AUDIO INTERVIEW TRANSCRIPT

Hodgson, Shirley: transcript of an audio interview (04-Nov-2015)

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Biography: Professor Shirley Hodgson BSc BM BC DM (Obst)RCOG FRCP DCH FRSB (b. 1945) began her career as a Paediatrician and General Practitioner. She became a Registrar in Clinical Genetics at Guy’s Hospital, 1980, and worked with Professor Victor Dubowitz at the Hammersmith Hospital on muscular dystrophy whilst doing the work for her DM Thesis. She became a Consultant in Clinical Genetics at Addenbrooke’s Hospital in 1988, and Consultant/Reader in Clinical Genetics at Guy’s in 1990. She specialised in cancer genetics from 1989, working with the Imperial Cancer Research Fund (now Cancer Research UK), developing regional cancer genetics services at Guy’s, St. Mark’s and St. George’s Hospitals in London. In 2003 she was appointed Professor of Cancer Genetics at St. George’s, University of London, now Emerita, and has part-time Consultant status in Leicester. Her research investigated inherited aspects of cancer predisposition, she has published widely on the subject, and co-authored several books, including Inherited Susceptibility to Cancer (Foulkes and Hodgson (eds), 1998), and A Practical Guide to Human Cancer Genetics (Hodgson and Maher, 1993), now into its fourth edition with W. Foulkes and C. Eng as co-authors (Springer).

TT: Tilli Tansey

SH: Shirley Hodgson

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TT: Welcome, Shirley, and to begin with I just wanted to ask you why you thought of going into medicine, or did you think of science first?

SH: Well, I wanted to be a ballet dancer for a long time and then suddenly I thought it wasn’t using my brain enough. But then after that I didn’t think there was really any question about it; I’d always been interested in biology anyway, and I wanted to help people and that was the driving thing, I suppose. When I was a little girl, when our pets died, I’d bury them in the garden and then I’d dig them up later and put their bones together on bits of wire. So that’s the sort of person I was.

TT: So how old would you have been when you were disintering your pets?

SH: I did wait till they died [laughs]. I don’t know, seven or eight I suppose.

TT: Were you helped by your family, your friends?

SH: Well, my dad of course was rather well known so I don’t know whether it helped or hindered me really, but he was very interested in science. But all my brothers are a lot older than me so I was rather a solitary child; I mostly looked after myself, found my own interests.

TT: Well, you mentioned your father, would you like to say for the record just a little bit about your father?

* Interview conducted by Professor Tilli Tansey, for the History of Modern Biomedicine Research Group, 04 November 2015, in the School of History, Queen Mary University of London. Transcribed by Mrs Debra Gee, and edited by Ms Emma M. Jones, Professor Tilli Tansey and Dr Apostolos Zarros.
SH: Okay, how does one encapsulate him?

TT: Do you want to say first of all who your father was?

SH: Lionel Penrose. He was a geneticist and he was quite a pioneer. It's difficult to encapsulate this in a short time. Having started off as a medical student, he took a post in Colchester doing what became the 'Colchester Survey', and looked at a huge number of patients in Colchester Mental Institution - they all had mental retardation, as it was known then, and he was the first person to examine and analyse them all very meticulously and find out what he thought the causes were, or possibly were. He took the family histories, he identified things like the fact that the ones who were very retarded were more likely to have normal parents, and the ones who were mildly retarded were more likely to have somewhat retarded parents, so there was a big difference there. Just before the Second World War he moved to work in Canada, where I was born, and then he came back to take up the Chair of 'Eugenics' at University College London. But he was very much against eugenics because he thought this was absolutely wrong, and particularly in the climate as it was in 1946. So he changed the name of the Department to 'Genetics', and made sure that the emphasis was not on eugenics but on genetics, which was quite a different emphasis. He was an inventor really. He invented all sorts of things and ideas, and he just never stopped thinking and inventing things.

As a father he was very fond of me, I think, but he didn’t spend a lot of time with me because he was very busy with his various projects. One of the things it resulted in though was my being very interested in the way things worked. He had a Quaker background which meant that he was also very keen on this idea of helping people, and he was a pacifist - it being a part of the Quaker ethos - and so I think that was very much infused in me. I suppose, one of the things he taught me was never to take anything at face value. Don’t just accept what people say; think about it and decide what you think yourself. I suppose this made me somewhat unconventional. He was also rather unconventional, never accepting the norm just because it was the norm. He was also very musical, he was very artistic, it was just ridiculous that he was so good at so many things! Sometimes he did things with me, for instance we made a crystal set, a radio out of crystal and a cat's whisker, and did photography, and things like that, which was very, very exciting. And what else? We had a lot of friends. He was very popular in intellectual circles so it was a bit like Bloomsbury. In fact, he’d spent a lot of his childhood, or junior life, in Bloomsbury and we knew a lot of very interesting people, like J. B. S. Haldane, and they often used to come to stay. We always had various people to stay, and we often didn’t know who they all were sometimes. That was very nice too. I remember some Polish lady standing on the doorstep, nobody knew who she was, and he said, 'Oh, haven't you got anywhere to live? Come and live here.' So he was like that [laughs].

TT: And what about your mother?

SH: Well, that was one of the things about him that was not so good, he didn’t like her working. I don’t know why, he was jealous or something, so she didn’t work although she was a doctor and she was popular and clever. Her father was a biochemist and very artistic as well. He was a very gentle and lovely person, and his wife, my grandmother, was a professional pianist, Russian, and rather temperamental. My mother was an only daughter. I guess she must have been a bit frustrated by not having her own medical practice. She did things like help edit the MAPW, Medical Association for the Prevention of War journal, which was founded by my father and a few other like-minded physicians at the end of the war to try and stop it all happening again. She used to edit the journal and run the meetings, and things like that, and of course, look after the children, but I think it must have been a bit frustrating.

TT: Do you think perhaps that part of your mother's frustrations were expressed with helping you in your scientific career?

SH: No, I don’t think she did. It’s funny, I remember my childhood as being rather 'self-propelled'. I was rather left to myself quite a lot, since she was an older mum so maybe had less energy? You’ve heard this story?
TT: No, no.

SH: She was 44 when she had me, and my youngest brother was 13 or something, and we were living in Canada, and so I was born in the local hospital and my father went in after I was born, concerned that I might have Down’s syndrome because of his observation that older mothers had a significantly increased risk of having children with this, and he looked at my palms and instead of saying, ‘Well, what a nice looking baby,’ he said, ‘I don’t think it’s an imbecile,’ because my palms didn’t have transverse palm crease.

TT: And what about your schooling? As you say, you were interested in science. What kind of school did you go to?

