Capturing the Past, Inspiring the Future

Roger Marshall

Interviewed by

Richard Sharpe

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Welcome to the Archives of Information and Technology, where we capture the past and inspire the future. It is Monday, December the tenth, 2018, and we are in the Livery Hall of the Worshipful Company of Information Technologists in the City of London. I'm Richard Sharp and I've been covering and researching the IT sector since the early 1970s. The many excellent contributions we have in the Archives, so far, are mostly from the vendor side of the industry, those people who supply products and services for what used to be called users. We have fewer contributions from people who are users. Today, almost everybody is a user but this term 'user' I mean people who had to really struggle to make the technology work for their organisations and companies. So I'm particularly pleased to introduce today to the Archives Roger Marshall, who joined the IT industry in 1969 after university. Roger, your background was that your father was a farmer in Sussex and his father had been a farmer, presumably on the same land in Sussex?

Yes, my grandfather had a smaller farm and my father bought the adjoining farm and then he farmed both of them, yes.

And you didn't become a farmer?

No. Of the three siblings my older brother was far more, I think, likely, partly because he was the oldest, to have inherited the farm but he became an engineer, he became a very senior engineer in Ford Motor. And I think that, sort of, kept him away. And it was never really my cup of tea, to be honest, being a farmer. I don't know quite how I would explain that. There is another personal factor here, which is that when I was seventeen, just before I went to university, my father and my mother split up and my father subsequently married an employee who he'd employed on the farm to look after the cows, the herd. And they had an affair, and my parents split up, and they subsequently got married. So, by the time I'd sort of completed my university period, really, the option of taking over the farm wasn't even there because she was – sorry, my father's second wife – was much younger than him and obviously a professional farmer herself, she was qualified. So the opportunity, even if I was inclined to, was really gone by then.

Did your father go to university?

No, he didn't even get to what was 'O' level, he didn't even get to sixteen, I think he left school at about fifteen.

He didn't go to agricultural college?

No.

So his was the practical understanding of what running a farm was like?

Yeah, I mean, he was quite a practical farmer, that's right, but I mean, he did activities outside the day to day practical part of farming. He ran a society of local farmers ... I can't even think what it was called now ... but it was like a branch of the professional body, if you like, and I remember him from my childhood preparing all these envelopes, circulars and so on, to go out, and I think I probably helped him with them. So, yeah, he wasn't afraid of office type work but, no, his life was really devoted to farming and the practical side of it. He was actually quite advanced in his farming because, in the second world war, obviously the Dig for Victory was a very big thing, and he was appointed, and I don't know really how this came about, but he was appointed as the regional supremo of Digging for Victory. So that meant, obviously, he stayed home during the war, but he travelled and he had a car, for example, and a petrol allowance during the war and he was driving all round Sussex, East Sussex certainly, supervising the digging up of land so that crops could be grown. I remember one particular place between Bexhill and Hastings, and there was a big gas works there, and I remember being taken there and saying, 'well, you know, all this gas works land was dug up during the war and then afterwards it was returned back to being gas works' so that was quite interesting. And, I think, from quite an early age my parents always had a car and they used to go out for Sunday spins in the car, so I got quite a good knowledge of geography which, perhaps, is why I was interested in geography later on, of my local area ... I don't know.

00:05:09

What do you think you got, in hindsight, from your parents?

They were both ... my mother was, I mean, she didn't go to university but she was university calibre, she'd got A-levels in the grammar school. You know, the grammar school for her was a long way away, she never got beyond that level, but both of them very much valued education so we were encouraged, both me and my siblings, to go as far as we could in education. And we would go to the same grammar school, the girls and the boys grammar schools, and we all went into higher education.

You went into the county primary school?

That's from the village, yes.

Where?

In Herstmonceaux, the village, yes.

In Herstmonceaux, that's how you pronounce it?

Herstmonceaux [pronounces *Herstmonsoo*] you tend to say, but it doesn't matter. [laughs]

Ok, from 1951, and you passed your eleven plus?

Yes.

Now, that was the gateway to going to a grammar school.

Yes.

What do you recall of your first education in primary school?

I put it on the form, actually, and I remember hat, the top class, sitting in rows, learning tables. It was a big class, you know, and so the only way that the teacher could instil the tables into us was by rote, and that's how it was done in those days. I

don't really have many other recollections from primary school. I know my older sister used to, when I was really young in the reception classes, she used to translate for me because I spoke my own language, you know, Double Dutch they called it, and she was the one who could translate what I was saying. [laughs]

But you must have grasped the English language by the time you were ten to eleven...

Oh yeah ...

... because you did pass your eleven plus which was a mixed exam of logic and writing and English and arithmetic, basically the three Rs, which you passed, which allowed you to go to another county school, the Bexhill County Grammar School, where you entered the mill of O levels.

Yes.

And you got nine.

Yes. I took maths a year early, some of us did, and then had eight at one sitting. In these days that would not be remarkable but in those days it was a pretty good tally, yes. Did I pass them all? I think I may have failed ... No, I dropped out of Latin, that's right. I didn't fail any of those and I got passes in all of them, that's right. I then did geology after that because what happened was, I was always, as I mentioned before, interested in geography, that was my subject, if you like. And I was also interested, partly because the teacher was so good, in biology and got a good grade in both of those subjects at the O level. So, I was quite keen to do botany and zoology A levels, along with geography. And that wasn't a combination that was timetabled, but a couple of friends of mine, who are still friends of mine, also wanted to do that combination and so, because there were three of us, they actually managed to jig the timetable so we did those. And the other two, with that combination of subjects, ended up as geologists, I mean, they did geology degrees whereas I did a geography degree, but they've ended up with quite interesting lives in geology, so to speak.

You dropped mathematics, why?

I found the Additional Maths ... so, in those days, after O level you did what's called Additional Maths.

AO.

Yeah. I found it difficult, calculus I found difficult, so I stopped. Simple as that, really.

You didn't carry on, on any of the arts side subjects?

No, you tended in those days to be channelled down arts or sciences, and so clearly I was more attuned to the sciences than to the arts at school. I was never any good at painting, and I never learned a musical instrument. So it was kind of the obvious thing for me to do.

It must have been quite a well-resourced grammar school to be able to support geography, botany and zoology.

Yes, it was. It was a good school.

00:09:48

Was there any doubt that you would go to university, once you got your A levels?

Yes, now that's an interesting point, because this was the time of the Robins Report, when university education was being expanded quite rapidly. And our head teacher ... those of us who were, kind of, marginal, he said, 'Oh, leave it a year' because there would be a lot more places available the following year, 66, rather than 65. So I had a year out along with various others and we were the ones who were not felt to be guaranteed university candidates. As it turned out, I got good A levels and would have easily got in but that's the way it goes, you know.

What did you do in that year?

