Geoff McMullen

Interviewed by

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This is Jonathan Sinfield interviewing Geoff McMullen on the 6th of June at the BCS headquarters in London.

Good morning Geoff.

Good morning.

Good morning. Geoff, thank you very much for agreeing to give this interview. If you don't mind, what I would like to do is, learn a little bit about your early life.

OK.

So perhaps you can tell us when or where you were born if you like.

I was born in Prestatyn, on Christmas Eve 1941. Prestatyn because I'm Liverpudlian, and the Luftwaffe bombed the Royal Liverpool Hospital where I was due to be born, and my mother was evacuated to North Wales. But I went back to Liverpool within ten days, and I started my life in my grandfather's pub, which was on the Pier Head. He then died, and my mother moved to an area called Aigburth and, I was brought up there. My parents went on to have six more children, so, I gather that being the oldest child makes you acquire a sense of responsibility, which I guess I did. And, I went to the local primary school, and then I went to a Christian Brothers school, also in Liverpool. And, I went to Liverpool University, largely because, I wasn't too sure whether to go back for a third year sixth form, so I hadn't applied to anywhere. I mean I realised I didn't want to do third year sixth form. I found I could get into Liverpool, but everybody else wanted me to wait for a year. So, I went to Liverpool.

Mhm.

And I read English, because I had a view of becoming a teacher, but lost interest in that in the course of my degree.

[02:08]

And, just taking you back a little bit. At secondary school, with your O Levels and A Levels, any particular specialisations that you were studying at the time?

Well, I was diverted into the art stream very early. I mean we, we had to make a choice, I think when we were twelve, and, although I had took maths at GCE, because, you had to do that to matriculate, I took no other science subjects beyond, fifteen I think. So my interest was in English and languages. I wasn't particularly interested in history or geography, but I was interested in those two. My best subject was Latin, and I thought of doing Classics, but, the teacher of Greek had retired and hadn't been replaced the year I took GCE, so, I did modern languages and English instead. And I did a lot of amateur dramatics.

We were terribly keen on amateur dramatics.

Was that the whole family or the whole school?

Oh the whole school. We had a, a charismatic, I think is the word, teacher of English, who was very keen on drama. And we did at least two productions a year of quite significant plays, you know, Wilde plays and Shakespeare and the like.

[03:37]
And, one of the questions I was going to ask you was, what would you say were your important influences in your early life, and would you say that drama was one of them?

The teacher certainly was, a man called Ray Thomas. Without him I wouldn't have read English at university. He was a major influence, yup. Yes, all round. And I also, I had two hobbies. I was a keen cyclist, until I realised I was never going to win the Tour de France, and relaxed to being a touring cyclist. And the guy who ran our local Saint Christopher's Cycling Club was also an influence, in terms of training and fitness and all that kind of thing. And I was, until I was about sixteen, a very keen aero modeller, and, the guy who ran the local aero modelling society was very helpful to adolescent boys in terms of giving yourself a bit of discipline and precision and all that sort of thing. We made enormous gliders, and, smaller radio-controlled models.

And looking back, the thing that surprises me is that, we were not a very well-off family, I seemed to manage to generate an awful lot of cash to support my hobbies.

Right.

So it was hard work.

[05:06]
You mentioned you were one of, of seven children, five boys, two girls. And, so, so I'm curious. How did you generate the cash then?

I worked most weekends, and I also had a paper round.

Paper round? OK.

And I worked in a local shop. And, by the time I was fourteen I did anything that came to hand that offered the prospect of cash. And was legal.

[05:35]
And you mentioned that, you studied English language at Liverpool.

Yes.

And that would have been, what year did you…?

'60 to '62.

Sixties, OK.

So… And, I was brought up opposite George Harrison too, which, may or may not be helpful.

Well, yes, because, 1960s, 1960…

Well in the Fifties they lived opposite..

In the Fifties, and 1960 was, if I'm correct, was the year that you actually started at Liverpool University.

Yes.

It was actually, if I'm correct, the year that the Beatles were actually formed. So…

Yah.

[06:13]
So, oh, interesting, you know. And, English at, at Liverpool University, did it give you what you were looking for, or…?

No, it was totally the wrong course.

Right, OK.

What I've realised since, every aptitude call, test or anything else I've ever done, tells me that I am by nature and inclination an engineer. I like facts, I like precision, I like making things. Even more, I like repairing things, after somebody else has broken them. [pause] And, I was completely out of my element. I had, as I think I said in that note, a fairly boring academic life, good social life, but boring academic life, and, couldn't wait to get out. However, that English degree gave me my first experience of computing, because, half the final year was given to writing a dissertation, and my dissertation subject was, the authenticity of a sermon by John Wycliffe dating from about 1380. And my supervisor said that he would be most interested in finding out, with the university computer laboratory, whether software he had been reading about which establishes authenticity of St Paul's writings, which had been developed in Princeton, was relevant to my dissertation. This was a typical computer project in some respect. Which meant two terms working with a postgraduate student, off and on. And I devoted quite a lot of time constructing a series of codes to enable us to punch into paper tape on a Flexowriter mediaeval English characters, like ash and

thorn, and, they would be put away in the background, allegedly setting up the software. And shortly before Easter, and my dissertation had to be presented at the end of Easter vacation, they announced that, they had just discovered that the software was only relevant for documents written in Demotic Greek of around the time of Christ. I was somewhat disappointed at this, and…

I'm not surprised.

I had to write what was allegedly 50 per cent of my time for two terms in a week just before Easter so as I could get it typed up, and I got a very bad degree as a result. It did mean, though, that when the Appointments Board as it was called at Liverpool held a session for people who hadn't yet made up their mind what to do, and asked if anybody had any experience of computing, I was the only person who put my hand up. And the effect of that was that I, they had a day the following week of aptitude tests from ICL – not ICL, the people who became ICL, NCR and IBM, and I took five aptitude tests, and passed them all. So the next day I had five interviews, and that evening I had four job offers. And I took the one that was in London with NCR. And so it wasn't a total waste of time. If you, if you take the view that everything's ultimately for the best, I think it worked out for the best.

Yes. Well, so you they should have given you an honorary degree in computing if there was one at that time …. pioneering

I got an Honorary DTech from Wolverhampton.

Oh right, OK.

I think it's in there somewhere.

[10:03]
Yes. So clearly, these, these events shaped your future, your career.

Mm.

And… But, in terms of education achievements, what effect do you feel they have had on your, your career?

[pause] They caused me a lot of extra effort, because, I took a six-month graduate trainee course with NCR.

Yes.

And, the thing I had to do in the background to that was the equivalent of a kind of, more or less A Level maths course, with some friends who were mathematicians, so as I could understand half the stuff we were being taught. And at intervals throughout my career I have found myself having to do that.

Yes.

Had I had a scientific education, it would have been built in. And…

And are there any key lessons learnt from your time spent in education that you would later attribute to your success?

[pause] Not really. I think my education was a complete and chaotic mess. I think the only lesson that comes to me out of that is that, the institution should spend a bit of time finding out what the kids they're teaching are, actually good they're good for, rather than pressing them into jelly moulds of their choosing.

Mm.

But no.

No.

Yeah, I, I came out at 21 just, amazed that I have wasted so many years.

Mm. Although, I saw something I'll mention, looking through your biography, was the, of course, the early, I'd say, specialisation or exposure to different languages.

Well that… Oh yeah, that was useful. I mean, when I was with UNIVAC, I ended up in Spain, because they needed somebody with my technical knowledge who could speak Spanish. And, that meant me. So they were quite keen for me to go, and quite keen to, made me enthusiastic to go. And I had a great time.

[12:31]
You mentioned, you know, that, you secured four job offers at first attempt, which is…

Yes.

…which is brilliant. And you joined NCR in what, 1963.

Yes.

At that time, had you decided, or persuaded yourself, to, to make a career in information technology, or was it…?

No, not really. You mentioned Coopers a bit earlier. I had been talking in the spring term to Coopers, who were big in Liverpool because they were big in, I think in shipbroking and insurance weren't they or something.

Yes.

And, I had an offer from them. But that was a time when they didn't pay a graduate starting salary. So I think they had just started, or just got away from, the system of indenture where you had to pay them.

Mhm.

But they were looking to pay me very little money, even compared with the £780 that NCR paid me

Right.

They were, they were not paying well.

Mm.

And, I thought, despite the mess of my computer project with the computer lab, I found computing very interesting, and, I had bought books on non-decimal arithmetic systems, Boolean Reasoning and stuff, and read, and found them quite fascinating. So although I hadn't really planned a career – in so far as I planned a career, it was going to be a chartered accountant – I was not un-attracted to computing.

And it seems there is, well, certainly a, a degree in, well, of self-learning involved.

Yes. A lot of self-learning.

A lot of self-learning.

Yes.

And, which is a, which is a great technique to, for us all to have isn't it.

[14:39]
When you joined NCR as a graduate trainee, were you then looking for, if you like, the IT route, or could it have diverged into sales, or, other areas of NCR, or…?

[pause] All… Basically, all they offered was a job as a programmer/analyst in pre- and post-sales support.

Mhm.

And I was comfy with that. And they told us quite clearly that our careers could develop in different directions after the first couple of years. After the first couple of

years I was quite keen to stay in the sort of, general technical areas as it were. I was happy to move upwards if and when they thought I should, but I wasn't terribly ambitious. And, I was a bit surprised when my peer group, those of us who had been on the same graduate course, were got together and told we were now all going to be trainee salesmen.

Oh right

As the case may be. And I was, not very happy with that, because, having worked with a few salesmen, I wasn't convinced by their ethical standards. So we, I tried it for six months, and, didn't find it very interesting, or attractive. So I left, and I joined CEIR, I think, yep.

[16:16]
So it would be in about 1966?

Yeah.

Yeah.

February '66.

So, would it be right, and I don't wish to put words in your mouth here, that at that stage you had decided on a career in information technology?

Oh yes. Yeah, I wasn't thinking of going anywhere else.

Right.

Going back, I found it really interesting. A number of nights I worked to solve problems indicates that I was quite committed. Yah, so I was… I had decided I had made broadly the right choice. Just wished I'd had a better education.

[16:55]

Yes. Now, what I would like you to do would be to outline your career, just step by step, looking at how you overcame any obstacles in your way. And I appreciate you've got a, a lengthy career, so perhaps if you would like to take some of the highlights.

All the way from uni?

Yes.

I mean I stopped working in 2010.

Right, OK.

Start in '63?

Yes, well let's start… So, in your time at CEIR and, I suppose if there are any specific obstacles, and at the same time let's look at successes at different points in, in your career, which….

What do you mean by obstacle? I mean, in, in all the jobs I did up to about 1974, so, they were largely technical jobs, even if I had a team working for me.

Yes.

And the obstacles we tended to face tended to be, malfunctions of hardware or software.

Right, OK.

And we just fixed those.

Yes.

As you do. You know, you… In those days, you could look at dumps until you finally see a pattern emerging, and when you see a pattern emerging you diagnose the problem, and then you fix it. And please God, it works.

Yes.

And, I have a very tenacious memory, or had, it's getting worse, and an ability to see spatial patterns, which matters when you're looking at dumps of operating systems.

Mhm.

You can see clusters of numbers forming patterns that shouldn't be there. It helps you see the underlying cause of the problem I don't know if that makes any sense to you.

Oh no, absolutely it does. Yes, yeah. And, yes, so by, by obstacle, I suppose, another word I could have used would be challenges as well.

[18:56]
Yeah, well, those were challenges. And, I mean, while I was working for CEIR I got engaged.

Mhm.

And my wife was then a mathematician for CEGB, writing FORTRAN programs to do project management and things. And we decided that we wanted to stay in London for a bit.

Mhm.

So the first challenge I guess was that… I left CEIR, because, they were taken over by BP, and, they, the first thing that BP did was tell us that they were going to do a review of structure and salaries and things, which could take up to, I think a year. And, there weren't going to be salary reviews or anything like that in the interval. And at that time in the computer industry, that was unheard of. So most of us left.

CEIR had three main functions. It had a commercial systems development division which I was in; it had a mathematics division, which had people like Martin Beale, Philip Hughes, there's, I can't remember his surname, who were outstanding in their field, and that was why BP had bought 'em; and it had a computer operation. And, BP were terribly keen on the mathematics group, and the other two, they weren't sure about. And it became Scicon eventually, which BP originally had part of and then sold off. But we, basically we, we became bored, because they weren't even trying to sell projects, and I left and joined Babcock's, which was a tremendous environment, as an analyst, and put in a couple of systems. And then, Lord King, who was then Chairman of Babcock's, did a group review, and the effect of that was that the computer division, which had been based in what is now the Wellcome Institute on the top of Euston Square station. The technical bit moved to Dover Street in south-east London; the commercial bit moved largely to Glasgow. And I went home and said to my then new wife that I had been asked to move to Glasgow, and she said quite un-ladylike things, and, I didn't move to Glasgow.
[21:27]
So, I went looking for a job. And, by that time I had some claim to know something about databases and data management, and UNIVAC were looking for somebody to specialise in the support of a thing called DMS 1100, which was their database system.

Mhm.

And, they took me on for that. Except that by the time I joined them, about a month later, the sale on which that need was based had fallen through, so I became part of Shell-Mex and BP support team, supporting the operating system.

Right.

Which was a fantastic learning experience, absolutely fantastic.

So, to try and put some timescales on this, am I right to say, you joined UNIVAC in 1968?

Yah.

And, I see that you were with them for about, four or five years.

Yes.

And, one of their clients was, was Shell.

Yes.

And we'll come on to in a few minutes. But was your time with UNIVAC all in the UK?

No no no. I had eighteen months, roughly, bit less but roughly eighteen months, based in Hemel Hempstead, supporting Shell-Mex and BP.

Mhm.

[pause] I was approached by Xerox Data Systems, who made very good quality scientific computers, who wanted to set up in the UK, to become their technical support director. Because, somebody I knew who had been a, an NCR salesman, and I had stayed friends with, was going to be their marketing director, and thought I was a good chap. And I told UNIVAC about this, without resigning, I was thinking about what to do next, and, they offered me a job as support for large systems in Spain, as an alternative. My wife was then just pregnant, we just knew. And I talked to her, and she said that, well if we're going to go abroad, this was not a bad time to do it.

Mhm.