SH: Well, I went to an ordinary primary school. In fact, in those days I used to walk about a mile when I was about six to this school on my own every day. Then it came to the 11+ exam and I failed it, and it was just terrible. I felt really devastated, and then I took it again and I failed again. I remember doing it on my own in the classroom and just crying. And my dad said, ‘We’ll have to send you to private school. It’s expensive.’ So I went to this school called ‘Channing’, which was not very academic in those days. It’s a good school now; it’s been turned around. They did have science, although I remember the science was not very well taught, and the chemistry teacher was a bit unstable. But I remember I was mostly top or second in the science classes.

Then, when it came to Sixth Form, when I was 16, they said I could go to the local co-educational grammar school, which was not very far from us, and it was very, very good: Hendon County Grammar. The students were mostly Jewish, and they were all incredibly bright and there were mostly boys in the science classes. When I went into the science class, instead of being top I was not anywhere near top because they were all much better than me so that was a bit of a shock to the system. But, nevertheless, I managed to get through the A levels alright.

TT: And you went to university to do medicine, or physiology?

SH: I went to study for medicine, and also did an intercalated BSc in physiology. I’d given up my ballet when I was about 15, I suppose, and I think there was never any doubt that I wanted to be a doctor.

TT: What did your parents think about your career choice?

SH: Oh, I think they were pleased, yes.

TT: Do you have any memories of them influencing you at all? You seem to have been a very self-sufficient child.

SH: I’m sure they encouraged me. I can’t really remember the details. I would have thought they were probably rather pleased I wanted to be a doctor, yes.

TT: So why physiology?

SH: Well, it was a good course, with Professor Huxley as Head; he was a very sweet man!

TT: Because you got a physiology degree from University College London?

SH: That’s right.

TT: Andrew Huxley was Head of Department?

SH: Yes, yes.
TT: And then you got your medical degree from Oxford?

SH: Well, I did the clinical bit in Oxford. It was the wrong way around really.

TT: Yes, it's usually the other way.

SH: Yes, it’s just that I hadn’t thought I would get into Somerville College or one of the other Oxbridge colleges as an undergraduate, because I didn’t think I was bright enough. I did try to get in to New Hall and didn’t get in so I went to University College London, but I thought it would just be nice to get out of London really. The Radcliffe Infirmary was then rather a smaller clinical school, and it was really very nice. And actually it was a really good place to go, because in London there were masses of students and you’d have 10 students to a patient, whereas you had 10 patients to a student in Oxford! Not quite that perhaps, but it was so much better.

TT: So you had a much wider variety of clinical experience?

SH: Yes.

TT: And patient cases...

SH: I think we probably did; It was really good then - lovely living there as well.

TT: So, you've got a science degree, you've done physiology, then you've had your clinical training. What ideas were you developing, if any, at that point as to where you might go?

SH: Well, I then went to see a careers advisor person, and I remember she said, ‘Ah yes, you’re a woman so you’ll have to do general practice.’ I said, ‘Right,’ so she said, ‘Well, in order to do general practice, you have to do paediatrics, you have to do obs and gynae, in addition to the ordinary training.’ I'd done my house jobs in Oxford but I did rather lonely ones. I did geriatrics, and I did chest surgery with a terrifying man as my boss. But that was fine. So I then decided I’d better do paediatrics and obs and gynae as instructed, so I did a paediatrics House-Officer post at Chase Farm Hospital and I did obs and gynae at the North Middlesex Hospital.

TT: But you also spent some time in Iran? How did that come about?

SH: Well, we wanted to do a bit of travelling, and I hadn’t done an elective abroad (apart from obstetrics at the Rotunda [Hospital] in Dublin), because I’d crammed my degree into my six-year course, I didn’t feel I had the time to spend doing an elective. At that time, I had fallen in love with Humphrey who was in London because he’d done the conventional thing; he’d been at Oxford to do his pre-clinical because he was very bright and got all the top scholarships and everything. So he’d gone to London to do his clinical training, and we met after bus journeys between Oxford and London all the time. But, anyway, he did an elective in Algeria, and I guess when we first got married we thought it would be nice to do some travelling, and there was a doctor at St. Thomas’ [Hospital] where Humphrey worked, who had links with Iran, and so we went as part of that exchange.

TT: So that was 1971-2 you were there?

SH: That sounds about right, yes. Yes, it was while the Shah was still there.

TT: It was still Persia with the Shah?

SH: Yes, yes, it was.

TT: Did that have any major impact on you, or was it just somewhere you went?
SH: Well, it was very fascinating and I suppose it got me interested in international medicine, and obviously made one realise there were huge differences between English medicine and medicine in different countries, and relatively resource-poor countries, and all the cultural inferences as well in terms of what you could and couldn't achieve and so on.

TT: On your CV it looks very much like you’re doing obs and gynae, and pediatrics; then you become a trainee General Practitioner.

SH: Well, that was largely because of my babies, because I think I had my first baby, Julian, in 1973. I didn’t want to be away from my kids at all really, but I also wanted to work. So I always used to do part-time jobs, and so the first one I did was just baby clinics, I think, when Julian was a baby. I went to the Whittington [Hospital] to do some part-time work on children’s asthma. It was research on the effectiveness of Becotide, so that was fun but it was only part-time.

TT: So was that your career pattern for some years while your children were small?

SH: Yes, I stuck around with them really for 10 years or more part-time, which is quite a big chunk of my career time.

TT: It is, isn’t it.

SH: I don’t think anyone would do that nowadays.

TT: I think it would be very difficult to then develop a career if you were to do it for that length of time.

SH: Yes.

TT: But then you went as a Paediatric Fellow to America?

SH: Yes.

TT: How did that come about?

SH: Well, Humphrey was awarded a Fulbright Scholarship, with a year in America in Boston, he was at the Mass General Hospital. So we went over for a year and stayed in Boston, without having any job fixed up for me. In fact, I’d been quite ill for about six months previously, with fevers, and nobody knew what it was, and that was quite debilitating; I was getting ratty with the kids. I ended up in Addenbrooke’s Hospital, and still nobody could work out what it was. Eventually, when I had some dental treatment I had a lot of intravenous antibiotics given to me because of having a tooth out (because it was some embedded tooth or something was wrong with it). After that I was perfectly healthy, and a few years later I had a scan for some other reason and they saw this little oak leaf calcification in my liver, and I knew exactly what that was: it was a hydatid cyst. And so I think it probably was hydatid disease, which was then cured by the high doses of antibiotics. Nobody knew for sure, of course, but it was very probably the diagnosis.

So I wasn’t in a great state when we first went to America, but I peped up, but didn’t enjoy it terribly to start with. Then I found a job in the Psychosomatic Unit of the Boston Children’s Hospital, and I was incredibly lucky to get it because the number of doctors there per patient is ridiculously high. So there weren’t many jobs around but anyway I got the job, and I worked there for six months at least.

TT: And had you taken the children?

SH: Oh yes, yes, the children were there. Julian was four and Anna was two and a half, and so they went to little morning play schools nearby and they seemed quite happy there, and so I worked part-time, and it was fine.
TT: You then came back and resumed your general practice?

