

INTERVIEWEE: DICK LAWS

Edited transcript of interview with Dick Laws conducted by Chris Eldon Lee at his home in Coton, near Cambridge on 5 October 2009. Transcribed by Elizabeth Edwards,
[Disc 1 – 2 July, 2010]

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Disc 1, Track 1 [00.11min]

Dick Laws: I am Richard Laws, Dick Laws is my usual calling, as it were, and I'm a Northumbrian. I was born in a seaside town, Whitley Bay, and grew up there until I was twelve, when I was evacuated, just before the war started.

[00.43 min] Chris Lee: *What was your date of birth, Dick?*

Dick Laws: 23 April 1926.

Chris Lee: *So you're now 80?*

Dick Laws: 83 and a bit.

[00.56 min] Chris Lee: *Just reading your autobiography, it's clear that your childhood was very instrumental in creating an interest in wildlife – in nature – is that right?*

Dick Laws: Yes, not at that early time. We used to go on family holidays up to the Farne Islands and that region, and have trips around, so I saw quite a lot of seabirds and the grey seals, of course, that was my first sight of them. But it wasn't until I was evacuated at the beginning of the war, or just before the war began in fact, first of all to Wigton in Cumbria. And then, when the war didn't really start, the school went back to Newcastle, where I was initially educated. We then found that the war was hotting up again, so we were evacuated a second time to the Lake District and that was the start of a wonderful time.

[02.22 min] Chris Lee: *Idyllic?*

Dick Laws: Idyllic, you might say, yes. By that time I was getting on in the school. We didn't have a biology master, but I did a bit of biology and natural history and so on and I lived in a large house near the lakeshore. I had access to a couple of boats – a dinghy and an old fashioned sailing boat, I learned to sail. My school, Dame Allan's, which started as one of the old Dames' schools and is still a very highly regarded school; it appears in the Times Lists fairly high up the scale. I was billeted on a Quaker couple. He had been a professor of dentistry, just retired, and his wife was very keen on the Alps, she was a member of the Fell and Rock Climbing Club. They were both elderly, but it was a very important part of my life because I learnt a great deal from them. She had a very good library, she'd been to Finishing School in Germany, she didn't have a degree or anything, but she'd had a very good education. He, as a dentist, had a lot of skills. He taught me photography, he taught me about carpentry and woodworking and he himself was very skilled. He made all kinds of things, including grandfather clocks, starting from

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building a case in wood and then making all the works. The photography he taught me, of course, was using a plate camera initially.

They were very good people. There were two of us boys at this billet and they were very ready to let us use our own discretion, how we did things and so on. There was no stopping us going out on the hills on our own, so very early on I got to know the lakeland hills extremely well.

[05.49 min] Chris Lee: *So there were mountains to climb?*

Dick Laws: There were, yes, right at the beginning there.

Chris Lee: *Did you take to that kind of thing?*

Dick Laws: I did, yes. I was very keen, particularly on the hills, but I had the boats on the lake too. My companion was another evacuee, but he wasn't so interested and, in fact, I ended up being the only evacuee in their household and I was there quite a long time. I got to know the Fells extremely well and we shared a school there, at Windermere Grammar School. It was in the war, of course, so there weren't many male teachers, there were one or two characters and every day I cycled up the hill to school and back to the house, which was called Green Gables and had a beautiful garden, which had been designed by professionals and maintained. So I learnt quite a bit about my biology initially in that garden, and was lucky. I got to know the Lake District extremely well.

[07.40 min] Chris Lee: *It sounds like the perfect recipe for a future Fid, doesn't it?*

Dick Laws: Well, it was I think, really, yes. The school was very understanding. They allowed us the latitude to go out in the hills, unaccompanied. Towards the end, I was on my own a lot of the time in the Fells and I did a bit of rock climbing to start with; cycled up, usually, to Langdale and as long as I got back in time for school on Monday morning, I could have the whole weekend out up on the hills.

Chris Lee: *So you were camping?*

Dick Laws: Yes, Camping. Not all the time, sometimes it was just a day trip, but I did quite a bit of camping. I met up with one or two kindred spirits and did some rock climbing eventually. Mrs Woods, the lady of the house, was a member of the Fell and Rock Club, Her father had been an alpine climber and she had climbed in the Alps. She had a good library of mountaineering books and Antarctic books. That's where I first came across the Antarctic, really, it was in her library.

[09.08 min] Chris Lee: *What kind of books are we talking about?*

Dick Laws: She had Scott's and Shackleton's books. She had a lot of literature and poetry, it was a very varied library really and it was open to me and I took advantage of that. I was particularly interested in the adventure books, of which there were quite a number

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and really enjoyed that side of it. We two boys each had a room, shared a bathroom. It was a beautiful house. Initially, my companion was a chap called Bill Harrison, but he found it after a while a bit too out of line for him, because they were a Quaker family. I, from time to time, went to Quaker meetings with them. It was a wonderful part of my life, it was a very good start to the outward side of it.

Before that, of course, I'd been brought up in Whitley Bay, on the coast. My Father had been wounded in the First World War and he had had one leg amputated up to the thigh. So, having been a very adventurous type - he'd run away from home at sixteen to Canada and he'd become a lumberjack, he'd worked on the Canadian Pacific Railroad, he'd been a hobo and he'd seen quite a lot of Canada. He was a quiet man and his leg, of course, caused him a lot of pain, because to have been wounded in the First World War so seriously was a major problem in your life. But he was well respected back in our community in Whitley Bay. In fact, he became the President of the local swimming club and was responsible for them getting their first proper changing rooms and so on. He used to hop on his crutches down to the beach and across the sand and into the sea and got as far as he could and then threw his crutches back on shore and swam. He did the crawl, he was a very strong swimmer and he was greatly respected by people in the town and his club members and so on, he did a lot there.

My Mother was a very forceful personality and her Father had been quite a wealthy builder, but he disowned her when she married my Father. She met him when she was a nurse and he was a patient, recovering from his leg wound. She was highly respected in the town. She was a councillor, she became Chairman of various key committees, like the housing committee. She helped people with their problems, so the doorbell was always ringing and people were coming round to get help.

[13.59 min] Chris Lee: *You went to Cambridge. Were they supportive of that, were they delighted?*

Dick Laws: Yes, they were. My elder brother, Peter, had been to Cambridge by the time I got to that stage. He was an athlete, my Father had also been an athlete incidentally, and Peter became an athlete. In the school sports, he excelled at running and jumping and all the usual things and, of course, he was a hero to myself and our younger brother,

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who was also evacuated, but he lived in a school house in the Windermere Grammar School buildings and I was sort of in *loco parentis* in a way and so I took him up in the hills and looked after him as best I could when we did the exciting things, took him out in the boat. We all three went to Cambridge. My parents weren't wealthy and I think I probably wouldn't have had anything like the life I had if they had been wealthy.

[15.37 min] Chris Lee: *Why is that?*

Dick Laws: Well, because I had a lot of freedom, which I think might not have been the case otherwise. So I could go anywhere really, as long as I got back and didn't 'blot my copy book', as my Mother would have said. And we spent our family holidays on the coast, north

just south of the Farne Islands, which was wonderful. The highlight of that was a long boat trip to the Farne's to see the seals and birds and so on. It was a very good school, descended from a Dame's school, it was called Dame Allan's and it's now one of the Headmasters' Conference schools. It was a very good school. My Father had been to it as a boy, in Newcastle. My elder brother had been to it and, of course, I followed on in their footsteps and was evacuated to Windermere Grammar School, as I said. So I had an idyllic childhood really.

[17.04 min] Chris Lee: *Do you think it was obvious that you would read Zoology at Cambridge, or was that a difficult choice to make?*

Dick Laws: Well, my Mother wanted me to become an architect. I had some skills at drawing and painting and so on. Her Father had been a builder and developer. She was sort of upper middle class and she was disinherited for marrying my Father. She became a senior figure on the Whitley Bay Council and later she became Mayor of the borough twice, two times running and was very successful. She was very powerful, she was a public speaker. The Conservative Association tried to get her to stand for Parliament, but she decided she wanted to be independent. She was a very good public speaker and much in demand, so in my childhood there was a lot of talk and when I went on to [unfinished sentence]. The school my Father had been to was Dame Allan's. It was the opposite school to Newcastle Grammar School, they were our rivals, if you know what I mean!

I had to go to school by train. I walked to the station and took the electric train up to Newcastle and then I had to get a trolley bus up to the new school of Dame Allan's which had just been occupied, very well equipped. I was awarded a fee paying scholarship there and I used to make my own way to school, and back in the evening. In the summer I used to cycle, my Father gave me a bicycle on the understanding that I would cycle to school when the weather was OK. And that was good, I got used to route finding and all that sort of thing.

I had a very good bunch of teachers, too, at Dame Allan's and enjoyed that initial time. But what I really enjoyed was being evacuated,

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first of all to Wigton in Cumberland and then the war didn't really get started and the school went back to Newcastle. When the war hotted up, we were evacuated again to Windermere.

[20.04 min] Chris Lee: *Did you enjoy university life in Cambridge?*

Dick Laws: Very much, yes. I was awarded an open scholarship to St. Catherine's College. My Mother wanted me to become an architect because I had some skills at drawing, but I thought I wanted to become a doctor, because I thought I could do some good that way and that was my boyish imagination. I wanted to do something useful and thought becoming a doctor was what I should aim for. So when I went to Cambridge, I initially read the parts of the tripos that would fit me to take a medical degree. I was deferred from conscription as a medical student and that was how I eventually went to Cambridge.

I learned a lot at Windermere about life, the kind of life that good people like the Quakers live. I used to go to meetings fairly often, not that I was particularly involved in the Quaker routines, and I did a lot of natural history/biology through the garden. We also had stags and

red deer on the other side of the lake, bellowing in the mating season and so on, that was my first real contact with big land animals.

[22.18 min] Chris Lee: *So what did you do with your degree when you got it?*

Dick Laws: When I got it, I had taken the Natural Sciences tripos and I got a first in Zoology and I was headhunted for an Antarctic job by Brian Roberts, who was head of the Foreign Office's research section. He was based in London but also worked from the Scott Polar Research Institute. And so I used to meet up with him when he came up to Cambridge and we talked about the Antarctic. Colin Bertram was Director then and he was a biologist, as was Brian Roberts. Colin had worked on Weddell seals and was a Fellow of St. John's College.

So I went to St. Catherine's with a scholarship, I had a lot of contact with polar people through the Scott Polar Research Institute and I went to whatever lectures I could manage. I met visiting polar people and I got a good degree, I got a First, which was why I was headhunted for several jobs in biology, by the Fisheries Laboratory at Lowestoft and for other interesting jobs.

[24.25 min] Chris Lee: *So why did you choose the Antarctic, you had plenty of choice?*

Dick Laws: I was already interested in the Antarctic from my readings and talking with people at SPRI and I had cooled off from the medical doctor idea by then.

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Brian Roberts approached me about going off to the Antarctic as a Fid and I had a lot of talks with him and that's how I eventually came to be headhunted, you could say, and interviewed.

[25.14 min] Chris Lee: *So when you first went to Signy, had you been given a brief on what you had to do?*

Dick Laws: I had a very wide brief. Gordon Robin, who later became Director of the Scott Polar Research Institute, was the Base Leader at Signy at the time I went South. I went South on that famous voyage of the first *John Biscoe*, which you must have heard of, which was a boom defence vessel. It sailed from Tilbury with a drunken Captain and First Officer. You must have heard of that?

[26.00 min] Chris Lee: *It got as far as Portsmouth, is that right?*

Dick Laws: Well, we actually got to the Falklands, but it was a very exciting voyage because a lot of things went wrong, the ship wasn't properly run and there was only one officer competent enough to run the ship and that was the Second Officer. The Mate was a dispossessed Irish Peer, a very amusing character, Lord Headley, you must have heard of him. And, of course, there was the bunch of people who had been in the war. That was one of the things about my studentship. Among my fellow students there were people who had been in the war and come back to finish off their degree. They'd been fighting in the desert or in the Air Force or tanks or in all kinds of theatres of warfare. They'd seen the world and they knew a lot and there was a lot to learn from them. I was keen on rugby so I was in the college rucker team and I had a lot of good friends who had been in the forces, but were also keen on rugby. With a friend from St. John's who I'd met as a boy in Windermere. He had been at

Heversham School and Dame Allan's played Heversham at rugby. And I met up with him again in Cambridge and between us, we decided we wanted to play more rugby than there was available in the University, so we made up a club which we called 'The 21 Club'. There were 21 members and they were from St. John's and from St. Catherine's, which was my college. This chap from Heversham was the St. John's link as it were and consequently we had a lot of fixtures. I used to do the fixture list and we had a lot of fun. The sides we played were air force stations and things like that, so largely, apart from those in our team who had been in the war, they were bigger than us and stronger than us. It was great fun and we had a lot of rowdy parties, of course. That's when I started to drink.

[29.24 min] Chris Lee: *Going back to your trip to Signy on the Biscoe, you said you had a very wide brief for the biological work you were going to do.*

Dick Laws: That's right. I had talked it over with Brian Roberts, who was a biologist. He'd been on the BGLE, as had Colin Bertram and he was looking for someone to

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look at the elephant seals that had been reported by Gordon Robin as breeding on Signy Island. There was a small breeding colony there and my remit was to study that colony and find out as much as I could about elephant seals, that was the limit of my instructions.

Chris Lee: *Was very little known?*

Dick Laws: Well, there was a very senior biologist called Harrison Matthews, who had been the Scientific Director of the London Zoo. He had worked on elephant seals at South Georgia and I went to see him and get some advice from him, to seek help as to how I should start and so on, and he was not in fact very helpful. About the only thing I learnt from him was if an elephant seal pup became obstreperous when I was handling it, the best thing was to punch it on the nose. He was not at all helpful, actually, but Brian Roberts was a bird man, he did the early work on the Wilson's Storm Petrel and he had been on the BGLE, where he'd worked with Colin Bertram.

So I was very fortunate and I was introduced to the literature. Colin Bertram, who was Senior Tutor of St. John's at that time, made his reprint collection available to me.

[31.52 min] Chris Lee: *What were you hoping to discover about elephant seals?*

Dick Laws: Well, my remit was everything I could, it was up to me. But I felt they were very interesting animals. Harrison Matthews was the main authority on the elephant seal, but I discovered that he didn't really know all that much about it, so there was a lot to find out.

Chris Lee: *So how did you get to grips with them then? They're rather large creatures, aren't they, and not known for their docile nature.*

Dick Laws: That's right. Well, I read the literature and so on and I decided that the route to finding out as much as I could about them was actually to collect specimens. So, I would have to shoot elephant seals and make collections. I was going to study their breeding biology, so I would make collections of various organs related to reproduction. I had been a medical student so I'd done Human Anatomy in the medical school but I only lasted for one

year. I found the Cambridge medical teaching at that time in anatomy wasn't very good and one of the good things about the tripos is that you can change your choice and so I decided, having starting on Anatomy, Physiology and Biochemistry, that I would take up Zoology, which was what I really wanted to do, and drop Anatomy, so I ceased to be a medical student and I did Physiology and the other necessary parts of the work for a degree. I had good supervisors, so I did quite well. I did Part 2 Botany from what I had learnt at school, what I'd taught myself at school. One interesting thing is that when I was at Dame Allan's School, we had very few masters. We had no Biology master

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and those of us who wanted to Biology decided we had to teach ourselves, so about a dozen of us in the sixth form decided we would do that and we developed a seminar system where we would take turns to read up a subject and give seminars to our fellow biologists and it was a very successful method, which I think it would be fair to say I devised, and that sixth form eventually produced a number of headmasters and scholarships to university and so on and the system that we devised was to read up on the subject and find out as much as we could from reading and libraries. We had no-one to actually teach us, but one day two of us went across to the freshwater biological laboratories on the other side of Lake Windermere. That was in Ray Castle, which was a large, formidable building and we boldly asked them to show us their work and two of them agreed to do so. A fish biologist and an expert on freshwater ecology, working on Lake Windermere, agreed to show us their work, their laboratories and what they were doing and tell us something about it. Funnily enough, that's where I developed an interest in the rings on the bones of fish, the opercula bones of fish, which can be used to tell the age. And much later that became a major part of my research, because I found that when I was working on elephant seals I found a way of telling their age by studying the layers in their teeth, which marked the year old, but also you could follow the life history of the animal through these layers and that became a very important new technology in vertebrate biology, so that happened at quite an early stage.