Pretty boring, really, I worked in the Dental Estimates Board which gave a taste of office life in those days. Interestingly the Dental Estimates Board is still in Eastbourne ... this was in Eastbourne ... it's still there but the work must have changed dramatically, I think, over the years, because, ... you may or may not know, dentists on the National Health Service are kind of piece workers in that they get paid according to how much work they do. And so, the Dental Estimates Board was a national body that received, monthly, sheaves of papers from the dentists and each one of those was a form signed by the patient saying, 'I've had these three fillings' or whatever. And obviously there was a team that would check these over, to see if they were reasonable, and look out for fraud, and then a team that added up the numbers to tell the dentist to be paid. And I was in the little team that checked the adding up of the numbers. So it was a very boring job, you had to go through and, just, on a calculator – I suppose we had calculators – but just double check the totals. The sort of thing that, these days, would be done on the computer.

And you were living then on the south coast?

That was the time when my parents split up but actually my father stayed on the farm, my mother lived in an agricultural cottage which we'd just built, as it happened, so I lived with her in that bungalow for that year and then, obviously moved to London.

And then in 1966 you moved to London ...

Yep.

University College, London, where you did a three year degree, a BSc in geography. 1966, 1967 and 1968 in London. That must have been some time, swinging London?

Yeah, you say that, and I think I put a comment down. I mean, it clearly was swinging London but we were poor students, we really were quite poor students. Again, without being critical, my father's income fluctuated quite widely and some years I was eligible for a grant and some years I wasn't eligible for a grant. And it was more negative than positive on that, and he sometimes made up the money and

sometimes didn't. So, in those days, you know, two or three hundred pounds to live for a term was actually quite a lot of money. I used to work every summer and I also ran a car which was quite an unusual thing for a student to do in those days. So, where were we, ... yeah, so life in London centred around the Union Bar in UC and our digs ..

Is this near Euston, that area?

Yeah, and we'd tend to live up in, well, north London flatland, you know, in Islington and places like that. And so, yeah, we knew Carnaby Street was there and the Kings Road but we would never go and shop in those shops because they were out of our price range.

And you hadn't seen a computer yet?

That's true.

You had not yet seen a computer.

No. There was, in the ... the university did run a computer department at UCL, did run some subsidiary courses for students of other subjects, just taster courses. And I did go on one of those but I didn't stick it, I really found it too techie, it was given by techies so if you already knew a fair bit about what a computer programme was then it would have taught you how to write that programme but I was in back to here. I didn't know what a programme was, I didn't know what hardware and software was. Nothing. I knew nothing which was typical of people at that time. So that was no use to me. But what happened was, the milkround, of course, was a big thing in those days, the firms were all coming round, especially to places like UC with a large student population, and looking out for graduates who they could employ. And probably the largest numerically number of people they were looking for were in trainee IT, or trainee computer programmer as it was then, roles. Allied to the fact that, although I did the geography degree, I actually, my flatmate/room mates who I'd had from when we started in the same rooming house up in Islington, and I still know them today, they were people doing physics and chemistry typically, so they were

more proper scientists rather than me, and they were all gravitating, I mean literally almost all of them, were gravitating into these computer jobs which the firms were hoovering up graduates for. So what we all did was, the university laid on the IBM aptitude test, a glorified eleven plus again, wasn't it really, and so we all did a first version of that at university, and if you got - I think it was an A, B, C grading - if you got an A grading then you were deemed to be suitable.

00:16:09

Did you get an A grading?

Yes, I did, and my friends did as well. And then you went out to interviews and sometimes got the same test again. I think I actually got the self same test, not just another IBM test but the actual same test, a second time. I don't think I did better on the second attempt [laughs] than the first but that was the way it was done.

And either you chose, or the public sector chose you, which one was it because you went into the public sector?

Yeah, so I had offers from Locus Industries in the Midlands and from the Greater London Council. I had all those interviews and I had two offers. The one in the Midlands was slightly better paid, I mean, we're talking about twelve hundred pounds a year rather than eleven hundred and fifty a year, something like that. But I didn't fancy moving up to the Midlands, I fancied staying in London, the majority of my friends and colleagues were still in London, it was convenient for home etcetera, so I thought, well, I'll take the GLC job and that's how I ended up. It wasn't a particular choice of the public sector, it was just that GLC in those days was one of the biggest installations, public or private sector, in the computing world. They had a big mainframe suite.

And this was in the big curved building, County Hall, opposite Parliament, on the south side of the Thames?

Yes.

When the GLC, the Greater London Council, was Labour controlled mostly then?

I think during my period it was both parties ...

Ok, and it was a mighty organisation. You were joining the industry in 1969, when there were probably, oh, 2,600 computers in the UK, over half of them US made. You had programming languages like Cobol and Fortran, obviously Assembler as well, and to be a user was to have to grapple with all of this flood of hardware coming down, with tape drives and the beginning of disc drive, and trying to do something useful for the organisation, ie the GLC. And you joined as a trainee programmer.

Yeah, an application programmer.

An applications trainee programmer, was that the title?

Yeah.

And you started work on an IBM system?

Well, that is interesting in the context of what you've just said, because politically, yes, the installation was totally IBM 360, and 360 was well-established by that time, it was obviously 1401 or something before that but I never experienced that. Totally 360 based but, politically, English Electric were making System 4 which was also based on the RCA architecture as the IBM was, and so we were politically told to buy British and so we got a System 4 machine. So my programming effort, because the first application I worked on was destined to run on the English Electric machine, so my first experience was actually programming that as opposed to the 360, but actually it was pretty interchangeable. I think the language set, the great big system, the principle of operation manual, you could have used on either machine at the application programming level.

IBM had launched the System 360 as a complete range of computers in '63, struggled with the software a bit but eventually really ramped up deliveries such that a number

of companies, including RCA, realised that they could not necessarily have their own architecture but mimic the IBM architecture, which RCA did, then English Electric decided to buy that in, so what you're discussing is early, what is called plug compatibility, and software compatibility as well. So you were actually writing Assembler for an IBM system 360 machine.

Yes.

00:20:33

What type of applications were you developing?

Right. Now, I went into a team ... I can't actually totally remember what the rest of the team did ... but we, the IT computer services department ... which came under the Treasurer, it was in finance, typical ... we had, probably through personal contact at the Treasurer level ... the London Borough of Havering at that point had not had any computer applications at all. They were behind the curve with reference to the thirty-two London boroughs, they were kind of behind the curve. Most of the boroughs, by that time, had applications in their core business functions. And some of those were in Consortia, there was a north London Consortia for boroughs called Lola – London On Line Authorities, not much of it was online in those days but that was their title, and because they were four boroughs they were quite big but none of them were quite as big as the GLC. So, basically, Havering outsourced their IT to the GLC on a sort of agency agreement basis. So that was when I started. My team was responsible for their first application which was collecting the local authority rates, what we know now as Council Tax and Business Rates, they were all in one application. And we wrote the programme from scratch, absolutely from scratch, in Basic Assembler. I was the junior member of the team and I was given responsibility for things like print programmes, but even the print programmes were quite critical in those days. What we did do, which was fairly advanced at the time, when we produced the rates bills the counterfoil at the bottom had these funny characters on them for OCR, Optical Character Recognition, so we had an OCR machine at the GLC, I think. So we were printing from a computer onto these strips and, of course, the line-up was critical, and you had to use a new ribbon on the printer to make sure it was dense enough and all

this sort of thing. It was quite critical, it wasn't my concern but I had to make sure that the line up of everything was just right, so yeah.

And you were writing this in Assembler?