SH: Yes, and then I went on being a GP [General Practitioner] for quite a long time. I finished up the training, and then went into a very religious practice, a puritanical practice. Of course, I’m not particularly religious; if I were religious I’d be Quaker.

TT: When you say religious, was it Anglican, Methodist?

SH: They were Methodists. They had big posters in their rooms saying, ‘Jesus never kept anyone waiting,’ things like that. Of course, people would be waiting for hours. And they were okay and they obviously worked very hard, and so on. I enjoyed the work, and I enjoyed the visiting, I always found that very interesting.

TT: So it was very much the human contact and a social context that you found stimulating?

SH: Yes, it was interesting but then they caught me prescribing the ‘pill’ to unmarried girls, and they took a serious dislike to this idea and they threw me out [laughs]. So I was without a job and a bit distressed about this. I remember once they had a Christmas service, and we went, and one of them gave a sermon. They were lay preachers, and he said, ‘Will you be there at Judgement Day? Will I see you there?’ This made Humphrey very angry, and we left the service!

So Humphrey, such a wonderful man, looked in the newspaper and he saw an advert saying, ‘Locum, Polani Department of Genetics in Guy’s Hospital.’ So he said, ‘Oh, go on, try that.’ So I went and did this locum, and I just thought it was completely wonderful. I was so interested in it, and I’d tried not to be interested in genetics because of my father, and I just thought it was completely fascinating. But the problem was, because I’d been part-time for so long, I didn’t have the Membership qualification, and you couldn’t be a proper Registrar without having Membership. So I had to go back to Chase Farm Hospital on, I think, one of the very first women’s retraining schemes. So I did two or three years in paediatrics again to swot up enough to do Membership. I remember walking into the exam and looking at the paper and feeling terribly sick and thinking, ‘I can’t do this.’ And then I thought, ‘What will the children say if I got home and say I’ve flunked it?’ So I stayed and passed it, it was fine.

Then I went back to Guy’s as a Research Registrar. I worked on Duchenne muscular dystrophy with Victor Dubowitz at the Hammersmith Hospital. I worked part-time at Guy’s and part-time there and I did my thesis, which was on Duchenne. It was only part-time because the kids were still too young for my liking to be left alone completely. I enjoyed it very much. Then the registrar job came up, and I then got the substantive Registrar’s job at Guy’s, which was pretty responsible because I remember it was just me and Caroline Berry, who was the Consultant. It was just the two of us. So when she was on holiday it was just me in charge of the clinical genetics work. It was quite a responsible thing, and I used to get very exhausted, I remember that. If you didn’t know something you had to find out, so it was quite challenging. And it was very good, and I loved it there.

TT: And these were NHS positions? You said you went as a Research Registrar?

SH: First of all it was Research Registrar.

TT: Was it Paul Polani’s Unit?

SH: It was both. Yes, and I think Martin Bobrow was the Head of the Unit by that time.

TT: And how was that funded, was that NHS?

SH: No, I think that was research funding initially, and then NHS.
TT: Well, most research positions were separately funded.

SH: Yes, that’s right. But then when I got the job as a Registrar that was just NHS. Chris Garrett used to do that job and then I think I took over when she left.

TT: And at this time your responsibilities were clinical, teaching, research?

SH: Mainly clinical. Yes, I didn’t do a lot of research then, although, I mean there were always cases of interest that came up, so you just published the case reports - certainly my bibliography is full of case reports [laughs].

TT: All 60 pages of it.

SH: Oh dear.

TT: Which is fascinating; it's really interesting the way it shows how science changed.

SH: Yes, absolutely.

TT: From early papers with just one or two authors…

SH: Yes, that’s right.

TT: And then suddenly in the 1980s we start getting these huge…

SH: Multi-authored papers.

TT: I mean some of these are, there are some pages where you can only get a couple of your papers on it because you've listed all the authors.

SH: That’s right.

TT: Well, in fact, that’s something else I'd like to talk to you about because you're now, you're a Senior Registrar at Guy’s. Then you became a Consultant?

SH: Yes. Then I got the Consultant job at Addenbrooke’s. And it was a bit silly because obviously Humphrey wasn’t going to move house, so I had to commute. But by that time my dad had died and my mother was living in Comberton near Cambridge; she had actually married Max Newman, an old friend of my father’s, who used to work in Bletchley. He was one of the decoders of the German codes in the Second World War.

TT: The Enigma?

SH: Yes, the Enigma. It was his hut: Newman hut. Anyway, so they lived near Cambridge in a little village, Comberton, and I remember he died on my birthday, and that was probably before I got the job in Cambridge. So my mother was on her own and getting quite arthritic, and so on, needing a bit of help. She used to have living-in helpers, who were often rather curious characters, so it was rather nice that I could go and spend a night or two there. And by that time the kids were more grown up so I could leave them for short periods. But it was always quite difficult, you know. On Sunday evening I’d start getting all nervous about it, but it was a very nice job. When I was there, Eamonn Maher turned up as Registrar then - very bright. I remember somebody from Cambridge University Press came round and asked if we wanted to write a book. At the time I was becoming interested in cancer genetics but this was very early days in cancer genetics and not much was known about it. There was Joan Slack, who ran a clinic with my great friend Vicky Murday in London, associated with the Polyposis Unit at St. Mark’s Hospital. And she was running a cancer genetics clinic, one of the first; there was Bruce Ponder who was running one at Guy’s but they were all very new and based on family history of cancer.
TT: Can I just interrupt and ask for clarification? When you say family history, these would be constructing conventional pedigrees?

SH: Yes. The way it all started was in the 1980s at St. Mark’s there was this nurse who got interested in the family histories of the patients with cancer and she took family histories from all the cases with colon cancer in the hospital. And then Richard Houlston had done some analysis to show that the degree of family history of colorectal cancer that you had dictated your risk basically. So Joan Slack saw people in the population who had a family history of colon cancer, and if the family history was sufficient, if you arranged for them to have colonoscopies they would have a higher yield of polyps and cancer than average. Again, that could be correlated with the degree of family history and the ages at diagnosis. And so she was busy setting up clinics to assess family histories and then arranging for colonoscopies for appropriate people.

