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**Sir Stanley Peart FRS in interview with Max Blythe  
Oxford, 28 February 1995, Interview Five**

MB We've just talked in some detail, some concluding detail, about the research teams at Mary's. But concluding our last tape I think there are all kinds of things, satellite things of importance going on around what you were doing at Mary's. I think one of the early things must have been the Medical Research Society, because that, very early on, became an important part of your outer perspective.

SP Yes it did, actually. I can, I can still remember the little group of people coming to see me to ask me if I'd be chairman of the Medical Research Society.

MB What was it?

SP Well the Medical Research Society was very important in the development of academic medicine and research medicine in Britain. You know, it was ... it started really, on the back really of Tom Lewis<sup>1</sup>, and the group of people around him.

MB The University College lot?

SP Yes, that's right. And it was very important. And the ... there were only about six founders, I can't remember all their names, you know, but ... but they were all the important figures in British medicine – Elliott<sup>2</sup> and...

MB Pickering.<sup>3</sup>

SP ...people and Pickering and so on, you know, all wanted to...

MB You were recruited to that quite early, as a young man, when you were working with Pickering?

SP Well, it was a tradition, you see, in London particularly, because it was very much a London-based enterprise. You ... every month you would go to one of the medical schools in London, and you'd hear papers delivered. And, you know, there the ... everybody took it upon themselves, it was their duty to be there, all the professors of medicine, all the people in academic medicine around ... that was, they'd be there. And boy they would be very critical if you didn't perform well, you see. So if you'd made your mark there, you knew you'd been doing something, you know, because there were people like John McMichael sitting there and then asking a direct, very critical question of the premises on which you'd established this paper. It was quite daunting. And then there were people like Sharpey-Schafer<sup>4</sup>, you know,

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<sup>1</sup> Sir Thomas Lewis (1881-1945).

<sup>2</sup> Sir Thomas Renton Elliott.

<sup>3</sup> George Pickering.

<sup>4</sup> Edward Peter Sharpey-Schafer.

coming up, and then ... you know he eventually became professor of medicine at Thomas', you see. All that ... they were all ... actually the most critically minded people you could ever imagine. And to get past them... You see there was only one other society that I was familiar with where it was just as critical and that was that Physiological Society, you see. So they'd got a lot in common, because at that time, you see, a lot of academic medicine revolved around physiological medicine, you see. And it was, that was the way it was. But what a, what a pleasure. And I can remember, you see, the little group coming to see me and much to my surprise, you see, to ask me to be chairman of this body.

MB When was this? Kind of mid-sixties?

SP Yes, that's right, it's mid-sixties. And one of my old friends, who was, who became the secretary at the same time, so we got to know each other very well then, was Abe Guz who'd just retired as professor of medicine at ... from the Charing Cross. And he ... you know, I always remember him carrying in his little attaché case, you see, and bringing it out, battered old attaché case, and there he was. And he, he's gone on of course to do tremendous things in respiratory physiology and the control of respiration in general actually, you see. He's made outstanding contributions. So there they were and ... well, when I agreed I took it on and of course every month, you know, you used to preside at these meetings at the next medical school, the next medical school. And we had a bit of a lunch, a bit of a meal in the evening, a glass of beer and that sort of thing, and got to know... This was the way in which all the young people would get to know each other around...

MB So it's an integrative kind of...

SP Oh, absolutely.

MB ...society.

SP And it was one of my biggest disappointments when ... when I finished with that chairmanship, the big debate at the ... at the final meeting I remember was 'Well now, we can't easily go on with this monthly meeting, can we? It takes up too much time. The society must change its direction a bit and must have fewer meetings.' Until now, of course, it's got to two meetings a year. It's a completely different society in that sense because ... and it reflects of course the ... focusing of medicine into specialised groups. You see it within the Physiological Society where ... the Physiological Society held out longer than any other society in this country in trying to keep its breadth. So that the contributions from the audience to the paper that had just been heard – which then had to be voted on of course, still has to be voted on whether it's accepted or not – was very broad. And you could get all sorts of comments. Now it's splintering, and it will splinter; that's the way that science is moving into small groups. What has been lost of course is that breadth of approach. This has been lost in medicine. It's been lost in ... lost a long time ago in the United States. But now you notice they're fighting back to try and get it back, and they have joint meetings across societies to try and bring the integrated part of medicine back...

MB It's an enormous problem.

SP ...and the integrated part of science actually, you see. So it is... But, of course, in a sense, you get the focusing, then you get the unfocusing. And I'm not as worried as I used to be. I used to think gosh, this is a terrible process, tearing things apart. But, you know, everything has its time, everything comes back again slowly because people realise that there's something wrong. You know, if you can't, if you have people working in a basic science who can't understand what ... the fact they're working on a little piece or a few cells of the body and can't see the relationship to the whole, then there's something wrong with that. And therefore something happens ultimately to change it.

MB That association with the Medical Research Society went on ten, fifteen years?

SP Yes. Yes, it did.

MB When did you retire from...?

SP I...

MB ...you can't remember?

SP I can't remember. I can't remember precisely when it was that I did retire, you know, because these sort ... strangely enough my memory's not only just fading but very selective in terms of the things that matter. All I think about is, you know, well...

MB What was there when you were there?

SP Yes. And where was it heading, and why was it changing? What was different about it, you see.

MB Let's forget that retirement and move to a new beginning as it were.

SP Mmm.

MB The Royal Society, that was the sixties as well?

SP Yes, that's right. That was...

MB You became a Fellow of the Royal Society.

SP Yes, that's right.

MB An impressive time, it must have been, it must be quite heady.