Yes.

Now, you might not know the reason because the reason might be taken as a decision much higher than yours. But why, I may ask, because there was already Cobol and Fortran and other programming languages available?

Yes, we had a chief programmer, his name was John Lewis, easy name to remember. He was one of these people who believed that even in a commercial environment Basic Assembler was the right thing to do. Clearly it was more efficient in terms of machine cycles. And what he and his technical support team, you're talking about an IT department of 300 people you know, a big department in those days, a lot of those were punch operators of course, but he had a large technical support team and they used to write subroutines in Basic Assembler. So, I can't remember, I can't give you good examples, but a lot of what we did was calling in subroutines which they'd written. So it kind of made the language higher level than you would think. But the fact remains, yes, it was out of date, it was an out of date approach even in those days. By the time I'd left, ten years later, we were programming Cobol and PL1, we'd adopted the IBM PL1. So, yeah, I'd say my first training and one's first love as a programmer was Basic Assembler. Not that I loved it, I actually hated it because, you know, coming from a geography degree with no prior knowledge of even what a computer was, then being sent down to Ealing which was where the ICL training centre for System 4 was, on a six-week programming course, it was hard work. It was much harder work than any of my university studies and when I got back to the office thank goodness I sat next to Brenda. Brenda was the second most junior person in the team, she wasn't a graduate but she was a programmer, and she used to help me, and help me all the way through until, obviously, after a period of a few months you get to learn what you're doing and to understand what you're doing and you can then start to be self-sufficient, but that was quite an ordeal by fire and I do remember it quite well and feeling, I'm never going to crack this, this is too hard.

You've also changed to an extent, apart from mathematics, you've been in subjects that you can almost reinterpret quite often, but now you're dealing with a finite machine which will do exactly what you tell it to do. Even if you tell it, go back to instruction 1, and instruction 1 is go back to instruction 1, it will sit there and go in a cycle for eternity.

Yes, it does. [laughs]

00:26:02

What was that shift? How did you grapple with that shift, because I remember that shift for me as well, as a programmer.

I don't know really. I must admit, I always thought, and still think today, that what computers do is magic, it's almost a different domain to real life. You know, it's a bit like quantum physics as opposed to everyday physics, it's just so different, and I think computers are a bit like that, you know, you put in this enormous programme and in an instant it's come out with the answer. So I don't think that's an original thought, is it, this thing about computers being very close to magic ...

No, no, it's a very interesting thought.

But I never ... I mean, I suppose, hmm, the logic of the way a computer programme works never really troubled me, understanding what an instruction was doing, obviously we were writing in mnemonics rather than machine code, that made it easier, ...

Things like LD, like for load, and AD for Add etcetera...

Yeah, we used to do things like swopping the contents of two registers by doing exclusive 'ors', three times, so that was sort of, 'that's clever'. We learnt from each other but I've never really had any problem with that, with understanding what the computer was doing although, obviously, if it had been machine code to interpret it

would have taken me weeks to do anything. But I could sit down and desk check a programme, and you had to, in those days of course, be very good at desk checking programmes because you only got one test shot a day – it was an overnight test run – if you made a silly mistake on a line of code, you know, just missing out a comma or something, your twenty-four hour cycle would be wasted. So you went to a lot of trouble, especially when you were getting near to implementation tape, to make sure that you'd logic checked your programmes very thoroughly. And, you know, after a few years of programming I was pretty good at that. I wasn't as good as the best people but I was good enough.

And so the process of programming, and the process of running the eventual programme applications, was then Batch. You put it in, and it was run at a certain time, and you got back pages of output, sometimes when it became the application, especially printed paper, so that the rates could be sent out and people would pay them, otherwise from a line printer on lined paper with, maybe, error on the bottom of it, 'will not compile' etcetera, or 'programme aborted 206' and you'd have to look in the manual at what 206 meant and so on, yes?

Yep.

Ok.

Yes, you're right, I mean, that first application was totally batch processing. What happened with Havering was, they started from no budget for anything or IT staff, and when we were working on the first two or three applications they still had no IT staff, but what they did do was, they bought a data input system that was keying in from forms, and then recording them, first of all on floppy discs and they were the big eight inch floppy discs originally. And those discs would then be dispatched by courier down to us for processing. And then, after a while, that data prep equipment was upgraded so they transmitted the information in batch rather than couriered it.

Ok.

So, for some years, before they actually got online at all.

So they were doing data prep on these floppy discs which had been introduced by IBM initially to load instruction codes into 360 machines. So they were actually using them for data input.

Yes, it was an IBM box, IBM data prep equipment.

Yeah, and that would fool the mainframe into thinking, here comes a card, but it wasn't a card, it was actually coming off a floppy disc.

Yeah, that's right. I think they were all 80 column records onto floppy disc. I'm sure they were, yeah.

Then you got promoted to be a programmer and a systems analyst.

Well, yes, I worked my way up through the team.

Right. Now this was when there was a fundamental distinction, or they were attempting to establish I should say, a fundamental distinction in a hierarchy of job and of flow of work called the waterfall, which was that, 'you do not start programming until you've done an analysis of the system' of what you want and, therefore, these two things were split out from the basic prems job, systems analysis on the one hand and programming on the other. Were the two combined in the GLC?

Yes, I would say that is true. The development manager, a man called John Mockford, was my ultimate boss. Interesting, at that time, was the gender ratio within the team. So I was in a team where the team leader was a woman and the rest of the team were split, almost fifty:fifty, and in fact, one of our senior analysts was a woman, the senior programmer was a man. But we were split about fifty:fifty on gender basis, certainly in our team. Sorry, so that was a bit of a digression.

No, no, it's not a digression at all. It's very important because, later on, it was seen that prems was very important and women were cleared out, weren't they?

Well, yeah, I don't know what it was, but I think women were seen to be, at that time, good at being an analyst, a user analyst if you like, as opposed to systems analyst. So, I remember the senior woman, the team leader and indeed the senior woman in the team, neither of those would touch a coding pad, they wouldn't be programmers, but they were good at ... what's the word ... not operational research but analysing systems basically.

00:32:48

And they were doing flowcharts, were they?

Yeah.

Using classic methods of flowcharting?

Yeah, that's right.

And data analysis?

Yes. To be fair, what we were doing ... I'm just trying to think what else we were doing ... the applications that I worked on were the applications that all the London boroughs needed and, indeed, the GLC needed. I mean, obviously rates wasn't a GLC application but it was one that all the boroughs did, and many of the boroughs were ahead of where Havering were, so there's a kind of model of what a rate system looked like, that was made up of programmes and how they worked together was pretty well established. Things like payroll, the ledgers and so on, they were all in-house developed systems, of course, no Oracle financials or anything in those days. But they were bread and butter business applications. Local authority ledger systems did tend to be different from private sector ledger systems, so things like ERP would not be used in the public sector.

Enterprise Resource Planning, ERP, you said, was not really used in the public sector.