Then Lynch syndrome was described, mainly in the 1980s by Patrick and Henry Lynch over in America, a susceptibility to colorectal cancer, associated with uterine and ovarian cancers. The reason I’m saying this is I was becoming aware of Lynch syndrome, and screening individuals in these families. In the late 1980s Humphrey, a gastroenterologist, had a patient who had colon cancer who was quite young. He was talking to her and it turned out she’d already had uterine cancer, and he thought this was a bit unusual, and then he also thought she looked a bit familiar and so he eventually found out that she was the mother of my cousin’s wife, who was a very gorgeous person. And so I thought about it and then started thinking, ‘Oh my God, perhaps she’s got Lynch syndrome, should I tell my cousin’s wife?’ And it took me several months to screw up courage to do this. So eventually I rang her, and she was actually very pleased to have this discussion, and she didn’t seem at all bothered after me getting so nervous about approaching her. In those days Joan Slack used to see people like that, and she used to arrange screening for ovarian and uterine and colon cancer for people with such family histories. And so my cousin, Suzanna, went to see her. She said she should have screening, and this was arranged, but it turned out that Suzanna was pregnant, and so she postponed it. After she’d had the baby she was very sadly diagnosed with ovarian cancer, and she died. And so, you know, obviously, this was a terrible thing. We knew subsequently that actually screening for ovarian cancer is really not at all good in this situation, so in a way that was a relief to me to know that. I kept feeling really awful about that.

TT: Understandably.

SH: Yes. So I felt that I must really do something about cancer genetics and increase knowledge about it, so when we were visited by someone from Cambridge University Press asking ‘did we want to write a book?’ Eamonn and I agreed to write a book about cancer genetics. So we did, and it was probably one of the first clinical cancer genetics textbook for clinicians, I think. And we dedicated it to Suzanna. That was really when things became fast moving. Genes such as BRCA1 and BRCA2 and the Lynch syndrome genes were all being identified in the 1990s.

TT: So there was a period, really, when with your clinical experience, but also your research experience, because you’d done your thesis on Duchenne, you were already moving in that direction. And then the technological explosion, perhaps that impacted? Can you just say something about what it was like at that time? Because it was almost every week you picked up Nature or JAMA and there was a new test or something.

SH: Well, it was. You see, my research was never really very molecular but I kept up with all the molecular discoveries. In fact, I should have spent time working in a lab when I was doing my thesis because I was very involved in all the molecular work, obviously; I knew about deletions in the Duchenne gene, for instance, and I was very puzzled about the different sizes of the deletions and why they didn’t always have predictable effects on disease severity. It was really exciting but I should have spent at least a year probably working in the lab. I just didn’t want to go away from the patients. So, in a way, my education was not very good in that sense but I still knew how to apply the information and it was, as you say, it was just incredible the way it was going, and really exciting.
TT: Did you feel optimistic that you really may be able to do something to help your patients? Was it just another step in improved diagnosis but not necessarily therapeutic?

SH: I was quite cynical about the possibility of therapeutics for Duchenne for a long time. I suppose I didn’t see the discovery of the Duchenne gene leading to therapeutics so much as diagnostics, but in cancer genetics you can actually save lives by screening. If I look back on ‘lives saved’ in my career, I remember I diagnosed a small melanoma in a young patient when I was a GP, which was removed and everything was fine, but I suppose most of the times when you may have saved lives is when you arrange screening for people, having identified that they’re high cancer risk, and you do pick up early malignancies. I remember, when I was deciding that I must go into cancer genetics, one of the things I found difficult about clinical genetics was prenatal diagnosis, and I used to have a bit of emotional trouble with that. You might find that somebody had something very mildly wrong with their baby and they’d say they had to have a termination. I used to find that quite hard, and so I preferred something that was more positively helpful, if you see what I mean?

TT: Yes, yes; so this all started when you were in Addenbrooke’s?

SH: Yes, well I came back to Guy’s but it was joint with St. Mark’s because the Head of the ICRF [Imperial Cancer Research Fund], Walter Bodmer, supported me. Anyway, I received grants from ICRF, and used it to fund a series of Registrars. I had five Research Fellows, one was Ian Frayling, whom you probably know. He was really a very bright person, full of ideas. They’ve done some really interesting work. But, again, I’ve always needed help in overseeing the molecular work so I always used to have to partner with somebody else. When I was at Guy’s, Marc Tischkwowitz was one of my Research Fellows, but the person who directed him in the laboratory sense was Chris Mathew who supervised him with the molecular work. And then I obtained various other grants doing psychosocial and other work as well.

TT: More into genetic counselling?

SH: Yes, It was interesting, it’s all applied stuff.

TT: But that’s really important.

SH: Yes, absolutely. One of the interesting things was when you gave people results that were not clear cut and you couldn’t quite understand, and what did they make of it? So we wrote quite a lot of interesting papers about the way people perceived the sort of thing you were telling them, especially when you didn’t completely understand it yourself.

TT: Was that quite usual at the time, or unusual? Would clinicians be involved in looking in that kind of aspect of things?

SH: Well, I suppose it was all fairly new, I mean it was all starting up. There was some cancer genetics counselling going on but I guess apart from Joan Slack’s clinic, mostly at the [Royal] Marsden in London but also the Christie [Hospital] in Manchester was always way ahead with everything, and Southampton probably too.

TT: Were you still working part-time at this stage?

SH: No, I think I must have been full-time by then but I was running backwards and forwards between St. Mark’s and Guy’s. I think I used to do three days at one place, and three at the other.

TT: Was St. Mark’s out in Northwick Park then?

SH: No, it was in City Road. It did go to Northwick Park later but it was City Road then. I learnt so much there. You’d see Peutz-Jeghers syndrome, familial polyposis, juvenile polyposis. I remember one time Nick Wright asked me if I knew a patient who had polyposis and had a mosaic cell line. And I said, ‘Yes,’ because we
had all these patients. He had an XY/XO karyotype, and so they did some really rather important work on the clonality of his tumours, his polyps, predicated on this. Without having the clinical link you wouldn’t have been able to do that.

So I suppose, if you want to describe my research, it’s always been translational. I’ve been the person who went with the information to the patient and came back with the patient data to the molecular people.

TT: Yes, a key role really.

SH: Yes.

TT: You often see the two sides moving ahead almost independently.

SH: Yes, it was exciting.

TT: And then from St. Mark’s, so you went to Thomas’. So what was the difference?

SH: It was called the ‘Guy’s and St. Thomas’ Trust’ because it became a Trust with St. Thomas’, probably around then.

TT: It did because I was at Thomas’ at that time, so yes.

SH: Well, there you go. So I spent quite a long time at St. Mark’s doing that, and then I gave up St. Mark’s, mainly when it went to Northwick Park because it was a long way. Also, they got more of their own staff there. But one of the important links I made then was with Ian Tomlinson who, of course, was a great ally all along and, again, my Research Fellows used to go and work with him in the lab and liaise with me for the clinical side of things.

TT: So these are really important links you’re making between the lab, which is burgeoning with exciting developments, by feeding into the clinics more information about the families, the genes.

SH: Exactly.

TT: It’s almost synergistic - having somebody like you in the middle to translate and talk to both sides was really very, very important.

SH: Yes, and I suppose being able to understand what was going on. I still felt that I should have known more about the laboratory work but my heart was in the clinic really, and I found it really hard to drag myself away.

TT: And then your CV says King’s College London, but was that still the same thing?