SP Oh I was tremendously ... oh well, you know, flattered that anybody should think at that stage... Because of course in a sense it was for work which, you know, in terms of how one imagined one ever got into the Royal Society, you know ... because these things at that time you never thought about them, as to how you did. All you knew was that somebody put you up and people like Gaddum<sup>5</sup> would support

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<sup>5</sup> John Henry Gaddum, pharmacologist at Edinburgh.

it, and Pickering would support it, and you thought ... well you didn't think any more about it. So it came slightly to me out of the blue that, you know, I was elected. And I spent some very happy times at the Royal Society, though most of it, you know, is sitting on committees of, you know, judgement on your fellow scientists, when you look at the field of science and you think gosh, you know, as you look at what people have done and, you know, tremendous achievements, and yet they can't get in! And of course sadly there are people of course that grieve their hearts out about never getting in. I wish they wouldn't actually so much because ... while it's nice to be flattered by your fellow scientists and so on it ... it's slightly illusory when you get down to it. And I think it ought to be ... I'd like to see it being spread a bit more. It's very difficult for clinical people to get into the Royal Society, you know. And of course there've been suggestions that there should be a special slot for clinical scientists. I would fight that madly. I don't think that's right. But ... what you get out of the Royal Society in a sense is you get a wider community of people that you meet from time to time. In fact I meet more of them I suppose by the, going to the dining club which, you know, is a very old established dining club with ... you know, going back to Pepys and so on, and you feel that sense of tradition is there. But of course one can exaggerate it. I think the Royal Society has got a really important function as being the main agency for certain governmental decisions.

MB A great advisory body.

SP And some presidents have had tremendous influence of course in their conversations with government.

MB Do you want to put any of them on the record?

SP Well, I would have said the person that I first got to know was George Porter<sup>6</sup> who really ... I suppose set the way as far as I was concerned in speaking out for science, and really not being afraid of getting up and saying 'Well, you know, we think this is going the wrong way, and we think you ought to be going this way.' And that's been continued to the present ... Michael Atiyah.<sup>7</sup>

MB You were vice-president at the time of his presidency?

SP Yes, that's right. But that's one of those ... yes, it's a nice thing. It's more the title than the, any function, you know.

MB It's a great club, second to the House of Lords or whatever. A great club.

SP Yes, it is. Yes, that's right. But it's...

MB With its advisory commitment and opportunity...

SP Yes, that's right.

MB ...that makes it of great importance to...

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<sup>6</sup> Sir George Porter of Luddenham. President of the Royal Society 1985-90.

<sup>7</sup> Sir Michael Atiyah. President of the Royal Society 1990-95.

SP Yes. And of course the ... the trouble with the Royal Society in a way is that it, for those, despite all the excellent work... And believe me there are more people who've done excellent work outside it I suspect than inside it! But nevertheless having said that, it's a sort of ... it's an important body of ... more from the outside ... it must never become that sort of exclusive club. I think that's one of its risks. And that's why I stress it's extraordinarily difficult to get the clinical scientists in, because there are always rather more of the others, you know, queuing up for places. So you have to fight very hard. But then again that's the way of all institutions. You've got to fight hard for what you want to get.

MB Coming to another great institution, what are the other associations you had? Well, it's a bit of a list, but it's quite important to show your commitment I think over a range... You're quite closely associated with the Wellcome Trust?

SP Yes. I'd first acted...

MB In the seventies?

SP Yes. It ... yes, I mean, if you go back 20 years that's, from now you see it's about 1974/75 that I joined the Trust. But before that I'd been on the M-, Medical Research Council. That was in the days, first of Himsworth<sup>8</sup> and then of Gray<sup>9</sup>, who was the next ... secretary.

MB Perhaps we should say something about that Medical Research Council in that order then?

SP Yes, I think, I think so, because ... through that of course I joined that Advisory Board for Research Councils, you know, which was the body which divided up the scientific boat of the money between the different councils. And that was an eye-opener for me, I must say! But the Medical Research Council then was an interesting body. I got, I got some interesting jobs to do through the Medical Research Council. I mean, the one that I would comment on most ... it just gives you an idea of what you could do then, and perhaps the difference from now... Given the task of doing something for research in reproductive medicine... You see, now, you know, there was, I was chairman of that working party that was given the task of doing something for reproductive medicine. Well now what we did was, we ... the Council put up an advertisement for offers, you see, and we went round about ... we had about a list of about a dozen centres that thought they could do something. And we had the task of going round interviewing these various groups in all the universities up and down the country, and then coming to a conclusion. Now, the conclusion we came to was that Edinburgh was the place. And I was always delighted by the fact that we managed to create what is still a very strong ongoing MRC unit in reproductive biology in Edinburgh, with what was my ideal – the basic scientist alongside the clinical obstetricians and gynaecologists.

MB Anne McLaren and people like this?

SP Well, Anne McLaren wasn't in that at that time.

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<sup>8</sup> Harold Himsworth. Secretary of the MRC 1949-68.

<sup>9</sup> Sir John Gray. Secretary of the MRC 1968-77.

MB Not at that stage.

SP No. But it is, it sort of really worked very very well, actually.

MB That was a colossal development.

SP It was. It was good. And I mean I look back upon that with quite a lot of pleasure. But well, you know, when you think nowadays, would that sort of process be on? I suppose it would in certain areas. They'd, that's the way they would proceed. But for me it was...

MB Were people like Steptoe and Edwards<sup>10</sup> in the frame at that time as well?

SP No. No, they weren't. No, not at all, because, you know, research in the field of obstetrics and gynaecology and reproductive biology in general was not great, actually. It probably goes back to, you know, when I think my time at Mill Hill, you see, where Parkes<sup>11</sup> at Mill Hill was one of the earliest people in the field of reproductive biology. And ... and Smith<sup>12</sup>, you see, I mean she was busy in that area, but in a very... You know, well after all you know the idea of frozen sperm and things like that coming out of this. And now of course, you know, the ... now of course after all this period of about 50 years, you know, you've got frozen ovaries being sent about and maintained, human ovaries maintained for years and then fertilised and developing into embryos. Yes that sort of process, you see. So there's a lot behind that development.