I don't think so. We tended to have ... our accounting conventions were different, you've got different accounting professional bodies for the public sector, and the ledger systems are different and the concept of profit and loss accounts is different. But within that sector, obviously, that covers not just local government but the health service and the civil service and everybody else, so it's a big sector in its own right. And there was plenty of learning going on from one organisation to another. And it's interesting, in your introduction you talked about that distinction between the people within the organisation making a computer work were the users and the supplier people, because yes, it was a very clear distinction but the supplier people were doing an awful lot to facilitate our learning of what other authorities were doing. So, you know very well, in those days your mainframe cost millions of pounds, even a small one might cost one million, and the manufacturer/marketer, IBM, ICL, Honeywell whatever, they had very large margins which they would devote, not just to sales although obviously that was a big function, but also to technical support and not just the operating system but actually application support as well. So when I was at, moving on to Bromley, Bromley were on an ICL dedicated 1900 architecture, they came to the decision point where they needed to do a total upgrade and they had pitches from IBM and ICL. ICL was obviously going to the 2900 series, but IBM would have been 360, 370. And we actually thought ... my boss was the computer services director and I was his number two ... that we would be going to IBM, because IBM had done a really good professional evaluation of what we needed, the pre-sales support was superb, I mean, they must have invested thousands in it because they had gone across our application portfolio and said, because of who you are and where you are, here's a register over here which would be suitable for you, there's a payroll system over there that would be suitable for you. And so they had a portfolio of stuff which we'd have taken from them and, of course, lots of it in those days was free and that was a complete sales pitch. Obviously paid for by the enormous margins on their hardware sales, but they were able to put that amount of effort into it. As I said, it facilitated this learning between authorities so there was a lot of interchange of, if not the actual application programmes, but the structure of systems and how they fitted together were certainly pretty common knowledge and facilitated by those manufacturers.

00:37:30

You were there describing your relationship which is far more co-operative than necessarily competitive?

Yes, indeed.

You're describing a relationship in which IBM and ICL were able to genuinely help users. It was in their own interest to help users because they knew you'd buy bigger computers because you'd have more applications and so on, but would be genuinely helpful in the trajectory of that particular strategy of the exploitation of their products and services. That's what you're there describing?

Yep.

You didn't really see therefore – I'm asking you this question – antagonism in that relationship, between user and vendor?

No... it was all very friendly and, as I say, co-operative. I guess, there wasn't any cut-throat competition in the sense that, once you had made that decision, and ... by the way, just completing the story about Bromley, we thought that IBM would win the business but it was a head to head in front of the committee, the local authority elected members, and ICL won it, I think more on the basis of buying British, to be honest, than because their pitch was better, although having said that, we kind of expected IBM, you know, the blue suits and the highly professional presentational style, would do that, that ICL would be a bit British and shambolic, you know, parts of their presentation wouldn't work and all that sort of thing, but actually, on the day, it turned out the other way round. The IBM people weren't that good at presenting and the ICL people – I'll mention another name here, David Teague, you may have come across, Richard Stokes was his boss – they were a very professional outfit, very professional. And they won the business, basically, because they gave a better presentation on the day . And we hadn't made a firm recommendation, we said, there are pluses and minuses on each side, members should make the decision. That was a bit of a cop out and I have to say that, but we genuinely felt that, and members went for them partly because they were a more professional presentation but also because it was British.

You are describing this relationship as much more co-operative. May I make another suggestion to you which you can bat to me back and say, no, no, that wasn't true. Wasn't it really that users had been captured by their vendors?

Oh yes, once you were in that environment then yes, you were. You know, until the revolutions of the minis and the micros came along you were, although I wasn't in the sense that – I'm sorry that sounds arrogant and I didn't mean that – but I'd come from the GLC where we had both ICL and IBM computers, although the ICL ones were really IBM computers, and I perhaps, I'm just not quite sure of the sequencing, but my boss at Bromley maybe recruited me because I had that IBM experience which he didn't have, and he wanted it to be a genuine competition and I didn't know anything about the 1900 series at that point in time, and obviously the 2900 was a development on the 1900, so I was the sort of naive new boy, but having then got into that environment ... and then, if I think, you know, by then I'd moved to the City of London where again we were an ICL shop, so it was much easier .. and I'm just thinking ... the last three candidates for that job, me and the other two who went before the committee, we were all pretty dedicated ICL people because it was an ICL shop. And we stayed ICL then for many years.

00:41:32

Let's just roll back a little bit, if you don't mind.

Sorry, I'm jumping in time, yes.

No, no, it's fine. You became a team leader while at the GLC. This is not necessarily a programmer or a systems analyst anymore, it's a leader of men and women and a manager of men and women.

Yes.

How were you at that? How did you make that transition?

I suppose by watching other people doing it.

What did you learn from other people, that you applied?

Ooh, isn't that a good question, I mean, having been a manager ever since it's a bit difficult to tease out what one learned there and what one learned subsequently. Yeah, ... I don't know really ... I wish I could put my finger on something really good there, but I mean, our work was pretty well determined for us. We were part of a big organisation and the planning within the team of who would do what would have been a matter of who's got the best skills at writing this sort of programme and who's got the best skills at that sort of analysis. But the boss above me, the development manager, would be shuffling people around as necessary and we would certainly have secondments between the teams, to make up the resources, so resource planning wasn't a big issue. I think ... certainly appraising people's performance and simple matters of discipline, actually, were things that you had to take on as a team leader which you didn't have to before, and I do remember, we had a particularly chatty lady in our team and I had to tell her off a few times for too much talking in the office. So that was something you did as a team leader.

How did that feel?

Interesting because, as a person, I've always been quite close to my staff. So I've always joined in social events outside work etcetera, etcetera and, indeed, with this particular lady I went to – I don't know for what particular reason – a party at her home down in Thanet. I went to that, I remember, one summer. So, this business about keeping a distance is something that I've always had to really struggle with a bit, actually, yeah, in the sense that it's obviously much nicer to be friendly with people in the office but sometimes you do have to be a disciplinarian as well.

Did you ever fire anybody?

Well, not directly.

Did you ever make anybody redundant?

Well, when you say ever, I mean, obviously when we're moving up to my final job then the answer would be yes, in the sense of firing, yes, we fired one or two people and ended up in an employment tribunal, for example. Just going back to this thing about always joining the social activities outside work, only a few years ago ... sorry, the City of London Corporation, of course, is very good at, what shall I say, staff benefits, including an annual pensioners lunch ... and I've been retired for eight years now but I think every one of those years I've gone to the pensioners lunch. One year, this lady turned up and I said, 'Oh, nice to see you Sue' and she said, 'Well, I wish I could say that to you Roger, but you know, I feel you destroyed me' sort of thing. And the reason was, that she had the ... I can never remember what it's called, but it's the yuppy flu thing, the chronic syndrome ... exhaustion syndrome ... it means people can't work properly, basically. And at the end of the day, it's one of these things where there's a big dispute that goes on among the people who've got it and the medical profession, about whether it's an actual infectious disease they've got or whether it's a psychological problem. And the medical profession tend to say it's psychological whereas of course people who've got it say, 'No, it's not'. That can lead to all sorts of issues about – obviously this person, we sacked her because she wasn't capable of doing the work, she wasn't turning up for work enough – so eventually having got your two doctors' opinions and all that, and you sack them, and ... I don't think we actually went to an employment tribunal with her because that was somebody else, but interesting because it came back to bite me years later, in the sense that, at a social event, I was quite taken aback by this.