SH: Yes, well, when I finished, I became more of an academic so I got an academic post with an honorary clinical post as Senior Lecturer and then Reader. It merged again and became King’s, Guy’s and Thomas’. I did a bit of teaching as well. I remember having students assigned to me and I did some student mentoring as well.

TT: Had you done much teaching before then?

SH: Yes, I have always taught all the way along really, yes. I did get some ‘teaching’ teaching, if you see what I mean? I got various certificates and things.

TT: And then the move to St. George’s?
SH: Well, that was 2003, and that was quite serendipitous but I’d been great friends with Vicky Murday for many years, because, I did a degree module in genetics at the Galton Institute. When was that? I suppose it must have been when I was with Polani the first time, or perhaps when I’d just done Membership. I did it part-time in order to make sure I knew all my genetics, probably when I was starting in the substantive Registrar post.

TT: Right. And what was that?

SH: It was a sort of diploma. But Vicky was there getting the full diploma and so I got to know her. I remember she looked terribly pre-Raphaelite with long flowing red hair and she was just great fun to be with and we got on very well. She got a Consultant job at St. George’s and was working there with Mike Patton, and was a cancer geneticist, having been at St. Mark’s as well. We worked together on some research projects, both at St. Mark’s and St. George’s. Then her husband moved to Newcastle so she went with him there and found a job, and then they moved again, to Glasgow. When she moved away from St. George’s her post remained and Mike Patton made it into a Chair, so they offered me this Chair. So I went there and I really enjoyed it. I went on working there until I retired.

TT: When you say they offered you a Chair, did you then become a Head of Department?

SH: Well, it was a personal Chair, but on the other hand there wasn’t anyone else doing cancer genetics. When I was at Guy’s beforehand, I was running the South East Thames Regional Genetics Service for cancer. So when I went to St. George’s it became logical that I’d run the South West Thames Regional Genetics Service for cancer, so I did as much as I could. Cancer genetics by then was quite involved because it not only meant doing clinics but it also meant deciding on what level of risk to do what screening, and negotiate with the ‘powers that be’ in order to decide which groups of people should have what kind of screening, and so on. And also going to multi-disciplinary team meetings, which tended to be at some awful hour in the morning like 7:30, so I had to go to these from Muswell Hill to Tooting by bicycle, and I was always late.

TT: It sounds like an awesome full-time responsibility.

SH: It was quite a responsibility but then you did it as a team; there would be clinicians from other disciplines, registrars, nurses, genetic counsellors involved and so you would do things as a team. And Ros Eeles and I set up the Pan-Thames Cancer Genetics Group, we used to meet once every three months, and we used to talk through cases. That’s the way it started. We would develop screening and get management guidelines sorted out. Ultimately there was a need to liaise with the Department of Health, and help develop the NICE Guidelines (which I did not become a member of). Your job is on all sorts of levels.

TT: So your responsibility was: you’ve got the hospital, you’ve got the hospital medical school, you’ve got the regional obligation?

SH: Yes.

TT: What about the Colleges?

SH: Oh, I see what you mean. Yes, that’s right, and of course I got my MRCP in paediatrics but I’m a Member of the ordinary College, the RCP [Royal College of Physicians]. They do have a specialist committee for genetics and I was on that committee for a while. We used to go and meet at the College of Physicians and thrash out procedural things, very much under the umbrella of the College of Physicians. Although a lot of genetics is quite paediatric, but the aspects I was involved in were mostly about adults, because thankfully most children don’t get cancer although some do.

TT: You’ve spoken quite a bit about wanting to be involved, your overwhelming desire was to be involved with patients, clinical work. You also mentioned you’d found prenatal testing troublesome.
SH: Yes, I had a bit of trouble with that.

TT: Yes, I mean genetics, it almost comes back to what you talked about your father and eugenics; there have always been some of the ethical concerns, those grey areas that have to be negotiated at the coalface as a clinician with the patient. I just wondered whether you could reflect on that?

SH: I remember my father was really, really strongly anti-eugenics. When he was coming back from Canada in about 1946 he was on his own, pretty much, to start with. I'd always been aware of this being very important to him, and I felt very supportive of his ideas. I remember he used to love Down's syndrome people, and he always used to really like being with them - I suppose they're not very complicated, they don't have all these ambitions and things that 'ordinary' people sometimes have. He was very caring of them and I, I guess it rubbed off on me, really. I remember him saying, 'Oh, you can always tell how advanced a society is by the way it treats its Mongols and imbeciles and disabled people'; this is what they were called in those days. So I guess that was very much part of what I believed. I'd always thought, although I couldn't have had prenatal diagnosis when I was pregnant, I'd always thought that if I had known that I had a Down's baby, I probably wouldn't have been able to bring myself to have a termination. Although, thankfully I didn't; I would have found termination quite hard.

Although, I could appreciate why, particularly with Duchenne for instance, I could absolutely understand people having a termination if their baby was going to have Duchenne. It is just such a terrible illness, really terrible. And so, there are obviously gradations; I remember talking to Paul Polani about it, and what he felt about terminations and he said, 'It's not really quite a person yet, is it? It's only part of a person.' It's difficult but there clearly isn't going to be a hard and fast line that you should never have a termination - I don't believe that at all - but, as I say, I just found it quite difficult. For instance, when people wanted to terminate a foetus with Turner syndrome, and people with Turner's can have a very fulfilled life.

TT: Could you please describe Turner syndrome?

SH: Turner's, well they have an XO karyotype so they are usually infertile, tend to be a bit short, they may have some physical disabilities and they may not be quite as bright as their peers, so they have various problems, but they don't usually have many serious problems.

TT: What about this question of steeling your patients and giving bad news? How did you face that?

SH: No, you're never taught those things are you? You just do it by the seat of your pants. You try and empathise with the people, and you don't whack them with things, you just try and get cues from them as to how they're feeling, how they're going to handle it and that sort of thing.

TT: You mentioned multi-disciplinary teams: that must have been quite a transition for your career, the creation of multi-disciplinary teams?

SH: Well, they are usually already in existence in other disciplines such as breast cancer management teams, in order to arrange the best way of treating the patients. They need a social worker, they need a nurse, they need a doctor, they need a surgeon - all the different people who are going to have a say in what their management is. So it was only quite recently that geneticists were included in those meetings. In fact, I used to find them quite difficult because most of the meeting was naturally about the treatment of the tumour, and I had to wait for the appropriate moment to discuss any relevant genetics issues, such as whether and when to test the patient for a BRC A mutation.

For instance, when there was a young girl with a triple negative breast tumour, and I would think, 'she might have a BRC A mutation,' and you'd discuss with the surgeons whether genetic counselling and testing might be appropriate for her, and maybe the surgeons might want to do more extensive surgery if you thought the woman had a BRC A mutation and might get another cancer.
TT: Were there more nurses and genetic counsellors to help you as a geneticist giving and discussing bad news?