MB But that Medical Research Council Committee really had a ... the real advancement of that field?

SP Well, I think it ... it played down the mark-up. I think it really did actually, because it had got the elements of putting the basic science together with the clinical applications as right in the forefront. And that's what attracted me.

MB And yet you continued to go and inspect these units, and look and keep in touch with them?

SP Well, that became the job of whatever council committee it was subsequently. But I've certainly kept in contact with some of the people I was interviewing at the time. I always remember George Fink, who runs the MRC Brain Metabolism Unit in Edinburgh. He was in Oxford you see at the time, you see, and when I ... and he remembers me coming around to interview him quite well indeed, actually! But then the Council, from the Council you see ... then I left the Council after that five-year period of serving on the Council and doing various other things with them. And of course I only, I returned to the fold so to speak subsequently when I became chairman of the MRC working party for the treat- ... investigating the treatment of mild hypertension and then hypertension in the elderly, which created a lot more...

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<sup>10</sup> Patrick Steptoe and Robert G Edwards were responsible for the birth of Louise Brown, the first test-tube baby.

<sup>11</sup> Sir Alan Sterling Parkes (1900-1990).

<sup>12</sup> Audrey Ursula Smith (1915-1981).

MB That was the late seventies?

SP Yes, the late ... that created friends for me in different areas, you know, particularly epidemiology, which led me back to Geoffrey Rose. You were asking me about Geoffrey Rose earlier, but that's that picture ... full circle.

MB Is that how Geoffrey became involved in your unit, through an MRC link?

SP No, no, not really. No. He, if you remember, he'd started with George Pickering, and been influenced very much by George Pickering into epidemiology, and he'd been a senior registrar in the unit. And then my link with him came because we ... that link was broken then, but it came back when we got ... a link with the London School of Hygiene and Tropical Medicine, you see, and that was, that was that link, you see. And we had a joint appointment. Geoffrey Rose had a joint appoint there and a joint appointment on the unit. And it never, after that it never broke. And he ascended the epidemiological ladder, and eventually took on the chair of epidemiological medicine at Mary's. And then after a few years... And we'd had our very close association, and we used to share looking after patients, you see. It's unique, you see, because we both believed in clinical epidemiology and a direct application of epidemiology to clinical practice. He always ... that was his gospel. And as he was a lay preacher you can understand that was ... it's not surprising! But nevertheless when he left Mary's to go to the London School, as the ... to take on the chair of epidemiological medicine there, he always maintained his link and always would come to the medical unit rounds and would still look after patients for me, actually.

MB And that went on for many years?

SP And that went ... oh yes, it went on. On and on. Even after I retired, you see, he went on...

MB Did you forge that link with the School of Hygiene and Tropical Medicine?

SP Yes, I think...

MB That must have been what you did when he went to...

SP Well, that was one of the links that we forged actually. But again, it's always on personal relationships of one sort and another, you know, these things. They're ... they're not always thought out. But of course I'd always ... I'd grown to appreciate Geoffrey Rose you see tremendously, you see, because although we came from such sort of different backgrounds, different philosophies... I mean, you know, the thought that I'd ever be associated with a lay preacher was ... you know, my irreligious approach to life, you know ... it just surprised me rather! But nevertheless he had such sterling qualities, he really did, and there was ... what a great influence ... what a happy association it was, you see. Because ... like a lot of physicians of course I like anecdotal medicine and, you know, the single case which revealed all. Single cases do sometimes reveal all, you know, but not, most of the time not, you see. And always in the background at our rounds, you see, Geoffrey Rose's voice would come

up 'But, of course, I have to refer you to a much larger study of similar conditions, in which the statistics are impeccable and which show that you are quite wrong!' So, you know, that's tremendously good for students.

MB In a field like hypertension, the international picture, he must have made, accessed that...

SP Yes well, you know, he started ... you know, he did all these studies. He did the Whitehall studies<sup>13</sup> of cardiovascular risk factors, you see, and made them precise. And those studies have still continued till the present time, you see, because Michael Marmot carried them on and so on, you see.

MB So it's a tremendous link between you, right down at the kind of clinical research end, endocrinology end, and this chap looking at great patterns in society?

SP Yes. But it's interesting you see because my interest now, you know, now I've retired, you see, and have gone to Northwick Park, you know, to try and get the Northwick Park Research Trust(?) going, has centred on the community there. And I can see the big opportunities of a wonderfully ethnically mixed population out there in Brent and Harrow, as between St Mary's and Paddington and so on. And the chance of doing something there in community medicine ... the cardiovascular risk factors with the coronary rate in Indians, and Asians in general actually of Indian origin, being two to threefold that of the white population, you see. Now there we have a ... you know, a problem which...

MB A very rich study area?

SP Yes. So that, you know, Geoffrey Rose continued. So that, you know, one of the great pleasures for me is having the hypertension clinic at St Mary's, you know, unbeknown to both of us, well, they decided 'Wouldn't it be nice to call it the Peart-Rose Clinic?' They decided it wouldn't look right to call it the 'Rose-Peart Clinic', because it sounds a bit odd! But, there it is. It exists and I get a lot of pleasure out of that. And Geoffrey Rose who died, you know, sadly, about 18 months ago...

MB And there's now this videoed epitaph to...

SP But it...

MB ...to him, right here on this tape, he was a remarkable man.

SP And he, he's obviously influencing my view on epidemiology, because through that you see I met Tom Meade, who runs an MRC unit in epidemiology and community medicine approaches<sup>14</sup>. And we're great friends, and we've got joint enterprises together now, you see. So that this is how these things grow, and...

MB So Geoffrey's tide is still coursing, and friends are taking it on.

