventually in a paper which I wrote in *Advanced Medicine* on the management of asthma.
TT: Again there's a considerable number of publications. You're doing all of this other stuff, and there's a lot of other things you're doing as well.

AS: It was a full-time Consultant post, and I didn’t have any spare time. I had five clinics a week, and I had ward rounds in two hospitals on a regular basis each week. I was very, very busy.

TT: And during this time, if asthma deaths are increasing, what's your relationship with the NHS for provision of facilities? You just talked about converting technicians into lung function technicians.

AS: There weren’t such things as lung function technicians. You had cardiology technicians in those days. And where people started off lung function labs, what they did was get cardiology technicians, who basically did ECGs except in the very big centres, and taught them how to do lung function. So I taught our technicians how to do lung function tests, and they did those. Facilities, you had to fight for everything, and I was lucky in Cardiff. We got the opportunity of having our own ward, we had one ward, so we had the problem of male and female, but we sort of sorted that out. We got a new clinic, the old one was up, they wanted to sell the building I think, so we got a nice new clinic, which I was able to help design. Help the architects design. We had this old hospital which was an old TB beautiful art deco building, it’s now flats, it’s called Sully. Now desirable flats, I’d love to buy one of them, looking over the Bristol Channel. Grounds that the patients used to walk round circuits, as they got better they’d walk further. And we had at that time, TB of course we’d got the new drugs so we weren’t keeping them in hospital for six months or three months, we were treating them more as outpatients, so that became gradually a geriatric hospital, but we hung onto to two wards for ourselves, with a large number, 100 beds, I think, and part of that we then converted into a nice Asthma Research Unit, and put the Asthma Research Unit there, it had previously been elsewhere. So I was lucky in the facilities I had, but there were no concessions on time, everything had to be done against the clock, and how we did it, all the credit that I’ve got for it, but it was all the work, the research, was done by Registrars. And this was not an academic post, I got a series of very good Registrars, and their names are names in the papers that my names are on. They did the research, I dreamed up the projects, we designed them, and then the Registrars did all the hard work on them.

TT: As you had done in your time.

AS: Exactly, and that’s the way it went in those days. Once you’d got a reputation you’d get good applicants for your jobs. One thing I did in my early days was design a rotation for all my colleagues, so SHOs and Registrars rotated round different specialities. So what I did was apply for jobs, then when I went to Cardiff I put in the system whereby if you applied for a particular job you could actually go on a rotation round cardiology, neurology, respiratory medicine, renal medicine, for example. And that was a major change, looking back I’d forgotten that, I did that and persuaded all my colleagues to do that. And that meant we got better and better people applying to work with us. And if they came to you, and at the end of that, they got a couple of papers, then your reputation locally and more than locally went up. Professionally also and people came to work with you. So that’s how it was done, and looking back I can’t think how I managed, actually. I just can’t understand how I managed, it was so busy.

TT: We’re now coming to the period where you move up to Edinburgh. One can see with that wonderful instrument the retrospectoscope, that it is all quite logical. You've developed specialities, we can see you were destined for occupational medicine, but I suspect it wasn't like that at the time. Would you like to say something about the transition from Cardiff to Edinburgh, to become the Director of the Institute of Occupational Medicine?

AS: I got a phone call one day, and a man on the end of the line with a Scottish accent said ‘I’m Dr McClintock, Chief Medical Officer of the National Coal Board. I wondered if you’d be interested in looking at a job?’ I remember saying ‘Well not really, I’ve got a job here.’ He said ‘Well, the Institute of Occupational Medicine...’ which by then I had heard of, didn’t know anything about it, ‘… the Director’s just left, and we’re looking for someone who could take over.’ I pricked up my ears, I was very wary of it, but he explained
a bit about it, and said would I like to have a look. I think I was getting quite stressed at the time, actually, in fact I know I was getting stressed.

So, I got this phone call from Dr McClintock, he came across to see me, met me and my wife, and told me about it. I have to say I was a bit tempted, my wife said ‘I wouldn’t trust that man.’ And actually she was right, but he persuaded me to go up and look at it, and so I went up to Edinburgh, and talked to the people there, and they looked on me with the deepest suspicion, another doctor coming here and running this place. But it was very interesting what they were doing. They had a staff of 150, they had branches round the UK, they had access to all the mines in the UK, they had this wonderful epidemiological research known as the pneumoconiosis field research, going on. It was terrific place, but it was losing its sense of purpose, completely losing its sense of purpose. It had done what it was set up to do, which was to quantify the relationship between coal dust exposure and pneumoconiosis, and it didn’t seem to know where it was going after that.

TT: For the record, could you just say a bit about the origin? Because it was set up by the Coal Board?

AS: It was owned by the Coal Board. It was set up by an Edinburgh physician who was ex-army, and he had become, after the war, a Medical Director, he was called John Rogan. He was held in great awe, I only met him once, but he was held in great awe by the people I worked with. He had persuaded the Coal Board, in the 1960s, to set up a research programme called the “pneumoconiosis field research”, which involved a medical team, an environmental team, and a statistical team. He had persuaded them through the chief scientist of the national Coal Board, who was Jacob Bronowski, who is famous to anyone of my generation of people, because he appeared on the Brains Trust, on the third programme (later Radio Three). He was a polymath. Bronowski was apparently behind this, and supported it, and so the Coal Board started this research, and in 1969 they had acquired an enormous amount of data on something like 50,000 coal miners all around the UK, radiological data, physiological data, and questionnaire data, plus they had found a way of measuring respirable dust, and they’d worked out ways of estimating the exposures of coal miners to respirable dust, not just any old dust, but the fine dust that gets down in the lung and causes pneumoconiosis. So they’d got this absolute treasure trove of data, and they’d done some preliminary analyses on it, but they needed a more consolidated effort, and John Rogan persuaded them to set up a research charity called the “Institute of Occupational Medicine”, which in his view I think he hoped it would eventually become part of Edinburgh University, his alma mater. So he had set it up in Edinburgh, but it had its limbs in every part of the UK, from Scotland down to Kent, where there were coal mines. So in 1969, nearly 50 years old, the Coal Board had set up this institute. It was a charity, but it was staffed by Coal Board staff. The Coal Board employed us all. I was offered the post as Director, they offered me a salary which was roughly equivalent to what I was getting as a Consultant, it wasn’t much in those days, I forget, it was maybe £4,000 a year, something like that, maybe less. But they offered an equivalent salary, and they offered me a low interest mortgage, I think 3% mortgage, which in those days was very good, because the interest rates were about 10-11%. And they offered me a motor car as well. For a full-time Consultant, and I was badly overdrawn in those days, thousands of pounds overdrawn from the expenses of going abroad, and changing house and things like that. So I accepted, and it was, I saw it as a great opportunity, a lot of very bright people, physicists, chemists, statisticians, pathologists, biologists, and technical people all round the UK, working towards a common end. But what was that common end?

TT: And what was your role as Director towards that common end? To define it?

AS: The pneumoconiosis field research was to find out how much and what sort of dust causes pneumoconiosis, and what action needs to be taken to prevent dust-related disease in coal miners. That was the field research. But by the time I went there it had added another limb which was understanding asbestos-related disease as well. And that was funded by the asbestos industry, which was a slightly dubious thing in retrospect, a very dubious thing. And what I saw, having just published a book on occupational lung disease, was that there were opportunities outwith that particular rather niche interest in coal miners’ disease, and asbestos-related diseases. I did a lot of things, but I did them very gradually. What I did first of all was focus on chronic obstructive lung disease, which hadn’t been worked out, and this was a main objective to broaden it from
pneumoconiosis to chronic obstructive lung disease. And we sorted that out, we showed that it was related to dust exposure. That was quite revolutionary in its time. I also pointed out to them that they would not survive unless they published more, and I made sure that people did a lot of writing up of their work, which they had been not very good at, at the time I came. I also had to establish my own reputation amongst the scientists there. I was the youngest of the senior staff, and I was their boss, and they were hierarchical, like a coal mine. The boss is the boss, they called me “the gaffer”. So I had also an important task to show them that I was up to their standard, if you like, very good physicists and chemists, and statisticians, working there, and I’m just an NHS doctor, how can I do it.

So I started looking for work in other areas, and I had a few strokes of very good luck, got a good grant from the United States to look into shale mining, which quite by chance that came from a patient I saw. Have I told you that anecdote ever? It’s an example of how chance plays a part. I negotiated this job on condition I was able to continue as a Chest Physician, and I had friends who were Chest Physicians in Edinburgh who were very glad to arrange for me to have an Honorary Consultant post. So I continued a clinical role, but less than half-time. As part of that role I used to see a lot of patients at the City Hospital in Edinburgh. And on one occasion I was asked by one of the Chest Surgeons if I’d see a patient who had collapsed after an operation, so I went along to see this poor chap on a respirator. Anyway, it turned out he’d had an attack of asthma, and I don’t know why they’d got him on a respirator, but I treated him, he got off the respirator, and all was well. His pathology came back, and he’d had a bit of lung removed for what was thought to be cancer, but it turned out coincidentally to be pneumoconiosis, that looked like cancer. So naturally I was interested, so I said ‘Which coal mine did you work in?’ He said, ‘I didn’t work in the coal mine, I worked in a shale mine.’ I knew that Hunter’s textbook said that shale miners didn’t get pneumoconiosis, so I asked him about this, and he told me about his work there, so curiosity took me to contact the pathologist in the shale mining areas. Shale mines had closed years ago, but they were in a defined area to the west of Edinburgh, you probably remember those shale bings in west Lothian, and that’s where shale mining started in 1850. It’s famous medically because it was the second described cause of cancer, producing paraffin from shale. And that was described by Joseph Bell, who was the model of Sherlock Holmes. And I used to lecture to medical students in the lecture theatre that Joseph Bell would have lectured to them in a Conan Doyle setting, still the same old lecture theatre there in Edinburgh. I used to tell them about Joseph Bell and how he discovered scrotal cancer in paraffin workers. Anyway, it’s a long story, but what happened was that I went to the pathologist, we went through the pathology records, we found out that they had had several patients who had had autopsies, or had lungs removed, and had pneumoconiosis in them, that had worked as shale miners. So I wrote a silly little paper about pneumoconiosis in shale miners. This was the time of the oil crisis, when the oil prices had shot up, and the Americans were developing shale oil in the Rocky Mountains, in a big way. And they were very concerned about the health effects, because it was the environmental movement at that time, and I knew about this, they were concerned about the health effects of mining shale in the Rocky Mountains. I got in touch with my friends from NIOSH, that I’d worked with when I was in West Virginia, sent them this paper I’d just published in *Thorax*, which I was Editor of at the time, incidentally, that’s another story. Too many things, you don’t need to worry about that, I published that, sent it to a friend in the States, he said ‘Apply quickly to the Department of Energy, you’ll get a grant.’ So I got a programme grant from the US Department of Energy to study the health effects of shale mining in Scotland. And we had another great stroke of luck, we found, going through the records in BP [British Petroleum], which had taken over the shale oil industry when it finished, they’d had a fund, a pension fund for ex-shale workers, so we got the records of their names, addresses, their occupations were in it as well. And we were able to do a mortality study of shale workers, we were able to contact old ex-shale workers and study them, we even did a sociological study of shale miners. One patient led to a research programme, and that did my reputation no harm at all.

There were other things like that that I did at that time, that allowed the people on the staff to realise that there was something outside coal, and we were involved in ergonomics as well. So we were in that area. And occupational hygiene. It’s a long story, it was only 13 years I was head of it, but it seems longer. Within a year of my appointment Mrs Thatcher became Prime Minister and started closing the coal industry down, so I was faced each year with budget cuts, and from having ¾ of our budget from the coal industry, and also Europe, because we had to write European research grants to get European money back to us from
the Coal and Steel Community, as it was. So about ⅔ of our money came from the coal industry and European money at that time, and each year we had budget cuts, so we gradually contracted the staff by not replacing people who had left, by and large, and expanding our work outwith the coal industry. We set up a semi-commercial operation, doing occupational hygiene, making money which then came in to subsidise the research. And gradually we became smaller, much more efficient, produced more papers, and had a much broader range of output. Not reflected in my CV, because I was too busy organising the place and running it to do much research myself. But I was central to some of the research projects that went on. But probably we were publishing 60 or 70 papers a year by the time I finished there. Some came from me, but that’s a tiny fraction of what was published. I read every paper that we published, and I corrected it, and everything that went out I read, and commented on. But I didn’t put my name on them because the work was done by others.

TT: Of those 12/13 years, what do you think was the greatest achievement that came from the institute?

AS: The greatest achievement without any doubt was the survival of the institute. It was the most important work internationally I think was the description of the association of chronic obstructive pulmonary disease with dust exposure. There was important work on asbestos and how to measure asbestos in the environment, particularly, that was important. But to me, my most important achievement was the survival of the institute, because it was on the books for closure. Within I suppose eight years of my appointment it became apparent that it was going to be closed down, and I had to plan how to avoid this, because there were by then 100 people, 110 or so, on the staff, dependent on me, essentially, that’s how I saw it. And I had to keep morale up, and also build up enough of a reputation externally to make it difficult for us to be closed, and to find a way of surviving after closure, if we were going to be closed by the Coal Board, if they pulled out. It came to a head a couple of years before I finished there. We got a new boss, we had a Council of Management, which included a representative of Edinburgh University, and Sir Richard Doll, who was a life saver from my point of view, who was interested in, as you know, in occupational diseases, as part of his many interests. He was on our Council. But our Chairman was a Coal Board hard man, we also had a Trade Union Representative, who wasn’t very helpful, not unhelpful but wasn’t influential in those days. You can imagine. But the Coal Board put its hard man as our Chairman, and I got a message that he was out to get me. I had spies within the Coal Board hierarchy, I had people who told me what was going on, and I was warned (I had to report to the Coal Board every year), and I was warned that this man was out to get me. I had a letter saying we’d saved him several million pounds that year by our work on coal mining machinery, and the ergonomics, and I had this letter, and I was warned (I had to report to the Coal Board every year), and I was warned that this man was out to get me. At the meeting just before Christmas, I presented our work to the Board, and this man got up and made a little speech, he was the Deputy Chairman, saying how useless we were, and what an expense we were, and we were just doing them harm by finding out all these nasty things etc. about all the awful things that people can say about health and safety. And because I’d been forewarned, I was able to deal with it very effectively, in a sense, short-term, because one of the mine managers had written to one of my senior staff that year, area manager, senior person in a coal mining area, had written saying that we’d saved him several million pounds that year by our work on coal mining machinery, and the ergonomics, and I had this letter, so I read it out to the Coal Board, and this man, you could see his face went white with rage. So he said we were useless and here’s a letter saying we’d saved them millions of pounds, and they were only paying us about a million a year. Within weeks of that he’d been made my Chairman, so I knew we’d had it. So we very quickly made plans for survival. More income from outside, jacked up getting the hygiene services, ergonomic services, on a basis that they could be sold better, more efficiently, looked at who we could lose and so on. The next thing that happened was that I got a message saying that he was coming to close us. Under the pretext of an inspection, they came up every so often to see how we were getting on, that sort of thing. So I did the usual thing, I greeted him warmly, took him round, introduced him to the staff, and as we went round he said to them ‘What are you going to do with your redundancy money?’ After that, I felt really low. One of our staff went to the local newspaper, headline in the Evening News ‘Coal Board research Institute to close.’ I knew nothing about this until I got a phone call from my boss, and he said...

TT: This was the same person?

AS: Yes, I got a phone call from him. He said ‘Did you tell the newspaper?’ I said ‘I knew nothing about it, until I saw the newspaper this evening,’ late, I was at work at 6 o’clock or so. He said ‘Clear your desk, who’s
your Deputy, tell him he’s in charge, you’re out, you’re suspended.’ So I said ‘You bastard.’ I remember saying that. And I went home, and I wept, it was awful.

TT: What about your staff?

AS: Well I told them, I told my Deputy, I said ‘I’ve been suspended, you’re in charge, you take over, I don’t know what I’m going to do.’ I should say, personally, I was not in a problem, because by then I’d actually got a job part time in Aberdeen. That’s another story. But I was secure in myself, but this was my Institute, I’d built it up, its reputation was international, it was going up, and suddenly all these friends of mine were going to be made redundant. It was awful. I rang up Richard Doll, and there was a silence on the end of the line, and I could see he was shocked. And he said he’d do what he could. Then my wife said ‘Well ring the Chairman of the Board,’ and she was right, so I rang the Chairman of the National Coal Board, it was called British Coal then. So I rang the Coal Board the next day, asked to speak to the Chairman - that was MacGregor at the time - whom I’d met. He’d been round and I’d gone on well with him. Anyway, I didn’t get to speak to him, you don’t get to speak to the Chairman of the Coal Board. But I got to speak to the Secretary of the Board, sort of like the Principal Private Secretary, Civil Service type post. I said ‘Mr Moses has just suspended me.’ Again there was a silence at the end of the phone, and he said ‘Oh. Leave it with me,’ he said. And that was it, so I left it with him, I went up to Aberdeen, spent a half day up in Aberdeen, and then a day or so later I got a phone call from the Secretary of the Board, Mr Brandwick he was called, saying ‘Right, I’ve had a word with Mr Moses…’ - my boss – ‘I want you to do a deal with him.’ So obviously they’d said ‘You can’t do this, it’ll be terribly bad for the reputation,’ and so on. So I met with Moses, and we sat down, and he said ‘Well, we’re going to close you, but we’ll do a deal, we’ll give you the money we would’ve given you over the next five years, and we’ll let you have a year…’ - or two years, a year I think, - ‘…to set this up any way you want.’ I had tried various methods, universities, going to Aberdeen, perhaps they might take it over, but we were too big to be taken over by a university at that difficult time in late 1980s. So I went back, I said ‘I’ve talked to my senior staff, I’ve said we’ve got to set it up as a viable going concern, I’m afraid that means we’ll all have to leave, but we’ve got a year to find something, or retire, we have good redundancy payments from the Coal Board.’ That was one thing that made it a bit easier. So my entire senior staff, there were Head of Physics, of Occupational Hygiene, of Pathology, Statistics, Medicine, all except the Head of Medicine, retired, myself, we all took redundancy. I’m glad to say they all found other things to do quite quickly, they were all brilliant people, good scientists. We nominated our Deputies, we already all had Deputies. My Deputy was actually Head of Statistics - he went to another job. Head of Medicine, Colin Soutar, who took over from me as Director, or Chief Executive as he called himself. They set up a Board of our 2Cs [second-in-Command] across the different departments, and I remained for a year as sort of token Head of the place, but it was taken over as a sort of business, as a self-standing business by Colin, who chaired the Board. John Davis, who was Head of Pathology and expert on asbestos diseases, he and I went round various fibre industries, people making man-made fibres, raising money, and we raised a million pounds from them. We got a half million pound grant from the Coal Foundation, and we got £5m from the Coal Board, or it might have been a bit more than that, what they would’ve paid us over the next five years, we got that. So we got a substantial sum of money for a start-up, and then after a year we all left, and left it to them, and I remained as a sort of part-time, in Aberdeen by then, part-time fundraiser. They, I hope, will celebrate their 50th anniversary, it was 1990 when they became independent as a self-funding charity, having to raise each year about £3 millions. It has no core funding at all. And of course Brexit is a threat because they have a lot of European money. So that was the end of my, well not the end of my connection, because I still am an Honorary Research Fellow or something, I can’t remember, Honorary Consultant to the Institute.

TT: Had you already mentioned that you had a link with Aberdeen? Had you yourself seen it as an escape strategy?

AS: It wasn’t for that, actually. It was because I was searching desperately for a future for the institute. I’d already started teaching, when I was in Edinburgh we did set up some teaching in occupational medicine. I had an honorary appointment in Edinburgh as a Chest Physician, and an Honorary something in Medicine. But we’d volunteered to teach occupational medicine for the Medical School, so we did that, as that was another
little thing we picked up. I did make some approaches to Edinburgh University, seeing if they'd be interested in taking us over, and then Dundee, I got involved teaching in Dundee, helping out with the occupational medicine. And then a Chair came up in Aberdeen, and a friend of mine applied for it and was offered it, and he declined, because he thought it was just impossible to control the people in the Department. He told me about this, and I rang them up in Aberdeen, and I told them who I was, said I was Head of this research Institute, I was quite interested in joining up in some way in occupational medicine, they were desperate to have someone to sit in this chair that they'd got, a new chair on occupational and environmental medicine, and they hadn't been able to recruit anyone.

**TT:** Was this separately endowed?

**AS:** It had start-up money from the oil industry. I'm not sure how that was negotiated. They didn't fill the post, they had money for a Chair and that was it. Anyway, I rang the Vice-Principal and asked, said I was sort of interested in it, but as a part-time job in connection with this one I had in Edinburgh, I thought there might be some linkage, I had in mind becoming part of Aberdeen University, the Institute at the time. And they invited me up for interview, in fact they got some applicants for it, apart from myself, but they offered the job to me as a part, a half time, Aberdeen, save a bit of money, get a Professor for half the salary. And I did a deal with the Coal Board so that what they paid me actually went to the Coal Board, or went toward the Institute's expenses. And when I got the push from the Institute, I went to Aberdeen and I negotiated a sort of joint teaching course with the Institute, and on the strength of that I got two of my Institute staff to come and work with me part-time at Aberdeen. So I had a little nucleus of my own people there. That's how I started off in Aberdeen. The staff of the Department that I took over were diving medicine people, which I didn't know much about, I had been scuba diving myself, but I didn't know anything about diving medicine other than that. So they took care of the diving medicine side, and they didn't get on terribly well together, or with anyone else, and I got the impression they'd been put in the Department because no one else wanted them. But I'd built up my own little Department there, and got on with my own research.

**TT:** What was your research at that time? What did you continue and develop in Aberdeen?

**AS:** I had to start afresh, completely. I had this interest in *Aspergillus*, so I continued doing that with my PhD-student in Edinburgh. But they had a good record on asthma research in Aberdeen, and my Chest Physician colleagues, and again I had an Honorary Chest Physician appointment, but I did very little clinical work in Aberdeen, one clinic a week and a bit of ward work, but no on call or anything, so I became for the first time a full time academic. A lot of teaching, undergraduate and post-graduate curriculum, new curriculum, I took a part in that, introduced occupational environmental medicine into the curriculum. Research, I thought 'I want to do asthma epidemiology as far as possible,' and I had an idea, a good idea, which was that diet, was something to do with the rise in asthma. They'd done very good epidemiology in Aberdeen already, on the prevalence of asthma in children. A series of cross-sectional studies of asthma in school children. George Russell, sadly died not long ago, he was the paediatrician, had done these studies using the same techniques, same measures, over something like 20 years, and showed a progressive rise in asthma. I sort of latched onto this, I got the opportunity to study oil seed rape, so I got a grant - that was my first grant - got a grant to study oil seed rape, which everyone was saying 'Oil seed rape’s causing outbreaks of asthma in the population.' I was able to show that there was no more asthma in the population around these areas that there was elsewhere. But people with asthma were getting irritated by the chemicals coming off the oil seed when it was in flower. But I got some facilities to do that sort of epidemiology. Then I had the idea about vitamins, and that came really from thinking 'Why has asthma increased so much?' At the time it was all being blamed on air pollution, yet air pollution had fallen progressively and steeply as asthma had risen. So it wasn't logical to say that, but everyone believed that air pollution was causing asthma. The truth is that if you've got asthma, and you go into a polluted place, it makes you more likely to have an attack of asthma, but it doesn't except in unusual circumstances cause asthma. So the increase couldn't be due to that. What could it be? I thought it could be due to an increase in pets in the house, that didn't seem very likely, and I looked at sales of pet food, and they hadn't increased, plotting it out by hand in those days. And then I had this idea which fitted with all the things I'd been interested in, was that maybe susceptibility is increasing, but it can't be genetic susceptibility, how could susceptibility to asthma, to pollens or to
whatever, be increased? And I thought in terms of protection against inflammation by anti-inflammatory vitamins, really. That was a very simple idea, and I sat down, wrote a little hypothesis, the increase in asthma, is it a more toxic environment or is it an increased population susceptibility. Everyone had been thinking about a more toxic environment, literally at that time. But I said it could be a population change in susceptibility, perhaps the thing in my lifetime that has changed the greatest, is the diet that we live on. More junk food, less fresh fruit and veg, got the data out, and the amount of fresh fruit, fresh vegetables, people were eating, had gone down quite steeply as asthma had increased. So there I had a hypothesis, which I persuaded the Editor of *Thorax*, they weren’t keen on publishing it, but I said ‘Look this is a revolutionary idea,’ and as I was an ex-Editor of the journal, they gave in and they published it. It’s been well-cited since then, and I think it did change the way people thought quite a lot, although a rival hypothesis came out around the same time, it’s not right but it’s complementary, the hygiene one, that we’re too hygienic. I won’t go into it but it’s not wholly logical, that. The hypothesis I had, that it was anti-oxidant vitamins, I think is wrong, but it did raise the question how on earth do you test a hypothesis like that. What I did first of all was look at vitamins in relation to asthma in one of the studies that was going on in Aberdeen at the time, and vitamin E and vitamin C came out as being associated with risk of asthma in a study in children. And then in another study that we did, we did a little study of bronchial reactivity and diet. And we did another study, I was asked to supervise a PhD in Saudi Arabia for some reason, no men in Saudi Arabia would supervise this poor woman who wanted to do a PhD, so I was asked to do this, and I thought ‘This is an opportunity to look at asthma in Saudi Arabia in relation to diet,’ something completely different to UK diet, an Arab diet. And all three of these little studies, they all gave people a PhD, the people who did them all got a PhD out of them. They also built up a little body of research which hinted that vitamin E might be important, or something associated with vitamin E. And that allowed me then to make a case for a prospective study of pregnant women and their offspring. We got some funding, I mean it was all done on peanuts, this, these bits of research were done on bits of money I got from here and there, they were not, it wasn’t a big funding machine behind me, it was just little bits of money. Studies using technicians that I already had, or paying for a research nurse, or something like that, they were very low cost studies. But they all came up with an answer pointing in the direction of diet influencing risk of developing asthma. Not atopy so much as asthma. Then we set up this study of 2,000 pregnant women, we had a wonderful Research Assistant who got pregnant in the middle of it, and she went into labour while she was actually doing the research, Carine Bodner.

**TT:** Was this the SEATON study?

**AS:** One of my colleagues gave it the name SEATON, she was Geraldine McNeill. She came up with this idea one day, ‘Let’s call it the Seaton study, Study of Eczema and Asthma To Observe the influence of Nutrition,’ an acronym. I didn’t oppose it, I was rather flattered. But that’s what they called it, it’s still going on actually, just published its recent results. And the children at the age of 10, there’s quite a strong influence of vitamin E on their risk of being on treatment for asthma. But it’s got weaker as the years have gone by, presumably other risk factors come in and dilute the effect of the pregnancy. But the results came out first in looking at cells in the cord blood, and my colleague Graham Devereux, who took over from me when I retired, and has been running this very well, very interestingly since then, he found that the diet and the vitamins appeared to be related to the reactivity of the cells from the cord blood to common allergens, like house dust and grass pollen, and so on. So we got results very quickly, which were positive, and then we got results at six months, and results at five years, showing something associated with vitamin E, and we’ve never said it’s vitamin E, we’ve always said it’s something associated with vitamin E, but what we don’t want is people to think you give people vitamin E and it’ll prevent it, because it’s much more complex than that. And Graham’s carrying this research on, I do hope he’ll manage to get this intervention study going.

**TT:** How was that study funded? Because funding these long term studies can be problematic.

**AS:** Well we never got long term funding, we got short funding from, initially from Asthma Research Council for three years. Then I think we got another bunch of funding after we got results, we showed that something was coming out of this, it was very difficult. Graham took over when I retired, and he got MRC money for it. Getting it off the ground, I think the only way of doing it is saying ‘we want money for three
years’, which is standard as you know, and try to get something positive in those three years, then your chances of getting a follow up grant are improved. If then you got more positive results, the chances of getting another one is improved. I’m telling you, if it’s difficult in London, it’s horrendous in Aberdeen. Unless you’ve got a local sugar daddy. And Graham actually has a patient, who is a big business lady in Aberdeen, or in that area, who is very interested in nutrition, because it’s a nutritional industry, I won’t say the name of it. There aren’t many. So there’s hope that, they have actually very kindly produced food for us, soup and other foods, supplemented with vitamin E, but also containing the other things that go with this. And so there is reasonable prospect of doing a double blind control intervention study. He’s done pilot studies of this, and shown how acceptable or not acceptable it is, that sort of thing. So that, I hope, will take off as a multi-centre control study of food, of specific foods which can supplement the diet of a pregnant woman, which might reduce the risk of asthma. That’s what’s behind it all, but it’s, it must have been 20 years ago or more, 1994, the hypothesis was published.