SH: No, no, I mean in those meetings the patient wasn’t there, and you wouldn’t do much except alert people to the genetic issues, and the counselling would then be done later. You would get the patient referred to you usually.

TT: So that wouldn’t be part of your support and back up?

SH: No, no, people would then suggest that this family ought to see the geneticist. Usually we used to see people on our own although sometimes, like the other day for instance, at my Leicester clinic, I had a difficult situation where there was a young woman who wanted to have a BRCA test, and her mother had breast cancer and she’d had it from a young age but she was still alive and she didn’t want to be tested. She was the one I ought to be testing, but the daughter was very firm, she wanted to be tested. After a long chat with her, twice, about all the relevant issues, she said she’d talked to her mum, and so I did test her, and, of course, she had a mutation. So then the question was how to go back and deal with how to give this information to her mother. I talked it through with the team, including nurses and other doctors and genetic counsellors. Then I saw the young woman again with her boyfriend and with one of the nurses so that we had the backup - if I wasn’t there on a future occasion she’d be able to deal with it; the nurses have a different approach to things.

TT: How did you get involved in Leicester?

SH: Oh, how did that work? Yes, well, there is a lot of serendipity in my life. I was examining a thesis, and the other examiner was Julian Barwell, who had been one of my Research Fellows. Anyway, he was now working in Leicester. And at the time, I didn’t really particularly want to retire, but in 2011 we’d been approached by the Dean of the new Namibian Medical School to help with setting up a new Medical School, and so we were going to be spending one month in three in Namibia helping with that, and so clearly I wasn’t going to go on doing a full-time job at St. George’s. I wanted to work there part-time and still carry on, and they felt this was not appropriate, quite reasonably. So I’d stopped seeing patients, but then I came up for revalidation with the GMC [General Medical Council], and if I wanted to be revalidated with the capacity to see patients, I had to be seeing patients currently, because you need their feedback. And I was on the train with Julian Barwell telling him about this, and he said, ‘Oh well, we need a Locum Consultant at Leicester,’ so he found me a job. I went up for interview and was accepted there, and saw the patients and got revalidated. Currently I’m still doing it. It’s really nice, I enjoy it. I work there just one day a week.

TT: There’s one thing you mentioned there: ‘we’ were invited to go to Namibia to set up the Medical School. Who is ‘we’?

SH: That’s me and Humphrey, my husband.

TT: How did that happen?

SH: Again, as I said, I’ve always been interested in international medicine, and perhaps going out and helping people who are less well off than we are. I’d always had this desire at the back of my mind that I’d like to go and do that, and so I told various people, including THET, the Tropical Health [and] Education Trust.

TT: I know Eldryd Parry very well.

SH: I’d spoken to Eldryd, and he also knew that Humphrey had similar interests. Anyway, the Dean of the Medical School in Namibia had written to Eldryd. Namibia is a huge country with a small population, and they didn’t have a medical school, so they were always leeching doctors over from South Africa, and they didn’t like that. They’d been independent since 1990 and they wanted to start training their own doctors.
They had a University, but they didn’t have a Medical School, so they set up a Medical School to try and get their own doctors, because the doctor per patient ratio is terrible there. And so it seemed very logical to have a Medical School. So they’d started, and got as far as the third year, doing all the anatomy and physiology, and they had beautiful buildings and everything was lovely, except they didn’t have any clinical curriculum or any established liaison with the clinics or hospitals. So the Dean wrote to Eldryd asking whether he knew someone who could come out and help develop the clinical curriculum. So Eldryd got in touch with Humphrey because he knew of his interest, and he specialised in internal medicine. We had lunch with him and he told us all about this so we thought perhaps we’d give it a try.

We went over there to visit the Namibian Medical School in Windhoek, and they asked me what I trained in, and I said, ‘paediatrics’. They immediately said, ‘Right, well we haven’t got a paediatrician’ [laughs]. So I had to write the paediatric curriculum, and Humphrey wrote the internal medicine curriculum, which was a bit hard for me because I hadn’t done paediatrics for about 30 years. But you can get lots off the internet and the back of your brain usually. So we did that. We went there one month in three. At the time there was one paediatrician who turned up about a year after I started, and so what I would do is set out what I thought the curriculum ought to be, and try to organise things even when we were in the UK. A paediatrician, Dr Frederick Sinyinza from Zambia was then appointed as Reader; he was very nice, and he worked full-time for a bit. Then he left because he wasn’t being paid enough and hadn't been promoted appropriately. One of the problems that they had when developing the clinical curriculum was that nobody had really talked to the hospitals or to the clinical staff about medical students coming to learn medicine in their hospitals, so we had to spend a lot of time talking to people and trying to explain why this was needed and how we could collaborate. And then, eventually, all that started to work and the students went to the hospitals and it all did start happening. But there were very few medical staff around in the afternoon because they’d all be off doing their private practice.

There were very few faculty in the Medical School and the problem is the faculty were paid much less than doctors in the Health System would get paid and they also couldn’t do private practice, so they were very much worse off than the local clinicians. So poor Frederick, who was only a Reader, ran out of money basically; he wasn’t being paid enough and he had a wife and children to support, so he went off to do a clinical job in Rundu, which is in the north of Namibia. I was left with nobody in the faculty again, and so I brought in a few people from outside who had taught in Africa before, in Malawi. But sadly there was a particular chap who turned up and turned everything upside down and then left again without putting it right. At the moment there still isn’t anybody, so in two weeks’ time I’ve got to go back and run three lots of exams, three lots of OSCEs [Objective Structured Clinical Examination] and mark them all single handed - pretty ridiculous. Hopefully Frederick will come back as Head of Department soon.

TT: Suddenly you’re there and you seem to be negotiating Medical School and hospitals, you’re in a completely different environment.

SH: A challenge, yes. But we are fading a bit. I mean partly because last year we were attacked and, although it’s mainly a peaceful country, Humphrey was quite badly injured.

TT: You were mugged?

SH: Yes. And so, of course, now I’m not so comfortable going there as much, although it’s still much safer than South Africa. We used to go on lovely walks and now we feel we can’t go on them anymore because that’s how we managed to get mugged last time. It takes a lot of the fun out of going there.

TT: How long do you think you’ll carry on doing it?

SH: I don’t know. Humphrey’s talking about perhaps stopping now. I don’t know. We shall see, maybe.

TT: And how long have you been doing that?
SH: Coming up to four years. So it was quite a long time.

TT: It's a phenomenal responsibility, isn't it?

SH: Yes. You're telling me!

TT: Have you had much dealings, you went to the States of course, in other international collaborations?