00:47:00

Presumably, during the GLC in 1969, you had to be in a trade union? Did you join the trade union?

The GLC had a staff association, a bit like the Corporation of London, and so I joined the staff association 'cos everybody did, but it probably wasn't mandatory, I don't think it was mandatory.

Right.

And exactly the same comments would apply to the Corporation of London. NALGO, the local government union, also had a presence but minority membership so, maybe ten percent, twenty percent of people.

Right, and you have never been a member of a union?

No, not a true union, only of staff associations.

I don't want to sound McCarthyish, I was just wondering about the labour relations of the milieu in which you had to work.

Yeah, in none of the authorities I've worked for have the unions been strong ... interesting talking to other people who do have highly unionised work policies, we were never anything like that, so it's never really been a problem for me, to be honest.

And you came out of the GLC after about ten years there?

Yes.

So about '79 or so?

Yes.

And you joined the London Borough of Bromley, on the edges of ... still part of London or said to be, [laughs] just about, in leafy Bromley, basically north Kent.

Yes, it's a largish borough in area and a lot of countryside in Bromley.

Right, where you were a computer development manager to begin with, and you were selected because you had some understanding of ICL.

Yes, well, no ... I think I was appointed because I had a good background in application management, team leadership applications including, of course, Havering,

because Havering and Bromley are quite similar boroughs so,by that time I was responsible for all the Havering applications which had, as I said, started out with the rates systems that I worked on as a trainee, but by the time I left they had a reasonable portfolio of apps and they were at the point of getting their own computer and moving away from GLC. So I had a good knowledge of, surprisingly for a GLC person, borough applications. So it made me a good fit in to Bromley. The fact that I didn't really know ICL, I didn't know the ICL 1900 series, was pretty irrelevant because I was development manager, I wasn't a techie.

Ok. But we're still dealing with mainframes ...

Yes.

... in air-conditioned rooms although, by then, there were systems based on mini computers from Digital Equipment Corporation, there were smaller systems as well, for instance, from IBM and from ICL, but we were still really talking about 'a borough has its mainframe'.

Indeed, that's absolutely right. Or two or three boroughs together might have had a mainframe, and they shared it. It was interesting because, at the GLC, a very large technical department which included what's now Transport for London for example, and they had some really advanced DEC equipment, but they were a separate department. So, the business computing department that I was part of, it was 300 strong or something, but totally in business applications, so as technical services department a different chief officer had a department of probably more like about 60 or 70 people. But they had some pretty big DEC computers.

This is Digital Computer Corporation, DEC.

Yep. And great big flatbed plotters and so on, quite impressive kit. So we were kind of exposed but not directly involved with that work. Over the years, and I remember going down ... and Transport for London, of course, had the system linking up the traffic lights in London and, I don't know quite why, but I went down to their place which was in Westminster and had a look at that stuff because ... I think, at one point

... yeah, we were all merged together, even though they had been separate at that point. So it was some pretty impressive applications. London had what was, at the time, one of the most advanced traffic light control systems in the world and people came from all over the world to look at it. I suppose it's still quite advanced but .. yeah, that was all good stuff. And, interesting, so that was minis, we didn't really have any minis in Bromley, you wouldn't have needed them really, they weren't required. But what did happen while I was at Bromley was, the first school PCs were bought, pre-research machines which were IBM PCs but in a strong, heavy metal box that the kids couldn't walk away with, ruggedised, and we bought six of them, we had some quite keen – we had twenty secondary schools – advisers, sort of Deputy Director of Education plus his advisers, who were very keen on that. So Bromley were doing some pretty good things in school computing but the problem was, the schools themselves couldn't really cope with them, they didn't really have the expertise at all. So we did quite a lot to try and help them. So that was my exposure to PCs and, indeed, also at Bromley, during my time there, the engineers department got in an Apple 2 ... was it... not the very first Apple computer. And I remember seeing that, going to their office and seeing that, and thinking, 'Wow, that's something completely different'. [laughs]

00:53:12

Apart from that response, what was your response given you're a person who has dealt with centralised computing: whether it's batch or online, it is centralised, there is a machine, you have security over that machine, you own the data on that machine, and here are people plugging away at little computers in departments and messing up your strategy? Are they, or did you welcome it?

They weren't at that stage, in fact, but I think my attitude towards them, and probably to a bit of people like me, was 'they'll never catch on'. You know, they're effectively a toy. I can see them using this fancy VisiCalc thing to do their calculations on, but it won't really impinge on our business computing because it's just different, it's a single person computer doing, effectively, calculations in a sophisticated way, but we had no vision then of client server, computer networking of PCs, or anything like that.

So we didn't treat it as being a threat, it was just another form of computer, different to ours.

Did it come out of your budget?

No, that's true.

So you thought, ok, you can spend your money doing that sort of thing, but it ain't gonna go nowhere.

Well, it may well go somewhere within your department because, clearly, by that time I'd seen what the big DEC computers and the traffic light network, and I'm just using that as an example, could do, so clearly there was a world of computing separate from the IBM, ICL mainframes, and they were doing really useful large-scale things, but they were separate things, you know, they were different things and I didn't really see them as a threat, and they had their own budget to justify what they spent.

One thing you had to deal with was the transfer from the ICT ICL 1900 range to the ICL new range 2900. That was fraught with huge amounts of difficulty for ICL, on both hardware development and on software development.

Yes.

And you were the user having to struggle with that. One: he hardware was incredibly unreliable, compared with what IBM was achieving and what companies like Fujitsu was achieving. Two: there were multiple operating systems being written by various people inside ICL to do seemingly incompatible things ...

Simulations, yeah ...

How were you, there as a user, to pick your way through that?

[laughs] It's a very good question and my memory kind of fades a little bit at this. We did cope without any serious ... I'm just trying to think whether we had any

problems that stopped the production, the business processes ... I don't think we ever did. Maybe we were just very conservative in the way that we operated. And I do remember, yes, ICL had to supplement our hardware because it wasn't performing, we were sold, I'm thinking about Bromley here, a 2904 or whatever it was, and it clearly wasn't up to the job, they'd undersized it, and so they had to provide a free-of-charge upgrade. And things like, in the simulation of the old 1900 code, it kind of worked alright for us, I mean, we weren't sophisticated users, we weren't stretching the boundaries of what the hardware/software would do. So, as long as we kept our objectives modest and operated in a fairly conservative way we coped. So I don't remember any big crises but I do remember exactly what you've said, you know, that they had over-promised, under-delivered big-time and repeatedly. And, of course, eventually it did fail and they were bought by Fujitsu.

And in 1981, the same year that the IBM PC was launched, ICL lost 49.8 million on a turnover of 711.1 million, and you must be sitting there thinking, 'Is ICL actually going to survive?'

Yeah, I suppose by that time I was at Bromley, you know, we were just an average local authority. Compared to the amount of ICL kit in big central government departments or, indeed, big county authorities in the UK, we were very small fish. So we would have to sit back and see what happened kind of thing, rather than having to go and bang on doors and make a big protest, we never did that. But yeah, I guess they were scary times but I don't remember being particularly scared myself, to be honest.

00:58:35

Ok. And what type of applications were you then developing? As well as the transfer to the 2900, what applications were you developing, anything new at Bromley?

Yeah, one thing we developed was a social services system, so you can see there the use of IT is moving out of the Treasurer's finance department, the main functions of which had, by that time, been transferred to a computer, into those other departments. And so I remember the social services one because it was an application that went off

track and I remember being hauled up before the Treasurer saying, you know, 'You lot are a shower' – me and my team, or whatever. We got it to work eventually but it was ...

What were you being asked to do?

It was client records.

Right.

It wasn't greatly sophisticated and, in those days, we had less concern about things like data protection and security. But, just like any new ... it was quite a big application and quite a lot to it ... and like all those things it did go over budget at the time, but not to any ...

How did you solve that?

Just plugged away at it, I mean, there wasn't a hard deadline in the sense of 'there's this new bit of legislation coming in from the first of April, it's got to be live by then', it wasn't like that, it could be delayed or deferred. Anywhere I've been I've always had a plan B in terms of, I mean, I hate these things where there's a hard deadline and you've got to meet it. Or if I haven't, in that situation, I'll always try and find a way of making sure there is a plan B.

Is this one of Marshall's mantras, always have a plan B?

I think, yes, I've never really quite expressed it that way but yes, I think that's right. Because I know, and you said right at the start about public sector IT having a bad reputation which, of course, is true, and I know as well as anybody that a lot of things can go wrong and do indeed go wrong. And sometimes with spectacular results for the people involved and sometimes not altogether their fault.

Spectacularly bad results, often.

Yes, that's what I mean.

For the taxpayer and the users.

Yes.

It has been put to me by others that the reason this is so, and particular to the public sector, is that there is a mixture of, on the one hand, executives who are trying to do things, such as Treasurers and so on and so forth, who are really acting as directors would be in the private sector, but then we have another mix in here, which is not in the private sector, which is the politicians. And they have their objectives as well. And then we've got the technology and the vendors and then we've got what I would call the users and application developers and systems implementers, people exactly like you, who have got to try and mix all these things together and make them work.

Yeah.

Is that the reason why they go so badly wrong?

I think it is one of the major factors, I would say, yes. I've always been lucky enough to be in, what I would say, is a non-political environment, run by Bromley, permanent Tory majority, you know where you are because you're always going to be dealing with the same councillors. The City of London even more so, no party politics at all. At GLC the politics was way outside our ambit so that's a great advantage because, yeah, I saw other people in much more political authorities and, all of sudden, there'd be a change of power and all the certainties they thought they had have gone out the window and they've got a new set of certainties, or not certainties you know. So that's true and, yeah, your analysis there of all these competing factors is absolutely true. And if I think back to, some of the time ... one of the interesting things about, and in the period where I've been a public sector senior IT executive, is the flow of outsourcing and then insourcing, it has gone through various cycles. And there was a great push towards outsourcing at one time in the late nineties, I guess, because of the finance leasing arrangements, and it made it very attractive for authorities to go out. So, yet another factor is the leasing companies coming in and directly selling to you

and directly selling to the members as well, of course, these are hotshot finance people who knew exactly how to do this and what buttons to press. So, yes, you can be torn in several different directions and, as I say, I've been lucky to be largely in non-political environments.

1:03:59

Did you ever go for outsourcing?

No.

Why not? You could have saved money, couldn't you?

That is such a difficult question to answer, you know. I suspect not, in the environments I was in. So, right up until the time I joined the Corporation of London ...

I'm sorry, and you joined the Corporation of London in the mid-eighties.

'83.

'83, quite.

So, up until that time it hadn't really been on the ... we'd never had any pressure to do so. Interestingly, though, Bromley's neighbouring borough, very similar to it in many ways, Bexley, had been a pioneer of local authority community outsourcing, it went back a long time. But my boss and myself, we were ... because, yeah, my time there, I wasn't there that long after all, was about the transition from the old ICL to the new ICL environment which might have gone IBM, but there was no pressure from members,. I mean, you can never tell, can you, you might have had a particular politician, chair of finance, who was from the leasing industry or the outsourcing industry and might have said, 'you've got to look at that' as an option rather than just going from one range of computers to another. But we didn't have that pressure and so we didn't do it.

Because outsourcing has been described to me by somebody else as the 'revenge of the treasurers' and the financial directors because they felt that these IT people are just running rings round us. And so, 'if I just outsource it ..'.

Oh yeah ...

Is that so?

Oh yeah, absolutely, and many of them lived to regret that because, of course, you get tied into, it's a bit like the health service with the PFI deals, you know, every time you change a light bulb it's going to cost you fifty quid, and exactly the same problem. It looks like a good deal when you start, and it may well be a good deal for the first three years of your five year deal, but you get to the end of that five years and you find that you actually can't change because so much has... you've lost all your expertise and you're then in a cleft stick. And I've always, well I was a bit sceptical about outsourcing, to be honest. Interestingly, in my career, I always had a lot of interest in outside organisations, in other words, professional bodies, I wouldn't be here today if I hadn't been busy as President, but before that I was President of the Society of IT Management which is the local authority IT managers. And, of course, being local authority IT managers, a lot of experience of outsourcing pluses and minuses and so I was always sceptical of it and I never had strong political pressure. I never had major cock-ups... I mean your characterisation of treasurers getting their revenge and so on was often not on the basis of IT being a never-ending pit of money, because it wasn't necessarily that that was the problem, however, it probably did give them headaches, I mean we're generalising here, in terms of failed projects, yeah. So if you were an IT director with one or two major failed projects then (a) you might lose your job or (b) you might get outsourced, or both. So I never did that. So I didn't have to experience that. Call that luck or judgment, whatever you like, or actually living in a really amenable environment because, certainly, most of my experiences at the Corporation of London, and I was in the same job for twenty-six years which is very unusual in any field but certainly in IT, IT managers tend to be like football managers, you know, they move on very quickly.

1:08:08

Oh sure. So in '83 you joined the City of London Corporation, from Bromley. Bromley had a stable political background, always Tory ...

Yeah.

City of London has a type of strange political background of non-political, but political in terms of people being political but it's non-party. What was your first title there?

Computer services director.

Computer services director, excellent. And then your next title there was?

So, the treasurer changed and he was very much into information systems, I mean, computer services was becoming out of date as a title so the obvious thing, obvious to me, was to change it to IT director, but he wanted it to be IS director and that was probably a good thing, actually, I'm not disagreeing with it at all, so it was his initiative really to change it to IS director. And that's how it stayed until I left, I think.

Oh, so you were never IT director?

Oh dear, I think at one time it might have been IS/IT. It never really bothered me, to be honest.

No, but I just wondered whether your remit extended to telecommunications?

Oh, it did, yes.

It did. Always?

In the City of London, yes. We're talking about a time when the ... I mean, the City of London has a very strong city engineers department, things like running Tower Bridge, for example, and many other things. But ... so, I think when I joined ... yeah, typically the ... that's right, sorry, I'm trying to put my thoughts together a bit more coherently. When I joined the telephone system was not really managed at all, by anybody, but there was a exchange team in the basement with waterpipes running along ...

And this was an electromechanical exchange?

Well, yes, a semi ... I can't remember what it was now. So the staffing of that was run by the central admin department, the Town Clerk's department, ... any engineering was run by the city engineers, I know it was a hotchpotch, it wasn't run by anybody, so a fairly easy thing for us to do was to do a takeover bid for that, because we already at that point had some datalines going out which were from BT, so we put it all together, yes. So I took over responsibility for telecoms in its totality.

Right. And you upgraded to a computer based system, to a PBX?

Yes.

Whose was that?

Mytel, the Canadian one.

Fine. And your main computer supplier was?

ICL.

ICL, ok, so you're out of the IBM game, all from now on.

Yes.

You're on Mytel and ICL, so you're locked into ICL in the 2900 series. Is that doing you well or is that creating extra headaches for you?

I don't, I mean, I think there would have been some respects in which we would have been better served with IBM, but ... I think, at that time, in the mid to late eighties, IBM had kind of lost interest ... maybe it was the whole industry that was changing ... in the sense of they didn't really have the dedicated teams pre- and post-sale support, dedicated to UK local government in the way that they had a decade earlier. So there was less good strong reasons for wanting to change. ICL was still very much tied, even more perhaps, tied to the UK public sector of which local government was quite an important part, so you felt, kind of, stronger in that ICL environment by that time, than you would have done in the IBM one, actually.

1:12:50

Ok. Although they were banging on the door of the Inland Revenue and literally captured that?

Yeah, Inland Revenue's a far bigger operation, and unique, whereas local authorities, they tend to do the same thing and, in fact, if you came to me and said, you know, 'local authority computing, they're a shower, because actually you only need one computer centre for the whole of the UK local government rather than having four hundred different ones', and you'd be right, and it's where good old politics comes back into it, but obviously ... not obviously ... but, you know, of those four hundred maybe half of them were probably ICL by this time. And so a very important market for ICL, not so important to IBM.

City of London Corporation is a very unique operation, the City itself is a very unique local authority, things like social services and so on are done London-wide rather than City of London-wide?

Well...no ...

Am I wrong?

Yeah, [laughs]

Go on, tell me more.

Well, I mean, local authority, sorry, social services, tends to be split into adults and children these days, it used to be single, but yeah, unless it's changed since I left, the City of London still have their own department and dedicated staff looking after a very small number of looked-after people out there. But because it's a statutory function for all local authorities of that tier, they still do it and, of course, because it's the City of London, they can afford to do it well.

Yes.

Even though on a per client basis, the sort of statistic the City never likes to actually publicise, because per client they would be way above the cost base of a typical social services London borough or county authority. Because they just don't have the scale, but the clients they do have do get a very good service.

So what you were having to tackle, as director of computer services and then IT/IS and so on, was the new requirements coming from central government for what local authorities should do, that was it, and there has been quite a lot of that, because the shedding from central government and throwing it and 'you look after it', 'here's not a lot of money for you to look after it', 'you can't raise rates very much', so you're between a rock and hard place and you're trying to get IT systems to fill some of that gap, aren't you?

Yes, you are.

That's quite a struggle.

It is. And I just have to be honest with you and say, less of a struggle for the computer services director or the IT director for the City of London than for almost any other in the UK, because the City of London Corporation is financially well-

endowed. And the scale of operations, social services being an excellent example, can be very small and, therefore, the benefits of computerisation relatively small, and so if you don't do it, or you do it in a fairly unsophisticated way, it doesn't really matter, whereas if you're a county, as you say, you've got all these extra functions with no extra funding and you've simply got to automate or die [laughs]. The City has tended not to be like that. There are core applications in the City which are important, high scale, things like the Council Tax and rates collection – rates collection is very small but Council Tax collection is absolutely business critical – and obviously the front of the accounts is very business critical. I mean, we have other important applications, such as planning, for example. But again, very different. So, if you're the planning department in the London borough of Bromley ninety per cent of your planning applications are domestic extensions and garages and that sort of thing which, because it's ninety per cent, are the sort of thing you can bring automation to bear. The City of London's not like that, ninety per cent of applications are this "wizzo" new office block and very few of them fall into categories of large volume. So that is fairly typical across the piece in the City of London, so less of a pressure than my colleagues in other authorities.

What the vendor's side likes to do, as vendors fight with each other for market share, is that minor vendors, not dominant ones, like to create turbulence in the market. And they like to introduce fear, uncertainty and doubt. And there was a lot of that in the 1980s, around the issue of client server. 'Let's break up these mainframes', ie, let's attack IBM, give them all their own PCs and servers and little minis and so on and so forth, and with the Oracle databases or linear together. Did you find that pressure on you?

Not as strongly as you might imagine. One of my better appointments, and if some of my colleagues were listening to me now they would say 'you must be joking Roger', I appointed as my development manager, literally ... I mean, I was appointed by consultants, my predecessor was sort of shown the door, and then they had an IBM ...

What had your predecessor done, to warrant being shown the door?

He was too much in bed with ICL. His personality was a bit of a problem as well. But then, they had an interim manager, and I thought, and probably my staff thought, he would get the permanent job because he was a good guy, he was from ICL but, you know, separate from the mainframe sales people. But I got it rather than him, so there we are. So, we were talking about client server ... but then I also needed to appoint a development manager, so the old regime ... and, as I say, my equivalent was shown the door, but his number two was still there which created an interesting issue for me because my boss, the Chamberlain of London, was saying, 'you've got to get rid of him as well, he's part of the problem', so we created a new upgraded post and we had consultants looking for the appointee of that. I was quite disappointed at the field of candidates but one guy who was good at being interviewed, he had very little, in fact no, conventional IT experience. He'd come from a local authority user department where he'd been introducing PCs and still, to me, PCs were quite an alien world. He ended up getting the appointment. Now that wasn't really my choice, because we had consultants doing that and my boss was interested as well, probably came to the conclusion of appointing him and, although he had some personality issues, actually he was a very astute appointment because he knew the PC world, he believed in them, he didn't really have much interest in the ... although he was actually in my organisation responsible for .. the main frame applications. He wasn't that interested, to be honest, he was a lot more interested in development of the PC side. And thinking about the Corporation and this thing about lots of, many, many functions, many of which were unique to the City, but on a very small scale, so, ideal for bespoke PC development, and he was good at that, and we appointed one or two people, basically youngsters who ... we had to pay them contractor rates ... but they were good at developing what in those days were quite difficult primitive programming languages on PCs. But we developed quite a portfolio and some of them are still around today and the guy who developed them is still there, and some quite good PC applications, most of which were dedicated or on small local networks. But, you know, as the technology developed so we were able to link those up to the central systems and in a sort of organic way rather than big bang. And then, of course, latterly, the client server model for the B applications came in more, and then eventually, before I left, we turned full circle, people had got PCs on their desks but all they're doing is going straight through the terminals to the central systems, which don't run on mainframes anymore either.

1:22:34

It's a tide, isn't it, it moves backwards and forwards.

Oh, it does, yes, nothing new under the sun.

A couple more questions, if I may. You were in post while the mighty Y2K was going, the fear of the Year 2000. It has been suggested to me that that was something close to a con. What's your feeling?

Right, well, if you asked me, 'what were the highlights of your career, Roger?' I think surviving at the Corporation for twenty six years without being sacked, and leaving with a good reputation as well, that I would have to say would be my first one. But, when I was at the top of Socitm IT Managers for Local Government that was the period of Y2K and of compulsory competitive tendering for local authorities, under the last Tory government. And, in both cases, I took quite a leading role in ... this sounds very arrogant ... but in the sense that anybody was taking a lead from local government IT on those two issues, it would have been me personally, and so I would say, getting through both of those relatively unscathed was a significant achievement, or two significant achievements, but separate issues, of course. So, Y2K. I became *de facto* the local government person on, not numerous, but on various bodies looking at Y2K from a government point of view, the central government CIO whose name now escapes me was kind of the lead person, but we did a lot in terms of ... and I worked also with CIPFA, the local authority accountants who obviously were very interested in the problem as well ... and we worked up various guidance and so on. We also spent a lot of time with suppliers and, if you think about the range of different responses from suppliers, you've got people like Microsoft saying, 'it's not worth the worry, not a problem' and people were saying 'possibly' but it's the way people accused it, you know, 'will be a problem'. And then, at the other end of the scale, you had engineering companies with dedicated embedded systems, where software was controlling those heating ventilation systems, that sort of thing, crying out to say 'it's going to be a disaster'. I remember going to a meeting, I can't remember the exact statistics, but some of the stuff we were being told by these

engineering companies was really quite frightening in terms of how these systems were going to fail and how poorly people were prepared for it. And I remember thinking, we've just got to take a sort of middle of the road view on this, we've got to make sure people do prepare, that they go through their ...

People wasted an awful lot of money, though, didn't they? And consultants made an awful lot ...

I think they did, because, talking about these engineering companies with their embedded systems, they were saying to us, 'the only safe thing you can do, because we don't really understand what our code does' which is a disgusting thing to say, but there we were, ' was to upgrade to our latest model' which often would involve the hardware as well as the software. And so, yes, people spent a lot in that area. I don't think, and speaking from a local government point of view and certainly from a personal view, I don't think we, in terms of our systems, and obviously going through the code and testing it out and making sure it was going to work or the best we could, I don't think we wasted money. And clearly some of those systems would have failed if we hadn't done what we did. How catastrophic those failures would have been is another question. We had budgets for it, I can't remember what our budget was, it wasn't enormous, it wasn't large in proportion to our annual ...

I've only come across one instance, one instance, where anything happened, and that was at the RAC and they sent me a renewal card saying, in the year 2001 that I had been a member of the RAC since 1900. [laughs] That's the only instance that I have ever found out. Planes did not fall from the sky, lifts did not stop.

Yeah, but, that's because we did spend quite a lot of time and effort and money in ensuring that didn't happen.

Is it possible that every single one was found?

No.

No, and therefore it wasn't an effort that surely was necessary?

Well, a degree of effort was necessary, the classic thing I remember is that we, as a nation, being the way we are, did spend a lot of effort and, as far as I'm concerned, as an IT person, it was a highly successful project. It was a project with a fixed deadline, we had enormously detailed project plans, because every bit of kit had to be evaluated and, if possible tested, and the plan B for if it does fail, all had to be done. And I'm very proud of that as a project. And, just taking your side of this thing, if you go to a country like ... Italy was the one always cited ... they didn't bother, they simply didn't bother, and yet the Italian systems didn't fall over, so clearly the sceptics' view that you're propounding has a lot of merit but, at the same time, I don't think our scale of preparation was bad or excessive or a waste of money. The only *caveat* to that, I would say, is that some of these engineering firms were having a laugh, they were using it as an excuse to force you to upgrade, and there was nothing we could do about it because we couldn't test our software ourselves, it was all embedded, we had to trust them. That's the only element of that, but I think, in terms of our main systems, where we went through the code and tested it out, we did what was the right thing to do. And some of it would have failed, and not catastrophically ... you know, the run would have fallen over, we would have corrected the code and run it the next day ... but I think we took a professional attitude to it, we did the job we felt as professionals we needed to do, and it worked in the sense of very small level of failures.

Two more quick questions: which was the biggest mistake you've made in your long and illustrious career as an IT user?

Oh dear, that's one of those sort of interview questions isn't it, which I haven't prepared for, have I? I think I could say that I've never been that ambitious. So I got what was a comfortable billet at the Corporation of London and, really, from a career point of view ... I earned a good but not a brilliant salary ... and I guess, if I'd taken the initiative, after maybe a few years and a good bit of experience under my belt and gone to other jobs, I would have ended up on a better salary and all the rest of it. So, I guess, taking the easy route.

Perhaps you remained in your comfort zone too long, do you think?

Yeah.

Ok.

I'm not sure that I, in my heart of hearts, believe that's bad. And I'm sure that, actually, if I thought hard enough about it, I could think of some other things that really did go wrong in my career. I wasn't probably a hard enough manager, I let some people get away with poor performance, what we talked about earlier, sacking people and all that, but there were other people who I probably should have been harder with, and forced to perform better.

You say of yourself, you've managed many large projects in a very complex and unusual organisation, the City of London Corporation, without having to admit failure or request additional funding. Now, I've had that verified by other people, I haven't just taken it on your word. [laughs] So, what's your trick, how do you do that?

I hope they didn't disagree with me.

No, they didn't, no, they verified it. How do you do that? What's your trick?

Well, I've always worked hard at relationships. So that's a silly answer to such a sensible question because, you know, if a project's going to go wrong a project's going to go wrong, no matter what relationships you have, but when I'm talking about relationships there I'm talking about the elected members, and anticipating what problems were likely to arise, and plugging the gaps and the holes before they became a problem. So, yes, anticipation. I'm not a great planner but I think I have probably got a good sort of sixth sense about when things are likely to go wrong and to try and take action to circumvent them. It's easy to sit here and say, 'oh, you know, I'm glad that you haven't found me out, that that's not true' but in a well-resourced organisation, and a not-political organisation like the Corporation, it's relatively easy. But not if you've got an unfortunate personality. So my predecessor, who got the boot, and then after I left there was an interim manager, a good guy but he was only

an interim, and then there was another guy who lasted three or four years and got the boot, and now you've got the current guy. But the one after me, who got the boot, he tried to pretend things were, I mean ... I'm sorry, this is all hearsay, because I don't have direct experience but I did keep in touch with people obviously ... he tried to cover up problems so I've never been one to try and cover up problems. Be upfront as soon as possible, get people on your side, and also maintain some flexibility. Clearly we had projects that went over budget but always on the basis that you'd spend a bit more of other funds this year on plugging the gaps in that project and you'd make adjustments in the following year. So that kind of flexibility and not being rigid and not over-promising and maintaining good personal relationships. Does that make sense?

It makes complete sense. The whole thing makes sense. Thank you very much, Roger Marshall, for your unique contribution to the Archives, unique in the sense that you are a user battling with getting systems up and running and making them worthwhile, and making sure that they don't fall over in Y2K as well, and also a complete career in the public sector. Thank you very much, Roger Marshall.

Good.

[recording ends at 1:35:12]