[37.56 min] Chris Lee: *Can you remember how you rumbled that, was it inspiration, had you read something about it?*

Dick Laws: No, I hadn't read anything about it. I'd picked up some elephant seal teeth from a beach on Signy Island and looking at them, I found they had ridges on the root. They were quite large and so I sectioned them, with very primitive equipment, I didn't have anything more than a hacksaw and a sheet of sandpaper. I happened to have a very inadequate microscope but it was enough to allow me to look at the microscopy of it. And that led to me becoming the first person to develop the method of telling the age of mammals from the rings in their teeth, which later came to be used on a wide range of mammals. But it enabled me to be the first really to have a collection of biological specimens from any seals, from any mammal really, which I could age and so I could relate the biological status of the animal to its age, males and females. That was a very important part of studying the

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population dynamics of mammals and it's widely in use now.

[39.58 min] Chris Lee: *So the original decision to section that tooth was inspiration, was it?*

Dick Laws: Yes, the elephant seal has seasons when it's at sea feeding and parts of the year when it's ashore, when it moults and doesn't feed and I worked out that probably when it was feeding, the teeth would be growing, but when it was moulting the teeth probably weren't growing. The very first thing I did along this line was to look very carefully at the teeth and make cross sections of them, and I predicted that the growth layers would be in a particular pattern, according to the annual cycle of the seal, which was that there were thick and thin layers, in feast and famine, and that was recorded in the teeth. And I worked on that without any equipment, just a hacksaw and sandpaper in the little hut at Signy Island, and it was exciting. That was part of my first research, no-one had done it before although I later discovered that a Russian guy called Chapski had drawn attention to the fact that there were rings in seal teeth, but he'd never actually used it as a means of telling age.

[42.07 min] Chris Lee: *So, rather like doing the cross sections of trees in the forest, you were able to actually work out the relative ages of seals, one to another?*

Dick Laws: Yes, I could build a family tree and I could do the age structure of the population, which was an important thing to know if you're studying the population dynamics of a population and no-one had really been able to do that before, not on any mammal really, certainly not on any seal.

[42.50 min] Chris Lee: *What did you conclude about the seal population? Was it in decline, or was it flourishing?*

Dick Laws: It was very small. In fact, they knew that before I was sent there, because Gordon Robin had reported the numbers of pups as being only about a hundred. I found that it was a small population but it was not increasing, it was fairly level. I later went to South Georgia with my later work, because a population of a hundred or so wasn't really enough to do proper population dynamics work. So I went down on my second Antarctic trip as a seal biologist to South Georgia. I was Base Leader at Signy Island, my two companions were much older than me but I was in charge. One of them, Derek, a meteorologist, had been with the partisans in former Yugoslavia. His plane crashed, he was in a Lancaster as a navigator, but he made his way out with the help of the partisans. Funnily enough, I had met him in the Lake District some years before and we had climbed together for a day. He was doing a degree at Durham and he'd come down on FIDS as a meteorologist, because he wanted the experience.

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He was going back to finish a university degree.

My other companion was a heavily bearded radio operator called Ralph Lenton, who later was in the Transantarctic party, not the crossing but in important parts of the operation. And he kept us in touch with the rest of the world. They both worked with me on the seals. I couldn't have studied elephant seals in the kind of detail I wanted without their help, which they were very ready and willing to give and it was something different from their jobs, it got them out of the hut. I was lucky with those two companions, we got on very well. It was a very primitive life in those days. We lived in a small, primitive wooden hut, little more than a garden shed, really. It was probably about the size of this room, I suppose. It had four bunks, it had been designed for four people, four FIDS, and the previous occupants had been Gordon

Robin as Base Leader, and three Falkland Islanders who had been the meteorologists and radio operator etc. and handyman. We had no real facilities, we had the radio and Ralph always had problems with that, getting it to work, because it was a clapped out old war surplus radio. Derek was keen on geology and I accompanied him and helped him with his geology and he helped me with my seal work. We produced a detailed map of Signy Island, improved the one that Gordon Robin had drawn up. I helped Derek with that and he helped me with handling the seals. I had to find out how to shoot seals; we had 303 rifles, which weren't terribly good. I hadn't really shot anything before, but because I had decided to make this my research topic, I had to be committed to collecting seals, that was the way forward. So I had to shoot seals and I found that extremely distasteful initially. I had killed the odd rabbit, but it went against the grain.

Chris Lee: *The science was too important?*

Dick Laws: But the science was important and interesting. At that time the world was different and there were no animal protection societies who were interested in elephant seals and so on. But I was getting very interested in the research and this was a methodology that was used in seal research, so I developed it and with the seals I shot, I aged all of them and got biological material from them of very great value. That was the first time anyone had been able to do that, because they hadn't had the age determination method, but my sample specimens were known age animals, known age and known sex.

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Chris Lee: *It strikes me as being quite a leap from that discovery to the similar technique you used on ageing fin whales, when you were analysing the earplugs. I mean, you had one moment of inspiration about the elephant seals' teeth, did it require an even bigger moment of inspiration to think you could apply that to the earplugs of fin whales?*

Dick Laws: No, by then of course using fish scales was a recognised method of age determination, so it was a matter of applying that to seals' tooth sections. The ear plug was a later part of my career, because I became a whaling inspector some time later.

My first real job was at the National Institute of Oceanography and I was working on whale biology. The objective there was the protection of whales and the methodology of conserving them. I worked at the Natural History Museum and one of the methods that I used was to slice what was known as the whale ear plug and it had growth layers in it. It was a horny, waxy plug; in fact it was first known as the wax plug. It was actually a key part of the whale's hearing apparatus, the baleen whale hearing, and a chap working at the Natural History Museum had done research with the Keeper of Zoology on fin whale hearing using the wax plug. Earlier, a chap called Lilly, on one of the earlier expeditions, had shown that the ear plug had growth layers in it.

So we looked at the ear plugs, I collected the first big sample of ear plugs when I later went South as a whaling inspector. That was the only way of studying whales in those days, you went as a government inspector on a whale factory and as the whales were processed and hauled on board, you had to get what samples you could from these huge carcasses. In a big Blue Whale, the biggest I measured was 97 feet long and everyone else on the deck was concerned with cutting the whale up, so you had to take advantage of what they were doing and go in and collect what you wanted. But it was the most dangerous job on the ship because

they each had maybe a ten minute slot of time when they could collect what they wanted for the processing. It took me longer, so I got involved in a complicated process which was highly dangerous, with heavy machinery working. The Norwegian whalers took delight in making life difficult for the inspectors and there were wire cables lying on the deck, attached to steam winches and their delight was to put the full pressure on the steam winch and ensure that the wire that you might be standing on went up in the air. So it was highly dangerous. And I worked on that, I had a voyage that lasted about seven months.

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I was the junior inspector, paid by the National Institution of Oceanography, who were reimbursed through the Whaling Commission. So that's how I got into whale research.

[55.12 min] Chris Lee: *Was that as distasteful or more so?*

Dick Laws: Well, I guess by that time I'd cut up a lot of elephant seals. To an ordinary person it would be distasteful, but it was very scientifically interesting to be following these lines. No-one had done it before, but there were times when I wasn't all that happy with it. But, of course, I had the job and I had to carry it out.

My senior inspector was a retired navy commander, Inspector Buckle was his name, who was a real character. His idea was to do the night shift and leave the day shift to me. There wasn't all the much to do on the night shift, actually, so he wrote the ship's newspaper.

[56.26 min] Chris Lee: *And how was the discovery of those techniques transferred to other mammals elsewhere in the world? Was that your thinking, or did somebody pinch your ideas?*

Dick Laws: I was involved in the first expedition to a Norwegian whaling station. The whale ear plug had been found, but a good method of extracting it from the whale hadn't been found and, of course, whales are very big animals. The ear plug is about that much from the outside ear.

Chris Lee: *About a metre in?*

Dick Laws: The ear passage went in for over a metre and it was a hearing passage for the whale. It didn't have a locked ear like humans and so the tube was pinched off by growth and the plug grew like a tree trunk from near the ear drum. Layers were added to it, very small layers. You could collect the ear plugs if you knew how to, it was quite difficult initially until we'd devised a method and I went up to a Norwegian whaling station with a chap who had found the ear plug method initially, a chap called Peter Purvis, and I knew my way round the whales and we developed a method of collecting whale ear plugs which became THE method and I published on that. And of course, subsequently biologists working on whale biology on the factory ships used the earplugs in preference to what before had been the scars related to reproductive changes in the ovaries of the whales. So I wrote a 160-page paper on the fin whale reproduction, that was my next big job and I became the expert on it.

[59.15 min] Chris Lee: *The same technique could be employed on land with mammals?*

Dick Laws: Not the ear plug because, as you know in our ears the wax isn't really hard and it doesn't stay. In land mammals, the teeth were the answer. The method that had been used was to look at the teeth that had erupted and

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their wear in mammals. I did that on elephants later.

Chris Lee: *In Kenya?*

Dick Laws: In Uganda first. One of my colleagues didn't believe that the whale teeth developed the way they do. They're formed in a little capsule near the ear in the skull and they migrate downwards in the upper jaw, growing in length and in size lengthwise and so they give you a clue to the age and I worked out how to age elephants, which was very important later in elephant studies, which I got involved in.

[1.00.48 hr] Chris Lee: *Very quickly, in a nutshell, why was it important? Was this to do with maintaining herds and populations of elephants?*

Dick Laws: The elephant work was conservation based. In order to understand elephant population dynamics, you need to know their biology, their growth and how they age. I was the first person to work this out and successfully showed how the ears of the whale developed these huge teeth in the jaws and they could be used to age the animals, which is an important part of population dynamics of course, and I was the first to do that. Before that, I'd worked on hippopotamus. I'd set up a research station with Nuffield Foundation money for Cambridge, this came after I'd got my PhD actually.

Chris Lee: *You were talking about the importance of ageing elephants in terms of population levels.*

Dick Laws: Yes, if you want to know about population dynamics of elephants, it's important to have a means of telling their ages. Now, of course, people can study living elephants by spending perhaps years following individual elephants and trying to measure their heights and get ages from the heights and things like that. That was eventually done but of course it took thirty years. I had done it, I had found a method of ageing elephants.

Chris Lee: *The reason for doing this was to ensure they were not over-hunted?*

Dick Laws: Yes, it was to find out enough about the population dynamics, so that they could actually be conserved, although the conservation involved culling, because elephants are very destructive animals and they destroy their habitats. After the hippo, that was the next big animal I studied and I became THE expert on elephant biology, in fact I have a book there on it. And so that was very interesting. By then I was married and my wife came out and we had a house in Uganda, in the National Park - the Queen Elizabeth Park - and I had Cambridge research students. I had an academic position in Cambridge and I came back and did some research in the Cambridge labs in study leaves in Cambridge, that's when we moved into this house.

Interesting clips:

Tracks 6-7. 24.52 min. First trip South and study of elephant seals.

Track 10. 44.49 min. Second Antarctic trip, seal biologists, South Georgia. Companions.

INTERVIEWEE: DICK LAWS

Edited transcript of interview with Dick Laws conducted by Chris Eldon Lee at his home in Coton, near Cambridge on 6 October 2009. Transcribed by Elizabeth Edwards,

[Disc 1 – 2 July, 2010]

[Disc 2 – 2 August, 2010]

[Disc 3 –

[Disc 4 –

[Disc 5 -

Disc 2, Track 1 [00.10 min]

Chris Lee: *Maureen was very keen you should tell me about your earliest experiences South.*

Dick Laws: They were very interesting, actually. Nothing like today.

Chris Lee: *Go on.*

Dick Laws: I went down by ship. I had two months to prepare before I set sail. At the beginning of that time, I had been interviewed by a committee and one of these members was a very antagonistic chap, who obviously didn't think much of scientists, so he was asking me questions that were directed at the uselessness of science and so on and we had a bit of an exchange and I gave him as good as I got. I said, 'Well, in my opinion scientists know more about the Arts than the Arts people know about science'. And it went on in that tone, he was a really aggressive guy and it was the first job interview I'd had.

Chris Lee: *Do you happen to recall his name?*

Dick Laws: His name is famous, because I found it in *The Times* many years later. Now what was his name?

Chris Lee: *If it comes back, pop it in later.*

Dick Laws: Yes, I will, he is well know, because *The Times* article mentioned his death and actually said that he was known internationally as a very aggressive questioner at interviews for the Civil Service. I think he was one of the Civil Service lot and he obviously wanted to make me squirm and it just made me feel slightly antagonistic to him.

[02.19 min] Chris Lee: *So did you leave thinking you weren't going to get the job?*

Dick Laws: No, they told me while I was still there that I had the job and I had been headhunted, really. In that first period, I was given two months to prepare, I was told to find out all I could about elephant seals and this new small colony they'd discovered at Signy Island. The ship had just been commissioned and it was being named by the wife of the Colonial Secretary, Creech Jones, and we had to wait for that. We were being given, I think, a small living allowance in London in that period, because I had a lot of work to do in London, buying my equipment. I was given £100 to spend on materials and books and so on and that money had to provide me with cellulose paints, to paint elephant seals with coloured paint, so that I could recognise individuals and follow them up in observation. I decided I needed alcohol to preserve specimens and various other things.

Chris Lee: *Microscope?*

Dick Laws: No, I didn't have a microscope, I got a microscope in Port Stanley in the veterinary office, I found a microscope there. I didn't lift it, I borrowed it and took it to Signy Island with me, which was to be my base.

I also was very well treated by Colin Bertram, who was Director of the Scott Polar Research Institute and Senior Tutor at St. Johns. He'd been on the British Graham Land Expedition and was a biologist

Track 2 [04.48 min]

and he was probably the top seal biologist in Britain, if not the world, at that time. He'd just published his BGLE work. He very kindly gave me access to his whole reprint collection and I had some talks with him and so on and that was a very good start. I used his rooms in St. Johns to access his collection. I knew nothing at all about seals at that time, because the Zoology degree at Cambridge doesn't really refer to them. I'd done Part 2 Zoology and got a First Class degree. I was in what they called The Golden Year. There were 24 of us in the Part 2 final year class in that year and I think 18 of us got Firsts. They were a remarkable group of people who went on to do very important academic work as Professors or similar.

Chris Lee: *What was the year, Dick?*

Dick Laws: The year was 1947, just post-war. The important part of the Zoology course for me was that was the third year of my undergraduate work. I chose to make my special topic *Vertebrates*.

Chris Lee: *Quite a broad field, isn't it?*

Dick Laws: Yes, yes. Well, you were given a choice of invertebrate physiology or animal behaviour or what have you, probably about eight or nine fields and you had to give one of them as your special area that you wanted. Population Dynamics was another one, I remember. It was mainly because the course members were all very, very bright people that we more or less taught ourselves again. It was a wonderful time, it was known as the Golden Year for a long time after.

[07.31 min] Chris Lee: *So in your preparations for the Antarctic, were you kitted out with clothing?*

Dick Laws: No, when I went South they said 'Take a suit along, because the Governor will invite you to dinner at Government House' and I took the only suit I had which was one I had made in Trinity Street when I was a student. And of course that was the suit that got absolutely ruined, because I had to wear it as working clothes, because when I reached Signy Island, which was to be my base, I found – in fact Gordon Robin told me (he'd been the Base Leader who I was taking over from) – that I'd been sworn in as a magistrate by the Governor in Port Stanley, that allowed me to give warnings to Argentine war ships to keep off British Crown Land and there were signs of a Union Jack and British Crown Land signs. And I said, 'What do I do if this happens?'. And they said, 'Row out to it, and you give them a Note of Protest and we have some blank Notes of Protest, you just have to fill them in appropriately

and row out and hand it to the captain and go back to the base'. I'd never done anything like that before.

Chris Lee: *So where did the suit come in?*

Dick Laws: The suit came in because I had only a very, very short time to take over the base and I was to be the Postmaster, so I had to take over the accounts at the Post Office from Gordon. And it's something he never forgot, because he kept telling me when we met later that I had accused him of having a discrepancy of five pence

Track 3 [09.49 min]

in the stamp account [laughs]. Gordon had had a year with three Falkland Islanders, who were general assistants. Gordon was the Met Office officer and he had come down to do some surveying research using radar, because he was a physicist. But his radar hadn't arrived, and so he hadn't been able to do any research, but he had sent a report back about this elephant seal colony from Signy Island and he'd done some very good observations on them, he'd made counts in the breeding season of the behaviour, the birth of pups. He'd worked out that there were about a hundred pups born in the colony and they were born on the sea ice and on the snow covered beaches. He'd written a good report and the other thing we had to do in the short time we had, I went ashore on Signy Island on 11 February, I think. Bunny Fuchs was the leader of our party and he'd gone ashore early in the morning and came back on the ship and said he was very worried about what the Fids had been doing, because there were a lot of dead elephant seals on the shore. And it turned out, of course, that they weren't dead, they were alive, they were just in a heap on the shore.

And so the rest of the time at Signy Island we had a very short visit of the ship and that was spent getting the re-supply ashore, with very primitive hauling gear – manpower - and using some barrels as floats and wooden planks from the whaling station to form a sort of walkway. Our saviour was the bo'sun from the ship, who was a huge, Scottish islander and he could carry two hydrogen cylinders, one under each arm we reckoned, and they were very, very heavy of course, as you probably know. But we spent a lot of energy just carrying stuff over a boulder beach there, up a slope to about a hundred feet above sea level, which was the height of the base, and stacking them. There was ten tons of anthracite among it, in sacks, and these went up on our backs. There was fuel oil that had to be rolled up on planks up this hill, and there were all the new stores that had been requisitioned by the base on the appropriate pattern and I had to take the handover from Gordon and get his advice about the island and the life down there. I had no experience at all, none of us had in fact.

[14.00 min] Chris Lee: *You were twenty-one, weren't you?*

Dick Laws: I was twenty-one, yes.

Chris Lee: *And you were doing all this in a Trinity College suit, were you?*

Dick Laws: Well, towards the end of it, that was the only reasonably warm piece of clothing I had. But we got into the new clothing and that included some windproofs. Actually I had brought, with a bit of foresight, some clothing with me and we did have our main working clothes, which were blue, navy cotton work jacket and trousers. The men who'd been there the previous year, the Falkland Islanders, all had very big feet and so they'd worn out

Track 4 [14.51 min]

all the base stock of boots and that was one of my main problems. My companions were Derek Mayling, a guy I had climbed with in the Lake District on one day earlier that year and he was still a student at Durham. He was doing a degree in, I think they called it Geography then; he became eventually in his career a leading cartographer and he became a lecturer at Swansea University. He had been in the War and he was about four years older than me. He had been a navigator on Halifax, shot down in flames over Yugoslavia. He made his way out with the help of the partisans, across the German lines and so on and he had lots of stories about that, of course. My other companion was Ralph Lenton, who had been a lorry driver on the A1 and he had done an apprenticeship as a coupar and was a very good carpenter.

We landed on 11 February and the very first thing I decided we had to do was to extend the hut. The hut itself was very small and I didn't want to be doing the sections and so on in the living room, which would have been necessary, so I said 'the first thing we'll do is build an extension to the hut', which was going to be my laboratory. We used materials from the old whaling station. They had built a dormitory hut for the whalers about a hundred yards from where our base was, a beautiful Norwegian prefab made of panels with superb insulation inside the cavity. And so we carried those across to the base and we got some big two-inch rafters and so on from the remains of this dormitory hut and Ralph, who was very good at this, said 'Well, we'll build a wing'. And so we built a pitched roof extension, I showed it to you on that painting. We had glass windows from the old Norwegian buildings and the first month we spent building this extension. The actual hut we had when we got there was very dark and very small, it had tiny windows and two different kinds of Esse cookers, which were anthracite fired, that's why we'd had all the anthracite to carry up. We had to learn about those and Ralph had to get his radio set up and working and Derek got his meteorological equipment together; his met room was a plan chest in the living area and Ralph's radio office was in the living area. We had a folding table and some director's chairs, canvas chairs. The kitchen was a bench. The bath was a hip bath and we had a Nissen hut which took the stores, which were mainly tinned food, dehydrated vegetable

Track 5 [19.49 min]

cubes, peas, and so on – very unsuitable, really, for a good diet. Later we took to fishing and we shot the odd shag - we had a twelve bore - and so all the time I was there we supplemented our food with, you might say, living off the land. We drew the line at eating elephant seal meat but we occasionally shot a Leopard seal and had some decent meat. Most of the food was dehydrated stuff, or powdered. The tinned food tended to get crumbly and powdery in the cold, because we only had a loft to store things in a warmish situation. None of us knew anything about it. Derek set up his met screen immediately on Berntsen Point and Ralph got the radio working, which was war surplus and very poor quality, needed a lot of attention before he had it actually working. He had to grind his crystals down until he got the right level he needed. I must say, he was a very good radio operator, he'd been the radio operator on the Atlantic convoys, across the Atlantic on the Mac ships and I was very lucky. There were only three of us, because the first *John Biscoe* hadn't been able to get back into Signy with the fourth man who was intended to be in the party.

And so we became the second smallest party to winter in the Antarctic since the people at Waterboat Point down the peninsula. There was a lot of extra work as a result, we had to do

all the base work – keep the base in order, make repairs, ourselves. And we were very fortunate to have Ralph, because he had these qualifications as a carpenter. Anyway, I decided the first thing we should do before the snow came was to build my laboratory. We actually had some fun over it, because we designed the laboratory. We had to carry all the materials from Norwegian hostel, which had collapsed due to bad weather, across the slope. These were big 8 x 4 panels and very big beams from the whaling station.

Chris Lee: *Was the result of the extension 'Ideal Home'? Was it snug and cosy?*

Dick Laws: It was extremely good, we had some windows from the Norwegian dormitory. We had a double insulated floor with proper floor planks, which we got from the whaling building. It was much better than the base hut, which had been brought down as deck cargo, it hadn't been properly designed and when we had completed my extension, we cut through the walls of the

Track 6 [24.48 min]

old hut and found that what they were was wooden planks with a gap of about an inch between them and then, it was a sort of soft board which was not very thick, and that was the inside layer. The outside layer, we had roofing felt which had been supplied, and we put that over the wooden planks. But when we cut through the wall to make a door into the laboratory, we found that there was actually no insulation in the wall and the wooden planks had a gap of about an inch between them.

Chris Lee: *The cavity?*

Dick Laws: The cavity. No, there was a cavity, but also between the planks as they lay above each other, there was about an inch gap. That was all that there was between us and the environment. And the lowest temperature we had in the ensuing winter was -40° I think. We had gales of up to -150°, it was right up on the top of the Point, you see. So we had to build the extension, in fact the extension was better than the original hut, so it was just as well we did it anyway.

[26.35 min] Chris Lee: *What was the combination like in the field? I gather the tents weren't exactly designed for ??? [inaudible].*

Dick Laws: Well, of course, we'd come to the Antarctic for adventure and so on, and one of the things we wanted to do was sledging. There were some of these British Army manhauling sledges, which we had to rebuild. Derek was a geographer and we planned on mapping the island and Coronation Island, which was a bigger island to the north. And so we used the met alidade to do the cartography and then a plane table we had, which I used under Derek's instruction. Gordon Robin had done a map of the island and I improved that and it was eventually the basis for the map which Derek made of Signy Island for the Department of Colonial Surveys and for FIDS. So we had great fun. It took us a month to rebuild the hut and make it liveable in.

Chris Lee: *I was asking you about the tents in the field, Dick. What were they like?*

Dick Laws: The tents in the field, well we'd asked for a small tent to take manhauling on the sledge and the tent we were given was like a small mountain tent, with no ridge pole. There

were a couple of $\frac{3}{4}$ inch bamboo poles, and it had a floor cloth but the canvas wasn't strong. We also had some old pyramid tents, which we did put up to try them out. This was in the winter when we were starting to think of our journey. They were small and they weren't terribly good and so on our first journey we took a small bivvy tent which had been sent and we crossed to Coronation Island. Before that, the first adventure we had was when we were on Signy Island and we had a wonderful view of the mountains on Coronation Island

Track 7 [29.49 min]

to the north and we thought we'd like to see a bit more of our surroundings, so we'll row across to Coronation Island.

Chris Lee: *All three of you?*

Dick Laws: All three of us, which was about three or four miles, across Normanna Strait. And we had a little Newfoundland dory, which was very small, and we rode it across to Coronation Island and we saw our first Weddell seals and penguins and all the exciting scenery and everything and we landed in what we called Shingle Bay, which was part of Coronation Island, with mountains rising to about 4,000 feet.

We'd taken mapping equipment and so the first thing we did was to make a depot in this little tent. We'd brought some food and supplies over and we did that at the back of the beach on the edge of a penguin colony. And then we pulled the sledge and supplies up to the top of the glacier which was a col and made a depot there. We had no sledging rations, just ordinary tinned food. We had no proper pemmican. We had tins of bully beef, and when we got to the top of the ridge, pitched our tent and opened the food boxes and opened a tin of bully beef, we found it was black and uneatable - this was army surplus that had been supplied by the Crown Agents! The rest of the food we had on base that first year was pretty bad as well. A lot of it was not very good, the only really edible stuff were the dehydrated vegetables. Our hate was sardines in tomato sauce, pilchards in tomato sauce, and we had our hates of various other things which we refused to eat. So we did live a bit off the land by fishing and so on. We had flour, of course, to make bread and we made the best of it and we survived OK.

In that first year, we got to know the island very well, we completed the mapping of it and made our first winter journey, which took us across a big glacier we had seen when we'd been to Coronation Island. We got back that day only because we were rowing back and a sea got up and the wind from the west caught us broadside and was pushing us to the east where we didn't want to be. Ralph said he thought he'd read somewhere that if you were rowing a dory and the seas got a bit difficult, then it was a good idea to take the plug out and let some water into the dory and that would stabilise it. We knew nothing at all about it and Ralph was quite firm about this and so we pulled the plug out and let some water in and we put the plug back again. And of course it did stabilise the boat, it sat lower in the water anyway. And we rowed the four miles back to Signy and we just made it really. That was our first real excitement.

Chris Lee: *You just made it because you were getting tired, or?*

Dick Laws: Well we were getting a bit tired, yes. Not because the weather was too much for the boat. We managed to control it, but we had to keep edging up into the wind

Track 8 [34.49 min]

and so on, so it made it slow. And, of course, only two people could row as we only had two lots of oars, although there were three of us in the boat,

Chris Lee: *Was there any occasion during those early years when you did fear for your life?*

Dick Laws: Well, I suppose that was an occasion when it was very dicey. I'm sure there were occasions when I feared for my life, when we were climbing around the island. We made a later winter journey, a sledging journey this was, in midwinter. We were out on Midwinter Day, all our provisions, which weren't sledging rations, we did have a little pemmican but it wasn't much good, but we had tinned stuff. We had the run of the *Polar Record* and we relied on the articles in there to teach us about Antarctic living, you see. And it told us all about the manhauling sledges and we rebuilt them and so on. So we decided that our first winter journey would be across to Coronation Island. By that time we'd been across by boat several times, and we decided we'd pull the sledge along the south coast and map the south coast of Coronation Island, which hadn't been properly mapped before. And Derek wanted to do some geologising because he was interested in geology and so we helped him collect rocks on shore. We mapped it, plane tabling, and Derek set up survey triangulation points along the coast and we went all the way along the south coast, with a number of stops. By now we had a small pyramid tent which we had managed to mend and that was much better than the mountain tent they'd sent us earlier. And so it went on, we gradually learnt by our experience.

[37.45 min] Chris Lee: *What was the difficult moment that you were talking about? I asked you if you had feared for your life and there was a moment you were about to tell me about?*

Dick Laws: There was a moment on this winter journey I was starting to talk about. It was midwinter and we'd got to the east end of Coronation Island, to the Straits between Coronation Island and the rest of the South Orkneys and we had ventured over an ice field and up to a ridge behind. We were mapping, and darkness came. We were in the moonlight and we had to get back to our camp on the sea ice, in a bay just off the south coast. We had to get back to our camp and we had to cross a glacier to do this. So we roped up and we were crossing crevasses, jumping them. We didn't really have proper climbing equipment, we had some ice axes but they were pretty grotty and broken. The moon was shining quite brightly, fortunately, and the crevasses weren't too broad, but you jumped with faith, you know [laughter]. We'd had no training at all in Antarctic travel, none at all. We'd read the *Polar Record* articles and got a little from that.

Track 9 [39.46 min]

Fortunately, the moon was out and we came to a point where I was leading and I thought, 'This is a very big crevasse'. And it was actually the sea edge of the ice front of the glacier.

Chris Lee: *The sea below?*

Dick Laws: The ice below. Fortunately I could see it. If I'd not been able to see that far, I might have jumped in hope. If the moon had been in, we could have gone in. But that was just Derek and me. Ralph, sensibly, stayed behind to provide the contact with Stanley and so on. And, of course, it was our first real experience of polar travel, we weren't properly

equipped really. I think then we didn't have proper crampons, for example, we got those a bit later. We didn't have proper clothing, we had ordinary knitted string vests, which weren't anything like thermal vests. And along that south coast where we were travelling, the temperature did go down. There were these coombs holding glaciers that went into the land, and they had pockets of very, very cold air, which we measured at down to -45° on that trip. We didn't have proper sleeping bags. There had been a film party were making a film about Fids down the peninsula and they'd left behind their sleeping bags, which were very heavy, not very well insulated, bags. They had a rubberised bottom part and they weren't all that warm, the down wasn't all that good. We took those, the temperature did go down to -45° and we didn't have a very good primus, it wasn't working very well, they're temperamental anyway, and the paraffin was poor quality, so I decided at one point that we really shouldn't close the tube in the door, because I knew enough about it to know there was danger of us gassing ourselves. We did notice we had headaches, so we opened the tube and from then on when we were in the tent with the primus, we had a tube open to the outside air, which was -45 on occasions when we measured it. And we didn't have proper clothing, we had our string vests of course and seamen's jerseys and I suppose we had thick, tartan shirts, that was about it.

It was all very exciting, of course, and we were determined to really be in the Antarctic and we certainly were.

[44.00 min] Chris Lee: *I'm going to stop now, Dick, for this morning. Thank you very much indeed.*

DISC NO.	TRACK NO.	TIME CODE START	INFORMATION
2	1	00.10 min	Interview/er for job South. Preparations to go South.
2	2	04.48 min	University – the Golden Year students. Clothing for Antarctica.
2	3	09.49 min	Signy Island.
2	4	14.51 min	Extension of hut at Signy. Derek Mayling, Ralph Lenton.
2	5	19.49 min	Ditto
2	6	24.48 min	Signy extension. Field tents.
2	7	29.49 min	Trip to Coronation Island. Mapping.
2	8	34.49 min	Adventurous journey to Coronation Island.
2	9	37.45 min	Ditto. Inadequate gear for journey.

INTERVIEWEE: DICK LAWS

Edited transcript of interview with Dick Laws conducted by Chris Eldon Lee at his home in Coton, near Cambridge on 6 October 2009. Transcribed by Elizabeth Edwards,

[Disc 1 – 2 July, 2010]

[Disc 2 – 2 August, 2010]

[Disc 3 – 16 August, 2010]

[Disc 4 –

[Disc 5 -

Disc 3, Track 1 [00.11 min]

Chris Lee: *Can we talk about your second period at BAS this afternoon? I appreciate you left BAS, or FIDS, and went off and did other things. What drew you back to BAS and when was that?*

Dick Laws: I'd had a year at South Georgia, which was very interesting, because I was working on the elephant seals and I drew up a management plan for the elephant seal population. I found it was declining, had been declining for thirty years, partly as a result of the tooth ageing that we talked about. The tooth ageing showed that it had been declining and was still declining, so I wrote a report and passed it on to the Governor with recommendations and he introduced my new regime. I predicted what would happen if they put it into effect and it went exactly as I said it would. I said they ought to appoint a sealing inspector and they did that. I said that the average age of the catch of males - they just tripped the big bulls - would reach about seven and a half years in the catch and I said what they ought to do to stop the decline, there was a decline. And it all went as I said it would and we were able to get the teeth back for each year for ageing and followed it until the industry finished. It was a very interesting bit of science, actually.

Chris Lee: *But then you went away and you returned to BAS some years later?*

Dick Laws: When I left BAS the first time, let me see, I must have completed my PhD by then. What happened was that I went to the National Institute of Oceanography as a biologist.

Chris Lee: *This is from 1954 to 1961, I believe? Approximately.*

Dick Laws: Yes, in 1961 I became a Senior Scientific Officer at the NIO and I worked on whale management, with a view to conserving them and helping in arresting the decline of the whale stocks. I worked there until about 1961, when I was approached about a job in Africa. The Professor of Zoology got me to come to lunch and said he'd like me to set up a research station in Uganda.

Chris Lee: *Which you talked about yesterday?*

Dick Laws: Yes.

Chris Lee: *So my question is really, you came back to BAS in 1969 as the head of Life Sciences Division, is that correct?*

Dick Laws: That's right. I went from Uganda to Kenya and set up another research unit in Kenya, on elephants. Then I had to leave Kenya because I had problems there, African affairs are pretty awful to get mixed up in and eventually I resigned from that job, though I had got the money from it, I got \$2 million from the Ford Foundation for an East Africa wide elephant programme, which was going to be in Uganda and Kenya and Tanzania.

Track 2 [04.50 min]

Eventually, I had to resign because I found I wouldn't get anywhere with the awful people I had to deal with. And so I left, came back without a job, although I'd been offered a job in Canada by the Chief Scientist at the Canadian Wildlife Service, with a view to working in the Arctic, so I was expecting that when I got back here in 1969. Meanwhile, they had a new President, I forget his name now, but he made a decision that there should be no new appointments to the government service.

Chris Lee: *Was this Pierre Trudeau?*

Dick Laws: Trudeau, yes, that's right. He froze all the new appointments and so there I was, married, with at that time two children and what was I going to do?

Chris Lee: *At some point, you must have applied to BAS or did they come looking for you?*

Dick Laws: Oh, Bunny came looking for me. He'd changed the structure of BAS, so there was a senior appointment which would appeal to me, which was Head of Life Sciences.

Chris Lee: *Do you think he changed that specifically to attract you, or was that something he was doing anyway?*

Dick Laws: I think it may have been to attract me. I'm not certain and we didn't discuss it but I'm pretty sure that that was it. The modern BAS was started then, because I changed the structure and what was done in biology life sciences and that was the start of the new BAS really. I then had a job and so that problem was resolved and I was working at Monkswood, which is just north of here. The BAS biologists were based there then, in a series of portacabin structures. Did you see them?

Chris Lee: *No, but I'm just smiling because this morning you were talking about having to build your own laboratory and here you were in another wooden hut [laughter].*

Dick Laws: Yes, that's right. That's quite a good story because the system was run by a chap called Ted Smith, who was a very funny guy, but he'd been a seals officer in this country working on grey seals and he wasn't doing very well. But I was appointed Head of Life Sciences and based in Monkswood. I had this house then, so it was convenient to commute to Monkswood.

Chris Lee: *Here in Coton, you mean?*

Dick Laws: Here in Coton, yes. I was out of a job if I didn't accept Bunny's offer and I was very pleased to do so [laughs].

Chris Lee: *Was there any doubt you would take it?*

Dick Laws: Well, I wasn't offered it, I had to be interviewed and all that sort of thing, but I hadn't any doubt because I felt that BAS biology should change and that it was important. I felt, in fact, that the whole structure of BAS should change, the way the science was organised and done.

Chris Lee: *What was your thinking, what would you want to do to it?*

Dick Laws: Well, at the time I became Head of Life Sciences, so all the biological sections came under my control. That included botany at Birmingham and a chap called Stanley Greene, who was a talkative Irishman and really a bit of a rogue

Track 3 [09.50 min]

And he didn't take well to this because he reckoned that he was in charge of it, you see. So I got him over to Monkswood and told him what my plans were.

Chris Lee: *What was your thinking, Dick, why was it important to change things?*

Dick Laws: Because, immediately I saw what was going on and I knew there had to be changes. At the time the biologists were appointed by deciding on a topic that should be studied. No, they didn't, it's the other way round. They advertised for biologists to go to the Antarctic to work, then they had to find a programme for them to do and so they appointed a man on the fact that he was a reasonable biologist, presumably after an interview. Then they had to find a topic for him to work on and so they gave him a species to work on or a broad biological topic, perhaps. The senior BAS biologists had been recruited in the same way, so they had chosen their topic and there was no real order to it and I felt that this had to change.

[11.36 min] Chris Lee: *Was it too ad hoc?*

Dick Laws: It was too ad hoc, yes. And so I worked out fairly quickly what had to be done, there had to be a scheme. We had to look at the problems that were important and should be addressed and then recruit. Because up to now, the biologists who'd been recruited, they were just people who had a degree in biology and they probably had no real knowledge of anything relevant to the Antarctic. So they would get people, they would appoint them and discuss with them what they might work upon, so people would end up working on marine organisms, terrestrial insects and so on. The topics were very irrelevant, there was no structure to it, no plan at all.

So I came along and Ted Smith left then, he wasn't going to stay [laughter] and fairly quickly I drew up a plan of my own, which was in the form of a diagram, really, because I had to discuss it with people. I had a sheet of paper and I drew squares on it. Krill, for example, was a very important topic, I reckoned. I had to take that up. Fish, other marine problems, marine bottom fauna in the mud and so on - things that were interesting. Freshwater biology, which Barry Heywood worked on a bit later. I put some sort of order into it. The squares I drew were proportional to the importance of the topic. This was for discussion with people. My title and position was, I'd been recruited as Head of Life Sciences and Life Sciences was a new concept and I was dividing up what Life Sciences would do, so I started with Stanley Greene and the terrestrial work and I showed him my idea for

Track 4 [14.46 min]

krill and so on and so forth. Of course, Stanley was a moss man, he was known as 'Mossy Greene' and he was a real talker. He was Irish in that sense, he was very eloquent and very interested in empire building. He didn't agree that I had the authority to change his remit. I wasn't going to change his remit immediately, because I was still going to have a place for Antarctic plants and he had his own little section then, based in Birmingham, in the university. He was called a section head. He was a great talker, Stanley. Have you never heard of him?

Chris Lee: *I've heard of him, I've read about him.*

Dick Laws: He rebelled, you see and immediately said, 'Well, I don't accept your authority'. But my post had been advertised, I think he'd applied for it and so he knew that I'd been appointed and this was not reversible. He did his best to do that and made my life as difficult as he could. He said I had no authority to change his remit, which he had drawn up himself, I think. And he was going to stay in Birmingham, he wasn't going to report to me and all that sort of thing. I didn't try to sack him immediately, I just said, 'Well, I'll give you a chance, but I'm, your boss' and he said, 'No, you're not'. It wasn't really straight, because he was telling everyone that.

Barry Heywood was one of the people that I inherited from the previous scheme and also a chap called Peter Tilbrook who was doing terrestrial invertebrate, small insects. Peter, in fact, was in charge of the biologists at Monkswood when I moved there, but he had no particular status. He did very well, Peter, he was a very focussed guy, but he was a terrestrial entomologist, really.

[18.04 min] I talked to the chaps who were there, including a chap called Ian Rabarts who worked on bivalve molluscs on the sea floor. There was quite a diving programme; they'd introduced a diver to the Signy complement and they worked with, what they called in typical Fids' way, a green zotta, which was a suction pump which sucked up mud from the bottom and then they could sift the mud and study what they found there and so on. And Jim Conroy – I don't know whether you've met Jim Conroy? – he was quite an ebullient Scotsman from Aberdeen, a nice guy, he was in the middle of a study on the giant petrel biology, just general, and there were a number of other projects people were doing. There must have been about thirty, I suppose, or maybe more. There was Stanley's group in Birmingham, they were all terrestrial botanists.

Chris Lee: *Do you think, Dick, on reflection that Fuchs brought you in specifically to shake things up, to re-organise everything?*

Dick Laws: Well, to be honest I'm not sure, Chris.

Track 5 [19.49 min]

Bunny was greatly respected and so on, but he wasn't all that organised. I told him first what I was going to do early on, which was to have the plan and then recruit particular individuals to fill that slot and do that programme, just people who were qualified to do the work and all that sort of thing, so that it wasn't a chancy thing depending on who we managed to appoint in the milk round, as Bill Sloman used to call it, and Eric Salmon. Of course, when I came to

it, I didn't have anything particularly in mind, but I immediately saw that there was no system to the organisation. Peter Tilbrook was in charge of the Monkswood set up and Stanley was the king of his botanical empire as he saw it, that was the biology.

Chris Lee: *So Fuchs' motive then was just to get you back because he wanted you back at BAS, would you say?*

Dick Laws: I think I would be being immodest if I said that. I think it obviously was. But I had trouble with Bunny as well [laughter]. The post was advertised, of course, and a number of relatively senior people, and some not so senior, applied for it and in my position, it was a well paid senior post. At that time, it would have been the only senior post in BAS. I don't think Bunny's post in BAS at that time was even permanent. And, of course, I had a family to look after, anyway, whether I had wanted to take the job or not.

[22.07 min] But I went to the interview and the committee had no doubt about appointing me. They asked me the usual questions, what did I think about the set up and so on. What would I do, what you would expect them to ask someone who's going to be appointed to a senior post. For BAS, it was a very senior post, you see. At that time, it came first after Bunny, I suppose, in the organisation, because Stanley Greene didn't have a permanent post and Ray Adie, who was known as the Deputy Director, was in charge of geology, but he didn't have all that much authority and he was only interested in editing the scientific reports, but he was called Deputy Director.

Chris Lee: *So how did you re-organise it? As I understand it, you re-organised the structure into ecological* [unfinished sentence]

Dick Laws: Well, I looked at the science that had to be done, it brought in the medical section, and I drew up my systems diagram with boxes showing, according to their size the importance I attached to crabeater seals, for example, krill, fish and various other things, getting on to terrestrial biology which I didn't think was all that important, but there were already programmes in terrestrial biology. In fact, that was probably half of what was being done at the time. Peter Tilbrook was one of them and he was in charge at Monkswood then, doing a very good job because he was a very capable chap. I mean the bigger job would have been beyond him.

Track 6 [24.47 min]

but he was what was needed at Monkswood at that time.

Chris Lee: *So you prioritised the species?*

Dick Laws: Well, it wasn't necessarily in species, more areas for research. I'm jumping the gun a bit, but I felt I had to make a visit to Signy, which was the biological base at the time. I mean, I'd drawn up this scheme and discussed it with various people who were already there and Stanley Greene said he didn't accept my authority, just like that. He was a real flanneller. His programme, I thought, was just designed to his special interest, which was taxonomy, that is the classification of life groups – that's crustaceans, fish, insects and all that sort of thing. I called him over to Monkswood - he may even have come to see me first, to try to jump the gun, but we had a, predictably unprofitable, I won't say discussion, but Stanley was laying down his views and I said, 'Well, it's not going to be like that, Stanley, you know', and I told

him what my ideas were, which were just taking shape really then, on the lines I mentioned, setting out the problems and then deciding how to enter that field and what resources to give to it.

[27.16 min] The next I heard was that Stanley had been to see Bunny. He said, 'Oh, I'll talk to Bunny about this' and stormed out of the room and back to Birmingham and told everyone that I was acting like a dictator. He had the flannel of the Irish. We had - not a row, because I don't believe in having rows - but we had a difference of opinion, let's say. He went off to see Bunny, he said he was going to see Bunny so I thought I'd better see Bunny too. So I went down to London and told Bunny that Stanley had been to see me and he didn't accept my authority and I said, 'I understand I've been appointed Head of Life Sciences and that botany comes under my wing as well as the people at Monkswood. The Birmingham group are my responsibility' and so on. And Bunny was a bit sort of equivocal about it. He should really have said, 'Well of course, that's what you were appointed to do, that's what the description of the job was when it was advertised' - it had been advertised, a lot of people had applied for it.

Chris Lee: *So how did you handle the next step then, because you weren't getting 100%, were you?*

Dick Laws: No, I wasn't getting support from Bunny. I told him Stanley was being stupid, because it was never going to happen that way. But we had a disagreement, not a row, I don't believe in having rows with people and Bunny and I were fairly old friends, I suppose, in a way. We'd been on the old *John Biscoe* right at the beginning of the new FIDS. So I told him what had happened, that Stanley didn't accept my authority and that he'd said he was going to see Bunny and I said that that couldn't be and I ended up having a row with Bunny, because Bunny said he wouldn't do anything. He didn't actually say anything. He didn't say, 'Well you're quite right, you were appointed Head of Life Sciences and botany comes into

Track 7 [29.48 min]

your remit' etc. etc. It hadn't been made clear, you see, when I was approached for the job, just what came into the terms of dividing up the biological effort. Much of it was done by university people who were recruited almost ad hoc, it was done in a very scrappy way. So, one of my few rows with Bunny ended up with me saying, 'Well, Bunny, you'll have to support me. If you don't support me and put Stanley in his place, then I'm leaving', and I went out of the room. It took some time before Bunny did anything, actually. It was quite interesting [laughs].

Chris Lee: *That doesn't sound typical of the man, does it? Or was it?*

Dick Laws: Well, I think people were a bit afraid of Stanley Greene, because he had this gift of the gab, you see.

[31.00] Chris Lee: *What did you make of Fuchs? You probably knew him as well as anybody else.*

Dick Laws: Oh, I think I knew Bunny and Joyce. Maureen, in fact, did because we lived in Cambridge, just over the way. Bunny was a lovely chap, a lovely man. He was a disappointment to me when I came to be on his staff, if you know what I mean, in a

responsible position. And he didn't support me with Stanley, Stanley with his gift of the gab just flannelled with Bunny. And what Bunny should have done was to say, 'Well, Stanley, you were appointed from the University on a special appointment to set up a botanical section. This was your proposal, etc. etc. and it's not for you to debate how the biological work is going to be organised and managed.' He didn't do that and Stanley thought he'd won, I think. He must have gone back to Bunny, I think. Bunny didn't come along to me and when I raised it with him, quite reasonably, I said, 'Well, you know Bunny, this isn't good enough you know'. I didn't really know Stanley Greene then, but I said, 'You must know what sort of a chap Stanley Greene is' and it's one of the few times I've actually said I would resign from a job. I said, 'If you don't sort this out and support me, because I'm the second most senior person in BAS and you can't allow relatively junior staff to run the show.'

Chris Lee: *How was it resolved, Dick?*

Dick Laws: Well, it was resolved [laughter]. There was a lot of discussion. Bunny didn't do anything immediately, he didn't support me and Stanley was able to come back and say he'd seen Bunny and Bunny had not supported me. So I knew that and I wasn't very pleased with it. I might have taken the job without having another job to go to, well I did, but it might have been very important to have another job. My respect for Bunny diminished, I don't think he was a man of action really, when it came to things. He wanted to be nice to everyone, I think. That's still the opinion I have and that's the opinion I formed at the time of this event. It was very nasty, I mean I had just been appointed to a senior post, at Senior Principal Scientific Officer level, which is quite high in the Civil Service,

Track 8 [34.59 min]

not very high, but high up in the senior scientific Civil Service.

Chris Lee: *Had there been any hints that Bunny might react that way in your earlier relationship? Had he let you down before?*

Dick Laws: No, we were great friends. I mean we knew them and he had approached me about taking the job and urged me to apply for it, said it was going to be advertised and we used to have Sunday lunch at Bunny's place on Madingley Road, and helped him out with his gardening, I learnt to scythe there. He was not the Director then, he was the leader of FIDS. We went South together along with 25 new people to the bases. I won't say I knew him well, but I knew him quite well. We were good friends, Maureen knew him and we used to go for Sunday afternoon tea. Joyce, his wife, was a very nice person and we used to play tennis, there was a lot of pleasant chit-chat and so on.

Bunny had an interesting background, of course. He's been in Germany after the war as a Kreiss officer/administrator in one of the administrations.

Chris Lee: *So was he a man of charisma?*

[36.40 min] Dick Laws: Oh, he was. I mean, definitely with the Fids he had a lot of charisma. He was full of stories and he wanted to be liked and so he did things that I probably wouldn't have done at times. He gave in to unreasonable requests and so on. I mean I shouldn't be saying this, because Bunny was a great friend, but he had faults, everyone has faults. His fault

was that he wanted everyone to like him, probably. But I had got to know him on the voyage South. I'd never been on base with him. I'd shifted stores with him and things like that, you know. He just called in when we made the first call at Signy on the initial voyage of the *John Biscoe*. Then he went off and became the leader of FIDS and he was in charge at Stonington for the rest of his time, so he in fact was senior to the rest of us. He was quite slow, he wasn't decisive about things, he wanted to be liked and he had lots of stories, which of course the Fids were famous for and they enjoyed his company. He was a charming man, he was a great friend of Maureen and me and we saw a lot of him and his wife. His wife had a pretty rotten time of it I think, actually.

Chris Lee: *He was away so much?*

Dick Laws: Well, he was away quite a lot and he didn't, I think, give her as much time as he should have done, Joyce, she had a raw deal I think. But they were a happy enough family. So, Bunny had faults, we all have faults. His main fault I think was that he wanted to be liked, he wanted people to like him, and he had his fund of stories, of course, which he was very good at telling, he was a great storyteller and he was very popular with the Fids, you've met him?

Chris Lee: *No I didn't.*

Dick Laws: You didn't? He was a lovely man, Bunny.

Chris Lee: *When you re-organised the way life sciences should be conducted, am I right in thinking you introduced more permanent posts?*

Dick Laws: Yes. I was the first permanent post in FIDS, as it was then.

Track 9 [39.50 min]

Chris Lee: *Was there an inherent fault in having so many temporary staff?*

Dick Laws: Yes there was. My reorganisation started in Life Sciences when I became the Head of the section. I talked it over with staff and said I wanted to have a series of sections, each with a head, and designated technicians. The sections would each have a field they were working in. Initially, of course, I hadn't been South since I had come back from Africa, since my early time after returning from South Georgia in 1954, so I didn't know much about FIDS. I had been called in to join discussions about the future of biology in FIDS. Bunny had sent a chap called Jim Cragg down to the Antarctic. He was a Professor of Zoology at Durham. Jim hadn't been given a particular remit, he'd just been told to go down on a cruise and produce a plan for BAS biology in the Antarctic. And they had a little group, which included Bunny and Jim Cragg and they invited me to join it. This was before I was actually appointed to the post. I had had a say in the organisation and I had made the point that Signy should become the main biology base and the best stationary laboratory should be on Signy. I had done my plan of how the biology should be organised. At the time it was organised by people, so Peter Tilbrook, for example, was head of the terrestrial biologists and Barry [Heywood] was then head of the freshwater lake team, which was really just Barry and Jerry Light at the time, and there were one or two others who were just starting.

I discussed these ideas with the more senior Fids, who were effectively acting as the section leaders. And the idea was that they would draw up plans which would be put forward for me to consider and discuss with them, and we then would decide what programme we would implement. That was from where we were then and there were some things that we were doing then which would have to be stopped. At that time I wasn't so stupid as to say that would include terrestrial botany. I didn't want to make any more trouble than I needed to [laughter]. Terrestrial botany was on my big plan, it was a square there; the biggest square was krill and the next one was seals; fish, I considered, were important.

Chris Lee: *You got gyp because the botany botch wasn't big enough, basically? You got objections from Greene and Co?*

Dick Laws: Oh yes, he was an empire builder.

Chris Lee: *I see, thank you.*

Dick Laws: And he was the only one who was, I mean the other people were quite happy to have some, I won't say direction,

Track 10 [44.50 min]

but guidance and so on and be told what their remit was, because they'd been appointed from an advert or on the milk round, when Bill Sloman and Eric Salmon used to go round the universities and look for promising people to be BAS Antarctic staff. Barry [Heywood] was one of those in the early days.

Chris Lee: *There were two key points, I think, here, if I've got this right. One is that you introduced more permanent posts to maintain greater continuity of science?*

Dick Laws: Yes, that was the other thing I did

Chris Lee: *That was clear cut thinking, was it? That was part of your grand plan?*

Dick Laws: Yes. In fact, that was the cause of my next row with Stanley Greene. Because the size of the squares I had drawn was proportional to the effort, the importance, that is to say the monetary aspect, which in effect was based on the number of staff that were going to be allocated to that topic. Until then, they'd just appointed people and if someone had got a good degree and seemed reasonable, he was given a chance of choosing his own topic, so I had decided what the break down should be, in terms of biology it was a bit like a break down of the biological systems, and that's what I was aiming at.

Chris Lee: *So you were organising on the lines of ecosystems?*

Dick Laws: Yes and that's what happened eventually. Also, of course, the way people were appointed was that the milk round, in the case of biology, was looking for biologists who had just got their degree, probably. In the case of geology, which was what earth sciences was called then, they were geologists and the geologists were run by Ray Adie. Ray, I think, was called Deputy Director but he wasn't Deputy Director. He was in Birmingham, so he had frequent visits from Stanley Greene, but he didn't have a post really that gave him the

authority of Deputy Director and so on, he was just second to Bunny. It wasn't a very good system, actually.

Chris Lee: *So there was a need for modernisation, effectively?*

Dick Laws: Yes, very much so.

Chris Lee: *And you took the bull by the horns?*

Dick Laws: Yes.

Chris Lee: *Took the flack?*

Dick Laws: Yes.

Chris Lee: *And went away and did it?*

Dick Laws: Yes. I wrote a short report, which Stanley Greene saw, of course, but it was to Bunny. I sent a copy to Stanley Greene, in fact I tried to discuss it with him to put him right, but he didn't really want to discuss it. He just said, 'Oh well, that's not my idea'. And then he went to Bunny, after telling me he was going to go to Bunny and was going to make things difficult for me etc., he was that sort of chap.

Chris Lee: *I presume all that was seen to be successful, because not long after all that, in 1973, you suddenly found yourself Director. You took over from Bunny, didn't you?*

Dick Laws: Oh well, that wasn't my aim then, I was just aiming to get the BAS biology organised. I was still interested in seal biology, I made a little section for myself and I had one assistant, Graham Darling, a nice chap, who eventually took a dental degree and became a dentist and he did the seal tooth ageing. I had a tiny room, probably less than a quarter the size of this room, which was the laboratory.

Track 11 [49.50 min]

There were assistants, job hands, who were there to help with whatever was needed.

Chris Lee: *When you became Director, did you apply or were you head-hunted?*

Dick Laws: I had to apply, yes. There was a proper interview board.

Chris Lee: *Do you think you were the obvious candidate?*

Dick Laws: I naturally thought I was the obvious candidate [laughter], but when I became Director I saw the papers, so I know who applied and I know who their referees were and all that sort of thing. And to any Board, I would have been the obvious candidate.

Chris Lee: *So it was a natural progression, shall we say?*

Dick Laws: Yes.

Chris Lee: *So having reorganised Life Sciences, I understand you then applied similar reorganizational skills to BAS at large?*

Dick Laws: Well, the immediate plans I made required the creation of graded posts. Each section had a complement, people then were with BAS for five years I think it was, so I reckoned that people should be appointed for five years and that would determine the size of the section, so initially there were to be five scientists in a section and there would be a technician, I called them, to give support, so there were six and there would be one or two people who were in training, who had been recruited, appointed and were being introduced to the job. We defined what the post was to do, whether it was to do work on krill or something similar, for example I posted Inigo Everson to FAO in Rome, to get experience and to work on krill with the FAO Fisheries Division. And that's how Inigo became so important.

[52.35 min] Chris Lee: *What's FAO?*

Dick Laws: Food and Agriculture Organisation of the United Nations, in Rome. For Inigo, of course, it was the making of him. He would be the first to say that to you, I think.

Chris Lee: *But you established, I think, a Director's Committee, is that correct?*

Dick Laws: I proposed a Director's Committee for BAS. That came a bit later. By then, Ray Adie I think was Deputy Director. Ray wasn't all that happy about things, although Ray and I had been great friends. I was Ray's best man at his wedding in Cambridge, Maureen came to it, we were very good friends, although we'd not worked in the field together.

Chris Lee: *The Director's Committee was to democratise things more?*

Dick Laws: The Director's Committee was to introduce a structure, so that the various aspects of the work and the staff of the Survey were controlled really through advice from the committee or by the Director acting, if he was wise, on the advice of the committee.

Chris Lee: *So, more checks and balances?*

Dick Laws: Yes.

Chris Lee: *So how would you define the difference between your approach to being the Director of BAS and that of Fuchs, your predecessor? What were the polarities?*

Dick Laws: Bunny went very much on personalities, I would say, so he would be influenced by people who were talkers, or who had an axe to grind, really. I think he didn't like to be too pressed on things. He wasn't really a great scientist, Bunny.

Track 12 [54.50 min]

He became an FRS because of his crossing of the Antarctic.

Chris Lee: *What were the differences between you and Bunny in the way you structured, the way you ran BAS?*

Dick Laws: Well, I discussed much more science with people. Bunny liked to talk to people and tell them stories of his field experiences. I mean, I experienced all this, of course. He liked to be liked, he was very social. Bunny was a lovely man and a very good friend of mine. Maureen liked him but Joyce, his wife, had a hell of a time, she was a lovely person too.

Chris Lee: *So, what you were doing in reorganising was moving it out of a personality-led organisation into a structure-led organisation, is that right? Is that a fair assessment?*

Dick Laws: Yes. And I proposed a structure. In fact at that time, I remember, the first committee I sat in was in the office of wherever the headquarters were then. There were some school desks and the more senior staff sat at desks and Bunny sat there and acted as the Chairman. But anyone could raise anything, there was no real thread to it. We didn't have an agenda, anyone could raise a topic and fairly early on I did this and the first one was when I said, 'This should be a Director's Committee, not a Senior Staff meeting', which was what Bunny called it, I think. Minutes were taken, as far as I recall, but they weren't very ..

Chris Lee: *Powerful?*

Dick Laws: Perhaps I'm being unfair to Bunny, because he achieved a lot in his time, but.

Chris Lee: *But times were changing, weren't they?*

Dick Laws: Times were changing.

Chris Lee: *And you had to bring in a new style?*

Dick Laws: Yes. I had to change it completely, really, and I realised that when I got back.

[57.50] Chris Lee: *Do you think your directorship was more remote than Bunny's, then. Did you muck in with the rest, or did you become more removed?*

Dick Laws: Well, I went every year on the ships and I had meetings with the Fids in my cabin and all that sort of thing. I mucked in at the bar, with the officers and the Fids. I wasn't as pally as Bunny, perhaps. I mean, I could have told a lot of stories about East Africa, which Bunny did, but I didn't say very much about my adventures and so on. Bunny was full of feats of daring do and so on.

Chris Lee: *So, did you feel you had to just become a bit more separated from the lads, or was it OK to ??? (inaudible).*

Dick Laws: Yes, I did. I mean you can be separated without being, well you ought to ask Barry Heywood or someone like that. When I was on the base, I slept in the normal bunk areas and so on and I took my share of the base jobs. [59.21 min].

Interesting clips:

Track 3. 09.50 min. New BAS structure.

Track 5. 19.49 min. Old BAS/New BAS structures.

Track 6. 24.47 min. Criticism of Stanley Greene.

Track 7. 29.48 min. Criticism of Sir Vivian Fuchs.

Track 8. 34.50 min. Comments on friendship with and personality of Sir Vivian Fuchs, and criticism.

Track 9. 39.50 min. Re-organisation/modernisation of BAS structure.

Track 10. 44.50 min. Re-organisation/modernisation of BAS structure.

Track 12. 54.50 min. Dick Laws' opinion of the differences between running of BAS by Sir Vivian Fuchs and Dick Laws.

INTERVIEWEE: DICK LAWS

[00.00 min] Edited transcript of interview with Dick Laws conducted by Chris Eldon Lee at his home in Coton, near Cambridge on 6 October 2009. Transcribed by Elizabeth Edwards, [Disc 1 – 2 July, 2010]

[Disc 2 – 2 August, 2010]

[Disc 3 – 16 August, 2010]

[Disc 4 – 20 August, 2010]

[Disc 5 –

Disc 4

Track 1 [00.12 min]

Chris Lee: *I have to ask you about the creation of the single headquarters at Cambridge.*

Dick Laws: That was my doing.

Chris Lee: *Exactly. So, come on, tell me the thinking behind that.*

Dick Laws: The thinking behind that was, I had come as Head of Life Sciences when I got that sorted out, at Monkswood. I was living in this house and travelling to Monkswood and I had set up these sections and I felt that there had to be a structure to the sections and so in what was beginning to be accepted as life sciences, I had created sections including Stanley's empire, as he saw it, and I'd done a diagram explaining this.

Chris Lee: *What was the impulse to get everybody under the same roof?*

Dick Laws: That was mine. The labs as they were called were really totally inadequate. I'd had better labs that I'd built in Africa on the equator, with African labourers and so on. And so they had to be improved, we had to get decent equipment. They had no computer, I bought the first computer, which was a Hewlett Packard 3900 or something. That was the first computer the biologists had, so that was welcome to them.

[01.50 min] Chris Lee: *Did it work?*

Dick Laws: It work, yes, yes [laughter] and I used it myself of course. And I introduced the structure I was talking about and created sections which had a name and a complement and initially the sections were based on the importance I attached to the work and the unit was based on this five year period that people worked, so that there were five FIDS scientists who had to be accommodated and allowed for in the plans, and they had one technician to support them, so that made six.

Chris Lee: *But they were spread, weren't they, across, all over the place?*

Dick Laws: Not when I started, they were at Monkswood.

Chris Lee: *Right. But what I'm asking you about is the creation of the single headquarters at Cambridge.*

Dick Laws: Yes, oh that was a much longer story, yes.

Chris Lee: *Which was your initiative.*

Dick Laws: That was my initiative. It arose because I wasn't satisfied with the Monkswood facilities and I made a case for providing laboratories for the biologists and I spoke to the Professor of Applied Biology in the university who was responsible for the university farm. I asked him if we could have some land for building a biological laboratory for the Antarctic scientists, this was a chap called Jimmy Beament.

Chris Lee: *Where was this piece of land?*

Dick Laws: It was a nice piece of land, on the other side of the University farm, on high ground, quite well drained, and on the road past Girton. I knew Jimmy Beament because I'd worked with him when I was Director of the Nuffield Unit in Uganda and he had been on the committee. Jimmy was a biologist, he worked on insect physiology. And he helped me, he said, 'Well, I can give you some land'. Of course, I had to find the money to build it and so on. And he said, 'I suggest you have this bit of land'.

Track 2 [04.45 min]

And then I had to see the Secretary General of the Faculties. You know the university has its structure. And it so happened that the then Secretary General of the Faculties was the father of one of our Fids, his name was Ian Nicol. Colin Nicol, his son, worked with Barry [Heywood] on freshwater biology, and so his father knew a bit about FIDS, as did Jimmy Beament. And so at one of Bunny's classroom meetings I raised my views and the first thing I hung it on was the need to provide new accommodation for the biologists. And I got agreement on that eventually, the decision was taken. Bunny didn't actually cave in, but he acquiesced and so I produced a plan for that. Then at one of these senior staff meetings, they weren't really committee meetings but Bunny talking to friends really, you might say. At one of those meetings in his office at headquarters I said, 'Well, if we're going to move the biologists to Cambridge, why don't we move all the sections to Cambridge' and I made a proposal that we should acquire land from the University. We had to get money from NERC, of course, to build a laboratory – or laboratories, as I saw them – and I made a formal proposal and it was discussed at the staff meeting. Everyone had a say, there was no structure to it. And I wrote papers supporting it, starting with an organisation plan I had. I discussed with the biological staff what was needed in the way of space and equipment and all that sort of thing, so I took them along with me.

My idea started with the idea of moving Biology to Cambridge to the land I had already earmarked, not to that bit of land, but as it eventually happened, to a very prime site on Madingley Road – High Cross. I got four and a half acres from the University, through discussing with Ian Nicol, the Secretary General, and persuading him that it would be good for the University to have BAS there, that I thought that I could get the money out of NERC for the building and so on. There will be papers in the archives, of course.

[08.45 min] Chris Lee: *Did you have a fight on your hands at any time?*

Dick Laws: Well, I had a very succinct plan. I had actually done an indication of the, this was just biology at that stage. In fact, I got the chaps who were at Monkswood to sit down with me and we designed a laboratory for the biologists.

Chris Lee: *Was it agreed that the whole of BAS should move?*

Dick Laws: Not at that stage.

Chris Lee: *There was opposition, was there?*

Dick Laws: There was opposition, oh yes, particularly from Birmingham, well from Stanley Greene and from Ray Adie. At the time, you see, the different scientific units were located in University departments.

Chris Lee: *How did you win them over, or did you just go over their heads?*

Track 3 [09.50 min]

Dick Laws: I suppose it was done through committees, really. It started with talking to people and so on, really. I don't remember now just how it went, I had a pretty clear idea of roughly what I wanted and what facilities needed to be included, that Monkswood was no good and that if we were going to provide for a new replacement for Monkswood, then we had to provide for the whole of Biology. That was the first thing.

So that really was the first initiative. It was accepted that we should work to get the biologists on this land that Jimmy Beament had offered on the University and it was at that point that I said, 'Well, if the biologists are going to move to Cambridge, why don't we move the whole of the Survey to Cambridge'.

Chris Lee: *So how did you achieve the whole big move? Because that's what the opposition was to, wasn't it? There was opposition to moving the whole of BAS to one site and I'm wondering if you can remember how you achieved that?*

Dick Laws: Well, there was a very good case for it. The case for staying as they were was hopeless. I knew I had a very strong case and I made the case. Initially, I got a decision on biology and once it was agreed biology should move to a site on the University land, then there was less opposition, probably because people were happier to be associated with the University and so on and it was more obvious how it could develop and I spent a lot of time winning people over to the idea. There's not much on paper, I think.

[12.15 min] Chris Lee: *How did you get the money out of NERC?*

Dick Laws: Well, I don't really want to say this, but I made a good case. Together with my staff, I drew up a scheme for what was needed for biology in terms of biological laboratories and we did a rough architectural plan of where it should be and where the different sections should be housed, including botany and so on. I discussed it very thoroughly with the then staff and found out what their interests were and so on. And when I wanted to introduce the idea to NERC, I had a plan. It wasn't a final plan, it was a draft and the relationships between the different disciplines and who had connections or similar interests or needed similar equipment or whatever, so the whole thing could be explained on the plan. I produced it at

one of these staff meetings, I think I probably showed it to Bunny first. It was a very good plan of a two-storey building, quite a long building, and it was arranged so that the relevant sections who had common interests would be near to each other.

Chris Lee: *So it made sense scientifically?*

Dick Laws: It made sense scientifically

Chris Lee: *Were NERC hard to crack, hard to cough up?*

Dick Laws: No, as a matter of fact they weren't. It so happened that one of my contemporaries in the Zoology tripos was then Secretary of NERC, a chap called Ray Beverton. He'd been Deputy Secretary at the Lowestoft Fishery Laboratory, I think, and we were friends

Track 4 [14.50 min]

and I talked him into it and he was a sensible guy. He knew me and he knew that something could come of it and he'd directed laboratories himself. So Ray and I had talks, I'm not sure where Bunny came in at that stage, but I think Ray and I talked it over. I had just a rough plan, really. There were people in NERC who didn't want BAS to have money to build a research station because they wanted money for their interests, there was always competition, always competition. So I had to fight battles, the first one was, well I did get them to agree and I said we had an indicative plan which would show what we felt we needed and so on, for the biologists, that essentially I had the offer from the University for the land for a ninety nine year lease for four and a half acres, which is a very good deal. It wasn't a deal then, of course, but it had to go through NERC. So I had to do a lot of talking and, of course, no money was in the budget for building. The structure of BAS was a lot of isolated laboratories all over Britain, with no real contact between them, it was crazy. This had happened under Bunny's directorship of course, so it was a little difficult to get it all changed and he was still the Director of BAS, he had to be the one who put the plan forward really, so I had to win him over in talks and so on. The structure plan came in and so on and the special inter-relationships between the different sections, housing specialised equipment, we needed a cold room. In the end, at BAS they have had, for some time now, a seawater aquarium for experimental marine biology.

[18.02 min] Chris Lee: *Which you introduced?*

Dick Laws: Yes. I introduced that with the help of the Fid biologists, who were good people, they had good ideas and we all discussed it together and came up with this plan. NERC then came on the scene and Ray Beverton by then was the Secretary of NERC and he said, 'Well, we'll have to do it design and build'. This is what he'd been told I think by his Director or the people on NERC Council. Design and build, as you know, is where you appoint a firm to produce a design and build the [interrupted]

Chris Lee: *It's supposed to be cheaper?*

Dick Laws: It's supposed to be cheaper and so that was how it was going to go ahead and they appointed an architect and I fought against it, because I knew it wasn't going to work.

Chris Lee: *Why not?*

Dick Laws: Well the architect's first plan was useless and our building was designed so that there were inter-relationships between the different sections and so on, with proximity to relevant similar work or equipment. The architects, of course, didn't know anything about science; they didn't come and discuss it with us, or discuss our plan with us and so it was unacceptable.

Track 5 [19.46 min]

It was quite a large laboratory set up. But NERC was very domineering, and still is, you know, they're the boss. And they said, 'Oh well, we're going to do it this way'. And they appointed this firm and that's when we had the concrete building, some of it's still left, fronting on to the Madingley Road, that was how the building first arose. Parts of it were similar to our original plans. And they gave the architect the job of interior decorating. But also, ours had been a two storey building and the architect had made it three storey. It was a block, it didn't have any sort of structural design in terms of affinities of different laboratories. People share instruments or share laboratories, or they have interests in common and so you need to have a concern about the geography of it all and we had taken all that into account. So he was given the job of interior decorator.

I then had to go to the university, which had given its approval to this building by then and they'd seen my plan and I had to go to Ian Nicol, the Secretary General, and say 'We feel we should have a different plan and NERC have appointed this contractor'. It was the NERC appointed contractor who had come up with a building that was like a shoe box, just a box shape with four sides and a roof and three floors. We didn't want three floors, we wanted two floors.

And so I went to Ian Nicol and one of the questions I asked him was, 'The University has given its approval to the lease of this land on the basis of a two storey building. What will the University feel about a three storey building going up? wanting the answer that they wanted to have some say in it. We did, as you know, get a two storey building and I discussed with Ray Beverton, who was my boss, he was the Secretary of NERC. He had been in the Part 2 class in my final year, we were together. We both got First Class Honours and Ray became Deputy Director of Lowestoft Fisheries Laboratory eventually in his career and he later became a good friend. Well, he was quite a friend then, because we'd been through the Zoology course together in the University. I had persuaded Ray by now that we should move not just the biologists but the whole of the Survey. And then when there was part of the negotiations where, 'well if the biologists are going to move, what's going to happen to the rest of the Survey'?

[23.55 min] Chris Lee: *The dilemma was between two storeys and three storeys?*

Dick Laws, No, that was something I used as a pretext to have a different approach. I didn't really want a three storey building, but also I didn't want the design that they were coming up with.

Chris Lee: *How did you finally win the argument and have two storeys?*

Dick Laws: I got two storeys.

Chris Lee: *And your design?*

Dick Laws: A modification of my design, which was acceptable, better in fact. Well, they got this company to use their architect and to design it and the biologists were happy with what their facilities were going to be. But I had to get University permission then.

Track 6 [24.47 min]

They'd given permission for a three storey building then and we wanted a two storey building, because it would make communication closer.

Chris Lee: *When it was all finished, Dick, were you pleased with it?*

Dick Laws: Yes. Well, we'd never had any proper laboratories, so almost anything would have pleased us. But it was a very good operation and the result, it's still there, it's still in use. Ray said, eventually, I had a lot of arguments with him, and he said, 'Well, I can give you £450,000'. That was no money at all to build what was quite a big laboratory. And I had to argue him into a bigger sum.

The Chairman of NERC by that time was Jimmy Beament, who was the guy who'd offered me the land on the University farm, who I had worked with when I was doing my African research. I persuaded him that we really ought to consider moving the whole of BAS. They were then scattered all over the country and they remained that way under Bunny for a very long time.

[26.19 min] Chris Lee: *So just to finish this off, then, we must bring this session to a close. The new building was a success, it worked well?*

Dick Laws: Yes.

Chris Lee: *And you were proud of it?*

Dick Laws: I was proud of it, we got Prince Philip to open it.

Chris Lee: *I've seen the pictures, yes.*

Dick Laws: The sniffer dogs came to my office and we gave him lunch there. We had specialised facilities, we put in an aquarium and chemical labs and storage space and with the passage of time, of course, it changed and we acquired more space and more facilities and it was a very good start. It was in Cambridge, which was a good place to be, although there were a lot of people who thought it should be in Birmingham or

Chris Lee: *On the coast?*

Dick Laws: Well, a lot of universities were interested in having BAS. East Anglia, Birmingham. I can't remember all of them but – Plymouth, Portsmouth, Edinburgh I think, because they knew it was going to be an important development. And so, for the first time we had a BAS building which had a headquarters section. It had space for typists and offices for senior staff and all that sort of thing, what you would expect in a proper headquarters

building. That still stands. And then of course, much later I got the money for the buildings we have now and Prince Philip came to open that too. By then, we had four and a half acres and the University were pleased to be associated with it.

Chris Lee: *We'll talk about that next time, if we may.*

Dick Laws: Yes, OK.

Chris Lee: *We'll call it a day. Thank you once again, Dick.* [28.40 min].

Interesting clips:

Tracks 1-6 are all about the preparations for the move by the various interspersed sections of BAS into a single headquarters unit at Cambridge.

INTERVIEWEE: DICK LAWS

[00.00 min] Edited transcript of interview with Dick Laws conducted by Chris Eldon Lee at his home in Coton, near Cambridge on 18 January 2010. Transcribed by Elizabeth Edwards,
[Disc 1 – 2 July, 2010]
[Disc 2 – 2 August, 2010]
[Disc 3 – 16 August, 2010]
[Disc 4 – 20 August, 2010]
[Disc 5 – 8 September, 2010]

Disc 5

Track 1 [00. 11 min]

Chris Lee: *Can we just talk a little bit, if we may Dick, about April 1982, when the Argentinians decided that perhaps the Falkland Islands ought to belong to them.*

Dick Laws: Yes, yes, by all means.

Chris Lee: *You had an inkling that something was up, didn't you? You'd heard something on the grapevine?*

Dick Laws: Well, I'd been coming up from the Antarctic and it was in my mind that something was happening, because I'd been in Chile as well and the Chileans were very worried, because they thought the Argentines were massing to attack them and they were very pleased when it turned out they were heading for South Georgia, that was the right way in other words, from their point of view.

Chris Lee: *From their point of view. So where had you heard these hints?*

Dick Laws: Well, I was in Ushuaia and saw something of the Chilean Navy. I was in the BAS ship, just coming up from the Antarctic and, of course, our ships' Masters and so on were very keen to know what information there might be and so we were trying to draw out the Chileans on their concerns and it turned out that they had quite a lot of information.

Chris Lee: *Such as?*

Dick Laws: Well, that the Argentine fleet had been massing and moving eastwards along the end of Tierra del Fuego and they were worried they were going to attack to start a war, a serious confrontation with Chile and there was no love lost between the Chileans and the Argentines. So, I was heading on up to BA.

Chris Lee: *Buenos Aires?*

Dick Laws: Buenos Aires. And I visited the British Embassy there. Also, in Buenos Aires I had gone to the Officers' Club of the Argentine Navy, because I had a good friend who was the head of the equivalent of BAS in Argentina. He was a naval captain, a very nice guy and we got on well and talked a lot about things and he was obviously worried about the Argentine position. He was also someone who was very keen on the Antarctic Treaty and the science and so on, because he headed a scientific institute.

Chris Lee: *What intelligence did you pick up at Buenos Aires in the Marine Officers' Club?*

Dick Laws: Well, nothing very clearcut, actually, they were being a bit cautious. But it was fairly evident from some little comments that didn't really mean too much, they were just atmosphere, they obviously knew that something was going to happen. And I was their guest and they were being on their best behaviour and so on [laughter]. They took me and showed me around their institute and what they were doing. I met that chap Asteys, who had been a very nasty figure earlier on, in the Argentine internal problems, killing people, opponents of the regime and so on.

Chris Lee: *What did you make of him?*

Dick Laws: Well, he was a very peculiar guy. He was very cold, a bit fishy you know and a bit vain, I would say. He didn't actually say very much, he was very, very cautious about it all. I met him later. He also I think, turned up in South Georgia at one stage.

Track 2 [04.99 min]

Chris Lee: *During the conflict itself?*

Dick Laws: To be honest, I don't remember when it was but I just connect him with South Georgia at one stage.

Chris Lee: *So the gossip you picked up in Buenos Aires and the gossip, for want of a better word, you picked up in Ushuaia from the Chileans led you to suspect that something was up?*

Dick Laws: Yes.

Chris Lee: *Were you able to think about what it might be they were up to?*

Dick Laws: Well, the Chileans were pretty clear cut that they were pretty sure that the Argentines were planning a big operation. They'd got a small fleet together and they were afraid they were going to attack Chile and start something nasty, which as it transpired was not in fact the case. They actually already had their eyes on Britain and the South Georgia incidents before when the yachtsmen came to South Georgia, you remember, and the magistrate had to tick them off.

Chris Lee: *The gossip you heard, were the Falklands mentioned at all? Or was that just something you worked out for yourself?*

Dick Laws: Well, it was always in the background, it was mentioned, yes, but not in any direct sort of way. And I went to the British Embassy when I got up to BA, to report what I had heard, just meeting with Argentine Navy people for the most part. The Embassy weren't all that concerned, it seemed to me, I thought they would have feelers out and know that something was going on, but they said, 'Oh, well, thank you very much', didn't make much of a comment, really.

Chris Lee: *Were the Falklands mentioned at that point, did you say to them you were worried?*

Dick Laws: I said it looked pretty clear that the Argentines were getting ready to do their worst. But nothing much happened and the Embassy didn't seem to be particularly concerned.

[07.40 min] Chris Lee: *Looking back on that, with the benefit of hindsight, do you feel that they just didn't believe you, or perhaps they already knew?*

Dick Laws: I don't think they had much firm information. I mean, I think they must always have had some sort of creepy feeling that the Argentines might be preparing something. But I don't think the Embassy did know, because they were quite pleased to have my report. I didn't write anything, but they didn't actually encourage me to. They weren't all that interested in what I had to say, I think, in a way.

Chris Lee: *Have you worked out why they weren't interested? In later years? Again, now knowing what happened next?*

Dick Laws: Yes. Well, they'd known about the earlier yachtsmen and the South Georgia incidents and so on. They would have worked out that had some fallout at some stage in the future. But they were really uninterested. I was quite surprised, because I did have quite a lot of information, really just gossip you might say, but among the Argentines. I heard them talking.

Chris Lee: *It must have been frustrating to have nothing concrete to present?*

Dick Laws: It was, yes, and the Embassy didn't seem to be interested. They may have worked something out themselves, I don't know. But from the way things went, I don't think they had. Our government had no - we went over this earlier I think - our government had no knowledge of anything happening until

Track 3 [09.47 min]

the BAS ship phoned me and said that there was a movement heading for South Georgia.

Chris Lee: *Later on, there were accusations that Thatcher did know in advance and kind of let it happen, does that match anything that you've experienced?*

Dick Laws: No, it didn't actually, no. I think I got the impression that Whitehall was very interested to have my reports when I got back and the Cabinet when they met on that Saturday morning, they knew nothing about it then, I was told, and the first they heard was from BAS, from me.

Chris Lee: *From your office?*

Dick Laws: From my office. Well, it came to me on the ordinary international telephone line from the *Bransfield*. The first knowledge that the Cabinet had about the invasion was the result of that phone call I took from the *Bransfield*, it must have been Stuart Lawrence, yes it was. I phoned it through to the Admiralty and I spoke to the Admiral in charge. There were some goings on, there were concerns I think. And he asked me to give him a daily, step-by-step account of the information I got through the BAS ship, through the radio operator and

the captain, about how things were moving, as being relayed to the Falkland Islanders on their home radio. And that was really the first real news that London had. The Admiral told me that was the first news they'd had. And he said, 'You must keep us informed as things develop, it's very important that you should do that'. So I had schedules with our ship and when more information came, I phoned through to the Admiral in his office in Northwood. He was in charge of Northwood and throughout the whole emergency, he was keeping in touch with BAS. And, of course, we had all these other people from the Forces, I think we spoke about it before, coming up to Cambridge to get advice. When the South Georgia takeover was known and the marines had initiated fighting, we had a team who were looking across Cumberland Bay from the Barff Peninsula, and they were reporting on activities in Grytviken, which they could see across the Cumberland Bay through binoculars. And they said that the Argentines were moving about in a very unhurried way, they didn't seem to be doing anything special in the way of protection and so on or defence

Track 4 [14.48 min]

or what have you. And so the Admiral kept on pressing for more and more information. I didn't always have information, of course, but he did get a lot from us. These were the Fids who had gone along the Barff Peninsula from the field hut in St. Andrews Bay and they did a very good job in reporting on the activities. Once King Edward Point was taken and the whaling station could be seen as well, of course, they were reporting on activity that was going on. And in Cambridge, of course, we were flooded by the military, who wanted information about the geography, for one thing. I had one or two people on my staff who were interested in military matters and one or two of them came up with their idea of what should be done. You know, there's a back route over to West Cumberland Bay from Grytviken and they could see that the Argentines weren't doing anything about defending it, so I passed on the information that there was no indication of any military action on this col behind Grytviken.

Chris Lee: *So the military defence was consulting you?*

Dick Laws: Yes, they sent people up here, you know we had all the people you would expect. The kind of troops they were expecting were helicopters, I think, and they also wanted the dispositions, as far as we knew, of the Argentines and what they were doing. Behind Grytviken, there's a col and from the top of that you could see over into West Cumberland Bay. There was no sign of any real movement of Argentine people from Grytviken in that direction. Of course, that meant they were thinking of what they eventually did, they went over to Brown Mountain and met the invasion later. They withdrew from there to King Edward Point, so I had quite a lot of information at the time and it was coming through regularly and all these people, a mixed bag you know of SAS and marines, anyone you might think of. They all wanted as much information as they could get.

Chris Lee: *The lie of the land?*

Dick Laws: The lie of the land and everything. We gave them our opinion, that essentially Grytviken was undefended, there wasn't an Argentine defence, they were out on ships you see. The Argentine fleet was just offshore in Cumberland Bay. And of course that was when our people were captured and the marines were captured and we had no contact with them for about three weeks it must have been. And of course their parents, their families were getting

very concerned, because the news was beginning to come out that South Georgia and the Falklands had been invaded.

Chris Lee: *Would you say that the level of information that you were giving the government was more complete than any information they were getting from Stanley or from Government House or anywhere else?*

Dick Laws: Definitely, yes, at that time. I mean by that time the Governor had been taken away, he was on the Argentine transport.

Chris Lee: *So he's been taken prisoner?*

Dick Laws: He'd been taken prisoner

Track 5 [19.57 min]

and my staff had been taken prisoner by that time and we were very worried about them, of course. But in the end, it ended.

Chris Lee: *So, ironically, BAS, your office in Cambridge was a source of most of the information that anyone had to go on, in the early days? As a first response?*

Dick Laws: That's right, yes. That was made very clear to me by Admiral, was it Whitehead? I'm not sure.

Chris Lee: *Sounds familiar.*

Dick Laws: But he was very good, he just said, 'Give me any information you get, and just keep your radio watch on signals coming from the *Bransfield* and let us know immediately you have anything new to pass on.

[21.06 min] Chris Lee: Did you sense any panic at the other end of the phone, or was it all calm and collected?

Dick Laws: In Whitehall, you mean?

Chris Lee: *Yes, or Northwood or wherever.*

Dick Laws: No, no, there was no panic I think as far as I recall, but they didn't tell me very much. The people who were stirred up were the ones who were going to be the force that was going to retake Grytviken.

Chris Lee: *The Task Force?*

Dick Laws: The Task Force. And these military groups who sent their people to find out about the lie of the land, in relation to the Argentine takeover of Grytviken and the lay of the land in relation to what the Argentines were doing in terms of putting observers out, etc.

Chris Lee: *Do you know where the Bransfield was getting its information from?*

Dick Laws: Oh, well, it was on the Goon Show [laughter].

Chris Lee: *So the Fids were still on the air?*

Dick Laws: Well, the Falkland Islands radio was at that time reporting to the Falkland Islanders, but my information then was the observations from Fids on South Georgia, the ones on the Barff Peninsula who were looking across and could see what the Argentine activities were. Steve Martin, the Base Commander at Grytviken, was a remarkable guy. He became a medical doctor later, on my advice. He came to me for advice about his career [laughter]. I guess it was one influence on his future career that he became a doctor. But he was very, very good. He had been in touch with the Governor, before the Governor was captured. I'd better be careful here. Normally, the Governor would be communicating with the Base Commander on a regular basis, from Stanley to Grytviken, to King Edward Point. But that stopped, of course, and the military people who came up were concerned about knowledge about the Antarctic, really. The ones who came here to Cambridge, the first lot decided they were going to land on the west side of South Georgia, in King Haakon Bay, as I recall, where Shackleton had landed, and they would follow Shackleton's route over the island. You must have known that?

Chris Lee: *Yes. I presume you recommended that as not a good course of action?*

Track 6 [24.44 min]

Dick Laws: [Laughter]. Yes, of course. They didn't actually follow that course, because of course the route that Shackleton took was one of the worst ways of crossing South Georgia, because it's very heavily glaciated and they had ideas about going out in small boats and hiding behind Green Island in the bay where the other whaling factories are, up the coast. And they later decided to put a helicopter in to a small glacier. We advised them strongly not to do that. They said they were going to land on this glacier, which gets these katabatic winds and we said, 'If you land there, there's going to be a mess, there's going to be a disaster'. What actually happened was they lost, I think, six helicopters, crashed them, but fortunately didn't lose any people. And that was a long way from Grytviken, anyway.

[26.00 min] Chris Lee: *Can I ask you a couple of questions about how you were feeling at this point? If you can remember what was going through your mind and your soul at that point. Because you're a biologist, Dick, you're not a military strategist, are you?*

Dick Laws: Well, I thought the military were, If I'm honest, we all thought the military were being a bit stupid, because here was a bunch of people who knew that particular part of South Georgia better than anyone anywhere and had been making maps, and they were able to see the Argentines, they knew the lie of the land and the best tactics would be to do this, that and the other and we laid it all out. They came up to Cambridge by helicopters and, you know.

Chris Lee: *So you made firm recommendations?*

Dick Laws: We made firm recommendations. I had one or two chaps on my staff who were quite interested in military matters. When the, I think was it the SAS, one of the groups that came up from London had outlined some tactics and one of the Fids on my staff in headquarters here in Cambridge just demolished the ideas and gave alternative tactics.

[27.43 min] Chris Lee: *Was that a bit confrontational? Do you remember it being a frosty meeting?*

Dick Laws: Well, I think the military were rather offhand. Their attitude was, well, they were the people who were going to be doing the fighting and this was their field, it was nothing to do with us sort of thing. They were a bit stupid, I think, because there was a lot they could learn from us and, indeed, did learn from us and they had a lot of problems themselves, by misinterpreting. They were going to row across West Cumberland Bay, was it, in brash ice – row, you know, it was crazy. Just as simple a thing as that. They were going to carry heavy weapons across the island from the west coast. Why go to the west coast when they could land just over the hill from where King Edward Point was.

Chris Lee: *So, was there any resentment that you were trying to show them how to do their job, did it get to that point?*

Dick Laws: I won't say resentment, just superiority really. And then, of course, when they started to get into trouble [laughter], there was a bit of 'We told you so' about it, I suppose. But they wouldn't have lost those two helicopters if they'd followed our advice, you see.

Chris Lee: *So at any point in the process, be it your meeting with the Embassy in Buenos Aires, or your discussions with the SAS or the military in Cambridge, is there any point do you think, looking back on it now, did you think 'If only they'd listened to us it would have been different'? If they'd listened to you in Buenos Aires, would it have changed things?*

Dick Laws: Well, I suppose. Not necessarily.

Track 7 [29.49 min]

Chris Lee: *Right, OK.*

Dick Laws: I mean, nothing that really was a key idea. It was obvious things were hotting up. There was a lot of activity going on. And then once the Falkland radio had gone on the air and described how the marines had had to evacuate Moody Brook station and when the first shot was fired and all that sort of thing. But it wouldn't really have influenced things very much, I think.

Chris Lee: *And the meetings round the table back at Cambridge?*

Dick Laws: Yes.

Chris Lee: *Whilst the Task Force was being prepared to go South. Looking back at that, do you feel sometimes frustrated that they didn't listen to you?*

Dick Laws: Oh yes, very much so.

Chris Lee: *If they had listened to you, would it have made a difference?*

Dick Laws: Well, they wouldn't have lost those two helicopters, for example. They would, I think, have known the lie of the land much better, because you can get to King Edward Point,

Grytviken, from West Cumberland Bay and come over the col, down to Grytviken from behind where the Argentines were looking, I think.

Chris Lee: *But they didn't listen to that advice?*

Dick Laws: No. They may have listened but they didn't follow it and they didn't comment on it. There are lots of ways, as you know, that you can get into trouble in the Antarctic. It may look a nice sunny day, I'm not saying it was a nice sunny day, but it may look a nice sunny day and it could be disaster ahead. They were just so cock-a-hoop, you know. They were the military men, they were going to sort this out and I guess they're always like that [laughter].

[31.36 min] Chris Lee: *I don't know. Did you stay in touch with them throughout the whole conflict, were you in touch with Northwood and Whitehall all the way through, or did it all dry up?*

Dick Laws: I wasn't in touch with Whitehall.

Chris Lee: *Right, just Northwood.*

Dick Laws: Northwood was my contact.

Chris Lee: *Right, but did that continue right through to the waving of the white flag by the Argentinians, or did it kind of dry up after a while?*

Dick Laws: Well, no. I was very worried about my other bases, my personnel who'd been in field huts, with limited rations and the winter was coming on and I wanted to find out as much as I could about that. *Endurance* wasn't anywhere, you see, *Endurance* wasn't around to give help, and they were probably doing the right thing to get out of the way, but

Chris Lee: *Wait for reinforcements?*

Dick Laws: Yes. I think that's probably all they could have done. I mean *Endurance* has never had any real military. I mean, the marines on *Endurance* initiated the conflict, of course, but after the first shot, that was it, it was all over, really.

[33.27 min] Chris Lee: *How did you sleep at that time, Dick? Were you very involved and therefore?*

Dick Laws: Well, it was all go, really, yes, because BAS wasn't organised for coping with this kind of emergency. But we knew we were in a very key position and I had some very good people in BAS. There were some who had had military experience.

Chris Lee: *So were you making decisions about how to run BAS at that point in order to help the government more? Do you remember taking decisions about abandoning some things and focussing on others? Did science go out of the window for a while?*

Dick Laws: Well, it didn't need to. We were still in touch with the *Bransfield*, which was lurking around [laughter]. The captain, Stuart Lawrence, asked me what he should do when he was coming out of the Straits of Magellan. And I said, 'Well, Stuart, you'd better

Track 8 [34.46 min]

head south into the Antarctic Treaty area and take a course mid way between Patagonia and the Falklands, so you keep out of trouble as much as possible. And that's what Stuart did. The information was coming from his radio operator and Stuart talked to me, of course, over the ordinary commercial telephone in BAS. He was very good, in fact everybody was good, very level headed.

Chris Lee: *But as Director, presumably you were having to adjust BAS'S daily routine to accommodate these new demands being put upon you by the military?*

Dick Laws: Not a lot, actually. I mean, people had their jobs to do and I had my key people that I was discussing developments with and there were people who had particular knowledge of the South Georgia area and I was getting queries from Northwood and we were anxious to answer, to give them the information they wanted and from time to time they would come up with a question as to what we should do now, you know, when they'd done something stupid and I'd get my knowledgeable people together and we'd discuss it and pass information on. In a way, there was no panic, it was just professional and people got on with their jobs really, apart from the ones who I involved in the actual decision-making and so on.

Chris Lee: *Where I've been saying Northwood, I should have been saying Northolt, should I?*

Dick Laws : Northholt. That's where the Admiral was based.

[37.05 min] Chris Lee: *Northolt, not Northwood. Okay. [Name checked by transcriber – Northwood is correct].*

You said it was exciting, can you elaborate on that? Were you enlivened in that period? Were you on our toes?

Dick Laws: Oh yes. I mean, it was a very exciting time. As Director of BAS, I'd had other exciting times, of course, because the Mount Peary disaster happened shortly after I became Director, when I lost a group of three who had tried to climb Mount Peary and hadn't succeeded. So we did have emergencies, but of course a military emergency is something different.

Chris Lee: *So BAS slipped into emergency mode, effectively?*

Dick Laws: Well, everyone really from their time in BAS had had experience of reacting to emergencies and taking action and so on. And so there was no sort of training or anything needed to go on. There was a little group around the Director who I could call on, people like John Hall I suppose must have been around then, I don't remember to be honest. But there were people with a lot of field experience. One of the difficulties, actually, was remaining in touch with Whitehall. The only contact with government was with the Admiral, it was quite interesting actually. Just as well probably.

Chris Lee: [laughter]. *Can I ask you about one or two other things, briefly, before we wind up?*

Dick Laws: Yes, Chris.

[39.21 min] Chris Lee: *Two more things to ask you about. One is about the decision to start recruiting women into BAS. Was that taken on your watch?*

Dick Laws: Yes.

Chris Lee: *Can you remember the decision-making process? Because BAS seemed to have resisted women scientists for quite some time.*

Dick Laws: Well, Bunny never wanted women and that was his policy. There was no real going against that.

Track 9 [39.48 min]

Chris Lee: *Did he ever explain why he didn't want women to you?*

Dick Laws: Not really, no. I didn't think it was worth asking him because I thought I knew. But I took the decision to send women to the Antarctic and my first one was a party of four women in the office, that was the first breaking of the barrier, as it were. It's written down somewhere, they were people whose names you would recognise and I ought to remember as the first women. One of them was summering on Signy Island and she, I'm not sure of the timing actually, but she formed an attachment to one of the Fids on the base.

Chris Lee: *A romantic attachment?*

Dick Laws: Yes. And one of my concerns about the input of women was that these sort of things could happen and could have an adverse effect on bases. And this was at Signy Island, a female biologist and one of the Fids on the base. It wasn't a major problem, but it did affect morale a bit, I think. Nothing dramatic, it was an experiment that I felt...

Chris Lee: *A test case, if you like?*

Dick Laws: Yes.

[41.50 min] Chris Lee: *Did you willingly allow women to go to the Antarctic, or was it against your better judgement, or was it somewhere between the two?*

Dick Laws: I would say it was between the two. I mean, I thought it was appropriate that first of all, some of the women in the office who had their jobs related to what was going on in the Antarctic and so on, there was a case for them anyway having some links and special knowledge about what it was like working there and problems, but it developed slowly. It had been a no-no forever, really, and obviously any thinking person would have realised that it did expose possibilities of trouble and there were, of course. Nothing as dramatic as some of the...

Chris Lee: *The fears?*

Dick Laws: I don't think there was much as fears really, because it was going to be the effect on morale, with those sort of fears, because in those situations, obviously, there was going to

be a key focus on the couple, say, and it's going to change the situation, the personal relations on the base and so on. And in fact it worked out quite well. There was no real problem.

Chris Lee: *Did you meet with resistance from the Old Guard about letting women go South, or was it all fairly smooth?*

Dick Laws: No, I didn't experience any resistance, I mean they were good people who were ready to implement my policy. I talked it over with some people who'd had experience of bases and so on, the bigger bases with wintering personnel. My experience was of two winters with, first of all, three of us and the next winter, four. So I had a very limited experience of what life on a larger base might be like, which has much more scope for being influenced by introducing women. I mean to introduce women to Signy when I was there

Track 10 [44.44 min]

would have been absolutely a nonsense.

Chris Lee: *So the changes were that the bases were getting bigger and therefore were able to absorb women more readily, is that true?*

Dick Laws: I think that was one of the factors to be taken into account. I mean, I didn't believe in making trouble when I didn't have to and there was a ruling from Bunny, which was a longstanding one, that [there should be] no women on the bases.

Chris Lee: *Had Bunny passed over by then, was he dead by now, Bunny?*

Dick Laws: When I first sent women down?

Chris Lee: *Yes.*

Dick Laws: No, no, he was still around. I felt that we should be really looking at it properly, experimenting perhaps and that sort of thing.

Chris Lee: *Were you under pressure, again, from government, in that the government was busy now employing anti-discriminatory laws, wasn't it?*

Dick Laws: Oh yes, yes. I don't recall having had any pressure from government, because I think I was doing what they hoped I would do. So, no, I don't think there was any. I'd anticipated, I suppose. One of the early things was that four women went on the ship, on the *Bransfield*, from the office - to get some experience was the idea - and there could have been some trouble but there wasn't.

Chris Lee: *So that faded away?*

Dick Laws: Yes.

(46.30 min) Chris Lee: *The other area of conversation, again if I may ask you about. The discovery of the ozone hole, was that during your watch? Were you Director at that time?*

Dick Laws: Yes.

Chris Lee: OK. *What was the first inkling you got? Can you remember the occasion when the scientists told you what they'd discovered, can you remember that process?*

Dick Laws: I can, yes, because I think I was visiting Edinburgh where we had the upper air meteorology and Joe Farman was in charge of that.

Chris Lee: *In Edinburgh?*

Dick Laws: In Edinburgh. He was a PSO, quite a senior person. He had published, as I recall, one paper in ten years. Roy Piggott had become the head of that division and Roy and I were in agreement that this wasn't good enough and Roy was a great character and he supported what I wanted to do. In fact, he interpreted it to some degree, because he was a physicist, I'm just a biologist. And so I had to do something about speeding up the publication of this, obviously it was a very important finding.

Chris Lee: *So, how did you first know about it? Can you remember the moment when you were informed that something was up?*

Dick Laws: Yes, I can't remember it all that clearly.

Chris Lee: *Tell me what you recall.*

Dick Laws: I was in Joe Farman's office and I was learning about the upper atmosphere work at the time, I didn't know much about it. And I was trying to get Joe to tell me what he was doing, what sort of interesting things were coming out of it and that was really the first time that we'd had a talk about that.

Chris Lee: *So he didn't come to you with the findings, it was because you were asking him what he was doing?*

Dick Laws: Well, in a way it was Roy Piggott who said, 'Well you know, these chaps are, the ozone work is coming up with some interesting stuff' and so on. And Roy came with me and the two of us saw Joe and we said, 'You know, this is very important'. I mean, it was obvious it was very important.

Chris Lee: *Obviously to Joe as well, I presume?*

Dick Laws: It should have been. But it was over-ridden by the fact that Joe is a perfectionist and at that time Joe's main priority

Track 11 [49.43 min]

was to ensure that the ozone data were cleaned up, if you know what I mean, tidied up. And so his little group was spending a lot of time getting everything all neat and tidy in the tables and figures and so on. This was at a time when this was a world shattering discovery and it should be published quickly to gain the world attention. What had happened, though, was that Joe had told me about it and Roy and we'd talked about it and it turned out that the physical chemists in the University were not supportive of the idea of going ahead with this. One of the reasons was that they weren't sure about the inferences and how accurate the data were

and so on. They were working in a chemistry lab on Lensfield Road. That was a very difficult time, because here was a world shattering discovery and BAS should get the credit for it.

But Joe was adamant that it was too early, that the data needed more cleaning up and he had to discuss with various chemists other than the ones in Cambridge. And he was backed by these three young men – Brian Gardiner and – I can't remember who they were now actually, but ..

[52.06 min] Chris Lee: *Don't worry about that. So did you find yourself having to overrule him?*

Dick Laws: This is a difficult stage now, because I may want to withdraw something. I had to overrule him. I told Joe that his job included publishing his work. He had described it to me and Roy, and it was obviously an important bit of work. Joe was one of these people who was a perfectionist, as I said, and he wasn't going to publish any data that wasn't absolutely perfect. And that was the stumbling block, really.

Chris Lee: *How did you get round it?*

Dick Laws: Well, I had to learn about the whole ozone chemistry and everything, it was all new to me, a mere biologist, and I did learn a lot about it, very quickly. And so I pointed out to Joe that he'd published one paper in ten years and his career depended on publishing papers and that BAS depended on producing good science and new science and that the longer it took to publish this new work, the longer BAS would be denied the recognition that it needed. Joe remained very stubborn.

It was also not fair to the young men, because their careers were dependent on it, and in fact they did profit from what we did, which was to say 'Well, this must be published soon'. Joe remained adamant that it wasn't ready to publish. He reckoned that his job was to get the data really clean, tidied up etc. and make sure all the conclusions and so on were really

Chris Lee: *Bullet proof?*

Dick Laws: Yes. Fully bullet proof. Which was fair enough,

Track 12 [54.42 min]

but it was obvious from the discussions we had that there was enough there to create a huge interest – as it did when it came out. And I said, 'Look Joe, you've got to publish this'. I was backed by Roy Piggott, who did know about ozone. He was the head of division, Joe was head of the small section and Joe was, and probably still is, a very difficult person. But he took a very hard line, that no, he wasn't going to publish stuff where the data hadn't been properly cleaned up.

And the other thing that came in at that time was that the Americans had published satellite data, which had been measuring the ozone from above and not confirming the BAS hypothesis and that gave Joe a reason for being ultra-cautious, of course. So I, a mere biologist, had to set in train disciplinary proceedings and I got in Eileen Buttle, who was the NERC Establishments Officer, personnel person. She was very helpful. We had to go through the routine, which was an oral warning, a written warning, and then, you know, stiffening up

and two disciplinary proceedings, which could lead to dismissal. And that's how it was going. And Eileen came down and, unlike NERC's usual attitude. She was a biologist by the way, but she was always very helpful and promoted good relations between BAS and NERC.

Chris Lee: *So what changed the situation?*

Dick Laws: Well, the first thing that had to happen was a paper had to be published and it was published in *Nature*, because of the pressure.

Chris Lee: *So Joe complied?*

Dick Laws: He couldn't not comply. And that was a letter to *Nature*. That's the standard way in science of announcing something important and, in fact, this was a very important finding.

We went to the Chemistry Department in Cambridge. I mean I got involved in all of this, and talked to the chemists about the chemistry of how the ozone layer could be thinned, destroyed. And he said, well, he didn't know of any chemical reactions that would produce this result. That was nonsense as far as I was concerned, the fact he didn't know of any chemical reactions, when it was happening. Eventually, they were found of course. It went so far though that, I think I'm right in saying this but my memory isn't perhaps as good as it should be. He was certainly given a warning by me, an oral warning. He never received a written warning. And that's where Eileen came in and backed me up and she said, 'Well, the next stage is a written warning and we'll have to follow that route'. And fortunately, that was enough to make Joe back down - he was a very stubborn chap - but he did.

Chris Lee: *Any ill feelings afterwards, or was it all resolved amicably in the end?*

Track 13 [59.42 min]

Dick Laws: Well, of course, in the end it was to Joe's great advantage because he became a famous chap who'd discovered the ozone hole.

Chris Lee: *When that was published, you must have been receiving the reaction as Director of BAS. The day after it came out if you like, presumably your desk was quite busy, was it?*

Dick Laws: Well, in a way not so very busy, because Joe still wasn't very keen on promoting it, you see. It had been published and, of course, the wires were buzzing and it was a very important finding. The Americans, of course, came in. They said, 'Oh well, we've been measuring the ozone layer from above and we can find no signs of diminishing'. He said, 'Our computer data don't confirm your findings.'

Chris Lee: *They had much more narrow parameters, I believe?*

Dick Laws: Yes, that's right, that's right. And they were, of course, wrong. We stuck to our guns. But of course, if I hadn't been able to persuade Joe to, I mean at times I had to order him, you know, but I had to persuade him as well. If I hadn't been able to do that, then the ozone hole would have taken a hell of a long time further to be discovered. And the young men whose careers were greatly influenced by discovering the ozone hole, it would have had a dramatic, bad effect on their careers. It didn't occur to Joe, of course. So I had to order him to do the right thing, with the backing of Eileen.

[01.01.44 hr] Chris Lee: *How do you feel BAS coped with the spotlight that was inevitably turned upon it?*

Dick Laws: I think we coped pretty well, partly though because Joe was still reluctant to give away his little secret, I think. But he began to get the accolades as other people withdrew their criticisms. So he was offered a Fellowship at Corpus Christi, his college and things like that and he began to realise that it was in his interest actually not to worry too much about how clean the data were.

Chris Lee: *You're equally convinced today about Joe's findings as you were twenty odd years ago?*

Dick Laws: Oh yes. That they should be published and they were right and the scientific community has accepted it as one of the major discoveries of this era.

Chris Lee: *And what do you feel it's done to BAS's reputation?*

Dick Laws: It's done a lot to BAS's reputation, definitely. It's a very big finding and it's amazing in a way that Joe was so reluctant to publish it. It goes through his whole career, his..

Chris Lee: *Resistance?*

Dick Laws: His reticence, his feelings about not publishing anything unless it was backed up by perfect data. And of course, that must in science hold up a lot of discoveries, I think, when you get other people who are perfectionists, if I can call it that. And it did a lot for BAS, of course. It's one of the key findings internationally and across science that has happened in recent years [01.03.56 hrs].

Interesting clips:

- Track 1 [00.11 min] Build up to invasion of South Georgia.
- Track 2 [04.49 min] Build up to invasion of South Georgia.
- Track 3 [09.47 min] Invasion of South Georgia – BAS actions.
- Track 4 [14.48 min] Invasion of South Georgia – BAS actions.
- Track 5 [19.57 min] Invasion of South Georgia – BAS actions.
- Track 6 [24.44 min] Invasion of South Georgia – BAS recommendations to the military.
- Track 7 [29.49 min] Invasion of South Georgia – BAS recommendations to the military not taken up.
- Track 9 [39.48 min] Recruitment of women to work in Antarctica
- Track 10 [46.30 min] Discovery of the ozone hole – Joe Farman.

- Track 11 [49.43 min] Discovery of the ozone hole – dealings with Joe Farman.
- Track 12 [54.42 min] Discovery of the ozone hole – dealings with Joe Farman.