SH: Yes, I have. We also went to Burma a bit, a couple of times, to do some teaching, but I didn't get a long-term relationship with them. I went to Nepal a few times. That was because at St George’s there was a student group doing electives in Nepal, run by a chap called James Matheson, who had been a soldier and then he came back to be a medical student. So they used to go out in the summer for two or three months, or something like that, to do clinics up in the mountains in Nepal. So he got me interested in that, and I thought it sounded very good. He put me in touch with the Medical Schools in Kathmandu, and so I went over two or three times to teach there, mainly genetics, to try and set up links. We thought maybe we could set up a collaboration through THET. We did set up a link through THET, mainly with the students, but then that didn't work terribly well; Humphrey didn’t like it. Every time we went there were different people involved, and you’d turn up to give a lecture and there wasn’t a lecture theatre and they didn’t know you were coming and this and that. Everyone was terribly enthusiastic but then when you went away they disappeared into a puff of air. However, they've done a lot about the earthquake. But, anyway, I tried to set up these links but it didn't work out, and then the students started doing some rather silly things which offended the doctors in Nepal who were responsible for them, so I think they rather gave up as well. So that flopped. Then there was India. I’ve done quite a bit of teaching in India together with, a geneticist in England who is Indian and he runs courses over in India. So I went over on several of those with him.

TT: Where in India did you go?

SH: We went to Mumbai and we went up north as well, to three centres, giving mainly cancer genetics courses and things. And we met this chap Rajiv Sarin, who then invited us over another time on his own to run a cancer genetics course because he was in cancer genetics. There is a very good centre there in Mumbai, a fantastic lab, really brilliant students; I mean very high quality stuff.

TT: Is this all University?

SH: Yes, University. In fact, now I’m on the board of their new genetic counselling/nursing syllabus, setting it up, because they don’t actually have any established cancer genetics counselling as such in India. There’s somebody in Bangalore who used to work in England who runs ordinary clinical genetics, but there’s very little clinical genetic counselling in India - so they were setting up this course and I was pleased to be asked to be part of that.

TT: Why is that, is that just lack of recognition of its importance, or lack of personnel?

SH: I think they’re faced with people who are really ill with TB [tuberculosis] and diarrhoea, and serious things; so genetics seems of secondary importance. That came later, you know. But with cancer genetics, they’re beginning to see the importance of it even with all the other confounding issues. And then China, similarly, because I’ve been invited by a colleague Yiming Wang who worked in the UK for many years and is now back in China. Last February I went over there to give some talks there. And again, exactly the same, in China there are no genetic counsellors, but they have fantastic labs, they can dissect anybody’s genome, no problem. It seems they haven’t the facility to use this in the clinical context. So I went there and talked to them about genetic counselling and talking to people - what they’re very keen on is to get people to go over and run courses and teach them about cancer genetics and genetic counselling, and to set it all up.

TT: So this is the clinical backup there? Are there the oncologists and others involved?
SH: Yes, there are oncologists, and there are all the medical and paediatric doctors that you need but again, in terms of getting a genetic result and explaining it to somebody and working out what the family tree means to them and what genetic tests are needed etc., etc., they haven’t done that yet. It was very interesting talking to them because I would give a talk about whatever, cancer genetics, and they’d say, ‘I’ve got a case of so and so,’ and they’ve got Peutz-Jeghers syndrome and I’d say, ‘Right.’ And they’d say, ‘but they haven’t got a mutation in the gene.’ And I’d say, ‘Alright, okay, well what are the clinical signs and symptoms?’ ‘Oh, I don’t know, they told me he had Peutz-Jeghers syndrome.’ So I’d say, ‘Well, tell me more’, you know and this sort of complete disconnect between the clinic and the molecular stuff; they are very keen to get that link back.

TT: Is that a collaboration you’re also pursuing at the moment?

SH: That’s actually quite lively because I met a chap from the Department of Trade and Industry [DTI] here, Rory Shaw, who is very keen to sell British expertise. And, of course, what the Chinese want me to do, hah, is for me to organise and run clinics in China [laughs]. So you can’t just do that. You need lots of people and lots of organisation, and so on. I thought if we got the DTI interested and, again, you talk to clinicians here, genetic counsellors here, they do go places like Oman and things and teach a bit but they can’t do that every other week; they’ve got jobs to do. And quite often they don’t get remunerated much for doing that so the idea would be to set up a structure and then a sort of ‘travelling circus’. But you’d have to have different people, you’d have to have a whole cohort of people whom you could draw from in order to get them to go and help teach. And, of course, the ideal thing would be for them to come over here, but we can’t deal with 500 Chinese clinical geneticists. The government’s not keen to have anybody extra [laughs]. It just so happens that in Leicester there is a very strong link with the Chinese because they have a lot of Chinese teaching there, and so in Leicester they are quite interested in developing this.

TT: Talking about international collaborations, what about some of the major research consortia that you’ve been a part of? Going back to your bibliography, one is just struck by all these huge lists of names, and the fact that you can only get a couple of your publications on some pages.

SH: I know, it’s ridiculous.

TT: The first paper, there are 12-15 authors at the beginning.

SH: Yes, but you see you just get your name on because you provide patients, basically. It’s just all out of the network, you get to know people. It’s one of the things that happened to me, and I always sort of stumble into these things rather without noticing, but I got a phone call from my friend, Neva Haites in Aberdeen. And she said she’d just got a grant or was about to get a grant in one of these European Union-funded studies to look at genetic counselling for cancer genetics in Europe. So would I like to be involved? And I don’t know why these links get made, but it’s all terribly serendipitous. So I became the Guy’s link for that research project and we then used to go around and have meetings all over Europe and we’d have collaborators from all different European countries so I got to know masses of different clinicians that way and they were all cancer geneticists in one way or another. For a while I was on the Board of the European Society of Human Genetics, and again I got to know lots of people that way. It’s just these links and connections, and you get to know people, and you do research with them. And of course a lot of the research now is on these huge GWAS [genome-wide association studies]; you’ve got to get millions of patients with this and that, and millions of normal controls. And they need collaborators. You don’t have to do very much, they’re not very impressive from my contribution, those papers, you just happen to be one of many collaborators.

I get printouts each week of references that might be of interest, churned out by St. George’s, and I run through them. There are many dull papers on GWAS studies because they just say, ‘This gene is slightly involved with…’ and I just think it’s not very intellectual doing those things, but you have to do them
because then you learn from what you do find out which genetic pathways are involved in certain diseases, and then you can go off and do more interesting research.

TT: Building the big picture.

SH: But it’s fairly mindless stuff, really.

TT: Looking at the transitions in your career, one of the other things that I did wonder about, is patients and patient expectations, and how they have changed because one’s bombarded in popular culture about a gene ‘for’ this or that, and doctors ‘solving’ this or that?

SH: Yes, yes, I know.

TT: How has that impacted on your clinical work?

SH: Well, not hugely yet but you do get exposed to things like 23andMe, and similar things. I remember my first patient who turned up with a print out about that, and saying, ‘Oh God, I’m going to die tomorrow because…’ and I had to say, ‘This is a variant which gives you a 1.15 per cent increase in risk of colon cancer, forget about it.’ That kind of relative risk is perhaps quite difficult for people to understand but, in genetic counselling we’re mainly dealing with the strong genes, such as mutations in the BRCA genes, which really do make it quite likely you’re going to get breast cancer. But the ones that are beginning to be pushed up in the news, and if you do happen to get your saliva tested by 23andMe, you end up with a whole lot of these very minor genetic variants each with small effect but which may be additive.

TT: Also thinking back to your career, a woman in medicine with children and we’ve talked quite a bit about being part-time.

SH: I’ve got a very strong bump of responsibility and I can’t extricate myself from the situation I’m in. It’s rather difficult to imagine how I would have been without children really. Sad [laughs].

TT: The other thing you mentioned that I was intrigued by, and where someone like you had such a pivotal role, is when you say you chummed up with people because you didn’t know enough or you felt you didn’t know enough. How did you find them?

SH: I’m a member of is this thing called ‘the Mallorca Group’, which is a group of cancer geneticists who are mainly involved with colon cancer, and we meet up once a year and I suppose you just get to know so many people that you’re bound to know somebody and you like each other and you go out to dinner together; they’re all friends. There’s bound to be somebody who is appropriate to your needs, really. It shows, I suppose, how important the social side of one’s scientific career is. You don’t just work in your little hole, you make friends with people, and you suddenly find that you’re collaborating on something.

TT: Are there any particular national or international organisations or meetings that have been particularly influential or enjoyable or important to you and do precisely that?

SH: Well, yes, I think the Mallorca Group is great, for instance, and it’s quite small so we all know each other terribly well and learning about the cutting edge of what’s going on. And the European Society of Human Genetics, I’ve always enjoyed that.

TT: Can you say a little more about this Mallorca Group?

SH: Well, I suppose it was started up by Hans Vasen who is a very energetic Dutch cancer geneticist and it’s mainly research collaborations. Recently it has also become a body which organises guidelines and things because basically the people within that group are pretty good at what they’re doing, they’re pretty high up in their own countries, for instance. There’s Pål Møller from Norway and he’s the only representative from
Norway, so you get a lot of expertise from the different countries. And so they have quite a lot of nous in order to be able to set up potential guidelines for screening for Peutz-Jeghers syndrome or polyposis or the rare diseases. So that’s the sort of thing we’ve been doing.

**TT:** Some of these little groups and connections are so important.

**SH:** Yes.

**TT:** They’re often below the radar.

**SH:** Yes, that’s right. Well, they start off below the radar, yes, but they are terribly important.

**TT:** Looking back on your career, what would you say you were proudest of, or what are you pleased about achieving?

**SH:** I suppose the book, really. Writing the book and sort of in a way I suppose pioneering clinical cancer genetics, because I suppose that’s what it did. I know Joan Slack had been doing it but it perhaps put it on a more firm footing, I guess.

**TT:** And anything that went particularly wrong?

**SH:** Ah… well, I mentioned the various times when I thought one could have done better, and I think I should have done more real academic hands-on molecular research. Because I’ve always felt I’m not a real, proper researcher. That’s why I’ve always had to get the expertise of other people, I’ve never been able to really run a project all on my own because I haven’t known enough about the laboratory side of it. I’ve never felt I’m a great researcher in any way because I couldn’t be without the molecular side, and I don’t have the drive either, really.

**TT:** But you understand it and can make the connections, which is a very important skill.

**SH:** Yes, but if you want me to do basic, cutting edge research I’m not going to do it.

**TT:** Yes, well you’re using the word research in a very defined way, aren’t you? You’re just thinking of research as lab research?

**SH:** Yes, of course, there’s lots of other research too.

**TT:** What do you think have been the major changes over your career?

**SH:** Well the huge change in all this was finding the genes, the BRCA genes and the Lynch syndrome genes; that was a huge, huge change. And then, I can’t tell you, all the different things that have happened, understanding then the way tumours develop and all this new stuff now with Mike Stratton showing that different tumours of the same type are completely different from each other. Two breast cancers can be molecularly completely different, and this fascinating stuff about finding that they have a mutation signature showing that in things like melanomas, all the genes that seem to be ‘broken’ are the ones that you would expect to be broken, the ones that UV light break, and the ones that lung cancers are caused by, and you get the mutations in the genes that are caused by the carcinogens in smoke. Once you get an idea about how the cancers develop and why they are initiated then you can get better ideas on how to treat them. I mean it’s a real watershed.

**TT:** And so what do you hope might happen in the next 30 or 40 years?

**SH:** Well, I would hope that they would be able to get a handle on all that and get much better treatment for cancer and I’m sure they will. And of course all this GWAS work is allowing us to find out a lot more about
the minor alterations in your DNA, you know. There are lots of different genes that affect your susceptibility to things, which are of lower penetrance. It's going to be very popular. I think it's mainly personalised medicine that's going to be the big change.

TT: But then personalised medicine comes at a cost, doesn't it? It's First World luxury almost compared with what you were talking about previously.

SH: Well, I know but I think some of the tests may be relatively easy to develop once we know what they are. Some of the molecular markers may involve quite a cheap test to see is this gene turned on, like melanomas - certain mutations are only present in some melanomas but if it's there, and if the drug can be made cheaply enough then you can use the therapy much more effectively, and then you save a lot of money, of course. You don't waste money by treating cancer with something that won't work.

TT: It's interesting, you've used the word 'serendipity' a lot. I think we all look at our CVs and say, 'Oh, that happened by chance.'

SH: There was a lot of chance. Humphrey finding that advert, a tiny little advert that Polani wanted a Locum, otherwise I'd have gone on being a GP. It's as simple as that, I think.

TT: You've talked about your cousin; are there any other particularly memorable patients, or families?

SH: Well, her of course. Yes, I mean that was so devastating. Hmm, I suppose there are so many of them though. There was a lady I saw the other day, for instance, who had breast cancer and the family history wasn't 'bad enough' for me to be allowed to test her for BRCA mutations if she didn't have an Ashkenazi Jewish background. But her father was Ashkenazi Jewish so I could offer to test her for BRCA mutations. But I said, of course, 'if I do that and you're positive then your dad will probably also be; you're kind of testing him really. Would you be willing to chat to him about it beforehand?' And she said she couldn't possibly, because he'd married a Catholic so he'd had to leave the Jewish community, and he'd been excommunicated and told he was the devil, and he couldn't even think about having this background at all. So terrible. And he'd had a sister with breast cancer as well. You just hear these sorts of things because of the way you're dealing with the families.

TT: The traumas that people carry.

SH: So terrible, yes, yes.

TT: Is there anything else you want to say?

SH: No, I think it's fine.

TT: Well, splendid, thank you very much.

[END OF TRANSCRIPT]

Further related resources:
