

An interview with Ann Silver

Conducted by Dafydd Walters and Martin
Rosenberg
on 15 May 2008

Published January 2015

This is the transcript of an interview of the Oral Histories Project for The Society's History & Archives Committee. The original digital sound recording has been placed in its archive at The Wellcome Library.



Ann Silver photographed by Martin Rosenberg.

This interview with Ann Silver was conducted at the Bloomsbury Central Baptist Church ('because The Physiological Society office could not provide adequate facilities for us on this occasion because of broken ventilation') on 15 May 2008. Those present were Dafydd Walters (DW), Martin Rosenberg (MR) and Ann Silver (AS).

DW: Ann, first of all, welcome and thank you for very much for coming. And I think we should start off, if we can, by you telling us a little bit about your family, what part of the country they were in, and any interesting stories you have about your family if you're willing to do that?

AS: Well my family came from Scotland on both sides. My father's father was Minister in Westruther and my maternal grandparents came from Ayrshire, from Mauchline. And going further back, that part of the family was very much involved with the Burns Monument in Alloway because my Great, Great Grandfather was a friend of Alexander Boswell (son of James Boswell, Samuel Johnson's biographer). As a result of this connection I am a member of the Auchinleck Boswell Society – a rather esoteric thing to belong to. Now going further on, my father had joined the Indian Army after the First World War, and I was born in India, at Meerut where the Indian Mutiny had started. My brother had been born two years earlier in Poona but I was only three months old when we came home so I don't remember anything about India, though we still retain some Hindustani words in the family.

DW: So that's interesting. So you have an Indian Birth Certificate, Ann, do you?

AS: I have no Birth Certificate. Being born in the Army I was registered in the British hospital, but there was no Birth Certificate. Luckily I have a Baptismal Certificate that says, 'Said to be born'. Having no Birth Certificate has been a problem because when I tried to renew my passport in 1977 things had got tricky. Although I'd had passports before I was asked where my father was

born. Well he'd been born in Grenada in the British West Indies where his father was Minister in the Church of Scotland. I was told that Granada, which had allowed my British Citizenship, was now independent. So since 1974 I had been a citizen of Granada but I 'appeared to have some claim to British citizenship through the reputed birth of my grandfather in Scotland.' So I had to get his Birth and Marriage Certificates before I could become British again.

DW: That's fascinating. You see, I was born in India as well and I have that same problem in that every time I apply for a passport now, I have to put down, record, give evidence of, my father's place of birth, which luckily was in Britain. So that's interesting, actually, that it's still quite a problem.

MR: So do you know the exact date of your birth?

AS: Well my baptism certificate says I was 'said to be born on 23 November 1929'. I think my mother agreed I was born then.

DW: And when you said that your grandfather was a Minister, that was in the Scottish Presbyterian tradition?

AS: Yes.

DW: Right. So your father was what in the army, Ann?

AS: He joined the Army at the beginning of the Great War though he was actually a little bit too young. And then after the War he went on to join the Indian Army. He was in the Second Lancers. In 1930 Indian Regiments were becoming more Indian with fewer British officers. And so in 1930, with a lot of others, he decided to retire and came home. Having been in a Cavalry Regiment, he was very keen on riding so we moved to near Woodbridge in Suffolk where he and a couple of other ex-Cavalry men set up a Riding School. And so I was riding from when I was about three years old.

DW: Really? Gosh. Well we'll come back to your affinity to physiology later but do you think that experience was important, that contact with animals?

AS: Oh very, very much so. I feel very grateful for a completely country upbringing with horses, animals, nature, etc.; I think that's partly why I went into physiology.

DW: Oh, interesting. So when you say near Woodbridge, were you in a village or a...

AS: We were not 'in' anything; we were between the villages of Melton and Bredfield. We lived in a farmhouse. We didn't farm the land but we had stables.

DW: And your schooling was local as well, wasn't it?

AS: Well, I went first of all to a little school in Woodbridge called St Anne's and then I was meant to be going to St Felix School at Southwold but in 1939, my mother didn't think sending someone on to the East coast was quite the right thing to do. So I went for a year to a ghastly sort of Dame School in Ipswich, which I hated. Then in May 1940 my mother came and collected me and I went

to Dorset where some of the girls from St Felix, who lived in danger areas, had gone to stay with one of the House Mistresses' brothers in his Rectory at Stoke Abbott. As an aside – a day or two earlier my mother had been told that Miss Williamson, the Head Mistress, would be going through Woodbridge station en route to find somewhere to evacuate the School to. So my mother went to the station and more-or-less said, 'Will you take Ann?' And Miss Williamson agreed. That's how I got enrolled in the School. To return to our time in Dorset, we were only there for about a fortnight, by which time Miss Williamson had found King Arthur's Castle Hotel in Tintagel to evacuate the school to. We left Stoke Abbott and took various cross-country trains. I can't remember exactly but think we joined the London train carrying the rest of the school at Okehampton. This was the time of the Dunkirk evacuation and the train was absolutely chock-a-block with soldiers. They couldn't open the doors because people would fall out so because I was only little I was actually pushed into the train through the window and in the other side.

MR: Dear me. What year was this?

AS: This was 1940.

DW: And this was right at the Dunkirk evacuation?

MR: And you have a clear memory of that?

AS: I have a very clear memory. One thing I have a clear memory of is that somebody had decided the thing to feed girls with on a hot train journey was big blocks of Cadbury's milk chocolate. And if you can think of anything more thirst-making, sick-making, this is what we were fed on anyhow.

DW: So how big was this group of girls?

AS: Well the School before the war was probably getting on for about 300 but quite a lot of people didn't go to Tintagel, so I think maybe about 200 or less went down to King Arthur's Castle Hotel.

DW: Good gracious.

AS: Where we stayed for the summer term of 1940.

DW: Right. And did you stay on there then?

AS: Well after that we went to Lord Poulett's house at Hinton St George. It had originally been occupied by girls from Malvern School because their building had been taken over by the Ministry of Defence, or some other London ministry. They had adapted the basement of Hinton House with awful – can't think of the word – well almost cardboard partitions to make loos and bathrooms. These awful places were known as the 'Malverns'. After one term they had been allowed to go back to their buildings at Malvern and so we took over Hinton House. And that's where we spent the rest of the time until 1945.

DW: I'm always, I don't know, I don't have any first-hand experience of the war at all really, but people's education was often disturbed like this, by relocation.

But what was your experience? Do you think the education was upset in any way?

AS: Well yes, from the point of view of science there really was very little because there were no labs or anything. Of course I was only 10-ish when I went but I did School Certificate there. The only science that I did was biology but older girls who were further on in their education, went into Crewkerne to have physics lessons, I think, in the Boys' school. But we had virtually no science other than biology. This always surprises me, thinking back, because after returning to Southwold (in 1945) I took physics, chemistry and biology Higher School Certificate two years later. So we must have had to catch up quite fast.

DW: Before we leave your schooling, there are a couple of things I'd like to ask. Do you have any siblings?

AS: I have a brother; and older brother, yes.

DW: Right. And he's still alive, yes?

AS: Oh yes. He's still working too.

DW: Good. And the other thing is, the name Silver. Do you know the origins of the family name Silver?

AS: Well there are arguments about it. There are a lot of Silvers in Scotland and one of the theories was that it was actually Da Silva, stemming from people on the Armada who had got wrecked on the West coast of Scotland. There are quite a lot of Silvers around the Point of Stoer.

MR: Yes, I was wondering Da Silva because that means 'from the woods.'

AS: Yes.

MR: But there are a lot of Jewish people called Da Silva or originally De Silva which often became Silver.

AS: Yes, well as far as I know we're Scottish through and through, apart from the...

MR: Obviously the Ministry and so on sort of cancels out anything like that. But it's interesting that it could have been Da Silva.

AS: Yes.

DW: Fascinating. Right, so we've got your Highers, Ann, and you enjoyed those presumably?

AS: Well, the only problem was that I had my appendix out between the first year and the second year. I got a stitch abscess. It was really very, very nasty so I missed quite a chunk of schooling then and didn't leave school until I was 19.

DW: Right. Now this is – antibiotics were just coming in at that time.

AS: Well, there was penicillin. They painted my tummy with some kind of pink paint to which I was terribly allergic.

- MR: Is that Gentian Violet?
- AS: Well, no it wasn't Gentian Violet; it was some sort of penicilliny thing. And I also had to have penicillin injections every 4 hours which were jolly painful.
- DW: That would be penicillin I guess.
- MR: Penicillin was more effective then wasn't it because we didn't have...
- AS: Yes.
- DW: No resistance. And you think you were injected – you must have been injected – with penicillin.
- AS: Well, I think so. And I think the pink paint that I was allergic to also contained penicillin.
- MR: But you recovered.
- DW: And what happened then? After the Highers?
- AS: Well the problem was that I was going to try for Cambridge but I didn't get in so I went to Edinburgh instead. With my Scottish roots I've never, never regretted it because I really enjoyed it tremendously.
- DW: And were there any teachers who you think influenced you in any way to science, biology?
- AS: No, I think that the science side came from growing up in the country – I was very interested in biology, zoology, etc. My brother who is two years older than me was at Rugby and was keen on science as well. But my problem was that one of my great strengths, in fact my best subject at school, was English and I was torn between science and English. I thought, 'Well, I can go on using English, enjoying English, without necessarily having a degree,' whereas you can't really do science too well without further training. And I hoped that I could apply my English to science and that's worked out that way.
- MR: If there weren't any teachers were there any books, any particular books from those days that maybe you still refer to?
- AS: No... I was a countrified child and with the War, I was rather young for my age. I didn't read the Classics, and more grown-up books until I was 15/16. Some children read them quite early now. My mother was very, very keen on Lewis Carroll's 'Alice in Wonderland', and I think she read it to us too early because I hate it.
- MR: Were you an experimenter? Or did you botanise or did you...?
- AS: Yes. I liked botanising and also animals in general, and with my brother being two years older we knew all the birds and flowers and things like that.
- DW: Coming from your mother's generation, she probably did not work.
- AS: No, she didn't originally. When my father was alive we moved to Woodbridge, where we had a Riding School. She had met him in India. She'd always ridden a

little. She grew up in quite a large house where they had a big lawn with a mowing pony and she used to ride him as a child, but she hadn't done much 'proper' riding. When she went to India she rode a lot and the Army wives often had races and gymkhanas. So when the Riding School started she helped to teach riding but then the War came and she became very active in the Red Cross. She used to go and nurse at the local Mental Hospital, St Audry's Hospital. It was turned into an emergency hospital too. There was one slightly tricky occasion because it got bombed – St Audry's Hospital got bombed – so some of the mental patients then became war casualties. Instead of staying where they were in their own wards, they were moved into the emergency wards where my mother helped to nurse them. And in the First War she'd also nursed – in a hospital set up in a big house, Freeford, near where they lived in Staffordshire. It was mostly manned by people like her who hadn't really had 'proper' jobs before.

DW: But in spite of them having no formal education, I guess, apart from school obviously, do you think she had an influence on you in biology, or was she...?

AS: No, she didn't go to school; she had a governess. And like so many governesses, they had certain strengths and a lot of weaknesses. She really wasn't very good at arithmetic but she was brilliant on poetry; she could recite quantities of Tennyson, Shelley, Keats, etc. And so I think she influenced me on English not science.

MR: So she was self-taught then?

AS: I think the governess...

MR: In England?

AS: In England, yes. My Great-grandfather was a builder and he built great quantities of north Oxford, Park Town and suchlike areas. He was completely self-taught as an architect but was appointed City Architect for Oxford. He came from yeoman stock but then became a sort of country gent and he didn't want his daughters to do any work. The sons were allowed to go into the Army or do Law. My Grandfather was a barrister, but the idea of any woman having brains was rather frowned upon. When my brother and I both got into University one of my mother's aunts was rather shocked by this and said, 'Well, I suppose they get it from their father; it certainly can't come from us!'

DW: Well perhaps we ought to move to university a bit. So you went ... this was late 1940s now?

AS: Yes, it was 1948 and of course we had a lot of ex-Service people.

MR: You were about 20 then were you, or 19?

AS: Twenty, yes, or thereabouts. We were very mixed with quite a lot of people who were older and then the other ones, like me, who had come up straight from School...

- MR: The Army people had a grant, they all got a grant, didn't they? Was it £360 or something, which was a reasonable amount?
- AS: No, I'm not sure it was even as much at that.
- DW: But the ratio of men to women must have been interesting as well?
- AS: Yes, but somehow there wasn't so much fuss about women and we just thought 'OK, we're women.'
- DW: But you must have been in a minority, I guess, were you?
- AS: Yes.
- DW: Any idea of what the ratio was?
- AS: No, but one wasn't conscious of being in the minority somehow.
- DW: So anyway, what subjects did you study?
- AS: I took zoology, chemistry and physics in my first year. And then in the second year I wasn't quite sure what I was going to do. I knew I was going to go on with zoology but I didn't know what I was going to take with it. Ruth Edwards – that's Bob Edwards's [Sir Robert Edwards, 1925–2013] wife, but she was then Ruth Fowler – wanted to do physiology. I hadn't really thought of physiology other than what I'd learnt in zoology, but she wanted someone to go with her to see Catherine Hebb [1904–2005] who ran the course for science students, as opposed to medics.
- DW: Now what stage is this now?
- AS: This is in my second year, or the end of my first year.
- MR: Which college were you at?
- AS: This is Edinburgh.
- DW: Oh, you were at Edinburgh? Right.
- AS: Yes. In my second year I did Zoology 2 and Physiology 1. Well at the end of that year Ruth and Catherine Hebb fell out so she didn't go on with Physiology but I continued and the next year did Physiology 2 and Pharmacology 2 with Gaddum. And then in fourth year I did Honours Physiology – it's a four-year degree. But it took me five years because in the middle of that I had my spine fused, so I'm much older than I should be because I kept getting held up.
- DW: I don't want to be personal but do you want to tell us about the spinal fusion? If not, that's fine.
- AS: Oh, yes. I've had two because the first one was so long ago that they didn't have the right sort of bone forceps etc. and it didn't work very well. That must have been about 1952, I think, so I missed a year then. And then I finally had it made right in about 1967, I think.
- MR: Was that the result of an accident?

- AS: No, I think, one of the theories is that at some stage, I might, like other kids, have had mild polio; my legs are different lengths, so my spine was all a bit queer.
- DW: Scoliosis, I guess, with...
- AS: That's right, yes. And so I'm now fused from, I think, L2 to the sacrum. But that was done the second time. They didn't fuse it the first time in Edinburgh.
- DW: I'm sorry; the medic is coming out in me. Were your legs a different length before that?
- AS: Yes, well when I first started having back-ache I said to the Orthopod [orthopaedic surgeon] 'It sounds silly but I feel my legs are different lengths.' And so he measured them and said, 'They are; you're quite right.'
- DW: Well, well, well. In those days that would have been a lengthy time in hospital, I would guess?
- AS: Yes, it was about six or eight weeks.
- DW: Is that all? That's pretty good. And where was that? Was that in Edinburgh?
- AS: Edinburgh, yes. But one thing about this business of my legs being different lengths, I was very, very fast at games and was a good hockey player. (I was a good lacrosse player because I was fast but I wasn't much good at doing the right things with my stick). If I played on the left wing in hockey I used to fall over, and I realise now it was because I was turning onto my short leg; whereas if I played on the other wing, I didn't fall.
- MR: You didn't compensate...
- AS: No, no.
- DW: And obviously the polio then must have been an infection you had that you didn't know about?
- AS: Yes, exactly.
- DW: Right, we've got you graduating now, have we?
- AS: Yes.
- DW: Your physiology was your main subject, I guess?
- AS: Yes, and we had...
- MR: Was that Gaddum? [Sir John Henry Gaddum, 1900–1965]
- AS: No, Gaddum was in Pharmacology. This was Whitteridge [David Whitteridge, 1912–1994] and Catherine Hebb. We did physiology with the medics – Physiology I and II. Also when they were doing clinical work, we had our own tutorials with Catherine Hebb.
- DW: And Gaddum was the Pharmacology Professor at that time, and that's when you met Gaddum when you were doing Pharmacology?

- AS: Yes.
- MR: Was Michael Daly [Michael de Burgh Daly, 1922–2002] around?
- AS: No because his father Ivan Daly [Ivan de Burgh Daly, 1893–1974] had left Edinburgh.
- MR: Daly was before Whitteridge?
- AS: No, he was before Newton. Daly went off to set up The ARC Institute at Babraham and was succeeded by Newton, who only lived about a year, so there was a little gap and then Whitteridge came.
- DW: So there you are: you've got your Degree, what happens to you next? Was it all planned?
- AS: Well during the time I was doing my degree Catherine Hebb invited me to do some work in her lab during the vac. I enjoyed it very much and that's when I got involved in cholinesterases which were one of her interests. She had also done a lot of work with Ivan Daly on his lung perfusion experiments. In one of the summer vacs when I was working in her lab the Phys Soc came to Edinburgh, but we, for some unknown reason, demonstrated to the Pharm Soc which was also having a Meeting. We had a lung perfusion set up in a great big Perspex box. In those days one used an awful lot of Plasticine (often purple) for propping up glass tubing and things like that. Anyhow, I was standing by the Demonstration and this man came along looking very critical. He pointed through the lid, which was transparent, and said, 'Those lungs look very cyanosed...', and I, not knowing any better, said, 'That's Plasticine.' Everyone around laughed. It was Bill Paton [Sir William Paton, 1917–1993] who was a nice man but could be a bit of a know-all. I think people were quite pleased.
- MR: Did he take a little bit out then?
- DW: What animal was this? The lung of what animal?
- AS: This I think would probably have been dog, because it was quite a big set-up.
- DW: All those respiratory physiology perfusions were done on dogs in those days. Yes, absolutely. Now where have we got? This was... still a student at this point? What was Hebb's position here?
- AS: Well I suppose she was a Senior Lecturer but when Ivan Daly went off to start up the ARC Institute of Animal Physiology at Babraham and she followed him. The plan was that I should do an Edinburgh PhD that was partly in Edinburgh and partly external in Babraham. So the first year after I graduated was spent in Edinburgh (by which time Catherine had gone to Babraham with Daly) building some electronic apparatus – in those days you couldn't buy it off the shelf. This was for recording nerve impulses etc. Most of it was built out of spares that came...
- MR: Government surplus...
- AS: That's right. And...

- MR: Did you get all that stuff in Edinburgh as well?
- AS: Well, a lot of it came from...
- MR: Tottenham Court Road.
- AS: Tottenham Court Road and Soho. David Whitteridge's technician, Jock Austin, was a very, very bright chap. He had had a glider accident in the War (fracturing his skull, I think) and as part of his rehabilitation he had been sent to the Anatomy Department in Oxford to work in the lab. Somebody realised that Jock had all sorts of skills that were rather wasted there and it was suggested that David Whitteridge took him on as his technician. It was he who taught me my electronics. The only trouble was that he was mildly aphasic and so he'd give me a condenser and say, 'You need to solder this valve in here' – things like that, so my electronics were a bit ropey.
- MR: He was aphasic, he said the wrong words?
- AS: Yes.
- MR: Ah, right, okay. Did you have any connections with the Dick Vet down the road?
- AS: Only very incidentally. I knew people there. Ainsley Iggo [1924–2012] started in Physiology in the Medical School and then went on to the Dick.
- MR: In your day?
- AS: I've been trying to think about that. Possible later. Of course I knew Randall House.
- DW: Can I just establish when you talk about the Dick, just for the record.
- MR: We'd call it the Dick but what's the official name of it?
- AS: It was called the Royal (Dick) Veterinary College.
- MR: Yeah, because Dick was the benefactor wasn't he?
- AS: But it was always known as the Dick Vet.
- DW: I've lost track of time; this is 1950 something?
- AS: Fifty-three. I graduated in 1953 and then stayed on. Actually I did turn up in Babraham for a few weeks but then went back to Edinburgh to do my building of Henrietta.
- DW: And, we'll come to Henrietta in a minute. The support for you doing your PhD, nowadays of course people apply for Studentships and that sort of thing. How did it happen then?
- AS: Well I was a paid... The thing was I was appointed to the Staff as a Scientific Officer so I was salaried.
- MR: You were teaching or...?

- AS: No, I got my salary from the Agricultural Research Council of which Babraham was a part.
- DW: Which Research Council was it again?
- AS: Agriculture. After going briefly to Babraham I returned to Edinburgh to build Henrietta.
- DW: Henrietta was...
- AS: She was a large piece of electronic apparatus designed for neurophysiological experiments.
- MR: So you had your oscilloscopes and things.
- AS: Yes, yes; all that type of apparatus.
- MR: My wife's from... we know Edinburgh well. Where did you stay? This is irrelevant of course. Where did you stay in Edinburgh?
- AS: Well I stayed in various places. I ended up sharing a flat with people in South Oswald Road, but I'd been all over the place: Dalkieth Road and areas like that.
- DW: Now people's PhDs are supposed to be very formative. Was yours formative for you?
- AS: Well, I suppose it was because, as I say, the first year was spent building the apparatus before starting Babraham. The idea was that I should look at the demyelination produced by some of the organophosphorous compounds. I worked on nerves from hens dosed with such compounds, looking at both neurohistology and neurophysiology. It taught me a lot but it was unsatisfactory in a way because nobody knew why some of these organophosphorous compounds are demyelinating and some aren't. All of them are anticholinesterases and people thought acetylcholinesterase might be involved with myelination but it didn't add up.
- MR: So it was histochemistry...
- AS: Well the histochemistry was for the cholinesterases but there was a lot of ordinary histology too, looking at the demyelination.
- MR: Did you travel abroad in those days?
- AS: Well I went to a few IUPS meetings and satellite meetings etc.
- MR: But you didn't work abroad?
- AS: Yes I did, a bit later on. I had worked at Babraham with Kris Krnjević [Krešimir Krnjević, b. 1927] When he went to Canada I went out to Montreal and worked for four months with him there.
- DW: So the techniques you were using were nerve recordings, histology, just straight histology and...

- AS: And histochemistry. As you may know, there was still a dispute even then about what was cholinergic and what wasn't cholinergic, so we did quite a lot of work with choline acetylase (or choline acetyltransferase as it's now called) and we looked at lesioned nerves. I worked on those sorts of experiments with Catherine Hebb (and later with others). We were also looking at axonal transport from the nerve cell body down to the periphery.
- MR: Did you have any links with the neuromuscular people at UCL – Katz [Sir Bernard Katz, 1911–2003] and company?
- AS: Well James Mitchell and I did some work on the effects of denervation of the rat diaphragm. You still found a residual release of acetylcholine even after the diaphragm had been denervated for some time. It remains a bit of a mystery whether the choline acetyltransferase is taken up by Schwann cells which go on producing some acetylcholine. It never got down to zero release.
- DW: And all these techniques you were actually doing with your own hands? Everything?
- AS: Very much so, but I had a lot of collaborators because of the cholinesterase histochemistry. I was asked by various colleagues to collaborate with them. One of the people I worked with was Tim Biscoe, on the carotid body. Results were very peculiar because the histochemical end-product that you got in the carotid body was quite different from that in other tissues; it was all crystalline and messy looking. We never saw that in any of the other tissues and I don't know why that was.
- DW: Is it known now what that is?
- AS: I don't know
- DW: Still unknown.
- AS: I'm not sure.
- MR: Was that actually in the cat or the dog?
- AS: It was cat.
- DW: And the choice of this subject: was that something that happened, that you chose, that happened to be around?
- AS: No. It all stemmed from the original idea that I should look at demyelination resulting from anticholinesterases, hence the cholinesterase side of it came into it. And thereafter I got involved with a lot of other people's projects looking to see if something was cholinergic or wasn't cholinergic. I was very strict on the idea that just because acetylcholinesterase was present in a tissue this didn't necessarily mean that acetylcholine was a transmitter there. So it was necessary to look for choline acetyltransferase as well.
- MR: Why did you have that strong view?

AS: Well because there's a lot of acetylcholinesterase in places where it shouldn't be. For instance, there are parts of the cerebellum which have acetylcholine as a transmitter but there are large parts that don't have acetylcholine and the distribution of acetylcholinesterase varies tremendously from species to species. In some places it's clearly nothing to do with cholinergic transmission. As it is, we did provide good evidence that supported the idea that where there was choline acetyltransferase in addition to acetylcholinesterase there was likely to be cholinergic transmission. But there were places where this didn't fit.

MR: Did you have any interest from the people involved with clinical conditions?

AS: Well not really, when we were working.

DW: And the Ministry of Defence were not interested in this at that time?

AS: No. We were using anticholinesterases purely as a research tool. The demyelination side of it had been a worry because people using them as insecticides were liable to be contaminated. But the Ministry of Defence had absolutely no interest in it at all. Everything was known; it wasn't secret or anything.

DW: And you spent most of your PhD time in Edinburgh then, I take it?

AS: Just the first year for the building, then the rest of it at Babraham. That's where I worked on my own projects but my Thesis also included some of the experiments I did with Catherine Hebb. We worked on goats mostly, looking, as I said, at enzyme transport down lesioned nerves. It was very interesting from the point of view of pain in animals. We were very careful about animal welfare and used to go out to Babraham twice daily at the weekends to check that all our operated animals were well. But they didn't seem to spare themselves. Some of them would have a lesion where we'd sectioned a nerve and they would lie on it or sit on it or scratch it; they didn't seem to have the same worries about the pain that we have. When I had my spine fused we were turned every two hours. It was lovely when you'd been turned but soon you were desperate to be turned again. And I thought, 'I'm going to pretend I'm a goat and I'm just going to turn myself as far as I can, and if it hurts, I'll just go on and see what happens,' which I think is what the goats probably did. I found that if you went through that painful bit you got yourself turned and it was much better. And the goats certainly never seemed to spare themselves.

DW: And this is your second fusion is it?

AS: Yes.

DW: Which happened during your PhD or just after, perhaps?

AS: During it.

MR: And that was in Cambridge then was it?

AS: Yes. Well the first fusion was in Edinburgh; the second one in Cambridge.

- DW: And again the Medic coming out in me: did they not give you any pain killers for this when you were in hospital?
- AS: Well, not...
- DW: Not enough.
- AS: Well no. It was all right; it was tolerable. A person says, 'I've got a sore place; I've got a sore place' but the goats just got on with it.
- MR: Well that's clinical pain, isn't it? I mean the worry...
- AS: That's right. I think you'd tense up and think, 'Is it going to hurt?'
- DW: I mean the issue of pain is a fascinating one on its own topic but as you know I'm a paediatrician and children's pain is rather different also from adult pain because small children behave a bit more like goats I think because they recover so much faster.
- AS: Yes, and they're not anticipating.
- MR: They say, 'I've got a tummy ache,' and you notice that they're smiling.
- DW: Indeed. It's the anticipation; you're absolutely right, and the expectation, and it's a big, what's the word I want, a higher function overlay to a basic physiological response, isn't it? Yeah, fascinating. Anyway, we're getting off the track here. So can you remember the title of your PhD, Ann? We could look it up.
- MR: You've probably got a copy of it.
- AS: I have. No, I can't remember.
- DW: I'm sure it's got anticholinesterases in it.
- MR: Who was your supervisor?
- AS: Well, Catherine Hebb was my supervisor in Cambridge but George Romanes [George John Romanes, 1916–2014] was meant to be my supervisor in Edinburgh because I had to have a ...
- MR: Romanes? Oh that was the famous...
- AS: No, the famous one was, I think, his father [George John Romanes 1848–1894].
- MR: And who was the examiner?
- AS: It was R. H. S. Thompson from Guy's. And Whitteridge was the internal one. I remember after I'd had my viva, Thomson said, 'Is it allowed in Edinburgh to tell the candidate that she's passed?' And David said, 'I doubt it.'
- MR: You don't think so. But did they give you a hard time?
- AS: No. No, they didn't. And again this is where my English probably came into it. I think my thesis was clear and, because Catherine had been fairly strict on things scientifically, it stood up all right and they could read it easily.

- MR: Can we refer to this review? We found a very warm and complimentary review of your book and one of the points they say about...
- AS: It was readable.
- MR: Well more than that; how beautifully it was written.
- DW: There's something about the clarity; I remember that. 'The book is so clearly written that it is a pleasure to read.' That's what it says here. This is B. Collier.
- AS: Oh that's Brian Collier, yes.
- DW: And it goes on about how it 'carefully separates facts from ideas, and her analysis is critical but not destructive.'
- MR: I've never seen a better review of a book.
- DW: No, I think it's absolutely fabulous; fabulous. Well not only is this book obviously very good but I think The Society has benefited from your interest in English ever since.
- MR: Indeed.
- AS: What worried me was that because I wanted to get it right, I had a feeling that I might have spent too much time on the English and not enough time on the science.
- MR: Do you find it takes a while to get it right or does it just come out? Some people can write like that.
- AS: No, it takes a while to get it right. I used to give courses to the PhD students and the Part II students in Cambridge on how to write. One of the things that I told them was something Catherine said, which was that it was often difficult to get going on writing if you're very critical. She said you ought to start a paper fairly late at night when you're a bit tired after a small drink, sufficient to dull your inhibitions but not to make you completely blotto. And then you get something down which you can improve later. But if you start all fresh first thing in the morning and you are critical, you write it, you don't like it; you erase it and so on.
- MR: And where do you start in a paper? With the results, with the...?
- AS: I always recommend to the students that they start with the Methods because that's usually the easiest thing and it gives you the feeling that you're at least doing something. And I also suggest, some people think I'm mad, that they write the Introduction last because often you find when you come to the Discussion, there are things you've already put in the Introduction that would actually be better in the Discussion.
- MR: Or you discover things yourself.
- AS: One of my students said, 'If I didn't write the Introduction first I wouldn't know what I was doing.'

- DW: Oh dear.
- MR: And are you very much against speculation?
- DW: No, oh no. I encourage them, particularly the Part II students. When they've got something to say, and a good reason for saying it, they should put it in. They shouldn't just take the party line.
- MR: In your career were you a Tutor to students? I mean you had the usual Cambridge thing.
- AS: No, you see, I was at Babraham and in those days we didn't really have a great deal of contact with the University. As Babraham developed various people did develop affiliations with colleges.
- MR: And lecturing?
- AS: No. We but we used to go in to Cambridge to hear speakers sometimes.
- MR: But did you lecture?
- AS: No. This is jumping the gun a bit, but in 1985 Barry Cross [Sir Barry Cross, 1925–1994] the Institute Director had to make a lot of people redundant, including me. I was kindly rescued by Robert Comline [Robert Semple Comline, 1919–1998] in Physiology in Cambridge who said that I could have a desk, in the Physiology Library. Gradually I got an office, and was made use of by the Department to do editing work etc. And that's when the teaching began. Teaching Part II students how to write up their projects. Then after that, PhD students, eventually Faculty wide, and in other Universities too.
- MR: On writing or on...
- AS: Well on how to write a PhD. The talk had three parts: one on organising your work; one on the writing itself, and finally one dealing with figures, tables and references.
- MR: But you didn't teach the curriculum?
- AS: No.
- MR: Do you regret that? Or were you happy that you had more time for research?
- AS: Well I think my physiology would probably be better. I'm sometimes a bit shocked when I don't know something. My problem is that I have doubts about things and think I would have possibly been a confusing lecturer. Instead of saying, 'This is so, and this is so, and that is so' I would have been trying to cover the bits that didn't quite fit. However, when teaching students how to write I did feel that I knew what I was talking about and so could give confident lectures, whereas I think I would have given rather wishy-washy Physiology lectures.
- MR: Well listening to you now I can't imagine that you'd give a wishy-washy lecture. But that is the way it was.

- DW: Can I just clarify: when you moved to The Physiological Laboratory, you were actually a member of staff then were you?
- AS: No. I've never been a member of staff. I've been a visitor for about 23 years but I've actually been earning my keep very much at the minute because with the Phys Soc coming to Cambridge...
- DW: Is it this year?
- AS: This year. Our Head of Department, Bill Harris, who's only recently become a Member at the Phys Soc was asked to write a welcoming piece to go in *Physiology News*. He didn't have time so in the end Linda Rimmer pressurised me into doing it.
- DW: Well done, Linda. Now we have jumped. We've missed out quite an important part of your career, I think, which is about from the end of your PhD when you were still at Babraham. What happened after your PhD?
- AS: Well after that, as I say, I collaborated with quite a lot of people at Babraham on various things. For example, Tim Biscoe on the carotid body and Kris Krnjević on the iontophoretic application of acetylcholine to neurones in the cerebral cortex. Later I went to Montreal and worked with Kris there.
- DW: How long were you there?
- AS: Only for about four months. And at the end of that Montreal trip I went to New Orleans to look at cholinesterases in the cochlea in the guinea-pig. But the problem was that they had a *Pasturella* infection in the Animal House and most of the guinea-pigs had no cochleas, so that wasn't very good.
- DW: Dear oh dear; what a shame. But that was covering a period of a few years was it?
- AS: Well, it went on. I'm trying to think of my various collaborators. I also did some work with Feldberg.
- DW: Yes. And Feldberg was where then?
- AS: Well that was at Mill Hill. I was mostly with Guertzenstein, his co-worker. We were looking to see...
- MR: He was a South America chap, wasn't he?
- AS: Yes, I think he was Brazilian.
- MR: So Rocha da Silva; he was another one.
- AS: Yes, this was Pedro Guertzenstein. We identified a ventral brainstem area that seemed to be involved in the maintenance of blood pressure but I didn't quite realise that what we had found was pretty important until the Main Phys Soc Meeting at UC about two years ago. I was in a Symposium and a speaker said something about the 'pioneering work of Silver and Guertzenstein'. Afterwards I went up to him and said that I didn't know this was pioneering stuff. He

looked at me and when he saw my name badge said, 'And you still come to Meetings?' He didn't actually say, 'And you're still alive.'

DW: Amazing, yes. Absolutely. So you're still at Babraham at this time and still working on cholinesterases.

AS: And various other things like axon transport. I did quite a lot of collaborative work with Charles Shute and Peter Lewis who were then in the Anatomy Department in Cambridge. They were very cholinesterase minded but agreed that one needed to strengthen evidence for cholinergic mechanisms by looking at choline acetyltransferase as well. So I worked with them. My collaborations had almost always been related to the cholinergic nervous system. Then in 1974 when Barry Cross became the Director at Babraham he decided that there was nothing more to be learnt about the cholinergic nervous system and that cholinesterases were old hat. He suggested that I work with John Bligh on thermoregulation in the sheep.

John did a lot of experiments involving intracerebroventricular injections . .

MR: Richard Hellon?

AS: Well, yes, Richard Hellon. We did go and see Richard but we never actually collaborated with him, but it was that sort of thing, working out what were the transmitters in the hypothalamic heat loss and heat production pathways. John came up with a very good map: he thought that there was crossed inhibition between these paths. If you were cold, and you wanted to increase your heat production, you obviously wanted to turn off your heat loss mechanisms and vice versa. I worked quite a bit with him and then he became Director...

MR: In the hypothalamus?

AS: Yes. And then John went off to be Director of the Arctic Institute in Fairbanks, Alaska. I continued for a little while doing some more of this intracerebroventricular work on my own. Various new chemicals appeared: there was muscimol and GABA, etc. But at that time, 1970–78, I was much involved with the Phys Soc and the work that was going on countering antivivisectionist activity. This meant I used to go to quite a lot of Legislation meetings in London. Barry Cross used to make me take leave to go to these. (He thought the Royal Society would look after the problem.) Eventually Babraham came under attack from the Antivivs and Barry didn't handle the publicity too well. He decided that what was needed was an Information Officer and, because I'd done so much work with Phys Soc, I was to come out of the lab and deal with Public Relations. At the same time the Librarian had retired so I was to look after the Library and also answer Press enquiries.

MR: Just coming back to this book, it came out in 1974. It's got nearly 600 pages [*The Biology of Cholinesterases*, *Frontiers in Biology* vol. 36, North-Holland Publishing Co., Amsterdam]. This must have been a major task. How did you, I mean, when did you begin all this?

- AS: I did it every night and every weekend, all weekends. I never did it during the day.
- MR: And this must have been a year or two?
- AS: I think I started in 1972. I think it took about two years.
- DW: I was going to ask you what you were most proud of in your work really. And if we exclude the Phys Soc work just for the moment, I was thinking more of the scientific side.
- AS: What am I most proud of? I think probably some of the experiments with Kris Krnjević; I enjoyed doing those very much. Some of the other work was rather bread and butter. And then the book – I was glad when it was finished and...
- MR: Well it's still in print, isn't it?
- AS: No it's out of print now.
- MR: I saw a review for a recent one and they still say that yours...
- AS: Yes, the Bible or something!
- MR: ...is the one you should start with and although obviously things have moved on...
- AS: Yes, a lot of the stuff that's in my book is not actually out of date but what it lacks is the more modern stuff. I was very glad when I'd finished it. I had terrible trouble in the last stages because I had an American co-worker who was trying to make a radiochemical method for detecting choline acetyltransferase. He didn't like staying at home at the weekends and always wanted to come to work on Saturdays. Of course that was the time I wanted to write my book in the Babraham Library so I used to hide my car. One day he said he wasn't going to come in as he was going to Ely. I didn't hide my car and I left my lunch in it. When I looked out of the Library window later I saw his car so more or less crept on hands and knees to get to my car unseen, to collect my lunch.
- DW: Oh dear. Oh gosh. We ought to mention something I guess about the Legislation work which The Physiological Society was...; you were heavily involved in that.
- AS: Yes. I would actually like to say something about the Committee too but...
- DW: Yes, we'll come to that. So let's see: were you on the Committee before the... that's why you were involved in the legislation was it?
- AS: No.
- DW: Go through the order of things.
- AS: The order of things. My very first duty was rather a peculiar one at the Phys Soc Centenary meeting in 1976. The Centenary Dinners were held in three Cambridge Colleges. Some of the College men were worried that outsiders

wouldn't know how to behave so, rather like school, a 'head' boy/girl was appointed for each table (mainly to make sure that the Claret and Port circulated properly!) And so I was...

MR: What? In the right direction? I'm not sure what that is to this day.

AS: It's clockwise. I was appointed to be one of these head of table people at St Catharine's College; Brian Ferry was the chap at the other end. So that was my very first duty. And then in 1978 I became a Trustee of the Benevolent Fund and in the same year I went on the Committee. And that was just when all the Animal legislation was boiling up. The trouble was that David Smyth, who was the Society's liaison officer with the Research Defence Society knew what was going on but because of confidentiality couldn't pass on much information. And so when eventually the first Halsbury Bill became public, we got knowledge of it at about its seventh or eighth draft. At the same time Timothy Fry was producing a Bill, and other Private Members were active. It was then that The Society appointed a so-called Legislation Subcommittee. Now if you look in the Minutes its constitution changed from month to month but it finally stabilised itself with Jim Pascoe, Cec Kidd, Bernard Ginsborg and me. We used to meet pretty regularly, going up to Leeds on Saturdays to thrash out various points. The Halsbury Bill eventually got a second reading, but lapsed. And then the Government decided it was going to bring in its own Legislation. When that was being enacted, we had to work very hard (by that time I'd actually come off the Committee but was still on the Legislation Subcommittee). The Phys Soc worked particularly hard on controls for acute experiments. Initially the Bill was very strict about acute experiments because 'they were the most invasive'. We had to explain it didn't matter to the animal, whether you took a blood sample or whether you opened it up and took its insides out, so long as there was appropriate well-monitored anaesthesia.

MR: You can't make a comparison between a human having an operation feeling nothing and an animal having...

AS: Yes, so they had very, very strict rules originally on acute experiments and that was one of the places that we worked hard. And Richard Adrian [Richard Hume Adrian, 1927–1995] was in the Lords by this time and he was very good at putting the physiologists' point of view...

MR: And Tam Dalyell?

AS: Well Tam Dalyell was a tremendous strength to us and we went to Parliament, to Committee Stages etc. and fed him information.

MR: Why was he such a great supporter of it?

AS: Well, Tam Dalyell was Tam Dalyell. There are various things that he backs. I think he felt very strongly about the importance of experiments and so he... Nigel Fisher was another one. There were quite a lot of like-minded MPs. Including Rhodes James from Cambridge. We had several functions where we met them, or invited them to this and that. We had a very good dinner, laid on by Peter Daniel at the Garrick Club, for these MPs. They were enjoying

themselves so much that when they ought to have gone back to Parliament for a Division they did an unofficial pairing and stayed on. I remember Nigel Fisher and there was one of the Cohen MPs and Tom somebody, I can't remember, but there were about eight...

MR: MPs?

AS: Yes, there were about eight of them who were very supportive.

MR: Were any of them medics?

AS: No, Lord Ferrier I think was a medic in Lords. Initially Robert Comline in the Cambridge Physiological Laboratory was much involved with the Legislation problems. He was, however, a bit difficult because he got cross about the thought of legislators interfering with research. Jim Pascoe once took two mice (or were they rabbits?) to Parliament at one of the Committee stages.

MR: Took a rabbit?

AS: Yes. And I think it's in Hansard. Poor Jim now can't remember things but Tim Biscoe will know. Being in London, Tim used to go along to Committee stages quite a lot and, as I said, we were very well served by Tam Dalyell.

DW: Can I ask you about those meetings you said you had in Leeds, where you'd go and do things? Now what was the purpose of those meetings?

AS: Well we went to Leeds because that's where Cec Kidd was. Cec was very active in all this. If a new version of one of these wretched Bills had come out, we went through it or we made recommendations.

DW: So it was trying to influence the drafting of the next, subsequent draft?

AS: Yes, and as I said we did manage to get them to back-pedal on the unnecessarily strict regulations for acute experiments.

DW: And over what period of time did all of this take place?

AS: Well it went on for a very long time – I'm not sure if it was 1978 or 1979. It will be somewhere in the Minutes that we discovered (I think re the Halsbury Bill) that comments were needed very quickly so we met immediately after Christmas, at the Athenaeum, to discuss the draft and our reactions to it.

MR: So who were the members then?

AS: Well it must have been... this I think was the whole committee actually. One of the things that I remember was we had awful green baize tablecloths and were provided with lunch. But being the 28th December what they gave us was stewed apple with pastry that they had baked before Christmas and was as hard as rock. When you stuck your fork in it, it shot across the table. And so in the end we picked it up and...

MR: This was in the Athenaeum?

AS: In the Athenaeum, picked it up...

- MR: All across the table.
- AS: In Denis's...
- MR: Denis Noble?
- AS: Yes. In Denis Noble's Secretary's report at the next AGM he said, 'The spirit of 1876 lives on' or something.
- MR: Was Andrew Huxley...?
- AS: Barry Cross's famous remark, when I was doing all this legislation work which he didn't like, was 'We at the Royal will see to that.' Well 'We at the Royal' actually did very, very little and...
- DW: The Royal Society?
- AS: Yes. Andrew Huxley and Richard Adrian were more-or-less the only people at the Royal who did anything.
- DW: Bernard Katz?
- AS: Well not really. I think one of the things that we tend to forget, is that in the Royal Society you've got lots and lots of chemists and physicists, etc. to whom this wasn't an issue. But no, Andrew did help.
- MR: I remember he was saying he could never work on a warm blooded animal.
- DW: Who, Andrew Huxley? I remember him giving wonderful demonstrations with dogs for undergraduates.
- MR: And in the end he did. Well there you are.
- DW: And he was there doing that. He did that; it was his big thing every year. First year undergraduate physiology. So go on. Perhaps he didn't work with them on his own.
- MR: Yes, I think maybe you know a form of preparation he didn't work on the warm blooded to find a section of isolated tissue; maybe that's what he meant.
- DW: So how many years did this last, do you think?
- AS: Well as I say I started in on it in 1978 and then after I came off the Committee I continued to be much involved with it so it went on till 1986 when the new Animal (Scientific Procedures) Act came in. One thing I haven't said is that at the same time as all this was happening the Council of Europe was busy getting on with its own controls and we had one joint meeting when we had someone from France, someone from Germany, and, Sweden, I think. One of the things that came out of that was that the Germans who had very little legislation ended up with a book about 500 pages long. There was a feeling that the French [...wouldn't take so much notice of it]. So we really were the leaders and pretty strict. Italy had a lot of trouble with very strident anti-vivs and then some other country (Sweden I think), had difficulty because they had on their

Ethics Committees, an enormous number of lay people, far more lay people than some of the other Ethics Committees had.

MR: Who were the main antis here?

AS: Well, there was the Animal Liberation Front, which was the most active. The BUAV [British Union of Anti-Vivisectionists] were more measured.

MR: Any individual people or MPs or anything?

AS: Well I can't remember because we didn't tangle much with the anti ones. But of course Bristol had a very active anti cell with a bomb in the Senate House and a bomb under Max Headley's car.

DW: Gosh, now what year was that? Can you remember? That was in the 1980s wasn't it?

AS: Yes.

DW: Over 20 years ago, I think.

MR: When did Colin Blakemore come to prominence?

AS: Colin's always been his own man in this, but he was prepared to put his head over the parapet, which is more...

MR: Famously so.

AS: ...than a lot of people were. But it wasn't always made public when there were bombs and letter-bombs. I think Ian Glynn got a bomb. And Barry Cross, as I say, got a very, very bad press but I don't think he ever actually got threatened. But we had big anti-vivisectionist raid at Babraham. We knew all about it in advance; they marched from Cambridge Railway Station so we had masses of police awaiting them. Members of staff were assigned to accompany police to various places and I can remember being on the little bridge on the path that leads to the Church when it came through on intercom that, 'The front gate has fallen!' It hadn't actually. I think one person had got over it but it sounded very dramatic.

DW: Oh gracious me.

MR: We found a paper, I thought it was Dafydd, that you published with a Walters at Babraham. There's a paper, something about febrile response in sheep.

AS: That would be something to do with John. But Walters?

DW: We never published together, Ann.

AS: No. Oh, I know what that is. He was a statistician, that's right. He was a statistician. I never think of him as being a co-worker...

MR: He was one of the authors.

AS: That's right, yes.

MR: He was a Walters.

- AS: Yes, that would be the statistician. Yes, that would have been with Brian Heap, I think it was.
- MR: Yes.
- AS: He ... Walters.
- DW: Since we're talking about authors on papers, a paper that was very influential for the work I was doing back in the 1970s was Silver's working with Comline.
- AS: Yes, yes. That's my sister-in-law.
- DW: That's your sister-in-law and not your brother?
- AS: No. There were three of us. Marian has died and Ian is at Bristol. Three Silvers were always a bit of a muddle ...
- MR: Could we go through them one at a time?
- AS: My brother, Ian, had a student at Churchill who said, 'I've just read your book.' So Ian said, 'No, that's my sister's book.' So he said, 'Oh yes, I've just heard her lecture.' So Ian said, 'No, that's my wife.'
- MR: So what did Ian do?
- AS: Well, his degree was in Zoology at Cambridge. Then he went to the Royal Veterinary College in London but he never actually practised apart from a few locums. Then he got a lectureship in the new Sub-department of Veterinary Anatomy in Cambridge. At that time it was based in the bottom of Zoology [department building], and his wife, my sister-in-law, Marian, was on an ARC Fellowship also in the Zoology Department. The ARC decreed you couldn't have a husband and wife in the same building so she moved into Physiology where she worked with Robert Comline. She was extremely bright and extremely efficient and a non-worrier. Although she had four children, she could come into work and not worry about the children. My eldest niece said that they flourished on healthy neglect, which I think they did. The only time that she was even remotely worried was when her elder son had scratched his eye during metalwork at school. He couldn't go to school next day as he had it all covered up. When she arrived at her Lab there was a message to say her son had rung, and would she ring him back. Even Marian imagined his eye had worsened but all he said was, 'Mum, what temperature do you need for baking meringues?'
- DW: Right, yes. That's Marian Silver?
- AS: Yes.
- DW: And your brother was Ian.
- AS: Ian.
- MR: Marian is no longer...
- AS: Marian died in 1974, yes; she had cancer.

- MR: She was young.
- AS: Yes, yes.
- DW: And your brother is now living where?
- AS: He never moved. When he got the job in Bristol, which he didn't actually apply for but was head-hunted, they originally thought they would all move down to Bristol, but the children didn't want to move and so he started commuting. Marian didn't want to move either and so he lived in Bristol during the week coming back to Comberton, near Cambridge at weekends. When Marian died he kept the house on. He then remarried – a Polish neuroscientist. They still work in Bristol but come back at weekends.
- DW: Now is it coincidence that you're both working in allied fields or is it...?
- AS: I think that when I went to Edinburgh with a view to doing Zoology that was, probably because he was doing it and he enjoyed it and it fitted in with my thoughts. But he actually turned into a pathologist when he went to Bristol and is Emeritus Professor of Pathology. I think he was Dean of both Medics and Vets at Bristol.
- MR: [...] All scientists, your family, and yet was your father a frustrated scientist?
- AS: I don't think so. I think that he was very bright. I was only seven when he died. I think he was keen on English because I found lots of bits of poetry that he had copied out. There are other verses in his handwriting that I think may be something he wrote. I don't know, but I've never been able to find any other source. He was at George Watson's School in Edinburgh before he ran away to join up.
- MR: So he was a soldier? He wasn't a Minister in the army.
- AS: No, he was a soldier. I've got several volumes of *Everyman's Encyclopaedia* which he got as School prizes but unfortunately they only goes up to H because of his joining up.
- MR: Sorry, I didn't mean to go right back to the beginning again but...
- DW: It's interesting, it's influence isn't it, in the family of why people end up doing it. But obviously your grandfather was an educated man and he came from an educated family.
- AS: Yes.
- DW: And the point is although your father ran away, I guess, at an early age...
- AS: Yes.
- MR: But he was an architect, or that was on the other side?
- AS: It was my maternal great grandfather who was the architect.
- MR: But that's a kind of a scientist, isn't it?

- AS: His father was a yeoman farmer in Staffordshire who died of a coronary chasing boys who were stealing his apples. I don't know very much about him.
- MR: A yeoman farmer is a farmer who owns his own farm, is it?
- AS: Yes.
- MR: As distinct from a tenant farmer?
- AS: Yes. But I think our brains probably come from my father more than the maternal side, although as I say, my great grandfather was an architect and something of an entrepreneur. He was a self-taught architect.
- MR: But the ability along the line is obviously...
- DW: Yes, I mean especially, I mean clarity of thought. And you are noted, Ann, if I may say so, for your punctiliousness, particularly about punctuation.
- AS: Pedant!
- MR: And your memory, is that a big thing in your family? You have a razor sharp memory.
- AS: Ian, my brother, has got a much better memory. I remember meeting somebody who said, 'Oh yes, your brother, Ian, could recite off all the ossicles in the ear of the toad.' He still knows all his anatomy and he's a bit dismissive of me. He says, 'Don't you remember that? Didn't you learn that?' I got a credit in Latin in School Certificate and he didn't. That's the only thing I did better in than he did. He had to do what was called 'Little Go' to get into Cambridge – you had to have Latin in those days.
- MR: When you remember do you have images or...
- AS: Oh, I'm very much a visualiser.
- MR: So when you're telling us your memories you're picturing it happening, you're not...
- AS: No, I am a visualiser. One of my problems at school with exams was that I would visualise a page of history and I'd remember that there was something about Henry VIII down here, and then there was something at the top which I couldn't remember.
- MR: And what about sound? Can you remember people's voices?
- AS: No. I'm not very good on sound. Ian and I are more or less completely tone deaf I think. I like what I call big music; I like Sibelius, Holst and Elgar, etc., but Chopin, tinkly stuff, doesn't do anything for me.
- MR: Tone deafness usually means the inability to reproduce a sound; not the same as being unable to enjoy a sound.
- AS: Yes, there's only certain music I enjoy because it needs to be, as I say, big and...
- MR: Bruckner and...

- AS: No, Bruckner's a bit too big!
- MR: Now we've talked about your work. Now hobbies, or is all you activity...
- AS: Hobbies... I used to be very keen on games. Of course I used to ride a lot and I had a sailing boat on the Deben, which I enjoyed very much. I wasn't particularly...
- MR: Single handed?
- AS: Usually with a crew. I wasn't all that competent. And the Deben...
- DW: I know the Deben. Is that the river that goes through Aldeburgh or have I got the wrong one?
- AS: No, you've got the wrong one. That's the Alde.
- DW: The Alde, of course. The Deben is south of Aldeburgh.
- AS: The Deben is south.
- DW: Orford, no not Orford.
- AS: No, the Alde comes down to Orford. The Deben is south of that. But the trouble was that where we were, at Woodbridge, it's a tidal river and we were very dependent on the state of the tides. You couldn't just say, 'I'm going to go and sail'; you had to know where the tide was. But as you went further down towards Waldringfield you could sail more or less straight away, and when you got down to Felixstowe Ferry it was even better. One trouble was that we were rather amateurish at Woodbridge and when we had Regatta week, we sailed first at Woodbridge if the tide was right; then the next day, at Waldringfield and finally at Felixstowe Ferry/Bawdsey where people were real cut-throats. They had Fireflies, which had lifting centre plates and lifting rudders. We used to go out over the sandbar bar at the mouth of the Deben and when we came back we'd think that they'd know what they were doing so we'd follow them, but they lifted up their rudders and centre plates and of course we got stuck on the bar. So that was sailing and riding.
- MR: You're an outdoor person.
- AS: Very much an outdoor person.
- MR: And constructional hobbies?
- AS: Well I wasn't all that neat and tidy but I did learn to knit when my nieces and nephews arrived. My mother was rather a good artist but I've no such skills.
- MR: So we assume you didn't play a musical instrument?
- AS: No.
- MR: But you do enjoy music if it's big...
- AS: If it's big enough, yes. If I was offered the choice of going somewhere I would always choose an art gallery rather than to a concert because I do enjoy art.

And this is the one thing that came out of that year, of 1939/40 when I went to this tiny little Dame School. It was what was called a PNEU school, i.e. the Parent's National Education Union, founded for ex-pats. People who were educating their children in India, etc. were sent syllabuses so on Monday you did this and on Tuesday you did that. Work was sent home for correction. My Dame School was run on this system and one of the things we did was called 'Picture Study'. Every week we were given a sepia reproduction of an old master and were told what it was about; then we were shown how to study it. That training gave me a great feeling for looking properly at paintings.

MR: Can you draw?

AS: No, I can't.

MR: You said there are still Indian words in your family. What are some examples of those?

AS: Yes. *Pidle-pidle jarter*. Go for a walk. And *ec dum* means at once. One of the complications is that our slippers were always referred to as Bunnyjutees. The reason was that *jutee* is Hindustani for slipper but we had slippers with ears, rabbit's ears and eyes, hence the Bunny

MR: Does that ring any bells?

DW: Yeah, well there's *jeldi, jeldi* which means quickly, quickly.

AS: Yes well...; I thought that was quickly. Yes, but *ecdum* means at once, doesn't it? Do something *ecdum*.

DW: Well, it's all dragging it out of my ancient memory.

AS: And *kaarti*, sore. Is it *kaarti*?

DW: *Martul fah*, which is almost Latin, isn't it?

AS: Yes.

DW: I'm conscious of the fact that time is going. We haven't actually tackled a big part of what you want to talk about, Ann. Maybe we need to...

AS: Oh what, the Committee?

DW: The Committee and The Society, which is very close to your heart.

AS: Yes. Things really have changed so tremendously much. I think even since your day, it's incredible how they've changed. I do realise that everyone's very busy now and things have moved on, but there are a lot of things that I rather regret about The Society. And the Committee. It has lots of Subcommittees now. We've a couple of Committee people in the lab and when they come back from full Committee Meetings they say that they're presented with a lot of material for information and rather than for discussion. More decisions are being made by the Executive, I think, with less input from the people who are meant to be representing Members. I was on the Committee from 1978 to 1982. Obviously the Officers and the Treasurer (who in those days was the Senior Officer),

would have discussed things on the Agenda, but everything was very much open to discussion and change by the rest of us. A case in point was Honorary Membership. Officers would make proposals for Honorary Members, but if there was just one dissenting voice from the Committee, that was it. It wasn't really very fair. And of course the other thing is when I joined The Society...

DW: Which was when, Ann?

AS: 1963.

DW: Right.

AS: Being a Member of The Society was actually something good to have on your CV. And that's why The Society has been accused of elitism, but the whole thing was that it was a step up. It could sometimes take about two years from being proposed as a Member to being elected. It was probably different when you became a Member?

DW: No, I remember it. It was in the early 1980s.

AS: On the Committee we were given a wodge of applicant proposals. I was paired with Pat Merton who had the same wodge as me and then we discussed each person as a Committee. I remember that Pat and I had this man who'd listed an enormous number of papers. Apparently if anybody referred to a method that he had developed (even if it said, 'We didn't use Joe Bloggs's method, we used Smith's instead') he insisted on being on the paper. And I remember Pat saying, 'Excessive...'

MR: Do you remember his name?

AS: No. Pat Merton said, 'Excessive publication is a bar to cerebration.'

DW: What a wonderful phrase. Oh, that rings bells for me. Absolutely.

AS: I always liked that. And we all got on together. We didn't just turn up for a meeting and go away. Robert Comline was very insistent that the Dinners were not just a perk for having been on the Committee but were for working too. They also helped you to get to know each other and what made people tick. I can remember that initially I found Tony Angel could be quite abrasive but as I got to know him better through the Dinners I appreciated him much more (he liked to collect up After Eights for his children). We certainly had some entertaining episodes on the Committee. One of the ones I remember, again Pat Merton was involved, must have been at a Sheffield Meeting when we dined at Buxton. We went over the Pennines in a thick fog. You couldn't see much except it was hilly and alarming. The bus driver couldn't see where he was going and we got into a cul-de-sac above a cliff. Pat Merton got out in the fog and tried to direct the driver who eventually found the right route. Afterwards at dinner we were talking about what was passing through our minds when this was happening. Some people thought about their life insurance; others realised that at least five people on the Committee weren't there so could form a new one when we'd all gone over the cliff.

- DW: Oh I see! Carry on with a view to... right. I'm very fortunate in the sense that I think I was a Committee Member of the old Committee and saw the transition through to the Council and I think the big changes were induced by this review of this governance of The Society in the late 1980s.
- AS: Yes.
- DW: No, the late 1990s, I'm sorry; the late '90s and the beginning of the 2000s. And I don't know who was responsible for that change in governance but I think it all stems from that time when in fact the Committees were all-day events almost and a lot of work was done and a lot of effort was put in. They did go on a bit. Was your view that they went on too long, those Committee meetings?
- AS: Well it depended a little bit on the chairman and Peter Daniel was a very good chairman...
- DW: Chairman of course, they were called the Secretary then.
- AS: No, no, you see the Chairman was not an Officer. What happened was that at the first meeting after the election, the Committee elected a Chairman of the Committee; he wasn't elected by the Members at all. So we had someone – the person who chaired the Committee – who was our choice. And if you had a meeting and the proper chairman couldn't come then the Officers used to think, 'Well, let's see who can do it.' And I remember once that they chose Dan Cunningham to see whether he would be a good person to succeed Peter.
- DW: Peter?
- AS: Daniel. Although Dan Cunningham was a very good committee man, when he chaired it he didn't let anyone else get a word in, so this practice showed that he probably wasn't the right man for the Chair.
- DW: I see.
- AS: We often dined at the Garrick Club and I remember, Dan and I going round Covent Garden. There was a leather jacket with a design on it and little lights that lit up. And Dan said, 'I'll buy that for you if you'll wear it to go into the Garrick.'
- DW: Of course the Garrick still has a staircase for women?
- AS: Yes, but you see I'm not a feminist and that never bothered me because it was a lovely staircase; there were beautiful Spy cartoons all the way up. There was a wonderful 'boudoir' at the top with lovely sofas and chairs, and if you were rather tired it was a super place to go. I didn't want to go where the men were. I had terrible trouble in the Athenaeum because the only ladies' loos were in the ladies' annex, so you had to go down the stairs, out into the street, round and in a different door. What happened was I used to use the Gents and Cec [Cecil Kidd] used to stand outside and guard it. I was always worried that some old Bishop would come along and say, 'Nonsense, my boy'... Have you ever been in the loo in the Athenaeum?

- DW: I have, yes.
- AS: Because it's got that wonderful weighing machine with a leather chair to sit in... I always wanted to weigh myself but I never dared stay long enough.
- MR: A jockey's thing?
- AS: Yes. I never dare stay in there long enough.
- MR: Peter Daniel was a member of the Garrick and when he went that stopped, did it?
- AS: No, because Tim was also a member.
- MR: Ah, Tim Biscoe.
- DW: And also a physician at UCL... for Goodness sake. Wrote a book; taught me. He was also a member of the Garrick and the Garrick connection went on for quite a while actually afterwards. But I don't think there are any members of the Garrick now.
- AS: Tim Biscoe? I don't know.
- MR: It's mainly like a theatrical...
- AS: Yes, it is. Is it bishops and theatre? It's a funny mixture I think.
- MR: Or vicars and tarts was it?
- AS: I can't remember, but it's not just...
- DW: But Ann to be serious about The Society at the moment: I think I have regrets too about the way it's gone. I mean would you like the clock to be turned back in some way so that, and if so, which way?
- AS: Well, what I would like is that the Members have a bit better say in things. In the Lab, we've got quite a lot of people who have been Members a long time, including two young chaps, who must have joined as undergraduates or possibly in the first year of their PhDs and are now doing post-docs; they feel regretful about the loss of voting. They say it's just...
- DW: This is voting for the Abstract at the meetings? Yes.
- AS: Yes. The London Office can't be expected to have the same kind of idea about the ethos but they keep stopping things, changing things, because they say these give a feeling of elitism. Well we don't want to be elite in a nasty way but we do want to have some sort of standards, I feel.
- DW: There's a different sort of political correctness, isn't there? And I think you're absolutely right. It's not just in physiology either. We see it happening in universities, we see it happening in almost every aspect of life; certainly in the Health Service where it's almost as if management has got a life of its own and the people who are at the coal face are no longer consulted because they are considered to be, if you like, the subjects...

- MR: The Health Service you mean?
- DW: Yes, the Health Service, education, in all aspects I think. And I think that's an interesting way in which our society has gone in the last few decades. And I think The Physiological Society is just reflecting one of those changes. That's my take on it.
- AS: And it's very difficult for the people in the London Office to know about rank and status and things because The Society's always been very egalitarian. You never said that 'the vote of thanks was given by Professor Sir Andrew Huxley OM.' But in the London Office they give everyone their titles and may say that the prestigious speaker, Professor Colin Blakemore, said this...
- MR: Yeah, we're all mates aren't we?
- AS: Exactly. I have been rewriting for the Cambridge programme the piece that Heidi in the Office got off the web which is really tourist-speak: 'If you venture out of Cambridge you'll can go to...' She sent me an email asking 'Could we say The Society expresses its thanks to Dr Ann Silver for this contribution?' And I said, 'No, I am The Society.'
- DW: Well you put your finger on it then because I think The Society was run by its Members, senior Members, in a very disparate way. As soon as it was centralised and then you have a cadre of people who are managers, who have a completely different view and it takes it away from the Members; you're absolutely right.
- AS: Yes. And we have a particular ongoing problem at the minute which is that when voting on acceptance of Abstracts was stopped in 2004 at Cork (not many people were there) the first option was accepted, this being that voting would cease but Abstracts would be pre-reviewed; comments would be sent back to the authors who could then change their Abstract. Now it's been decided that the authors can't alter them. And so theoretically all the scrutineers can say is, 'Accept as is, warts and all; accept by title only; or reject.' Authors are, though, contacted about ethics, e.g. failure to mention anaesthetic. For the Cambridge Meeting we had some very good scrutineers and they rejected quite a lot that lacked anaesthetic details.
- DW: And while it's the Annual General Meeting that needs to come up.
- MR: For the record could you give the Meetings Secretary's full name?
- DW: Well it's Prem Kumar who's the current Meeting Secretary. And just for the record again, I mean the decision about not voting for Abstracts came through the Executive. And what was interesting was that the Executive was pretty split on what should happen but in fact it was Alan North who was very keen to get rid of the voting; he was the President of The Society then. And so was Bridget [Lumb] who was the then Meeting Secretary. And so in fact it wasn't as if it was a 100% agreed thing.
- AS: No.

- DW: And it does seem to have taken on a life of its own since then and as soon as you start, the thin end of the wedge, it just goes down.
- AS: Yes. What was originally proposed was that each paper, each Abstract, would be reviewed by the Special Interest Group (SIG) Convenor and two of their team, and that Abstracts would go back to the authors for alteration. Well that went by the wayside in December 2006 when it was decided that authors couldn't make any changes. When I raised this at the SIG Meeting and said that it really ought to be taken to the AGM because we were going back on something already agreed what appeared in the SIG Minutes was something like 'It had been suggested that this should go to the AGM but since a unilateral decision (I don't know what it meant) had been made it was deemed unnecessary.'
- DW: Strange.
- AS: So I think I'll try and dig people up to put something...
- DW: The thing is we'll be labelled as reactionaries, you see; wanting the old papers.
- AS: Well, Roger Thomas said he'd raise this, but he puts in both good and bad Motions.
- DW: It's accountability, isn't it? [...]

Part 2

- MR: We'd better say we're post-lunch now. [...] Now we're reassembled where we were before.
- DW: Indeed. We just felt there were one or two things we wanted to cover again and one of them I think, Ann, was your experiences of being on the Committee and the Committee structure, perhaps, of The Society. So...
- AS: Well, when I went on the Committee there were four Officers; we didn't have a President or an official Chairman but at first meeting after the election one of the members was appointed the Chairman. But the Treasurer was always the Senior Officer and he was the person that kept us straight with any kind of governance, though they weren't called governance in those days, but any sort of regulations etc. When I went on the Committee the Treasurer was Robert Comline and he was followed by Ron Linden. And they were both excellent and for most of the time that I was on the Committee we had either Kenneth Cross or Peter Daniels as Chairman. And the Committee was pretty cohesive. When we had Committee dinners, part of the object of the Committee dinners was so that we could really get to know each other and be aware in Committee Meetings of the particular foibles and peculiarities and good points and weak points of the other members of the Committee. And I think this made the Committee quite an effective body. We usually met the day before, or even on the morning of a scientific meeting so we were around if Members wanted to come and complain about things; the Committee were there to be complained

to. Nowadays the Committee tends to meet independently of Meetings and I bet large numbers of Society members don't even know who the Committee are or what they do. So we were quite an effective body and we did take on board what the members really wanted. And I certainly now get the feeling that an awful lot is decided by the Executive who then merely take it to the Council for information and the Council doesn't really get much of an opportunity to alter things, complain about things. I may be wrong but this is the impression I get from the people I talk to.

DW: Ann, can I just establish: can you remember how many members were on the committee when you were serving?

AS: Yes, I worked it out the other day. I think that there were the four Officers, that's the two Secretaries –

DW: That's Secretary of The Society and Meeting Secretary?

AS: Yes, the Meeting Secretary, the Secretary of The Society, and the Treasurer and...

DW: Chairman is it?

AS: No, we didn't have a Chairman. I tried to think what the fourth one was.

DW: Was it the Foreign Secretary, perhaps?

AS: Foreign Secretary, that's right. And the Foreign Secretary was usually at that time an FRS. That was the way it worked. And generally the Meetings Secretary progressed to being Senior Secretary but in 1983 that didn't happen anymore. Charles Michel didn't go on from being Meetings Secretary to Senior Secretary, but before that it had been more or less a normal progression. And then there were I think about 13 Ordinary Members, and as well as that we had Designated Members. There were various jobs that people did which might qualify them for Designated Membership. There was Chairman of the Education Subcommittee; Chairman of the Dale Fund; the Archivist – about four or five people who might go on as Designated Members. I can't remember them all.

DW: By saying they went on as Designated Members, does that mean that they were not elected?

AS: No, ... there was a list of Designated posts and the Committee would decide 'Okay, this time we'll have the Archivist and the Chairman of the Dale Fund' as Designated Members. And if you look in the old Grey Books you can work out who was there as an elected Member and who was there as a holder of a job that was Designated.

DW: And of course the Committee would meet how often usually?

AS: Quite a lot. I would say possibly about every other month. Quite a lot of meetings. And usually in association with a Scientific Meeting, immediately before or after.

- MR: What did the Senior Secretary do?
- AS: The Senior Secretary was the person who dealt with things like Membership. I'm trying to think of the sorts of things that Tim Biscoe did. I know you applied to him for membership and...
- MR: Was he the voice of The Society?
- AS: No, we didn't have voices of The Society. The Treasurer was the Senior Officer.
- DW: I mean it was very..., very democratic.
- AS: Yes.
- DW: In fact, with no, the leadership in fact was corporate.
- AS: Yes.
- DW: It was done by consensus.
- MR: They realised that Secretary doesn't have the right connotation. Perhaps the Secretary of the MRC didn't have, you know, who's the boss? You or the secretary, you know?
- AS: One of the things that I remember: my very first meeting after having gone on the Committee before I actually went to a proper Committee Meeting was a dinner for the George Henry Lewes Scholars. Alison Todd, that was Henry Dale's daughter, was there; I think we were the only two women and were accommodated in Balliol College. After the Dinner all the men went off to drink at the Bar somewhere but we decided to go home to bed. Alison discovered she had lost her key. She was a very tall person. We were in evening dress, and at one stage, we couldn't find anyone to let us in, and it looked as if she was going to have to hoick me up on her shoulders so we get in through the window.
- MR: What? Her window?
- AS: Her window. But what had happened was that she had given me a whole lot of things to hold while she was looking for her key and I realised what she had given me was actually a little bag including her key so we didn't have to do it.
- MR: Yes, on the shoulders of giants.
- AS: That's right. We really did have quite fun on the Committee and we knew each other very well and, as I said, the idea of the Committee dinners was that we should get to know each other better.
- MR: Did you meet socially? I mean apart, that was social, in a way.
- AS: Well, yes, we did learn to know each other.
- MR: And that's not now, would you say?
- DW: No. Well first of all the Council as it is now meets only three times a year; the numbers are slightly larger – I think the Council membership is about 20 plus.

Often the meetings are quite short. They are often only two to three hours unless there was a special brainstorming session, with the result that the business has to be conducted in a very efficient way. I think some rubber-stamping takes place, and discussions are often quite limited.

AS: But now they have a lot more subcommittees too, don't they?

DW: Absolutely yes. I never quite got my head around the number of subcommittees either, I'm afraid. And of course a lot of business is done outside the Council and it is interesting that because I think in the old Committee everybody seemed to have a pretty good idea what was happening everywhere. And I think everybody now has a very limited view of what's happening.

AS: I think, as I said, the Officers would have a fair idea of what would be raised in a meeting but we never got the impression that it was all, cut and dried and we'd just have to rubber stamp it. But that's the feeling that I get now from the Council Members in our department: that issues are brought to them for information rather than for discussion. In my day we did make a point when something controversial was coming up, of trying to ask the opinion of our constituents. Now things are on the web so people can see what's going on and respond or not according to their ideas.

DW: I mean it's probably worth mentioning to people who might be reading this in many years hence that in fact there was no central structure or office at least at this time either; that in fact each of the officers of The Society had their own secretary, certainly the Treasurer and the Meeting Secretary, had their own secretaries who were located in their place of work.

AS: Having gone into the history of this a bit, I think it was 1880 that the publications office was set up in Cambridge. But then when Julian Jack retired as Treasurer, that's when we got the first Administrative Office, in Oxford with his ex-secretary, Heather Dalitz, in charge. And it stayed in Oxford for I think about six years and then it was re-established in London. That's when Keith Newton was appointed and then he was succeeded by Mary Lewis who didn't stay very long. She was succeeded by Esther Williams, who was succeeded by David Sewell.

MR: I mean it's not that long ago, I suppose, but the first house was the one in...

AS: Dilke House.

DW: In Mallet Street. Then Caroline House on the Strand [in fact High Holborn].

AS: Caroline House and then Peer House.

DW: Off Grays Inn Road [Verulam Street].

MR: And so secretaries used to be employed... it was a fairly insecure thing, wasn't it?

AS: Very. Originally Officers didn't have secretaries but used their own lab or departmental secretary. Robert Comline was very dependent on his wife,

Daphne. She did a wonderful job for him as she knew so much about the Members. For example there was a chap who lived in Malta and he gave up taking *The Journal* because both he and his postman had got too old to carry it up the hill. She knew all these interesting things. In contrast, I got rung up about two years ago, from the London Office to ask for information 'about Denis Noble and whether he'd ever done anything much in The Society?' And this was because someone had got to make a speech about him.

MR: Who rang you? A newspaper?

AS: No, the London Phys Soc office.

MR: And they didn't know?

DW: I suppose the other side of the coin is that we are now putting on large meetings at international scale, a lot of organisation. You could argue that doing it on a semi-amateur way, something had to be done about it.

AS: I realise that. The only thing is they have got so many people up there. All the administrators seem to have assistant administrators; it just seems to get bigger and bigger.

MR: Were there many people on the payroll in those days?

AS: No.

DW: You've got to separate the Publications Office, I guess.

AS: Yes, well the Publications Office has actually never really expanded at the rate that the admin people have.

DW: No, I think that's right.

AS: The Publications Office has always been extremely efficient and it has not really had a very big turnover. That's the problem with the London offices; they have quite a big turnover. And quite naturally they don't really understand or have any sympathy for the ethos of The Society whereas the ethos of *The Journal* is a fairly permanent thing and people who work for *The Journal* are very loyal to *The Journal*. But I don't think people who work for The Society understand what used to make it tick.

DW: I think that's right.

MR: When did *The Journal* go into hardback?

AS: Ah, a long time ago. [The first hard-back volume was January 1978.]

MR: It doesn't seem that long ago.

DW: I've got on my shelves, I've got a complete set going back to 1963, which I inherited. I'm just trying to think along the shelf.

MR: They weren't hard backs then.

DW: No, they were thin, pocket sized, pink...

- MR: Things you could carry...
- DE: In your pocket; absolutely. The hard backs I think must have come in in the late 1970s.
- AS: Yes, I would have thought so, probably.
- DW: And then we went to the bigger format, the A4 size, gosh, now that was actually going to Blackwell, was it?
- AS: No, I think it was before that [it was 1994].
- DW: Gosh, oh dear; memory. Yes, well that's why Cambridge University Press had those. I remember the dots on the end of that spine and Blackwell did not continue that; I remember that. That's right. Gosh, where have we got? We've got publications office and we've got...
- MR: You were going to tell us about the Boswells.
- AS: Oh well the Boswell's aren't really relevant, I don't think.
- MR: Well, it's all relevant; it's all you.
- AS: No, I think The Society is more to the point and it is just a shame, but as you say, I think it's probably inevitable that physiologists are too busy, they couldn't really run The Society, but because of the turnover in London, I think it's a pity there can't be some kind of Seminar in London to give them an idea of the ethos and what The Society stood for. But they'd just think we're quaint, old people like us, and it doesn't really matter so long as the Meetings happen.
- MR: Or things get published.
- DW: Yes, I mean they're generic managers or event organisers or secretaries. That's the difference, isn't it?
- AS: Yes.
- DW: And it may be that the change in science has affected that in that the pressure to produce, to deliver at the home base is so much different now than it was 30 years ago that in fact your point about physiologists being too busy is probably right. And many would feel they'd got priorities elsewhere.
- MR: You didn't publish another paper until you'd found something new.
- AS: Yes, yes. I mean that was the interesting thing, particularly if you look back into the 1930s. If you look in Abstracts for the 1930s, particularly re the cholinergic nervous system, something new was being presented, something seminal, at almost every meeting. When I joined The Society there were maybe nine meetings a year and you would hear people like Dale saying, 'In the January Meeting we told you this; we've now done this.' But now you have one Main Meeting a year and the Focus meetings so it's completely changed. And with the Proceedings only appearing online and not being edited, they're really not worth that much now.

- MR: I mean I can't read stuff off a screen and I'm not going to print the whole lot out.
- AS: No, exactly. And I think this is reflected in the Discussion because when you had your own hard copy and you could read it in the train, you went prepared for discussion points.
- MR: Yes. You could make marks on it.
- AS: But now you can't.
- MR: It's a pity.
- DW: Of course the youngsters would say they download the whole lot onto their laptop and they take their laptop with them on the train and read it and have it out at the meeting.
- MR: Yes, well maybe they can do that.
- DW: Well, they can.
- AS: Even sitting with the laptop is a bit tedious.
- DW: It is for us, I think that's the thing. For them it's second nature. I think in the same way as we have books.
- MR: I suppose soon it'll be when it's like a book.
- DW: Oh I see, you mean much lighter than a...
- MR: Well I mean now they've got this wafer thin thing; I haven't actually handled one but I've seen the adverts, you know.
- AS: And with the introduction of Posters at Meetings people very much opt for giving Posters rather than Orals. One of the things about The Society was it used to teach people how to give a clear, succinct talk and now it doesn't. That educating side has gone. I know some people don't feel that it's The Society's job to teach people how to write as that's the Supervisor's role but it was once something The Society was keen on.
- MR: I mean presentation now is everything, isn't it? What I mean by presentation is having the right type font and colours and things whereas before you could just pin things on a board, a few graphs and you could change it before or during. But now it's got to be a perfect...
- DW: Do you have any views, Ann, about voting for Abstracts at the end of the Abstract presentation?
- AS: I do. I think it was a great pity that it went and a lot of people would like to see it coming back but it's already on the website, without any vote...
- DW: You mean before the Meeting?
- AS: Yes, it's put on the website before the Meeting. In the old days if there was a discussion somebody might say, 'Well, I think your conclusion is too strong;

you should water it down a bit, and say “perhaps, this shows” – not this very definite “shows”. That’s what people were asked to do – to tone down the conclusion if it wasn’t fully supported by the evidence. The Meeting would vote on whether, with that amendment, it was suitable for publication. But now it all goes on the website before the Meeting and there’s no apparatus for making changes later.

MR: So how does it end? I mean I haven’t been for a while; maybe... when somebody’s finished giving their Communication, they just move on to the next one?

AS: Yes. There’s a discussion.

DW: And what after the discussion?

AS: Then they call on the next bloke.

DW: It’s interesting isn’t it, ironic really, that in fact at a time when it’s easy to change the Abstract electronically it’s not done. Whereas in the old days I remember it was a real palaver: you had to have the proofs, you had to alter the wording, you had to send the proofs back.

AS: Well, it went quicker than that when Diana Greenslade and Jonny Goodchild were at the Meeting. You changed it with them then and there. But no, it’s a great shame because people don’t learn now. The instructions say that Abstracts including numbers should use appropriate statistics but authors don’t always comply. (And the scrutineers may not be statistically competent!)

MR: I don’t see why you can’t email your corrections.

DW: Exactly.

MR: It’s just the labour of...

AS: To whom?

DW: That’s what you’re saying: there’s no process.

MR: There’s nobody to do it.

AS: No.

DW: I mean, gosh, what I was going to say about the Abstracts. The problem is of course that the Abstracts are not published anymore; they’re just on the web. Do they stay on the web forever?

AS: Yes. Under, called the *Proceedings of The Society*. But Roger Thomas wants to put up a motion at the next AGM saying that they should go back into *J Physiol*. Well, in fact, I was on the Board of *J Physiol* when we decided that they really weren’t worthy of it, and since then they’ve gone downhill if anything. They’re just not...

DW: The standard of the science is not good enough.

AS: No.

- DW: The standard of rigour, I suppose, you're saying.
- MR: What about Demonstrations?
- AS: Well, Demonstrations are a sore point because at the UC Meeting there was just one Demonstration (about computation) from my nephew, Angus. We have got six Demonstrations for the Cambridge Meeting, four of which are from Roger Thomas's lab.
- MR: But they're proper wet Demonstrations?
- AS: Well, semi-wet but computers too. One is from Germany and I can't remember, where else but there are precisely six Demonstrations.
- DW: But do you think it's the legislation around experimentation that played a big part...
- AS: Well partly but also general logistics, I think.
- MR: That was the best thing about Meetings, wasn't it, the Demonstrations?
- DW: Well you saw how other people did it and you'd think, 'Gosh that's a good idea. Why didn't I think of that?'
- AS: I gave lots of Demonstrations because I did so much histology – microscopes and specimens etc. In our Department now we've got several people who work on *Drosophila*, and genetics – nice coloured diagrams. They could put on a very pretty Demonstration.
- MR: There wouldn't be any ethical things about that.
- AS: No.
- MR: It's just the labour and...
- AS: People are buying more apparatus off the shelf.
- MR: And teaching apparatus. I made a model of the cochlea. You could see the travelling waves. It was a great thing. That's just me but there were lots of others of that sort. That used to be the big thing about Meetings, and when The Society came to your department you saw to it that you had a Demonstration.
- AS: Bristol was brilliant for Demonstrations; they always had lots. Cambridge used put on quite a lot but as I say, there are just four out of Roger Thomas's Lab and two imports and that's it.
- MR: Well the tradition is gone really.
- AS: And you see Demonstrations used to take precedence, didn't they?
- MR: Yes.
- DW: Over Posters and Oral Presentations.
- MR: And they had to be approved.

- DW: Yes, they did, didn't they? That's right.
- AS: Well actually there was a slight problem in that Demonstrations were not approved at one time. At a Babraham meeting Gretel Sharman showed, as a Demonstration, what would now be actually called a Poster, with lots and lots of data. Because it was called a Demonstration it went through without any Discussion or Approval. That was when the ruling came in which said that when you gave a Demonstration you couldn't include any data in your Abstract; all you could give were illustrative results.
- DW: Without the scrutiny. Well, well.
- AS: That's the history of that one.
- DW: Interesting, yes. Well we've got to be careful not to be too critical because the point is that things have to change with time...
- AS: Well, they do.
- MR: And The Society's flourishing.
- DW: Well it is, isn't it? It's got more Members than it's had for a long time. I think financially, unless I've heard wrongly....
- MR: Are they investing well?
- DW: I don't know about that. I know they changed their investment people.
- AS: I don't know quite what the situation is but the Ben[evolent] Fund has apparently benefited from the credit crunch, according to Casey [Early]. He put the money into something that people like during a credit crunch and the value has gone up.
- DW: Oh, that's very good. Well, I hope The Society has done the same with its own investment. Because the other thing is of course that the contract for our Publisher has only got a few more years to run, I think.
- AS: Oh has it?
- DW: Let's see now: 2002, perhaps it's a – there was a five year break, that was 2007, and I think the next one will be 2012, so it's got a few years to run yet. I thought they'd have to renegotiate by 2010 or think about it. Of course the big problem then is you've got electronic publishing, free access, and then the whole business of how you cope with income or the loss of that income if it's electronically published. I know The Society are thinking about that and they must have some...
- AS: Well, Roger Thomas when thinking about various AGM motions was wondering about the number of Symposia and their Registration fees. There are 16 Symposia for Cambridge, I think.
- DW: Well, they get a lot of support from The Society for each one. Gosh.
- AS: I think 16 is what they aim for.

- DW: I see, OK. Anything else you want to say about the running of The Society, Ann? We know you have strong views about them.
- AS: Well I do realise, as I've said before, that things have got to change and to move on but I still feel that it would be nicer if the Members had a little bit more say in it. May be younger people are happy the way it's going, and they don't know any different. But two young chaps in our Lab say it's not like it was, when they first went and that would only be six or seven years ago.
- DW: When you say 'young chaps' you mean under 40?
- AS: No, I mean in their 20s.
- DW: Oh, right.
- AS: Yes, they both did their PhDs with Stuart Sage – which is what – three years? That's when they first went to Meetings, and now they're Post-docs.
- DW: This is Stuart Sage?
- AS: Yes.
- DW: And there are two other areas that I'd like to touch on, if I may. One is that I'm still not quite clear in your career where you went from Babraham and as you said, Comline rescued you.
- AS: Oh yes.
- DW: Were you in employment by his office?
- AS: No, I've been unemployed since 1985.
- DW: Dear me. I mean I don't think I had realised that. Because the point is that the service you give to The Society which is the other thing I want to talk about has been enormous over the years. And obviously that has been something you have enjoyed doing because it's close to your heart and this you just do for the love of it?
- AS: Yes, well not so much for the love of it now because I find it rather frustrating except that I have a loyalty to The Society and I do feel that if I can possibly suggest something, I do. Nick Boross-Toby seems to be consulting me now more and more, which I find slightly embarrassing because he's asking me to do things or make decisions on things that aren't really my place. He emailed me this week and asked me what order the Orals and Posters should appear in the programme for Cambridge. Well it's not me to decide.
- DW: Well that's interesting isn't it because the point is that you are the continuity, I think, aren't you?
- AS: Yes, I'm continuity, but things have changed so much. Everything was done, the programme, Abstracts etc. by Cambridge University Press. They more or less had a template.
- DW: Just follow the template.

- AS: Now with the Main Meeting we've had four of them. The first one was in Bristol and that was experimental. But Bridget was very hands on . . .
- DW: This is Bridget...?
- AS: Lumb. She and Nick made a lot of decisions about what should go where. But then the next one was UC and that must have been Prem Kumar's's first one...
- DW: That was, I think.
- AS: And I think Nick more or less followed the template from that. Then the following one was Glasgow last year, which was joint with the Life Sciences and was a law unto itself; and now we've got this Cambridge one. I said, 'Well, so long as you're consistent and have the Programme and the Abstracts in the same order, I didn't think it mattered if he put the Posters first or the Orals first, or the Symposia first (with coffee, lunch and tea being allowed for).
- DW: The Posters tended to go after the Oral Presentations.
- AS: That's right, they did. But now you've got Symposia, as well as Orals and Posters.
- DW: Well, I hope you're flattered by being approached by the staff in the Office because I think that's got to be good.
- AS: Well it's flattering but I feel a bit anxious because I don't really have the right to dictate these things.
- MR: It's a cry for help from them.
- AS: It's a cry for help from them but if Prem then says, 'Oh why did you do that?' they say, 'Ann told us to' ...
- MR: You're really just suggesting, aren't you?
- AS: More-or-less.
- DW: It is interesting isn't it that this is happening at a time when there are more people employed by The Society to deal with these things.
- MR: They don't have the experience.
- AS: Unfortunately with the printed Programme, they want it to be jolly with stuff about Cambridge and its history and the Romans coming – and all that sort of thing. Most people curse having to carry a big Programme about; they put it in the bin.
- MR: It's not the first time it's come to Cambridge.
- DW: No, that's right.
- MR: Bring in the Romans.
- AS: As Tim Biscoe said about something, 'It's all spin and no substance.' You see, there's colour as well. It has to be attractive. I'm just old fashioned and think it's a waste of money.

- DW: Well it is interesting. I was brought up on Oral Presentations, for example. In Phys Soc Meetings you were limited to six slides for your entire talk and they all had to be black and white and visible at the back of the room.
- MR: And not too many things on each slide.
- DW: Exactly. And nowadays you get animation, bits in and it's like the kitchen sink.
- AS: And all those things that flash in the eyes – even on the website. I did say to Liam McKay, 'I hope you're not going to have lots of flashing things because they give people headaches.' But when you're looking on the website there's always something blinking away.
- DW: Well, we really are a load of old dinosaurs. We've got to watch this.
- MR: I remember when A. V. Hill used to give his lectures at UCL he hand-drew his figures on the glass. He used these slides and they were sort of hand drawn on the glass.
- AS: At A.V.'s 80th birthday or whatever it was, I remember A.V. himself giving a talk and there was another from Howarth...
- DW: Vic Howarth?
- AS: Yes. One of the things I remember him telling us was that on his car speedometer A.V. had an extra mark at 33 mph because you could go 3% over without being had.
- MR: Calibrated, no doubt.
- DW: That's interesting, isn't it? Ann, you were going to say something?
- AS: Well I was just going to say that as I get older it's difficult for me to think of the eminent apart from Andrew Huxley and I don't feel that there are anything like the characters that there used to be.
- MR: Which are the characters you remember?
- AS: Well, A.V., and I remember Willy Rushton [William Albert Hugh Rushton, 1901–1980] who always used to wear his name badge on his back. This was good because you could go round to the front and say, 'I thought it was you'.
- DW: So why was A. V. Hill a character?
- AS: Well he used to be very interesting and had his little foibles.
- MR: Was he a nice man to talk to?
- AS: He was quite friendly. They were all quite friendly. In one of the histories of The Society – I think Bill Bynum's – there is a quote from Sherrington about going to his first Meeting and saying that all the senior people were very friendly to the young. Well when I joined The Society all the 'great and the good' were very friendly to the young and were interested in what you were doing and that sort of thing. And Catherine Hebb was very good; she made a

point of introducing you to senior people, but nowadays I think the young stand on their feet better than we probably did.

MR: What about Adrian senior? [Edgar Douglas Adrian, 1889–1977]

AS: Yes, he was always a bit shy somehow but his son Richard was very good. I remember during the Legislation stuff he was very helpful, within the limits of confidentiality, feeding us information. I had a letter from him – I can't remember what it was about but it was something he was going to do and then he decided he couldn't because it was too sensitive. He wrote, 'I apologise for being rather Eeyore-ish about this.'

DW: But I do notice that Andrew Huxley at Meetings, whenever I see him wandering about, he's always surrounded by young people and he's always chatting away, obviously it's a two way process and he's finding out what's going on in their lives too.

AS: Yes. And Katz, too. When my nephew Angus first went to UCL Katz was always very supportive of him. I get the impression now that the middle level people are nothing like friendly. After one of the Symposia, at the time when each Symposium was followed by four related Oral Communications I heard somebody say, 'Oh lets go to the Bar; I don't want to listen to other people's research students.' There was no longer the feeling that you should be supporting the young.

DW: And I suppose that the other problem with very big Meetings, with parallel sessions, is that expertise of feedback and criticism is diluted, isn't it, somewhat?

AS: Yes, because when I first went there were no split Meetings. It was Tim Biscoe who introduced the idea of accepting everything that could be fitted into a split meeting. Previously the Meetings Rules said that the Meetings Secretary could only accept the number of Communications that could be given without splitting the meeting.' This meant that if you were a foreigner, you really needed to get your Communication in on the first day. Either they would submit one per day for a week ahead which the Secretary would bin until one arrived on the right day. Alternatively they would send the Communication to somebody like me who would then live with the nightmare of having to post it to arrive on the right day so that it was accepted.

MR: Do they still have to be introduced?

AS: No, the Introducer has gone.

MR: So now anybody, non-member can...

DW: Is that right?

AS: Yes.

DW: I hadn't realised that.

- MR: Because it was a whole business, wasn't it, for somebody abroad. They contacted you and you had to go with them to the Meeting and...
- AS: I actually used to take this very seriously. If I was asked to introduce someone I used to insist that they sent me their Abstract so I knew what I was doing. There were two groups in Sweden: now one was in Lund but I can't remember where the other one was, possibly Stockholm. They were salivary people and were in opposition. I was introducing someone from one lot and Declan Anderson in Bristol was introducing someone from the other lot, so I said to him, 'Can you make sure that there's not an unseemly brawl.'
- MR: Like seconding a duel.
- AS: Another thing was in the old days, if you did introduce someone or you had a student and they really got into trouble in the Discussion you helped them out. But recently I've seen horrible things happening where people have not been helped out.
- DW: Now you see, that's not... again, it's that lack of support. It's a question of looking at it as a group and...
- AS: Another thing was there used to be an unwritten rule that if a foreigner or a nervous youngster gave a talk you were quite kind and helpful. But if the speaker ought to have known better, you didn't let them get away with it. I remember an occasion involving Mary Pickford. I can't recall the name of the man who gave a talk after which Mary got up. (She was a large lady, a little bit like Penelope Keith in 'To the Manor Born'. If you'd met her at a party you'd never have thought of her as a scientist.) Anyhow, Mary said sweetly 'I probably misheard you but you didn't say you used potassium, did you? You did?' ['did' being much emphasised]
- DW: And where was she?
- AS: She was in Edinburgh and was a very special person.
- DW: Because?
- AS: Well, I'll send you what I wrote about her in the *Dictionary of National Biography*. She was a very good scientist and also a very nice person and she had lots of interests. She was a good artist and silversmith and had a sense of social responsibility. During the war she used to sing to the troops in the Usher Hall. Even if somebody couldn't sing she'd recruit them to come and help her out. She had no time for self-importance and once went to Waverly Station to meet a cousin. I don't think she'd ever met him before so she put a label round her neck saying, 'I am Mary.'
- DW: So you're saying that there are less eccentrics nowadays.
- AS: Perhaps but I wouldn't call her eccentric – more practical.
- MR: Robert Harkness was an eccentric. I can't think of others.

- DW: Well my memory also, I'm younger than both of you, my memory of people at UC, there were quite a lot of eccentrics. Jim Pascoe, for example.
- MR: He was my supervisor.
- DW: Elliot, not Elliot Ness, Alan Ness.
- AS: Yes.
- MR: Alan Ness!
- DW: He influenced me quite a lot actually. And well the Harknesses.
- MR: Jack Diamond. I don't know whether he was eccentric.
- DW: Well he was a pretty blunt sort of person.
- MR: Oh yes, there were blunt ones.
- DW: Well Otto Schild, do you remember? I mean he was an archetypal sort of German type professor.
- MR: There was the other pharmacologist who ended at Chelsea... I think he was Belgian. Anyway.
- DW: So why less eccentrics nowadays? Do you think it's just culture's changed, society's changed, the science has changed?
- MR: Surely people aren't any different now?
- AS: No but I think people are more conscious of their status. They don't like making idiots of themselves.
- MR: Maybe they weren't as worried about money then?
- AS: My very first Phys Soc Meeting was in Edinburgh 1952. I always remember it because they were talking about baroreceptors and Whitteridge said, 'Paintal has found a cast iron baroreceptor.'
- MR: Baroreceptor in the...
- AS: Yes, exactly. And G. L. Brown said, 'Perhaps Professor Whitteridge would care to tell us the conduction velocity in cast iron.' I don't think you get the wit now that you used to somehow.
- DW: Well I do remember Wilfred Widdas getting up, a few years ago now – not all that long ago – and saying immediately after some Presentation, 'You have broken the second law of thermodynamics.' And that put in a real conversation stopper. People just stopped; you couldn't follow that really.
- MR: Thinking of him, do people network as well, they call it networking now. I always remember Otto [Hutter] at a Meeting. He was always dodging from one person to another, he was always moving on from one to the other, I don't know whether making arrangements or what.

- AS: I remember at UCL (do you remember where the Department Office was?) that there were three steps down and then there was a little corner where there was a loo saying 'Ladies'. I was waiting outside when the door opened and out came Otto. I looked up thinking, 'Am I in the right place?' And he looked up too. He saw it had 'Ladies' and said, 'I was always a great believer in the final common pathway.'
- DW: Oh very good.
- AS: That was quick.
- DW: Very quick. Oh gosh.
- MR: I think there must be people, I say people don't change but we don't notice them as much maybe.
- AS: I think possibly, again because of the way the The Society's gone, there seems to be less Discussion after Presentations, with Posters and that sort of thing. Few Orals so there's less opportunity for any kind of...
- MR: Personality.
- AS: Yes, wit and things.
- MR: Yes, there's a uniformity about it.
- DW: There is actually; you're absolutely right. And I think people feel they mustn't criticise, at least in public, other people's work. They feel they have as much right to their view as I have to mine.
- AS: I think as somebody said you never quite know who's going to assess your next grant application.
- MR: I suppose Denis is a bit of a character?
- DW: Denis Noble?
- MR: Yes.
- AS: Oh yes.
- DW: And his brother Ray who works up the road. I mean he's a jazz singer and he says outrageous things in lectures. I've done some joint lectures with him; he's really a real character actually, Ray.
- AS: Did you go to the UC 'Dinner' at Camden Lock where we had a buffet and a fantastically loud concert, no not concert, but music from Ray and his group?
- DW: No, I missed that one.
- AS: Tim Biscoe and I were on a raised bit of floor but the vibration was still so bad it actually hurt my feet.
- DW: Oh well that's modern music for you.
- MR: Good, isn't it?

- AS: [...] Can I just ask that we record for posterity the problem about our lunch in St Catharine's College Cambridge during a Legislation Meeting...
- DW: Oh right, yes.
- AS: We had a meeting in St Catharine's College ['Cats']. It was Cecil Kidd, Jim Pascoe, Robert Comline and me. It was a very, very cold day. We went into the dining room in Cats where it was a little bit dark. There were some nice salads and Cec Kidd and I were looking at them but Robert came along and said, 'No, no, it's a very cold day; go along there and get some proper food.' Jim went ahead and he said, 'I was always brought up to eat fish on Friday so I'm going to have the fish.' Cec and I saw this beautiful suet steak and kidney pudding, so we took a helping plus a helping of cabbage and then went back to our table and sat down and started. Cec and I looked at each other and we realised that it wasn't steak and kidney pudding at all; it was a plum pudding with plums in it. We knew that Robert would get very upset if we had to change it so we nobly ate our plums and our cabbage. But my problem was I got a plum stone so I tucked it up in the side of my cheek where it was very uncomfortable. Cec and I kept looking at each other and giggling. I got up with Jim to get coffee and he said, 'What the hell is the matter with you two?' And I said, 'We've eaten plum pudding with cabbage.' Jim burst into laughter and then we went up to Robert's rooms for our discussion. We were catching each other's eye all through the afternoon. We never said anything to Robert. However, at a Committee Meeting a long time after, I was the only woman there and went off to bed while the others went to the Bar. Apparently while they were in their cups, Cec and Jim had confessed to Robert about this. The next day (this must have been one of these Committee Meetings where we then had a free morning before the Main Meeting) the question was where to have lunch? Robert's said, 'I'm not going out with this lot; you never know what they're going to eat.'
- DW: Oh lovely. Well, I think we should draw matters to a close now. Ann, it's been illuminating to me and fascinating. And I hope it will be fascinating to posterity too.
- MR: Yes, indeed. Well thank you very much.
- AS: Thank you, and thank you for my lunch.
- DW: Most welcome. We'll stop.



Ann Silver and Dafydd Walters photographed by Martin Rosenberg.

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Registered Charity No. 211585.
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