TT: It’s very interesting how important nutrition has been in determining evolution by genome. This is now such a trendy big business, you can’t pick up Nature without reading about the microbiome. You were thinking about that a long time ago.

AS: At least 20 years.

TT: How were you regarded when you’d published your little hypothesis?

AS: I supposed, I don’t know how many citations, not 1,000, it’s 600 or something like that. I think it attracted a lot of scepticism, I’m pretty sure it did. Nutrition has always been looked on as a difficult subject, and a niche subject. When it occurred to me it seemed to me as absolutely central to everything that happens to us, and when you think about it of course, if you think about it in biological terms, you realise that your genome must have been influenced by what you eat, what else is there to influence it? Particularly in utero. I don’t know, I’ve never really understood genetics, so unfortunate perhaps that I didn’t take that offer of a job with Cyril Clarke. And epigenetics of course came in while this was incubating in my head. But that’s obviously the way to go to understand these sort of influences, yes.

TT: In Aberdeen, did you have much contact with the Rowett, in terms of nutritional research.

AS: I’d no idea there was such a thing as the Rowett when I went to Aberdeen, I’d gone to these places in complete ignorance each time, and found out what a wealth of experience and expertise there is there. My dietary hypothesis was written with a girl who worked at the Rowett, I went to her, she was working with a colleague of mine in the department, and I asked her if she’d join me in looking at dietary trends, so she produced the dietary data from the tables that were available, and we wrote the paper together. She died, very sad, she died very young of breast cancer. She got a PhD and died shortly afterwards, very sad. So I collaborated with her, and then Geraldine McNeill was working part-time in the Rowett as well. She was slightly isolated, she was a very bright lady, clever, and she was sort of getting a lot of teaching to do, she was being kept on teaching post-graduate courses, she was a medic but in nutrition, and public health and so on. She was very glad to join us, she was the one that called it SEATON, as you divined. Geraldine joined us as well. So there was that informal link but never more than that, it was purely informal. My memories of Aberdeen are really the desperate difficulty of getting money to do anything. It was difficult, but we made do, and to me it shows you can do things if you’re ingenious and think of ways of doing something cheaply. And that’s really what it was, it was all done with Research Nurses, and Research Assistants being paid very low, as you know, very low salaries.

TT: That rings some bells with me, almost going back to your father’s field, people working in tropical medicine. Getting out into rural Nigeria, not having any money. How did they do things?

AS: I think of the Academy of Medical Sciences that you know, and I know.

TT: You were a Founder Fellow.
AS: Yes, I don’t know why, I think it’s because they wanted people from different specialities, and there was only two in occupational medicine, so they invited us, which was very nice of them. But you see, the Fellows of that, they’re all working in huge organisations, which are sort of PhD factories really. And if you’re stuck in Aberdeen, or anywhere, Liverpool, Newcastle, Manchester, wherever, it is much more difficult, because you’re much more on your own.

TT: That has its advantages.

AS: It does have advantages, but in terms of getting money, in terms of enticing good people to work with you, it makes life difficult. Particularly in my case, I think because I kept changing my career, I really had to start from scratch in a new discipline every time I moved. And you can’t go in a job and immediately start producing stuff, you’re in a job, especially if it’s epidemiology, you’ve got to wait years before you get the sort of data you can publish. So it was a struggle, I must say, it was a struggle, but I survived it.

TT: I want to talk about what you’ve done after Aberdeen. Some of your national activities, all the editorial and committee work you’ve done. There’s a whole load of other things we’ve not talked about. Could you say something about, first of all, coming to the end of your time in Aberdeen, did you decide to retire?

AS: It was obligatory retirement at 65. What I haven’t said anything about is the air pollution research, which became an important aspect of the Aberdeen job. It arose through being asked to chair a Government Committee on air quality standards. The request came from an ex-student of mine from the Cardiff days.

TT: I know him well. You both attended the Witness Seminar on Air Pollution.

AS: Of course you do. He rang me, said ‘You won’t know me, but I was a student who was in Cardiff,’ and I don’t know what I’d taught him, medicine, chest medicine. He asked me and I said ‘I really don’t know much about air pollution,’ he said ‘Doesn’t matter, that’s just what we want.’ And I got into that, and that was fascinating, again multi-disciplinary, different sciences all contributing towards a common objective rather like the Institute. And we came up with justifications for air quality standards, which all went into regulation and all went into European regulation. A good example of the benefits of being in Europe, we were able to essentially recommend the air quality standards for the whole continent. There were issues arising, arguments, discussions, about particularly about air pollution causing heart attacks. We mulled over this, the general view was that it must be something associated with hypoxia or some effect on lung function. And I came up with idea, a plausible explanation for heart attack occurring as a result of air pollution, wrote it up as a very short hypothesis in The Lancet in 1995, and it hit the headlines, really did make people change the way they thought about air pollution and heart disease. Cardiologists were terribly sceptical at first, but the Americans and the Europeans understood it straight away, and it generated a lot of research into cardiac disease. It was known that people were showing these cardiac effects, but no one had tried to explain, or they’d tried and failed to explain how it happened.

TT: Is this your hypothesis about increased clotting?

AS: It was a very complex hypothesis that said first of all that it’s not due to the mass of particles, because the mass of air pollution we breathe in is terribly low, compared to what you breathe in in industry, or what we breathed in in the 1950s or 1940s. So it’s not due to the mass of particles, but it’s due to the number, and that was an insight that I had from knowing a chap called Gunter Oberdörster in New York, he’d been doing studies on rats on particle size and its distribution and its effects on the lungs. And so I knew about nanoparticles as they became called, we called them “ultra-fine particles” in those days. And I thought maybe it’s the number of particles that overwhelms the lungs’ defences, or that penetrate more readily into the interstitial tissues of the lung, and cause inflammation. And then we know inflammation can have effects around the body, one of those effects is on fibrinogen and blood clotting, and so I wrote this up as a hypothesis: nanoparticles, numbers rather than mass, that explains why you get these effects at very low
concentrations, micrograms, when we were all used to measuring milligrams of particles being inhaled in coal miners, for example, or indeed in the London smog days, Liverpool smog days. So I presented this idea first to the group of people on the committees, and it took them all by surprise, and they said ‘Oh gosh, that’s an idea,’ and then I was involved in talking about it in America, and met the key researchers, and I talked to them about it, and they took it up. And it became, for the time, my best known article, and it was written really in an hour. I called a few of my young friends together, we got together in a pub, we discussed it and I said ‘I’ll go and write it,’ I wrote it, sent it round, gained some comments. We sent it off to The Lancet and it was snapped up immediately, I’ve not published much in The Lancet, but that was a success.

Then I started doing research on air pollution, and it was difficult, stuck in Aberdeen, not many facilities, but I did persuade them to give me something to measure pollutants with, and measure nanoparticles. I then started looking at, trying to estimate personal exposure to particles, which not many people were able to do, and various PhD-students did work on assessing exposure to particles, and we found ways of linking that to measurements we made in the blood and so on. And the most positive result we got out of that was, actually it was a negative result. We found that none of the things we were looking for did we find, really, we did find changes in fibrinogen, which other people by then had found, but we found changes in haemoglobin and platelet counts, which gave me another hypothesis, which I’m still thinking about. But I think that was important, and it has led me, I’m getting very up to date, it has led me to the idea that the message from the lungs to the heart could be transmitted by red blood cells, or platelets, that pick up a message from the pulmonary endothelium and take it round the body, and no one thought of that before, but red cells are mysterious things, but they have all sorts of cholinergic mechanisms inside them that can interact with endothelial cells. And that has taken me to thinking about the relationship between Alzheimer’s and air pollution, because people are beginning now to suggest that cognitive impairment in older people, like me, can be increased by exposure to air pollution. Isn’t that amazing. And I think there’s a mechanism that can explain it. But I’m working on it, we won’t go into that, but my last years in Aberdeen, there was this air pollution research, which I got involved in, and then I had another very interesting opportunity come my way, and that seeing a patient.

TT: Talking then about the air pollution committee, by the time you got onto that in 1991, you had already been on a phenomenal number of committees, had lots of committee experience. Would you like to say a little bit about that?

AS: When I was in Cardiff, I was asked to be secretary of the division of medicine, and introduced the revolutionary concept of having action points on the minutes, which shocked everyone, but it did make for some actions to occur. And I found, at the end of the seven or eight years I was in Cardiff, I was on about 13 committees. Then my old boss Colin Ogilvie asked me to take over the editorship of Thorax; I’d been his Assistant Editor for a year or two, and I thought ‘This is a wonderful excuse,’ so I resigned from every committee that I was on in Cardiff, and my excuse was that I was now Editor of Thorax; and I had too much work to do, which was literally true of course, I did have too much work to do. And after that, I never sat on a medical NHS committee in my life. Never sat on one. I did get asked to go on a number of committees, but nothing very time consuming or important, and fought shy of committees all my life. So my CV is not telling the whole truth, most of those things were transient, for a few years perhaps, I was on a committee at the MRC. But they didn’t involve much time, and I didn’t particularly like committee work.

TT: It still takes commitment, and it also reflect that people were asking you, MRC committees, university committees, examining committees. Plus professional societies, British Thoracic Society, Royal Society, Academy of Engineering, a Founder Fellow of the Academy of Medical Sciences. These things all reflect your standing and the reputation.

AS: The old Thoracic Society, I was invited to become a member of that when I was in Cardiff. It then became the British Thoracic Society after amalgamation with the British Thoracic and Tuberculosis Association. And I became its President. I don’t remember spending a lot of time on committees, I suppose I did, but I don’t remember an awful lot. Not about that. The presidency was pretty well an honorary thing when I did it, you did have to chair the committee meetings once a month or something, but the work was all done by
other people. I don’t mind being Chairman of a committee, it’s quite challenging and interesting to do that, but I wouldn’t say I was a committee person. I didn’t do a lot of committee work, I mean you say I was on lots of committees, they tend to have been sequential and not all at the same time. If you look back over 40 years for most doctors you’ll find they’ve been on a few committees, at university you can’t avoid being on the occasional committee, or no one will give you any money, or they’ll reduce your staff or something.

The interesting ones were the air pollution ones, and the Royal Society and Royal Academy of Engineering nano one. The latter was particularly interesting. I was invited onto that, I think because I knew something about small particles. I knew quite a lot about particles, they had been part of my life, back from the years in Cardiff when I started, and moved from America, when I was looking at coal, and then Cardiff when I was looking at fungal spores and pollens, and then the institute when it was measuring particles, and then when I was in Aberdeen when I was measuring personal exposure to air pollutants. And that experience was something that I think was helpful to that committee. I wrote the possible medical consequences of inhaling nanoparticles section of that report. That was quite an influential report, it’s worth a brief account I suppose. The Academies were asked to set this committee up, because a new and disruptive technology, turned out to be many technologies, was seen as threatening by environmental groups, and there was the usual reaction, some might call it a Luddite reaction, but it was ‘What’s happening, these scientists are devising these dangerous things?’, and I was the representative of the dangerous things. I said ‘Can they be dangerous, in what way can they be dangerous?’, and I did point out there are real potential risks, hazards, in relation particularly to very high numbers of things with active surfaces, or indeed smaller numbers perhaps of things that are in fibrous form, with the analogy of asbestos which I knew a lot about. And so we were able, in the report, to acknowledge that there were hazards, not necessarily quantifiable risks, but there were hazards, which needed to be taken account of. And therefore research was needed to look into the hazards, and try in some way to quantify risks. Out of that, actually, came a new science, which is nanotoxicology, which one of my colleagues, Ken Donaldson, became a leader in. So that was a very interesting and productive committee.