So we went to Spain for two years. And… [pause] There, it was a bit random too. I was supposed to be just technical support for several machines sites. In fact I found they had contractual commitments to do a lot more than that. And, the bloke who had hired me, viewed me as a stopgap while he sorted out what to do next. So, the first few weeks I was there, he and I spent a lot of time scratching our heads. And we

decided that, they had a budget for about 30 people to do these support tasks, but they didn't know where to put 'em. And we decided to create a centrally-managed but physically distributed group, and he managed it for about, I can't remember how long, it felt like ten minutes. Anyway, he then was promoted, and, I ended up managing it, which meant that my Spanish went from OK to fluent over the space of about a month. Because I had, of the 30 people I had, about 20 were Spaniards and the other ten we went round Europe recruiting.

So that time at school learning Spanish did pay off.

Oh yeah, yeah yeah yeah. Yes. Yeah. Nothing's wasted.

[25:32]
Nothing's wasted, no. During that time, in terms of, let's say, staff responsibility at UNIVAC, you, you mentioned a team in Spain of… Whereabouts, sorry, whereabouts in Spain?

In Madrid.

In Madid, yes..

On the way to the airport.

On the way to the airport. So, in the capital there. So you, you talked about, if I understood you correctly, managing about 31 staff.

Well, one was me.

One… Yes.

I had 30 staff.

A team of about 30 staff. And then, then, you came back to London?

Yeah.

Yup.

Well, two years was up, and I had to make a choice. I was… They talk about HR classifications. I was an expatriate, still notionally an employee of UNIVAC UK, and, after two years I could choose to return to UNIVAC UK. who had sold quite a few more machines and wanted me back, or, I had to become an employee of UNIVAC Spain. And, that was, indeterminate. My wife wanted to go back to work, and she couldn't work in Spain.

Mhm.

All four grandparents were quite keen to see a bit more of their grandson.

Yup.

[26:55]
And, we decided to come home. And I went to the Shell site as a project manager, and, accidentally, the last thing I had done in Spain was solve a kind of, outbreak of extreme system instability on the Shell – sorry, the Spanish UNIVAC sites of the 1100, which was caused by a, an error in a patch that was sent out from UNIVAC centrally. And, although I communicated back to Roseville that they had done this terrible thing, they, I think, sat on it while they tried to find a polite way of saying they'd made a complete cock-up.

Mm.

So I got to Shell to find that exactly the same problem was occurring on the 1100 there. The Shell IT management were in a state of incandescent rage, and, the account manager, the salesman, was spending half his life in the office of Mr Thompson[?], who was the Shell director of IT, being told that, unless it was fixed in the next week, ten days, whatever, he was going to order a truck and return the computer, and then start suing. And I, I said I can fix this. And, neither UNIVAC nor

Shell believed me. And after about three days of patient explanation, they all decided it was worth a go. So we recompiled the operating system, reloaded it, and we went from, anything up to 20 stops a day, to about one that was typical in the early Seventies. And, they asked me to walk on water for my next trick, sort of thing, basically. It was good for reputation building, even though it was completely undeserved.

Well it doesn't sound undeserved to me. And, no doubt you, you pleased your UNIVAC employers greatly with such a major client and no doubt Shell representatives as well.

Yeah, it went down well. Well it's the reason why… My career at that point looked as if I was going to have to kind of go up the ladder at UNIVAC. I stayed, eighteen months, two years on the Shell site. I then became Director of Support for UNIVAC UK, non-government basically. And I was called Associate Director, and I was deputy to the Retail Director and the Managing Director. And, that looked like it, sort of thing, a career in commercial, the commercial side of the supply of IT.

Yes. Yeah.

And, Shell were setting up a UK operating company for the first time, because Shell-Mex and BP was being disbanded, and they had set up a computer centre, and they had very few staff. Because they had a very small IBM operation in Shell Centre to do payroll and things, and that was it. And, they approached me and offered me a bit more money than UNIVAC, in what sounded to me like a rather, a better-established enterprise.

Mhm.

[30:35]
So I quit and went to Shell. Where I fitted like a hand to glove.

Mhm.

I don't know why, but, the Shell culture and I were utterly congenial.

That's always good to hear from…

Yeah.

…from both sides. So now we're talking about 1974 when you started

Yes. 1974

…when you started at Shell. Yes.

Mhm.

And you, you joined them as a technical manager that was the title at that juncture in time.

Well, it was a software support team. It had to support, well, UNIVAC, IBM, and some DEC.

Mhm.

I had people who could keep all of them afloat. And also ran a help desk. Because we had, on the UNIVAC machine, we had a lot of what was then called demand processing online users. We had a bit of TSL on the IBM machine, but every time we ran it, everything stopped. It was just, the machine wasn't big enough to run it.

And at that early time in Shell, perhaps, let's say the first ten years I think before you went to abroad with Shell, any particular challenges or successes in that period at…?

Well we, we built a computer centre. I made sure the kit in it worked.

[32:05]
You were at Shell for, a fair length of time.

Twenty years.

Twenty years. Yes, yes.

Too long maybe.

And, was that primarily in the UK?

Yes. In fact in terms of base, it was all in the UK. I, I had two years when I was splitting my time between The Hague and London, but I, I was based here. And I spent, nearly five years travelling a great deal to operating companies, in two sessions of three years and two years. Can you hear me on that?

Yes, yeah.

Yeah, OK. But I was always based here. And my career was in the newly-formed Shell UK for the first, eight years. Then I had three years in Shell International, three and a half. Then I came back to the Shell UK Expro, Exxon joint venture, for three and a bit years. And then I went back to International, and had a bit of a medical misfortune. And then I came back to the UK and then Northern Europe. So.

[33:31]
I mean, so we're talking about, as you said, that's 20 years here, but, I wonder if you could perhaps pick up some memorable successes, I'm sure you had quite a few in this time, and tell us a little bit about how they were, they were achieved.

[pause] Well yeah, I mean, as I started to say before we broke, we built a computer centre, we made it work, and we had lots and lots of happy users. And, we did that from scratch basically. The team I joined was well down the road doing that. And, it was very well organised. So I was proud to be part of that. Then, later, when I took over as Director of the centre, we did an awful lot of upgrading of the centre. It had been built in a hurry and, we had to reconsider its purpose and rebuild bits of it. And

we did an awful lot about uninterruptable power supplies, and I still remember very well, which filled me with schadenfreude of BA's misfortunes over the weekend.

Absolutely, yes.

But that's a different story. So… And we, we bought and installed a Cray, which was then the world's most powerful computer, for[our friends in Exploration so as they could model reservoirs.

Mhm.

That was, that went very well. That was also the most wonderful piece of PR. Because when you get main board directors of a company visit a computer centre, which they used to do once or twice a year, you walk him round the computer room, and you can see them losing the will to live as you get past the first set of tape desks. Cray came with a free on-base cooling system, which had what were basically steam engines, except they had been converted to use as liquid pumps, which you stored in the machine room, and, would have been recognisable to Brunel, or, perhaps Watt and people like that. So you took Shell main board directors, who by and large were some sort of engineer, and you showed them the Cray cooling system, and you explained that this was helping to break the boundaries of great reservoir engineering. And they felt really pleased. You know, they could see a traditional technology they understood doing advanced things. So then you could go and have lunch, and they felt very happy. And then, the quality of the visits improved, the moral quality.

Yes. So, so they could relate to you, certainly practising your soft skills as it were…

Yes.

…as a, as a director in this, in this regard.

It was very good. And, and then I went to London and, because, we were still having arguments in Shell UK about what sort of support systems they needed. And, I picked up halfway through that, and we managed to get to the point where we completed the

process of having common finance systems, common personnel systems, common fixed assets management systems, that sort of stuff. Which was an exciting two and a half years, which I enjoyed quite a lot.

[37:09]

And, I don't know whether it's relevant to the way you're trying to structure this, but it was in the period from being Director of the centre to, the end of '81 I think it was, that my main connection with the BCS started. Because, I was part of a group in Shell who were trying to develop a sort of, skills framework and career development framework at IT. Shell had them for every other specialisation, and we were charged with doing it for IT. And, we did it. And then, we did it with help from, MSL I think it was, and, and BIS. In fact Roger Graham was involved in that.

Oh right. Mm.

His people were. And, we realised that, we had set it up, it had been very expensive, we then needed to maintain it, which was going to be more expensive, and we probably couldn't guarantee the long-term budgets. And anyway, there was nothing special about Shell, when you got to the level of extraction we were dealing with. So, we got very interested in the BCS's Industry Structure Model and Professional Development Scheme, which were being developed then and being promoted. And one thing led to another, we became the biggest user of those two, and I ended up on the Professional Committee I think it was called, chaired by a man called Cecil Marks[ph], who had been president of the society, that oversaw ISM and PDS. So, that would have been around 1980, and I became quite active in that, and stayed active in that intermittently for the next 20 years. So that was…

[39:06]

Yes, a very important . We'll come back to that area. So, if I recollect, you joined the BCS actually fairly shortly after you started your career in IT.

I joined… There was… It's interesting, looking back. There was a very serious rumour going around in 1966 I think it was that computing was about to become a regulated profession. And lots of us joined and paid our three guineas a year in order to be in on the ground floor of that. As I said in my, in the survey, I had intended to

join a regulated profession, and I was quite surprised to find there was no trace of that in computing when I started. So when this rumour went about, along with a lot of other people at CEIR, I joined the BCS. I can't remember if it was '66 or 7, it was then about. And I was actually in the database management, I think it was called, specialist group, which a Professor King from, King's College chaired, off and on, around about 1972, '73 or so. So yup.

[40:25]
And in your time in Shell, are there any particular key events that set you on the road to success that you haven't mentioned?

I kept doing my job.

Kept doing your job.

You know, they set up another hurdle, I jumped over it.

Mhm.

Because I hate failure. The key things I did that… [pause] I need to back off and explain the Shell system. There is in Shell a very rigorous process of personnel planning.

Mhm.

And part of it is trying to pick up people who might be the future top echelon of the group.

Yes.

And people who were considered to be candidates of that sort are put on something called, first the near-identified list, where a committee once a year reviews the members of the list to see whether they still should be on it, or maybe should move to the identified list, where your career is, or was then, more actively managed. And, I

think, partly because of the success of building Wythenshawe, the computer centre, partly because of my overseeing role in the common systems in Shell UK, where, you know, I caught the wave just as it was settling down and we made it all work, I was on the near-identified list, which made them decide to move me out of Shell UK into Shell International so as I could see a bit more of the activity. And, while I was on the, in Shell International, I was moved to the identified list, so I was seen as a potential future managing director, group managing director.

Mhm.

For reasons I can't work out, but, it was nice while it lasted. So, OK, things that helped me in my career were, as I say, building the computer centre, putting in common systems. In the two and a half, three years I had running the Group Advisory Unit I systematised policy formation, and I made sure that we had a process for visiting operating companies and actually doing organised visits that helped them. And I put in elementary things like timesheets and analysis for timesheets, so as we knew what we were doing. This also helped me, that was why I got onto the identified list. And, that in turn meant that when the oil price started dipping in '82 or so, and they decided to do a cost-reduction exercise in the central offices first, I was put on the team that implemented it, to, to see if I could function in that sort of role. And I did. I was called an adviser, and I was a successful adviser. Which meant that, the man who ran the chairman's office, which was a group called Organisation Services, asked for me for a sort of, two-year development assignment.

Mm.

And it didn't last two years, because, I was then hauled over to Expro to sort out the computing there. But I spent about eighteen months. And I did a, an activity value analysis exercise in Thailand, and, I did a similar thing, I set up a similar thing, for, I can't remember, somewhere in Scandinavia, and I did a kind of organisation review in Sudan.

Mm.

[44:44]
All reasonably successfully. So I was viewed as a, OK. And then, the chap who was running computing in Expro, the joint venture with Exxon, in '84, had some kind of breakdown, and, I went, I was sent over to have a chat with the management team of Expro, which turned out to be an interview, and I ended up being asked to come and do that job. And I was there for, the better part of three years as Director of Information Systems and Administration. And, then they decided to do an activity value analysis, because of the plunging oil price, and as I had done it twice, I was Project Director. So I had three and three and a half thousand Shell people in Expro doing exactly what I told them for six weeks. While we did the project.

A huge number of…

It was, well, it was an organisational challenge, which we did, on time, within budget, and we took fifteen per cent off op ex just like that.

Can you repeat that again? Because that's a, that sounds important to me.

Well we did this project. It involved three and a half thousand people, you know, who were organised into units, typically of 20 to 30 people. And the units were grouped into about, twelve each. Each group of twelve had an adviser whom we trained intensively and supported them. And, each of these advisers was grouped into a team with a supervisor, one in Aberdeen, one in Lowestoft and one in London. And, then I had a support unit that helped them with constricted budgets and so forth. And we got the whole thing together in three months. We then ran it for two months, and then I delivered the results, so six months total, and we did it on time, within budget, and we took fifteen per cent off the operating expenses.

It's that fifteen per cent figure that I was particularly impressed with …

[47:00]
which, no doubt pleased the powers that be greatly. Clearly that must have been one of your proudest achievements of your career, but perhaps you'd like to talk us through other achievements.

.

I felt, I felt very pleased to have made it. Mostly… To, to wind back a bit. When I was in Thailand I had the misfortune to pick up three gut infections. One was some kind of worm, which they fixed; one was a thing called Giardia lamblia, which they didn't fix; and one was some kind of bacterial infection that they never really diagnosed, but it, it produced all the effects of gastroenteritis. When I was in Thailand I kept going on medication, because, the thought of stopping what I was doing while I had the choice, just didn't seem to me worth entertaining. We would up everybody to get started and we were halfway down it, and then I got these problems. So I spent a weekend in the American hospital in Thailand, in Bangkok, getting put back on my feet, and carried on for the next four weeks. When I came home, when I was still in OS, I had to spend about six weeks going to the Hospital for Tropical Diseases, while they found something that would kill the bacteria. They had already got rid of the worm, and they told me that they had cured the Giardia lamblia. [pause] So that was OK. And then, four years later, when I had finished this project with Expro, I knew I wasn't well, I knew I wasn't at all well. But nobody seemed to be able to find out what was wrong. And, it turned out that the Giardia had come back again, but not with quite the same symptoms, which is why I didn't recognise it. And it had generated, or the side-effects of it had generated, a peptic ulcer, which wasn't giving me any pain, it was asymptomatic. So, I finished the cost reduction exercise in September I think.

Which year are we?

September '88.

Right, OK.

And, I was then asked to become, I was told I was going to become, Deputy Coordinator for IT, which was a promotion. Good job. And, that was the one that was half between The Hague and London. And, at Christmas I had a massive gastric bleed. Fortunately I went to A&E because I felt really bad. And I needed nine units of blood, which is more than a body-full. And, because I'm a rare blood group,

because they didn't have enough of it, I ended up with septicaemia, and I was off work for three months.

Mhm.

And they didn't expect me either to survive or to be mentally competent. Opinions on that vary, but I certainly survived.
[50:28]
So, this job I was supposed to be doing as Deputy Coordinator, I spent three months recovering at hospital and at home. And then I spent three months back in the office but not doing very much. And then, while I was sick my boss, the chap to whom I was deputy, had reached retirement age and gone back to Canada, and there was a new Dutchman came in, who decided he wanted to reorganise the IT function to look like every other Shell function.

Mhm.

So I spent the second half of '89 helping him do that. At that point I came off the identified, near identified and every other list, because, Shell medical thought I was going to die, for part of the period. And, then I didn't die, and I got better, and, at the end of '88 – '89, sorry, the guy who had been running the computing for Shell UK retired, and I took over from him. It was viewed as an easy job. So I did that. And we, we consolidated all the infrastructure management, I think 48 phone exchanges down to two, and, only one of which was manned And we closed a lot of computer centres. And we rationalised the network, and so on and so forth. So it wasn't that easy a job, but it was very enjoyable.
[52:14]
And then, then, I really came to the end of my Shell career because, I wasn't, being on none of the lists I wasn't viewed as worth looking after in the particular sense of career development, and, I had about eight years to go, or nine years to go, and, I thought that I had been discussing with my then boss a move back into Shell Centre to a really quite interesting job, to do with the chairman's office and organisation and things like that, and, then I was told that having rationalised everything in the UK, having prepared a taskforce that looked at international infrastructure and saying that

they should do the same, I was going to move on and do, lead that, without any promotion, any prospects, anything else, and that I would probably have to move my base to The Hague, but it wasn't worth moving the family because I'd never be home anyway. So, we had a few interesting discussions, and I was told it was that or early retirement. So I went to see the personnel people and said, 'Tell me about this early retirement.' And I took that.

This was around 1993?

This was, from, April '93 to, June we had the discussion. And, then, they paid me to the end of the year. I worked another three months while they found a replacement for me in Canada, and, left the office in October, beginning of October, and was, as I say, on the payroll till the end of the year.

[54:11]
And so, your job title at that time was General Manager?

No, at the end of the time I was Chief Executive of Shell International Services.

Oh right.

Because we had set it up, this global infrastructure management organisation. And by the time I left we'd added the Netherlands analogue of the UK thing I ran to the UK thing, and put it into a special European company, it was called Shell International Services. So for the last, three months, I was its Chief Executive.

Mhm.

And before that I was General Manager of Information and Computer Services.

Tell me if I'm on the wrong track here, or if I've got this wrong which I could have, but, thinking about outside the Shell job titles and structures et cetera, am I right in saying that you were the first, or were the first, Shell CIO in all respects at the time that this happened?

Shell's too complex.

Right, OK. Over-simplification on my part. Sorry.

Yeah. I mean, what… The Anderson term for what I did for that last four years was director of the back office.

Right, OK.

Yeah? I ran the infrastructure, the, the boxes and the pipes. I was also responsible, again, for common systems. And I ran things like help desks and ran the telephone system.

Mhm.

But the application development was in the business functions. We had what London Business School like to call a federal computing organisation.

Right., OK.

And I had something, if you think of it in US constitution terms, I was something like the president.

Right.

Which meant that, everybody who wanted to could take me to court and stop me doing anything basically. So it required a certain amount of finesse to get anything done.

Yah.

So it was only with considerable soft skills and, your challenges at that time… I have a high tolerance of ambiguity, and, I suffer fools quite gladly, until I get to see the clear line from them to the exit.

Right, that's interesting. Interesting advice. You talked about your early days about, more technical challenges as your career progressed. Did they move from, from technical challenge perhaps to…

Oh yes. I hadn't written a programme…

…people challenges rather more.

Yes. It was, it was all about the people. My career was all about people, from, about '78 onwards.

Mhm.

I haven't written a program since, since then, except for my own amusement. And, and basically, what I did, as a pattern really, was, move into teams that were either failing or at least not working; work with the people there to find out why; design a better future and implement it. I did that, at least four times at Shell.

Well , perhaps describe as turnaround as it were.

Yeah. Yeah. Kind of, yeah.

[57:50]
And as you say, you chose to leave Shell, '93, or '94. And then what took, what did you do?

Well I intended to retire. I had quite a good Shell pension. I ignored their advice, of Shell personnel, and the financial adviser they sent me to see, and I took the pension immediately. Because that was enough to pay all the bills, and keep us reasonably well. But my wife, who had just decided to give up what she had been doing in IT

and retrain as a maths teacher, said that, well she wasn't planning to be at home, and she didn't relish the thought of me being home. So, for three years I worked as a consultant. I did… Well, two of my suppliers took me on as a kind of, critical friend. So, when they were doing sales pitches and that sort of stuff, one of them had me on retainer and one of them paid me by the day but they paid me enough, to sit in their office, listen to the salesmen, patiently, me in the role of pitch, you know. And, hear them through. And then say, 'Right, great, great, great, less great, and bloody awful,' and give them a lot of feedback. And, and they seemed to think that was good news.

So this was pre-quote from their prospective when they were going out to, to sell to their clients.

Yes. This was validation for what they were doing. And, so I did that for a couple of years. And, a couple of people had me in to look at their IT organisations, and see if there was any things I would recommend. And, I, I fancied doing a doing a PhD. Actually it would have been a DPhil because it was at Oxford. I met… They used… PA Consulting…

Yes, yeah.

…used to run an awful lot of senior management conferences, and I was ascribed to Butler Cox.

Mhm.

Who were very good. And, I met an awful lot of people through that. And, I met a chap from Templeton College, and we talked about my doing some kind of DPhil in organisation of computing. And he had all kinds of things that were worth studying. So as a kind of taster, I did a one-year project with him, looking at the implementation of ERP systems in multinationals. And I recruited with him ten case studies from people we knew. And I travelled the globe interviewing people. And I wrote this report that said, basically, ERP systems don't work. They are un-implementable. And, we thought of taking it forward, because, it became a chapter in a book. And, I

spent, 2006, I spent a lot of time on platforms at conferences, reporting my results, and finding that nobody contested what I said. It was quite interesting.

[1:01:37]
Just so I understand, that, the large ERP systems that we know…

So SAP, JD Edwards.

Yes. Yes. Yes, the likes thereof.

Yes.

PeopleSoft and things like that.

We had to… In the ten case studies we had, the only successful implementation was an insurance company, I won't tell you about it,

Yes, yes.

…who had abandoned, I think with JD Edwards, halfway through, and written their own system.

Right.

And, that worked. The other nine all said, if you take this list of aspirations, we've done about this much.

Right, OK.

And it's taken us twice as long as we meant, and it's cost a fortune.

Right. So, so less than 50 per cent perhaps

Yes,

…potentially of these organisations.

The, the dream of having an online dashboard for the whole organisation, where you could bore down into detail and all the rest of it, for most of them, anything up to five years after starting remained a dream.

Mhm.

And they've all spent a mint.

[1:02:44]
Right, OK. And if you could think of, of one, or two reasons that you would attribute this, this lack of success?

Team building.

Team building.

They didn't build teams. What they did was, and this was in all my… So it's quite interesting for me. Do you know about a book called *Corporate Strategy of Style*?

I don't.

It's Goold and Campbell. They have a theory that if you get to have more than one office, you become a complex organisation.

Right.

Self-evident.

Mhm.

And they say that, if you're going to run a complex organisation, there are three approaches. I can't remember after 20 years what they call them, but broadly speaking, one is, tightly centrally directed, with huge data flows into the centre, and small data flows out giving just orders.

Mhm.

At the other extreme, you have a very loose organisation where somebody says, 'I want six per cent real return. Here's your bag of gold sovereigns. Don't do anything criminal. You keep your job, if you meet that target'

Mhm.

And in the middle, you've got a tall organisation, like oil companies generally are, where there's all kinds of corporate standards about safety, personnel and that sort of thing. But by and large, provided they're making the money, you don't care how they run the business.

Mhm.

And, the uniform pattern in these less than perfectly successful implementations was that somebody who thought he was running, or she was running, there were some shes, a first type of organisation, where everything was centralised and they can give orders; set up a project team to put in ERP based on that idea of the enterprise, in an enterprise that was either type two or type three.

Right. OK.

And, the type two and type three enterprises chewed them and spat 'em out.

Yup. So not…

So you ended up with, whatever it was, SAP, Edwards, whatever, even Oracle then already, implemented globally, but implemented globally for local use. You know, so

there wasn't a global system; there were, there was a mosaic of similar seaming systems. It was quite interesting. But then, we thought, a) that wasn't capable of being built up to a DPhil; and b), I decided I wouldn't be much of a student at my age. So we parted company. Very friendly, but you know, we thought, it had been an interesting experiment, he had a lot of useful data, and, we stopped.
[1:05:42]
And then, I had been a Vice-President of the BCS for about three years at that point. I had been Chairman of the IT NTO for a couple of years, because Barney Gibbens dropped me in it. And, I was approached to become Chairman of UKERNA, which was a quango running JANET, and, while we were talking about that they sacked the MD, and I was asked if I would become MD, and they would appoint a distinguished academic as chairman. So I did that for two years, and then he retired and I took over as Chairman. And I, we sorted it out basically. It was a very good technical operation with no business structure, and we fixed it. And we fixed the structure so the funding bodies were happy with it. And it still exists.

[1:06:40]
Yes indeed. So you, you joined UKERNA about 1997.

Yup. Yes. August I think.

And as you say, now known as JANET(UK).

Yes.

And… So a lot of your time there subsequently was looking at, you say, funding of the organisation.

Well I had to deal with funding bodies. And, it turned out… Once we had sorted out the internal organisation, you know, the organisation was four and a half years old and nobody had had a performance review in the whole of that time. And of the 60 or so people, only about two of them had had a pay rise. So… And the books… You know, KPMG had been hired to take the shoeboxes full of receipts and invoices and things and create four years' worth of accounts, because there hadn't been any.

Mhm.

So yes, we put in place processes that ran the business as a business. And once we had done that, which only took, no more than a year… Because the interesting thing was that the whole management team knew they wanted to do it, but nobody had known how to set about it. And once we fixed that, we realised that, if JANET was going to survive, there needed to be a reconciliation between the structure of governance and the funding. Because the funding came from various funding bodies, about nine in total, who had no part in the governance, because it was a company limited by guarantee with 2,000 academic members. So, I spent my last eighteen months on missionary work doing presentations to regional assemblies, telling them they had to vote to change the Mem and Arts. And we did.

[1:08:30]
So, sterling work on, as you say, on the governance side there, and putting appropriate governance in to, into JANET at that juncture in time. So I'd like to go back. You talked about earlier your involvement with the BCS and training, professionalism et cetera.

Mm.

And you mentioned… Thinking abou,t back to Dutch Shell, am I right in saying you were involved in setting up different standards…

Yeah. I, the IT NTO, the National Training Organisation, set the frameworks for skills, for NVQs, from levels one to six, and, we started another discussion. My involvement in that came because, we were the biggest users of PDS for BCS.

Mhm.

In about 1990, I can't remember exactly when, the BCS suffered a series of disasters. They hired a man as CEO who was hopeless. He was supported, or, licensed, by two or three presidents to go and squander the institutes money, and not deliver anything.

And they nearly went bankrupt, they had to sell the office and all this kind of stuff. And, I put together a consortium of only three users of PDS, with a view to setting up a business to run PDS and buy the IPR from the administrator of BCS.

[1:10:23]
Can I just stop you there. So, apologies for my ignorance here. PCS – PDS, sorry, is…

Professional Development Scheme.

Oh right. Sorry. No, yes, sorry, I didn't quite understand

ISM, Industry Structure Model, if I mentioned it earlier.

Yup.

[1:10:40]
So, I then found out that, the Government, the, Thatcher government? I think it was, yeah, just about, was trying to set up NVQs, and had offered the BCS the post of lead body for the NVQs. The BCS in its infinite wisdom had refused, and they worked with the DTI, who were responsible for NVQs, had then gone on to COSIT, where Roger Graham was very active. Which was the computer industry standards board or something. And they became the lead body. And they became, in due course, the ITO and then the IT NTO, National Training Organisation. And, I thought it was extremely disappointing that these two bodies were separate. So I joined the board of the IT NTO, and became its Chairman. And, in 1997 we set up something called AISS, the Association for[sic] Information Systems Skills, which embodied BCS, IT NTO, IEE, and IMIS. And, out that we set up something called SFIA, which is the Skills Framework for the Information Age, and a foundation to run it, which still exists. And, e-skills took over the IT NTO's activities, and continues to worry about, skills shortages and things, but is a bit marginal to SFIA, although they're slightly low members. And, we came out of it with the BCS still very active in SFIA and SFIA related product, and, IMIS taken over by BCS, and the IEEE, willing partners in SFIA. So it was quite successful.

Yes. And as you say, still very much in use today

Yeah,
and continues to be utilised.

Yes. And is in fact used internationally.

[1:13:15]
Yes. Absolutely, yes. And in 2001 you became BCS President.

Yah.

Yes. And, are there any… In your year as President, is there something, specific objectives that you set yourself?

Yes. The… Before the current arrangements for the BCS governance, the Council, which had roughly 50 members, was, the body of trustees, and that was too big a body for decision-making.

Mm.

So, there were two small committees of vice-presidents mainly, called the Policy and Resources Committee and Financial Operations Committee, that actually ran and did the decision-making, and just had to get the agreement of Council, which was often quite difficult. And, PRC used to have a joint away day every year with FOC. And in about '99, when it was hosted by David Hartley, we all said, this process of governance is inefficient, and because of the attitudes that were coming out of the Charity Commission at that time, isn't going to endure. We've got too many trustees, and you've only got to read the minutes of Council to see that our decision-making process is extremely inefficient. So we resolved that over time we should work to change the governance structure. So, David Hartley, who became President the next year, started the ball rolling. He started some work to look at whether we really had a problem that was more than cosmetic; if we had, what we should do about it. Alastair

Macdonald, who took over from him, took the results of those studies, and he and I did a lot of presentation to regional units of the BCS about, where we saw imperfections and what we thought might be improved. And generally speaking we were met with support. I took the results of that, and set up a group to produce some concrete recommendations about changes to things, like the Royal Charter and whatever we needed. And got those agreed by Council. So that was the main achievement of my presidential year.

Right, yes.

And then John Ivinson, who took over from me, got the stuff that came from lawyers basically, concrete recommendations as to what to do approved by Council. So, at the end of his year we changed the governance of the BCS to more or less the present structure.
[1:16:27]
So, what I wanted to do was improve the way that the BCS supported disabled, because I, I'm underwhelmed, I'm still, I am underwhelmed, by the amount we do to support the use of computing by the disabled. In fact I'm still on the specialist group.

Mhm.

So I'd say, that was the main achievement and the main failure of my year as President.

Yes, I notice your presidential thing was, computing for the disabled.

Mm.

And it's an area that you, you would wish that more, more could have been achieved.

Yes.

And it's still something that you're active with today.

Yes.

[1:17:20]
Yup. And internationally, not just as President of BCS, but, your involvement with the Council of European Professional Informatics as well,

Well I was, Roger Johnson who'd been a president of the BCS, had been the BCS's representative with CEPIS and something called the ECDL Foundation, and wished to retire from those positions. And it's usual for a retiring president to take on something else, and I was asked to replace him. So I did. Because of my languages and the fact that I've worked abroad a bit helped. And… Because at that point I spoke excellent Spanish, good French, some, well, tolerable Dutch, some Italian, and a bit of German. So, so I was OK. And, I ended up as President of CEPIS. In effect, I did two years. We found that the chief executive had been misbehaving with his staff, and robbing the company. So we had to sort that out. But it, it worked out. And, I should have said at some point that when I was V-P for Professional Formation, we brought the ECDL into the UK, and I, I kind of led that. And that's been quite successful.

It's the European Driving Licence right

Yes.

Yes. Which again, is still very much in place.

Well it's, it's having a bit of trouble at the moment, but it's been a, a real cash cow for a long, long time.

[1:19:15]
Yes. Looking back at your career, if you had your time again, is there anything that you would do differently?

[pause] Well you can't do that now. I mean, the things I wish, I wish that I hadn't become extremely ill. I think that would have made a radical difference to my career.

[pause] I think, for myself, although my wife would disagree with this, that when I, in 1974 when I had to make a decision as to, come back to the UK or stay in Spain, I'd have stayed in Spain, with hindsight.

Mhm.

I find the working environment there very congenial, and I like the people. I've still got lots of Spanish friends. So, if there's a regret, there's that.

Mhm.

[pause] I don't think… No, I mean I've… If you want my personal view of my career, it's been a series of random happy accidents, with, apart from one or two near disasters.

Mhm.

And I've been very pleased with the outcome of most of it. I'm 75, which I never expected to be. I have four children, five grandchildren, lots and lots of friends, and, enough money to do what we want to do.

Any of your children gone into IT?

No. I have a builder, a lawyer, a psychiatrist, and a primary school teacher.

Right.

The only thing we miss is an accountant.

Right. [both laugh] Perhaps one of the grandchildren then.

Yeah yeah. Who knows? If I live so long.

[1:21:12]

In terms of professional bodies, of course we've talked quite a bit about the BCS. Are you a member of any other professional bodies?

Not now, no. I have… Well, not ever actually. I was a Liveryman of the WCIT.

Right, OK.

I left, I stopped paying my dues two years ago. I was not as happy with them as I could have been.

Right, OK.

But… And also, I was suffering from the problems that led to my knee replacement, so I had…

Yup.

From about, the middle of 2015 I had unpredictable periods when it was actually quite difficult to get about. I'm better now, so…

I'm pleased to hear that. Have you been involved with the Royal Society for the Encouragement of Arts, or…?

I'm an FRSA.

Right, yes.

That was because, I mean, I don't wish to sound cynical, but, when I was in Shell-Mex House, which I have been for a lot of my career, the RSA's Vaults Restaurant was a very handy caff.

Right.

If you wanted to meet someone for lunch.

Ever practical then.

Yeah. So I became an, I'm a life fellow, but I'm not at all active. I go to talks and that a bit. I find their sanctimonious attitude a bit, a bit funny actually.

[1:22:44]
Mm. And in terms of awards, no doubt you've picked up some over the, over the years, but, is there any, I mean, particularly one which sticks out for you, or, or you're particularly proud of or were honoured to receive?

Well one that I feel honoured to receive and I was very touched by, and I'm buggered if I can remember the name of it… [pause] [rustling sounds]

Was this the outstanding

2010, I was invited by David Clarke to the industry awards dinner as a guest, and when I was there I found I had got the Outstanding Contribution to IT Award. I feel very touched by that. And, I, I could have written the citation myself, you know, I thought it was really very good. And I was very moved. I've been given bits of stone with things engraved on them around Europe for whatever, but they don't mean the same.

Mhm.

And I've got a BTech from the University of Wolverhampton, mainly because I didn't close down their support centre for JANET I suspect. [both laugh]

Yes, as you say, I would encourage any listener actually, Geoff would I'm sure be too modest to mention this, but, on the BCS website I did pick up some comment on that, well, very prestigious award, the Outstanding Contribution to UK IT Award. David Clarke describes Geoff as a non-stop contributor to the advancement of IT skills, ethics and professionalism, and I think that, hopefully, all that's come out in this interview today.

That's very kind.

[1:24:52]
Now if we can just turn very briefly, as time is going on, but, cast our eye to the future. What would you say would be the biggest challenges and opportunities for the IT industry in the next ten years?

I think the present structure of the IT industry is not sustainable. If you look at what we like to call FANG, Facebook and the rest of them, right now their P/E ratios are about 170 to 180. The average FTSE 500 is, 23.8 I think, was last week.

Mhm.

That's not going to endure. What the collapse in their share prices might do to those companies, I don't know. But it might do something. So that's one threat, and it's a very real threat.

Yes.

Because over time averages have a habit of levelling themselves out, the lesson is meaningful. That's one thing. Secondly, I think, the whole business of encryption and privacy is going to suffer some major shocks. I don't think governments are going to allow the activities of actual or potential criminals to be hidden from their view for very much longer. So, I think there's going to be an awful lot of activity in courts over the next, say five years, and you might find that your WhatsApp pictures of your grandchildren are no longer so easily protected as they have been. But, that's at a very trivial level. And all the way on up the scale. So I think, I think that, the fabric of the IT industry is under threat. I think the way they operate, and their willingness to guess at and deliver the requirements of the most extreme users, is going to be challenged. I sense in my grandchildren and their near contemporaries a bit of a turning back from the level of commitment to Facebook and so forth that I've seen in my children. So I, I suspect that the, the grip on the psyches of their users that Facebook and so forth have, might weaken. I think all three of those things coming

together might well have a fairly catastrophic effect on modern society. So I, I feel that there's quite a lot of turmoil ahead of us in the next sort of five years. Which for me, doesn't seem altogether a bad thing. I think levels of privacy, I think the, the mania that you see every time Apple announces a new product, I mean, very unhealthy society. So I think, some, some form of resetting is inevitable.

[1:28:41]
Any particular innovations that you see being made or, or aware of, that you think will heavily change or impact society?

It's really going to be interesting to see where AI goes.

Right, yes.

[pause] I think a lot of the protagonists of AI are just like their predecessors over the years. They're not half prone to exaggeration. I went to a BCS lecture of the Royal Society about a month ago, which was called 'When Machines Learn to See', which was actually a very good presentation about the underlying science and technology of vision capture that can be translated into a machine-usable form. The machine itself has no part in the learning process. And, I think that's a very typical example of what people say about AI. I think that, AI is still pretty dumb. And I don't think it's getting less dumb. And, there are certain exceptions. Largescale data mining is pretty clever now, and I think it's getting to the point where, at my age, I'd rather have my medical condition analysed by Watson than by most of the doctors I've met. But, but it's, you know, these are specific areas. So I, I'm… I think the future of AI is, is a really interesting topic, and I think, as I say, in certain fields, data mining, it's going to be very useful. And, and in things like self-driving cars. But these are limited applications.

[1:30:42]
You've had a long, distinguished, long and distinguished and successful career in IT. Is there any words of advice you would give someone today who's contemplating a career in information technology?

Well I think, whatever you choose to do, whatever you think you might do in the long term, you've got to build your career on a bedrock of technical competence in some field. It doesn't matter what field, but you have to be really good at something before you start moving off. I think also, whether you choose to join the BCS or anything else, you need to remember that in computing and IT, just as in any other field, you need to tell the truth, and do what you promise. So you've got to be ethical. [pause] And I think you should respond to opportunity when it comes and knocks on your door, because it never does it again. And, and you've got to work hard.

Mhm.

There's no magic secret. I don't… And by the way, for the record, I don't think I've had a particularly distinguished career. I've just done what I had to do when I had to do it.

I think others may beg to differ, but…

That's awfully nice

And, I'm sure a lot will wish they could have achieved what you've achieved in your, in your career.

Basically I've, as my wife points out constantly, I've never said no.

Mhm.

And… Except, once in Shell. And, you know, people are very grateful to have a sucker available.

[1:32:38]
Mhm. As we're coming to the end of the interview, obviously, I've got to ask you a series of questions. Is there anything in particular you would like to cover or think should have been said?

I think we've covered all the fields in which I have worked.

Yes. Yes.

I think you've done that very well, thank you. [long pause] I think that, from an organisational point of view, there are still too many bodies in the UK claiming to represent IT.

Mhm.

The Company, the BCS, IEE, e-skills, there are others. I think, their competition for attention is unhelpful for the sector, and I think, that's unfortunate.

Yes.

I spent a lot of my life actually trying to reduce the amount of competition, but, not entirely successfully.

You think the industry would benefit from consolidation as opposed to competing…

I think…

…bodies.

Yes, I do. Yep.

Probably something that other professions are being challenged by as well.

And are responding to.

Yes, taking accounting profession for example.

And look at the IE, now the IET.

[1:34:26]
Yes. When we started off, actually before the interview, we discussed the object of capturing the past and inspiring others in the future, and in that regard, would you be interested in becoming a full ambassador Archives of IT?

Yeah.

Yeah?

Quite happy.

That would be excellent. And, as you had heard elsewhere, we do have a long list of potential candidates, and, we would welcome an opportunity for you to facilitate any introduction, any individuals you might know, personally or professionally, who you feel appropriate.

I'm sure your, if I look at your Trustees, your networks include all the people I know.

Indeed. But, I'm sure Helen and Paul who is working on this as well, always welcomed names of individuals who we think we should capture in the form of an audio interview, and, and people can basically learn from their experience. You know, it's, it's, as we discussed before, it's not just about capturing the past; it's capturing and learning. And that's what we hope to achieve . So, unless you've got…

[1:36:04]
A thought just crosses my mind.

Yup.

Forgive me. I have done quite a lot of management education. Is that down anywhere? Or is it relevant?

Yes, by all means, yes, certainly

OK. Well, in summary. I did an Ashridge course, six-week course…

Right, OK, yes.

…on management, when I was with UNIVAC. I did the Shell management development programme, which was a residential month. I did the Shell advanced management study programme, a residential month. I've done a London Business School six-week course. I've done, the Cabinet Office, as it then was, top management programme, a residential month, between civil servants and commercial sector people. And I've done a fair amount of correspondence training in technical skills that I didn't have, but I couldn't put a number on that. And Lord knows how many programming courses right from the beginning.

Yes, as you…

So, the point of me, the reason I raise that is that I think, certainly for the first 45 years of my working life, I've probably spent five to ten per cent of my time in training.

Mhm.

Which is another message. If you don't keep learning, you're going to forget things.

Continuing professional development, which is as you say...

Yes.

[1:37:32]
And, just actually for completeness of course, when you retired from, from what's now Janet(UK), you went to work at the University of London as well.

Yes. Well I've been… One of the other things I've done, two of the other things I've done, were in the mid-Eighties, the Vice-Chancellor of London University, Lord Flowers borrowed me from the Chairman of Shell, Peter Holmes, to chair a working party on the structure and governance of computing in the University of London. We

delivered them the McMullen report in 1987, and they implemented it. As a result of that, they asked me to join the board of the career development – Career Services Organisation, and I chaired that for three years in the Nineties. And, that in turn meant that I kept in touch with them, so when in 2002 the director of the Computer Centre died of bowel cancer very suddenly, they approached me, because they knew me, and asked me to be stand-in Director of the centre. Forgive me, I've done so many voluntary things…

[1:39:05]
You have. And subsequent to that, and it's something you prompted me with when you were talking about management training over the years, you talked about the Cabinet Office. Because, well, 2006-2010…

Oh right.

…operating as a self-employed consultant then, am I right to say you undertook work on behalf of the Cabinet?

Yah, I, I was a team leader for the Gateway Process that they had. And I did 20-odd reviews, mostly as a team leader, sometimes as a member.

The term Gateway Process, I mean, perhaps you can just expand on what involved.

The Cabinet Office wanted to reduce the level of failure in major projects, not just in computer projects, although they were front and centre, but projects more generally. And they hired a man called, Glenday I think, Ian Glenday, who had been with Exxon as IT manager, CIO really, to help them develop a project management system, which they called the Gateway Process, that had stages and gateways between each stage. So you had to demonstrate at the end of each stage an identification forward that you've met all the conditions for moving on. And in parallel with promoting that across departments of state, they set up a review process. So that every project had to work with the Cabinet Office on major projects defined as being above a certain number of people or a certain financial investment or whatever, to make sure that at suitable gateways an external group came in to review progress, and gave them a

categorisation of, originally red, amber or green, now it's red, red amber, amber green, green, and some commentary on things they should do to improve. And I was recruited when I was still at JANET to join that workforce. Did the training then, but then because of the University of London didn't do much, and then I did four years of things. And then when the Conservative government came in, they decided we were too expensive. So I think they still ran it for a bit at least with internal resources mainly.

[1:41:31]
And today, would you consider yourself retired?

Well I'm, I'm… I'm a trustee of a charity. I was on the BCS Audit Committee until recently, but I did my two three-year periods and, at the very least have to rest for a year.

Mhm.

I'm… There's a local Benedictine abbey to me, I'm a Catholic, and I chair the… I can't be a trustee because I'm not a Benedictine, but I chair the finance committee, which can be surprisingly involving and exciting. But because of my knees, for the last six months I've quit a couple of things, and haven't picked up anything else yet. Because I was, from August last year till this March I was completely immobile.

Right. But, perhaps now is an appropriate time, in view of the things you've just descried, remind me of going back to that prestigious award that you won and David Clarke's comments, to put back, well, into the profession for the benefit of everyone, and I think you've certainly put back significant amounts into society. So, thank you for that.

Not at all.

And thank you very much for agreeing to this interview.

[End of Interview]