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<sup>13</sup> The Whitehall studies, started in 1967, investigated chronic diseases among British civil servants. Social differences were found to affect mortality rates, which were higher among support grade staff than administrators.

<sup>14</sup> Tom Meade, director of MRC Epidemiology and Medical Care Unit.

SP Absolutely. Yes, that's right. And that came through the, in a way out of those MRC working parties. You know, we got a working relationship; all sorts of questions which we hadn't appreciated were important came up, had to be solved. And I got a lot out of being chairman of those working parties because they, I learned such a lot from all my really pretty distinguished colleagues there, you see.

MB So that it's right to put that in place before you go to the Wellcome Trust, because you're a lot wiser about the management of scientific events and research budgets...

SP Yes, on those things.

MB ...by that time.

SP Absolutely. And ... but when I went to the Wellcome Trust I was still really, you know, that academic professor of medicine doing the research, the students, and more importantly the clinical care of patients in a wide variety...

MB How did you come to go there? What...

SP Well, that really was through the fact that Peter Williams<sup>15</sup>, who was then the secretary... You see, I had been ... and I think I may have mentioned this to you before, but I'd been hailed to see Dale...

MB Ah, Henry Dale<sup>16</sup>.

SP ...at Queen Anne Street. Now, to just remind you, he was the first serious chairman of the Wellcome Trust. He'd worked for Wellcome, you know, initially but he was the first serious chairman of the Wellcome Trust. And the Trust headquarters then were in Queen Anne Street, and Peter Williams was the secretary, and I was asked to go and see Henry Dale. He liked to keep in touch with all the things that were going on in research anyway you see, and, you know, it was quite something to be asked to go and see him and explain what it was you were doing.

MB An incredible man.

SP Yes. Well, I remember going to Queen Anne Street, and discussing with Dale ... you know, Dale was one of those names you conjure with, you see! And I'd never met him before, you know, face to face at all. But what I did know of course was, you know, what he'd achieved, you see. And of course the fact that his name had loomed large in my life when I'd looked at noradrenaline was hardly lost on me, you know! And I mean, you know, I thought 'Well, what an, what an opportunity!' So I went and I talked to him about renin and angiotensin which he was fascinated about and ... well I can't remember exactly what we talked about but...

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<sup>15</sup> Director of Wellcome Trust 1965-1991.

<sup>16</sup> Sir Henry Dale (1875-1968). Won the Nobel Prize for Physiology or Medicine in 1936, with Otto Loewi, for discoveries in the chemical transmission of nerve impulses. Was chairman of the Wellcome Trust.

MB What was he like to talk to?

SP Oh, very ... very easy. He was easy to talk to.

MB Because he was a giant of a figure, but he was easy...

SP Oh yes. Yes well, when you think of all the things he'd done... And, you know, of course I got to know more about him later because I took a keen interest in his approach, you know. And I, I've always recommended his book, where he's gone back, his adventures in physiological/pharmacological research, where he's had a retrospective.<sup>17</sup> He's looked back at the papers and he's put footnotes at the end of each paper which he regarded as important. He's picked out the important papers in his life that he's had part of, and he's criticised his own performance. Now it takes quite somebody to be able to do it. Of course it means that you're criticising work which has been accepted as being absolutely superb! But nevertheless he said ... well you see, he knew he'd missed noradrenaline. He'd had the stuff in his hand actually, you see, basically through Barger<sup>18</sup>, who was a chemist who worked with him. And he knew he'd missed that. So he criticised himself 'How could we have missed this? Here we are, I knew about Elliott, I was never quite sure whether Elliott and adrenaline release was right, but I should have seen that it was noradrenaline.' But it took another 30 years or so before anybody could absolutely confirm the fact that it was noradrenaline. So there was I, with that background, and also subsequently knowing that in the thirties he'd been the first port of call for all the refugees from Nazi Germany, particularly all those Jewish pharmacologists and physiologists who added so much to our scientific life...

MB He made an enormous contribution...

SP ...in this country.

MB ...he just placed them and...

SP But they all came, you see. They knew, and he went out of his way to really make sure they were looked after. But he rescued them, and you know you've really got to read one of my other favourite people, Feldberg's reminiscences.<sup>19</sup> Feldberg, you know, from a family in Hamburg, all the estates taken over by the Nazis. And Feldberg, nevertheless, a man who didn't bear resentment seriously, a tremendous man. But his book again is to be recommended, because he describes his life with Dale and what he owed to Dale in such an amusing but such a beautiful fashion, you see. So that knowing all this subsequently, and knowing what Dale has done for, you know, pharmacological/physiological science actually is tremendous. There he was, chairman of the Trust to which I eventually was...

MB What kind of an organisation did he preside over at that time?

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<sup>17</sup> *Adventures in physiology, with excursions into autopharmacology: a selection from the scientific publications of Sir Henry Hallett Dale/with an introduction and recent comments by the author*, London: Pergamon Press, 1953.

<sup>18</sup> George Barger.

<sup>19</sup> Wilhelm Siegmund Feldberg, *Fifty years on: looking back on some developments in neurohumoral physiology*, Liverpool: Liverpool University Press, 1982.

SP It was very small. Very small income...

MB Small building?

SP ...you really would have to talk to Peter Williams to get an appreciation of, you know, how small it was. And how it was really very much dealt with by a very small group of people, and who made the decision, probably quite a reasonable decision of course based upon their thoughts about the scientific merit of the case, you see. But, you know, they were dealing with budgets of sort of ... a million pounds, I mean, you know, that sort of thing, so that...

MB Very different to today.

SP Well, yes! Well ... we're up to giving away, probably in the near not too distant future something like £270million a year for the support of biomedical research. But that was my first acquaintance with the Trust. It never crossed my mind actually up to that time, but then...

MB And you were called to Queen Anne Street, because he was interested in your work?

SP Absolutely.

MB It wasn't an interview about you might be interested in...

SP Oh no, no.

MB And so it's...

SP He just wanted to know about the science I was doing.

MB He kept in touch that way?

SP That's the way he kept in touch, you see.

MB And you obviously got on well, obviously you got on quite well?

SP Oh yes, yes. Absolutely. But I don't think that reflected on my final destination. But then Peter Williams had obviously ...though I didn't know him at all seriously then, but he had been at St Mary's. He was a student at Mary's, having come from Cambridge, you see, which is where he met his wife. And he became a very important figure of course in the development of the Wellcome Trust. And we became very close friends indeed after I joined the Trust, you see, so that ... about 20 years ago now. So that ... that was important. Then I remember being asked to go along to an interview, you see, I mean ... the Trust ... and I sort of went along. And that was when Oliver Franks<sup>20</sup> had become the chairman. Now, Oliver Franks ... another name to conjure with, you see! I mean ex-ambassador to Washington, you know, a polymath, and a very, somewhat austere looking figure actually who had a

<sup>20</sup> Oliver Franks. Chairman of the Wellcome Trust 1965-82.

sense of humour, nevertheless, but very much... I went along there, and there were people like John McMichael who, you know ... I'd been at the Medical Research Society terrified to say anything with him sitting in the audience, you see! And there they were! And that was, and there was Henry Barcroft and Robert Thompson.

MB Yeah, Barcroft.

SP All people, you see, that I'd got such a great respect for, you see, as people and as scientists.

MB Is Barcroft still alive?

SP Yeah. Went to his 90<sup>th</sup> birthday celebrations in about November, last year. That was held at the Royal Society of Medicine. A great gathering of people that had owed a lot to Henry, from all over the place – from the States and everywhere they came. Now, Henry was ... got very... orthopaedically bad hips and knees. Still ... rather deaf, but a delightful person. But, you know, a wonderful physiologist. Human physiology, who he'd, you know, the work he'd done with one of my early teachers in physiology, with Greenfield<sup>21</sup> ... you see Greenfield and Barcroft did work together. And another man that I subsequently came into contact with, and became one of my great friends, Jan Brod, who was from Czechoslovakia, served in the British Army in the ... in North Africa for example and went back to Czechoslovakia to establish research medicine there. Now he ... all fed back to Barcroft, you see. Now Barcroft's a man of immense influence. Never I would have said done anything, you know, scientifically which you can say 'Well yes, we can pick out that one major line.' But what you can pick out is the approach to human clinical physiology, and the people that he trained and gave the sort of approach to.

MB Yeah. He marked them with a particular...

SP Absolute, you know ... the truth was what he was after all the time, you see. And he taught so many people that are really indebted to him, you see, for that. And that's apparent. So Greenfield who taught me physiology at St Mary's, you know, was another product of that era and he carried the message on. So that there were all these people in...

MB I've carried you on an aside with Barcroft, but that was wonderful to have reference to Barcroft.

SP But those were, those were the people sitting there.

MB Yeah, and they were sitting there. What was the interview like?

SP And I was, and I was... Well, the interview was ... they wanted to know what I thought about the support of research in British medicine, you know, and how I thought I could be of any assistance to them. Well now, heaven knows what I said! I mean ... but nevertheless what I said was at least not damning enough to keep me out. And they decided that I would make a Trustee. And, well, I became a Trustee. And it...

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<sup>21</sup> ADM Greenfield. Lecturer in physiology at St Mary's.

MB And stayed a Trustee for...

SP Twenty years.

MB Twenty years.

SP Yes, that's right. So that it was... But of course to have seen it develop and to see how that Trust has become so important has been a great thrill for me. Because I would say that of all the things I've done, which have been perhaps helpful to British biomedical science, I mean the Trust has been that very place that I've been able to do it actually. And of course it shaped my views on, you know, how you should organise medical research actually, what's the thing that ... a body like the Trust should be doing. It certainly reinforced my belief that multiple funding is important for... I always, I've grown to love the idea of patronage you see. You know, when you look around and you think of patrons that have done things which we're delighted to have now, generations on, which people at the time must have thought they're spending their money on fripperies like building beautiful houses for their own occupants, or buying all those paintings, or buying this, that the same principle applies. It comes down to individual judgement of worth. And I strongly believe that that principle is one to be preserved actually. I don't like things done by committees. You might say 'Well then, why you, why did you like the Wellcome Trust so much?' Well, you know, within a body like the Trust... I think more so than perhaps within the Medical Research Council and other bodies where they have to look at their, over their shoulders, because they've got to be accountable to the government accountants ultimately, and somebody else. Whereas ... particularly in the early days of the Trust, you know, there was that sense of patronage. Now, I don't mean that in a sort of demeaning sense. I mean, it gave people with an idea the chance of following that idea and saying 'Well, this will be a good thing. No matter what you think, that'll be a good idea to do that.' You could back somebody.

MB Backing winners?

SP And ... yes, that's what patrons have done. And aren't we lucky that we've had patrons. Aren't we lucky if we can still have patrons, individual patrons, small group patrons. That's why I like the charities, because small charities act as the fuelling system. They ... you see, we don't want too big enterprises controlling everything. We want small charities as well, given their head to say 'Well now we want this disease, we want this scientific enterprise to be looked after in the best possible way. And, well, this is what we want.' And now that's a very important principle. And the bigger of course the things like the Trust get, the more it has to look at its policy very carefully to preserve that sort of approach if it can.

MB So that climate's the important one?

SP Yes.

MB That climate of patronage.

SP Well...

MB There's also enormous support for development, for the recording of the history of medicine, that the Trust has...

SP Well, if you remember, Henry Wellcome in his will was very keen that the Trust should be responsible for the history of medicine. And that's why there's that excellent library there, the best in the world I guess up to 1850 anyway, and still an absolutely first class library. And the interest in the history of medicine; in fact you can say all around Britain the, all the important units in the history of medicine are Wellcome Trust supported. And of course why we're sitting here I guess in a way is the interest in oral history of medicine. As you know, that creates a few ripples among what are, what they choose to call 'professional historians'! And speaking as an amateur, you know, I think the process of gathering historical information is what it's about. In other words how do you verify your sources? Or are you busy quoting somebody who's quoting somebody else who's quoting somebody else? I mean, you know, that's a scientific principle if ever I saw one actually. In other words, verification of data; now that's what good history is about. How you put it into excellent prose, or how you put it into excellent words is another matter. You can have the most meretricious history put into beautiful prose of course, but at the same time the best historians combine the two; absolute veracity with ... insofar as there is absolute veracity, multiple source veracity, and then the way it's written in elegant prose. I mean, that's how I would view it. But I do feel...

MB This historical dimension of the Trust was well in accord with your natural love of medical history, which had grown over ... over many years. I'm not quite sure of the beginnings because it kind of grew on you and the beginnings are a bit indistinct, but you certainly became a long, a long and devoted kind of reader of medical history.

SP Yes well, it ... I think it's a sign of age actually! What, when you're ... in fact I've often said that you must keep the young away from history of science, because otherwise they never start to do anything, you know! In other words, you must encourage the young ... well it's been done before, you know. I've often drawn out things ... this is medical progress, you know, it goes round and round. Now occasionally there are people that fly off at a tangent, you see, now those are the Einsteins and the others, you know. They have original, completely original thoughts which are right out of that circle. Because so often the circle consists of technological change and improvement, which means the same basic questions being approached using different technology. I mean that's obvious, you know, that's why the questions can be, remain the same, and the answers, you know, are refined. Whereas the real original people, there are a few ... tangents, you know, they really are. But, you know, most of us are just engaged in going around the circle one way and another. So that I look, I look to the ... that approach to medicine as being really rather vital.

MB But some of the, some of the stars in yesterday's firmament, they really do burn rather bright in your thinking. I mean, people like Hales<sup>22</sup>, I guess.

SP Well, yes.

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<sup>22</sup> Stephen Hales (1677-1761).

MB And they made a great impact on you.

SP Well, as I got older and I started to realise that what I was doing was not necessarily, you know, the flying off at a tangent. One gets to that realisation, one doesn't like to accept it, but nevertheless, you know, I got very interested in the history of the subject I was most interested in. And, you know, I got used to the fact... I'd used to think that well, Richard Bright<sup>23</sup>, that famous Guy's physician who started off the subject in a sense of renal disease associated with dropsy, associated with proteinuria, his colleagues at Guy's giving him two wards to study his patients... Can you imagine that being done today? The hospital managers would have a fit, actually. They wouldn't let him do it, you see, because unless they got the money in with the patients with dropsy they wouldn't actually be allowed into the place, you know. Whereas his colleagues who were not jealous, you see, they encouraged Bright to study these patients. There was a problem. Now that, you know ... and now here we are discussing the shutting down of Guy's with people like that in the background! You know, when you trample over history like that you have to understand what the history ... and why the feelings of people about their own institutions are there, and you can't just throw it away. I mean, we're seeing it happen all over London in particular but elsewhere too. And I think you ... you have to be very cautious before you throw away that tradition of history because it does imbue the successors with a certain approach to both patients, to research, and everything else. Now, just returning to Bright, you see, I thought 'Well yes,' I said 'Well yes, high blood pressure.' But when you go into it, what you see is, what he defined was ... renal disease associated with the dropsy, sure, and the loss of protein in the urine, and he said 'But the left ventricle of this heart is enlarged. Now why is it enlarged? It is enlarged because of the increased resistance in the circulation to the force of the heart.' Not one mention of blood pressure. And why? Stephen Hales, 1720 ... you know, a hundred years before you see had pointed out blood pressure, but nobody'd taken much interest in blood pressure; well, that's just a measurement! Now Hales wasn't all that interested in blood pressure except that that was something he could measure. It seems that I got very interested in Hales again, retrospectively in that way, because I looked at it and then I ... I was desperate to get his original books, you see. And I got them, you see, and I've got them in my possession now, you see, the *Vegetable Staticks*<sup>24</sup> which ... I think I have...

MB Do you have a first edition of that?

SP I'm afraid it's only the third actually! But nevertheless... And *Haemastaticks*<sup>25</sup>, which is much less ... it's good, it's good, but *Vegetable Staticks* – a wonderful book.

MB Oh, a classical measurement book.

SP Absolutely.

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<sup>23</sup> Richard Bright (1789-1858).

<sup>24</sup> Stephen Hales, *Vegetable Staticks: or, an account of some statical experiments on the sap in vegetables: being an essay towards a natural history of vegetation. Also, a specimen of an attempt to analyse the air*, London: W & J Innys, 1727.

<sup>25</sup> Stephen Hales, *Statical Essays: containing Haemastaticks*, London: printed for W Innys and R Manby and T Woodward, 1733.

MB Everything going through plants, fluxes and measurement of everything...

SP Yes. And he could calculate...

MB Forests...

SP ...could calculate the amount of water that a forest lost, and the amount of water that therefore it was necessary to come in at the roots. And he analysed the soil to see whether there was that amount of water in the soil, which he had calculated should be there to allow the leaves... And he was the first to point out the importance of the leaf in the transpiration. He really got that right, you see. And he did it, you know, and he did [it] not only of forests but he did it on the humble vine, and I guess people are still ... not quite sure why the sap rises in the spring...

MB I think it's because of new phloem being let down, isn't it?

SP Well, no, no, he got it. And he cut the top off, put the pressure gauge on the top of the cut vine...

MB So the root...

SP ...he got the pressure, the root pressure. But root pressure, you know, must mean that, of course, gross alteration in the membrane of the roots to allow the fluid to flow in. Now, the forces and the processes which initiate that I certainly don't know. I have...

MB I think there's a new development of phloem, on my understanding, and this changes the whole osmotic balance within the ... among the root tissues.

SP Well, I think there must be more subtle changes in the cell membrane facing out on to the soil actually, I really do, to allow that flow you see, because fluid flowing into cells and out of cells is, has been well studied in various areas. Plant physiology actually has lagged a bit behind I think in my opinion, behind mammalian physiology, and invertebrate physiology in general actually, animal physiology, but it's rapidly catching up of course. But, you know, he did all those beautiful experiments, you know. And of course it shows the virtue of being a resident vicar at Teddington actually, you know, he obviously ... I mean he did, he carried out his, he carried out his duties there rather assiduously actually, you see. I mean, he didn't neglect them. And of course he had another vicarage which ... they used to run it in duplicate often, you know, sort of have a resident down there looking after the parish at a distance actually, you see. So he did that as well. So he was not neglectful of anything. And he had a wide circle of friends actually, both literary and other ... Pope<sup>26</sup> was another of his friends actually, you see, so...

MB So these men who were seminal in the drama of science bursting out, and really, really taking qualitative leaps, these have always excited you, and these have been, these have been a great passion for your reading?

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<sup>26</sup> Alexander Pope.

SP Well, to me, the 19<sup>th</sup> century I regard as a supreme time. You see, so many things happened then. You see, medicine changed. If you look at the change of medicine, it changed completely over the 19<sup>th</sup> century. The idea that you would actually examine the patient, listen to their story, examine the patient only just came in in the 19<sup>th</sup> century. Before that you looked ... you might look at the urine, as I've mentioned to you, you know, the 'piss prophets' holding the bottle of urine up to the light, and then making diagnoses by the appearance. In some cases, I mean, I got used to the fact you could actually make a diagnosis from looking at urine actually from its colour! But whether they were making the same diagnoses as I would have been making from looking at the urine I'm not certain. But nevertheless, you know, from that to the transformation with the technological advances, you know, the Laennac<sup>27</sup> discovery of the, of stethoscope, you know, the simple tube which you put on a patient's chest, all those sorts of things. But more important was ... listen to what the patient is saying, examine the patient, and then you'll discover the large lumps in the abdomen which tell you about potential disease in the various places. All that came, you see, just as looking at the urine, boiling the urine, showing that if you added a drop of acetic acid –vinegar – that the, in some cases the deposit would dissolve, which said that it was phosphates of course, but in others the precipitate got even thicker, which said that it was proteiny. And all that came, and the acceleration was enormous, you see, because there were so many things happening. Organic chemistry was taking off, you see, the discovery that urea was important, the synthesis of urea, and that the whole of the German organic chemistry and all the other industries grew from those beginnings in the 19<sup>th</sup> century. And boy, it accelerated at a tremendous rate.

MB A tremendous later part(?) of the nineteenth century.

SP And all this was being applied, you see. Birkbeck College you see at University College was established ... at that time. Pharmacy was a growing industry, and there were big battles between pharmacies and suppliers of drugs, and the doctors. Big battles, you see; who should prescribe and what should they prescribe, you see. So that was growing up alongside. At the same time there were various giants in the different hospitals around, who were creating the, this ethos where you really examined the patients – you saw something unusual, you identified it, and then thought a great deal about it and produced results, you see. But, isn't it interesting, you see, the blood ... the effect on blood pressure for example, if you take that area, it took the rest of that century from Bright ... Hales, Bright, great gap, people started measuring the blood pressure again in animals. Poiseuille<sup>28</sup> in France, for example, the direct measurements; some brave people in France again measured the blood pressure directly in man. And then the indirect methods came in. And some of the, some of the things were very interesting. And there was a good connection with St Mary's again. There was a man who'd been at Guy's, became a ... what was then a registrar at St Mary's. He was called Mahomed<sup>29</sup> ... possibly ... down to the fact that ... called Mahomed, but his father had been an Indian physician actually and he'd come to this country. One of the great virtues of having immigration, isn't it, really? He'd come to this country – Guy's, Mary's – and he, using one of those funny sphygmographs, and you put weights on to occlude the

<sup>27</sup> René Théophile Hyacinthe Laennac (1781-1826). Devised the stethoscope in 1816.

<sup>28</sup> Jean Louis Marie Poiseuille (1799-1864).

<sup>29</sup> Dr Frederik Akhbar Mahomed.

artery, and I've got beautiful pictures of this, and you actually measure the blood pressure that way. And he did that. Now, he showed the relationship between kidney disease and proteinuria and blood pressure. He also described, and this was important, that there were patients who not only had a raised blood pressure but did not have kidney disease, you see. Because there'd been the other paradox coming out of the study of kidney disease from the pathologist. You know, pathology again was growing up. But why? Because the microscopes had been improved to such a degree in the early part of the 19<sup>th</sup> century that you could actually see things through them. You know, it's only in the middle of the 19<sup>th</sup> century that Bowman<sup>30</sup>, he was ... he was then at King's College, looked down the microscope at a section of a kidney and saw the capsules around the glomerulus. Now, you know, and he was only 26 at the time I have to tell you. Hence my belief in the fact that young men and young women can do great things. So that, you see, all these things are happening. That's what makes the 19<sup>th</sup> century so fascinating.

MB A cauldron.

SP Absolutely. Everything could happen; everything was possible. It was all novel. Bacteria were being described – Pasteur was describing them – and then they were being applied, you know, in medicine. But it took another, after Pasteur it took another 30 years, past Lister ... past Lister to, you know, phenol sprays and things like that you see to asepsis where people thought well if they clean their hands maybe they wouldn't get the infection. So all these currents were moving in that direction. So, you know, you couldn't ... I got dragged into the wider interest, because each time you read about any one of these people – like Richard Bright or Stephen Hales – you were pushed sideways into who they knew, what were they doing, and how did they arrive at it? You were driven back to Lavoisier<sup>31</sup>: oxygen, discovery of oxygen, and the interest of the fact that he was guillotined, you know, during the Revolution, so that, you know, you start wondering is it, is it wise to get involved in politics?

MB With this passion of yours for that period of history, especially that 19<sup>th</sup> century, with that passion ... in the last minutes available to us I'd like to go on to some other of your passions. We can't do justice to that history in one session, but we'll have to leave it there for today. But many passions have been associated with your life ... development of musical passions in later years, and you sitting there and having massive, massive joy at listening to Italian opera.

SP Oh yes, opera's ... opera has started to assume a much more important role in my life. I love, I love opera actually. The operas I like – I think I may have said this to you before – I mean the ones I really like are blood and thunder operas. I like it to reflect what I'm more used to in life; you know, things going wrong actually in the end, you know, and people getting their just deserts actually, you see! I mean, you know, that's, that's the way I like it. Things that end sweetly, that's why I can never... I like Mozart operas. The one of course I like the best, *Don Giovanni* of course is ... that's the opera of his I like best. You know, *Così fan Tutti* – yeah,

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<sup>30</sup> Sir William Bowman (1816-1892). These capsules in the kidney became known as Bowman's capsules.

<sup>31</sup> Antoine-Laurent Lavoisier (1743-94). The chemical oxygen had been previously isolated, independently, by Joseph Priestley and Karl Wilhelm Scheele, and was named 'oxygen' by Lavoisier in 1775.

that's all right, you know, it's ... the music. But I like listening to the music of those Mozart operas, just as I like listening to Mozart anyway, but, you know, I like those operas to listen to. I thought that the contrived nature of the so-called impersonations which went on in those, most of his other operas I'm not too keen on in actual fact. But the others I love, actually. I mean, Puccini and Verdi of course and...

MB And the inimitable(?) later ones, like the great opera *André Chénier*<sup>32</sup> and things like that, they just burst with sound.

SP Yes, that's right.

MB They must be all part of your repertoire of joy.

SP That's right. But it's the interaction of the real basic human emotions, you see. And it's wonderful, you see, in *Tosca* you see when you see they're lined up, the shots ring out, and she ... she pauses, and she's singing joyfully initially, and then she goes over ... she goes, the dart starts to creep in and she goes over to the ... and saying, really, basically 'Wake up! Oh God! He's dead!' All that is such wonderful drama that, you know, all those things appeal to me enormously. But when the singing is really high class, I mean ... you see, the people you've heard sing sort of, you know, I heard Tito Gobbi and Callas<sup>33</sup> in *Tosca*, you know, what a, what a... That ... and the only ballet for example that I've ever had any time for at all – I really do not like ballet actually, you know – was *Romeo and Juliet*. I saw Nureyev and Fonteyne<sup>34</sup> perform that, you see. Now that's got a similar drama, you know, and it's got that ending where the confusion comes in, and all hopes dashed by people making stupid mistakes actually. Now, that sort of thing seems to me to reflect human beings more. That's why I really like it. But that sort of great music which goes with it is...

MB So the music, the music though has come later. The sport came earlier, didn't it?

SP Oh well...

MB I mean, the sport's always been with you, but that ... but music came later, the sport came earlier. You played for quite a long time football?

SP Yes, I did.

MB For quite respectable sides.

SP Yes, well.

MB That's not being patronising, but they were quite respectable sides.

SP Well, at the time they were respectable. The ... yes, oh well of course you must remember my background! My father being a professional footballer, you know! And then a football manager. I don't think he'd have been too happy these

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<sup>32</sup> By Umberto Giordano (1867-1948). First produced in Milan in 1896.

<sup>33</sup> Maria Callas.

<sup>34</sup> Rudolph Nureyev and Margot Fonteyne.

days as a football manager. But nevertheless, that's my background. I was always very sporting. And I loved rugby of course of all the games, and I still love...

MB The poetry.

SP ...I love it, I love to watch it.

MB There's opera in it all the time, isn't there.

SP Yes, absolutely. Head on crash! Occasional violence, you see! Because under these, you see ... I guess I'm fairly aggressive, you see, and that's the thing. And natural aggression in rugby of course has gone beyond what's reasonable actually in many respects. But it ... it just has to be, you know, controlled aggression. You've got to be fighting hard to win. And of course it ... those contact sports ... I used to enjoy soccer a lot, you see. Of course my father hated me for playing rugby with greater passion than anything else! But then I did come back to playing soccer, and I discovered I'd got a certain amount of talent for it. I was a wee bit clumsy about it really I guess but, you know, that was it.

MB We're right into the last, the last minute of extra time almost here, and ... sorry about that link, but perhaps, just to complete, you've had a very satisfactory family life, it's been very enjoyable as well. And I think we should put that on the record at this final and rather important moment in the interview sequence. You might like to say just a few words in the time we have available, because that has also been a great sustaining part of your life.

SP Oh yes, indeed. Well, I owe an enormous amount to my wife, you see. To maintain my pattern of life, which is obviously a very selfish one, very ... you know, very directed towards my needs rather than anybody else's. I can see that, you see, because all the hours that were there I was occupied with doing things that pleased me actually. And my wife supported that. Now, without that you can't get on. Now, if I'd married somebody who had their needs, professionally, to be satisfied as well then that would have led to difficulties. And you do see it in professional marriages; they break up for that reason actually. I mean a lot of, a lot of my ... workers on my unit, their marriages did run into difficulties for that reason.

MB Stanley, with that concluding ... recognition of the contribution of a partner and the part your family's played in your life, we are at the end of this tape. Thank you very much for talking to me.

SP Well, it's been a pleasure.