TT: You started doing, particularly after your retirement, what I might call miscellaneous publications. How did you get started, how do you select the subjects, and how do people respond to them.

AS: Actually my first publication, which doesn’t feature in my CV, there used to be a thing called the peripatetic column of The Lancet, and it was just something a bit different, and I wrote a couple of articles for that.. This was just a paragraph, really, but I wrote a couple of little articles which I sent to The Lancet, because I’ve always liked writing. My writing was sustained by the need to write medical articles throughout my professional career, and helping my PhD students write their PhDs or their MDs. I didn’t really have time, I’ve always written poetry, but I don’t write much poetry, I write probably one poem every couple of years, something like that. But before I retired I started writing essays again, and I got an opportunity to publish in a thing called Scottish Review, which was a magazine and is now an online thing, and I read an article by the Editor, with which I profoundly disagreed. He was talking about public health fascism. I wrote a long tirade which I sent to him, saying I remember what fascists were like and I also know that public health is for the general good; that’s not what I said, but I wrote an article which I sent to him, and it was very critical of him, and he wrote a charming letter back, thanking me very much and saying he’d publish it in the next issue. So I wrote to him and said ‘Well if you’re going to publish it perhaps you’d like me to tone it down?’ ‘Not at all,’ he said. And from then on I’ve written regular articles, they asked me to write a monthly one when they became a monthly online thing. Now they’re back to being weekly, and I’m able to send them stuff when I want to, and I do. They’re mostly socio-political things, mostly pleas of an old socialist to go back to Mr Attlee’s days, but I do try to explain to the readership, which is mostly middle class university educated, I think quite high number of the contributors are Emeritus Professors of one sort or another, literary, I try to explain what’s happening in the medical environmental health world. For example I’ll write something about alcohol, or about epidemic diseases or something like that in layman terms. But some of them are just polemics, some raging against the political, Brexit or something like that. They’re ways of stilling the bees in my bonnet, I find if I’ve got a bee in my bonnet I write something to silence the buzzing.
They seem to accept my stuff when I send it to them. It happens, I have fallow periods where nothing comes to me. I don’t worry about them any more, I used to but I don’t now because I know that sooner or later something is going to come into my head, for example I walk each morning to get the newspaper, it’s a walk of half a mile each way. I notice the traffic, by the time I come back I may have something in my head about the motor car, which I did on one occasion. Another occasion I came back, I had something in my head about the 20 minute walk we’re all meant to do each day. Those sort of things. Something comes into my head about the use of energy, that sort of thing. And often I just have to sit down and it comes out, and I have to do very little to it. Other times I don’t have anything. I’m one of those people who will get an idea in his head, and it just won’t go away, it keeps me awake, I have actually got up in the middle of the night sometimes, and written something, because I know I’ll have forgotten it in the morning, but they come to me and I don’t know why they come but they come, and when they’re there I write them down, I polish them up a bit, and if I’m lucky the Quarterly Journal publishes them. I send them anything of a sort of medical historical nature, usually based on personal experiences, a patient I saw, something like that: Occupational Medicine, very short, 500 word things, Quarterly Journal 1,000/1,500 words. Some of my ideas fit 500, some fit 1,500, some fit a short poem, and they come. It’s a hobby.

TT: Is there anything really important you’d like to get on record?

AS: Important?

TT: However you interpret that word.

AS: The thing, and a lot of my articles have been based on this, and indeed in my retirement I’ve given maybe 40 lectures about climate change. That’s an interest that came to me many years, several decades, ago, knowing about carbon dioxide and the rise in carbon dioxide. And I decided when I retired that I was going to try my damnedest to explain to the general public that climate change was a serious issue. And I’ve tried to do that. It’s pleasing to me that now people are beginning to believe that climate change is a reality, though very few people are actually responding to that, the need that personally we all have to do something about it. Now that doesn’t come through in my CV at all, but that has been a passionate relief of mine, and the way I’ve decided to try to do it, it’s all assertions by people on one side or the other at the moment. My experience of teaching is that you’ve got to explain to people why this is happening, and to do that you’ve got to understand the history of the development of the science in it. And so what I did, years ago, was look into the development of the science of climate change. Right back to the 18th century, and show people that these are not new ideas, the idea has developed and then the evidence has accumulated, and show them how the evidence has accumulated. You end up being able to convince any audience, and I’ve spoken to women’s groups, I’ve spoken to scientists, groups of scientists from different disciplines, you can end up convincing people that this is a serious issue, and not just that, but people individually can do something about it. We can all do something about it. I end up by saying, ‘Part of that is telling people, and that’s what I’m doing to you now.’ So that’s a very important thing. What other things, I don’t know. I think I’ve done a bit of that. Looking back on my life, I don’t think I’ve done anything particularly important, but I have on some occasions made people think differently, in other words persuaded them to think the way I think. Not necessarily good thing, but I think I’ve done a bit of that. Looking back on my career, I suppose, I get the most satisfaction when people come up to me and say ‘You taught me,’ and I think, and this is a rather emotional thing, I think back to those two teachers, and I never actually thanked them, and that makes me sad. I never actually thanked them, and they changed my life. They directed my life, and in both cases I tried with a friend, who shared the experience of being taught by them, decided to get in touch with them, and they’d both died. So it was too late.

TT: We have to pass forward, remember to thank the next person, and hope that they pass forward to somebody else. I think we should stop there. Thank you so much Anthony.

[END OF TRANSCRIPT]
Further related resources:


