Philip Virgo

Interviewed by

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Welcome to the Archives of Information Technology, where we aim to capture the past and inspire the future. It's Tuesday the 8ᵗʰ of May 2018, and we're in the headquarters, or, the Livery Hall I believe it's called, of the Worshipful Company of Information Technologists, in the City of London. I'm Richard Sharpe, and since the early 1970s I have been researching, observing, and commenting on the IT industry as it unfolds.

A very important part of how the IT industry can operate, worldwide as well as in the UK, is what its relationship is with governments across the world, and that means its relationship with politicians and politics. And our entrance to the archives today is Philip Virgo, who has worked on that interface for many years, and been an important part of that interface, that vital interface where government can stop, government can start, government can prohibit, government can enhance, and government can basically get in the way often.

[01:05]
So, Philip, where were you born, and what were your parents doing?

I was born in Lewisham, in 1946. My father was a executive officer in the Ministry of Agriculture, doing night school at the London School of Economics, because his education had been disrupted by the war. And was working on, although I didn't know at the time, economic warfare, because he was the only member of the modern side in his form at Dulwich College before the war, he was an LCC Scholar, who survived the war, without having done duty as a passport control officer, alias spook. The others had all died in SOE. He had been captured by the Japanese, and, as battalion intelligence man, and had survived. My mother was from a farming family in Norfolk. None of the family until my grandfather had ever actually worked for anyone. They had always either been farmers or agricultural contractors. Her grandfather had run the largest steam threshing operations in Norfolk. They had introduced steam engines and so on. But he had gone bust, and was running the home farm for Roland Penrose, Picasso Penrose, which meant that, her and her siblings were at the heart of the 1930s jet set, with some very interesting access to ideas that were well before their station. You know, she had met the lesbians, the Bloom… well, she had been a children's nanny to the Crittall family, and had we gone to war in

1938, she would have taken Diana Mosley's children to Inch Kenneth on the Isle of Mull to look after them. So it was an odd mix.

She was very progressive.

She was extremely progressive.

Was your father a progressive? What…

No. My, from my parents, I was essentially brought up to be a servant of the Crown. And by that I do not mean the current minister. My father knew that the mission of MAFF was that Britain should not starve to death if world war three started with a submarine blockade. That was their mission. Ministers came, ministers went. Service to the Crown was above all other things. But he didn't actually approve of politics.

Right. MAFF being the Ministry of Agriculture, Fisheries and Food.

Correct.

Yes.

And… Sorry. So, service to the Crown. Also, the other oddity, being brought up in south London during the days of rationing, we were the only family in the street that did not have sugar, chocolate, things of that kind. We were in a street of dockers. My mother had it all on offer to her, but she could not figure out any way of accepting what was on offer to her, and explaining to my father where it came from, because he was in charge of rationing for the area. [laughs]

[04:31]
OK. And you went on as well to Dulwich as an LCC Scholar.

I… I got an LCC scholarship, which my father traded for a place at Dulwich. So I was a second generation scholar. But I was there under the Dulwich Experiment,

when, Gilkes after the war… The school was bombed to hell, so were most of the schools of south London, the area was in ruins. But Dulwich College was covered in RAF hutments. So he simply doubled the size of the scholarship intake, because the local councils wanted places for their bright kids. It was fashionable, it was very much a socialist idea to, to educate the brightest of the working classes. So he doubled the size using the RAF hutments, and that was the start of the Dulwich Experiment.

And Dulwich was then and is now what we call a public school, with a public school ethos, but a particular type of ethos.

A very particular type of ethos. Even in the 1930s, visiting rugby teams were given a special brief before they came to Dulwich, because the south London day boys played dirty. And when I was at Dulwich, our rugby master was a former Welsh international, and the first thing I was taught as hooker was to lift my leg up so high that the ref couldn't see it.

People like P G Wodehouse came from Dulwich.

Wodehouse, Shackleton. One of the oddities is that, we've, I recently read the correspondence between Wodehouse and Raymond Chandler, another OA, on how you negotiate with Hollywood studios as a scriptwriter.

Right.

Wodehouse was a very bright guy, in many respects. Yes.

[06:29]
And it was straight from there to Peterhouse, was it, Cambridge?

Not straight, because, between school and university I had a bit of a, a gap period, which I spent in the local hospital, Farnborough Hospital, as a kitchen porter. And saw the waste, inefficiency and corruption of the National Health Service from the arse end upwards. You know, being told to sign for goods, which were quite clearly

unfit for human habitation, and being told what would happen if I complained. You know, it was quite… You know… You know, one discovered that, you know, our wonderful State was riddled with intellectual as well as financial corruption. Just, we British are just incredibly good hypocrites.

[07:21]

When did you join the Conservative Party then?

I actually joined the Young Liberals in Orpington, because I was living in Orpington at that time, but, then discovered that the Young Conservatives had rather more girls and rather prettier girls. And when I went up to Cambridge I joined all three parties, as one does, and it was then I became politically active.

[07:47]

What did you really learn at Peterhouse, apart from the, the formal education?

Well, it… I've been the first person from the history side who our head of history thought was fit for Maurice Cowling. And, Cowling definitely had a, a reputation as an argumentative sod, but he was also known to be a brilliant teacher. And, what I learnt there was, to be far more ruthless and rigorous in testing the evidence that supported what I thought, than the evidence of my opponents. And, I also learnt that an awful lot of history is actually rubbish, when you go back to the original sources. And I particularly focused at the tail end on economic history, and, I did one exercise on the relationships between birth rates and economic growth, when I crosscut with a medical student and discovered that virtually everything in the history books was anatomically and the rest of it incorrect. The relationship was much, much more different. You know, people had been practising birth control since Palaeolithic times, except then you simply exposed the kids you couldn't bring up on the hillside. And then you had, basically, birth rates rose in the expectation of plenty. In other words, the human race is much more intelligent than most of their rulers, and has been throughout history.

[09:39]

Did you move straight to London Business School after your MA in history?

No. I went…

You went to STC Microwave.

Yes. At…

What drew you then into microwave? Here's a history graduate with an MA.

No no. I… I had seen a computer. When I went up for interview, I wandered into the old Cavendish Labs, and I was looking for a loo, so I went downstairs to what was obviously the old urinals, and it was full of racks of electronics, with the old urinals behind them. So I wandered through, couldn't find a loo; went out again. I later discovered that that was the university's great secret computer, and the door should be locked. But I also knew as a historian, information is power. And I made the mistake of thinking that computers were something to do with information. It took me a while to realise they were just about shuffling data around, but, we'll leave… That was a different voyage. But, when we first went up, we were hit with a barrage of intelligence tests and aptitude tests, and this was going to be an experiment to see whether, what correlated with our degree results. Then at the tail end, we faced these again, to see if anything had changed. And the people were recruiting for computing using aptitude tests. And I had done every single one of the ones I faced bar one at least twice before, so I got a phenomenal score. And the only other job that I seriously applied for, there was ICL, there was STC, and there was British Transport Docks Board, who had twelve places for managers. And, you began as a foreman, with 200 men, and my past stuff in the Combined Cadet Force meant that they thought I was suitable. And but for the fact my real interest was in planning the docks rather than running a dock, and they thought they couldn't spare one of their twelve places, I would have ended, I would have graduated, not as STC's first trainee computer programmer, but as foreman, young foreman, in charge of 200 dockers on a smallish dock.

Well it saved you from that fate.

Well I don't know. I, I… I enjoyed my time in the Reserves. I have enjoyed working with people who know what they're doing, particularly people who know what they're doing who realise that as soon as I let them know that I know they know what they're doing, I'm just passing through, live with me, you get on very well.

[12:36]

So this was Standard Telephones and Cables.

This was Standard Telephones and Cables, Microwave and Line Division. They were working on the first generation microwave to go across mountain tops in Brazil. They were also working on airborne microwave. And, so they'd got a secret arm and another arm. And I was the only trainee computer programmer. And my test slot was from twelve till two in the middle of the night, so I had a splendid split shift, once I had done the initial stuff, and I was doing my, quotes, 'apprenticeship', i.e. a system for which I was responsible from start to finish. I'd go into the factory about, half-past eleven, go through my test results the night before; leave five o'clock; watch *The Magic Roundabout*; cook my evening meal. Then go with everybody to the pub. Then when they came back for coffee, I'd have one coffee, cycle into the factory, do my two hours. Come back. Then go into work. I'd sleep in. It was almost a perfect thing. Because I had got time and a half for the time after midnight.

[13:55]

What computer was that?

That was an IBM 360 30, and in the course of that, I, I helped reverse engineer IBM Bill of Material Processor. Because we had to do a parts explosion in an hour and a half over the lunchtime. When we began, it took us 56 hours. We had to strip out and strip out. And in the course of that I actually wrote an operating system for the IBM 360, cutting out all the extraneous stuff, to try and get it to go faster.

Why did STC, British company, to an extent, but part also I believe of ITT?

No. It was a wholly-owned subsidiary of ITT. And, while we were there, STC Microwave and Line went technically bankrupt, because they bribed their way into

the Brazilian contract, with three million quid to get a fifteen million contract. Then, from our work on production control, we realised we couldn't build it for less than 26 million, so they had to spend another one and a half million in bribes to get out of it. At that point, they had a cash flow crisis, they were technically bankrupt. To hide the bankruptcy, the chap behind me was ordered to crash the year end payroll. Computer failure means we can't run anything. So that way, they didn't have to run the sales ledger and the bought ledger and the rest of it, so they could hide the fact they were bankrupt. ITT was not well run.

Right. Although it was well known, seemingly, for its form of organisation, run from the middle, from the centre, by ITT?

Yes. ITT was… It… ITT was not well run. Bits of STC were very well run. And STL, in Harlow, was world class.

Right. Standard Telephone Laboratories.

Yes.

[16:02]
Then you moved, after about a year at STC, to ICL.

I moved, because…

What was that move?

I moved mainly because, not only… I, when I had gone to STC, we were talking about a couple of years, then going to business school. And my boss had got it in mind that after we had done decimalisation I might go to business school. Then it became clear they weren't going, that wasn't on the cards. So I was going to have a six weeks diploma in management studies at, Chelmsford I think it was. Then, that got the chop in their cash flow crisis, because they had chopped the entire training operations. So at that point I started looking. I had some interesting interviews with Plessey and with De La Rue. But the most interesting of all was with ICL, David

Fernberg's IMIS, his, integrated management information systems division. You know, the first great package. And he was running the internal systems for ICL, piloting packaged software.

You joined in '69. ICL had only been formed in '68.

Yup.

From bits and bobs, from English Electric and from EMI and ICT itself. What was it like being inside such an organisation, with such different technologies and cultures?

Great fun. Because, on… I found myself taking over the sales ledger systems, from the… And the previous systems analyst had been the sales ledger manager for Powers-Samas. My customer had been the sales ledger manager for BTM. So one of them was handing over systems to me, and these were the systems that had been merged from Powers-Samas and BTM, only they were being handed over to me to decimalise. But we also, in decimalisation, had to merge those with the systems of English Electric, of Dataset and of Dataskil. We were merging four different sales ledgers over four different technologies, to the hard stop of decimalisation. And in the course of that, one of those, we could not move the stuff tape to date. We actually had to dump it to punched cards, gang punch them across, and then reload them from punched cards. We found the last high-speed card reader in the company, and myself and one of the engineers sat, and we ran this thing flat out, ready for restarts, cleaning, the rest of it, for about twelve hours. In those days, to do a transition, you know, the technology wasn't up to it. You often had to go back to punched cards.

[19:09]
ICL sponsored you to the London Business School where you did an MSc, now an BA programme, '71 to '73. Then you were in the public sector of ICL?

Yup. ICL sponsored me there, and, enormously useful and fun. I had, the deal with ICL was, if I got any SLC grant, they would make it up to salary. I got the grant. Then when they made it up to salary, under the employment rules, I lost the grant. However, ICL helped me with the paperwork with Inland Revenue, that since that was

the deal, it wasn't salary, it was an educational grant. So I was exempted from PAYE and National Insurance. So given the rates at the time, I was actually better off in terms of pay than had I been at ICL.

Right.

But, that was the deal, I had to stay for eighteen months. They had problems finding what it was I was going to do when I went back. So I was put on to the water industry study, which was one of Tony Benn's industry strategy studies, as the financial analyst, because you're business school, you probably know something about that. Well I knew rather more. And quickly found that the project manager was totally out of his depth, and had actually taken to drink. You know, he, he… So, within four weeks I was effectively the programme manager for the exercise. And because none of the others had any idea exactly how to do this, I got the opportunity to use a great raft of the business school techniques to run that study.

And of course water was then part of the public sector.

Water… This was the merger of the Water Boards, the companies, the whole of the rest of it, to create the Regional Water Authorities.

[21:09]
You had already experienced the NHS, one of the public sector's largest corporations, and in fact the largest employer this side of the Urals I believe. And you didn't think much of it. What did you think of the water industry, which was public?

[pause] The water industry was a kaleidoscope of organisations. And, municipal enterprise, large part of different types of municipal enterprise. And across municipal enterprise you found the very best and the very worst of organisations. The cost bases, the efficiency, varied enormously. It was great fun, because I was exploring it, trying to work out how to harness this little lot, and the structures. I had done the economic analysis, which no one had ever done before. Those planning the reworked organisation had never done it. The people bidding for jobs in the new organisation thought that was fascinating, therefore I was useful. But more particularly, I had all

these odd business school techniques that I would describe to them and then say, 'Now, which of those would you like to try out, so that we can figure out, yay yay and yay? And obviously I'll report to you before I report it back.' So I got… It was an incredible, practical experience, applying a kaleidoscope of business school techniques, in a kaleidoscope of organisations, to very short order. But what was really interesting was, none of my colleagues in ICL understood what I was up to. Rodney Hornstein, water area reported to Rodney. Rodney remains baffled as to how it was we did, as we did, telling them how to run their business. Like hell. I got them to collate how they thought the business should be run, and I wrote it up. So no wonder they loved the report.

[23:24]

This was the time of mainframes and the beginning of minicomputers as well.

Correct. And the original expectation was that we were going to recommend some great all singing, all dancing mainframes. What became quite clear was, the whole of the systems was far too complicated, and more particularly, there was no way they would be able to afford the staff that were needed to do, follow what was then, quotes, 'best big all singing, all dancing practice'. So instead, the strategy was, a kind of devolution with co-operatives across the water industry, to develop systems that would link together, many of them running on minis, because that's what the old Conservancy Boards used for control, because they were essentially production control with a bit overlaid on there. Relatively small systems. I can't… I think… I, I can't remember. But the main thing was, it was all about an evolutionary organisation, built round the people you've got, and the people you can train, with the technology secondary. And yes, we had sizing exercises and all the… Because that expected. But the core of it was a strategy built round the people you've got and the people you can afford. And again, that, I think it's probably the first and last big strategy built round the people, not the technology.

[25:00]

You were there until, for four years, until 1977. And in 1977 until, in 1982 you joined the Wellcome Foundation. This is the, the charity, the organisation.

No no no. The Foundation was… Sir Henry Wellcome's legacy was the Foundation.
The Trust, in Sir Henry's eyes, was merely the operation which funded the chairs of
pharmacology at the universities, which trained the researchers, who might or might
not be of value in the R&D operations of the Foundation. The idea that the Trust
should get uppity and sell the Foundation to fund its own research programmes was
never in Sir Henry Wellcome's mind, nor in that of Henry Dale, who ran his research
operations.

Right.

It was a, it was a UK-owned, global pharmaceutical company. And I went there
mainly because, I had done a five-year planning exercise for Rodney in the public
corporation sector after the company had axed its one, realised ICL had to do all sorts
of changes. Then found myself trapped. I couldn't go into planning, because I was
too valuable locally. I couldn't go up the management tree because I hadn't done a, a
line sales operation. So I was looking, and, well, basically, I got an offer from
Wellcome, and, provided I accepted it inside forty-eight hours, my boss was a very fly
guy who wasn't dealing with it, what have you, so, I slept on it, and accepted. Two
days later I got approached by headhunters to be controller for the Thorn EMI brain
scanner, which I would have loved, but I had accepted at Wellcome. And at
Wellcome, one of the things Wellcome wanted to know was, why ICL had thrown
away their business. They wanted some modest computer upgrades. ICL had insisted
on selling them a New Range machine, which they didn't want. So they had gone
into the eyes of IBM, are in the middle of a horrendously expensive conversion. They
wanted to know why they did it. Meanwhile, ICL wanted to know why they had lost
Wellcome. So, the deal between my new boss and my former boss was that, I did a
report that they could both read, and, ICL waved my three, six months, I can't
remember what it was, notice.

[27:43]
*There you had experience of working for them with European subsidiaries, Middle
and Far East.*

I was a corporate planner, Wellcome's corporate planning operation. The director was the former head of the international operations, and, I, when I first arrived, my first job was, forty-eight hours for a report on the risk factors on a big turnkey operation in Saudi Arabia. I had never done anything outside the UK, but I knew a couple of people who had come back from the Middle East. And I had done risk reduction exercises in ICL. I had, I had taken apart some very big computer projects to remove the risk elements. So I applied that. One, local inflation, can we link it to, price to the pay of a, a lieutenant in the national guard, who were the Bedouin. Second, cost of land, zero until anybody knows you want it, then infinity. And third, you add eleven per cent before you give the agent his ten per cent. But the agent's best use of his ten per cent is to put ten per cent of that back into the company, to fix the costings, because if the costings are low, it's easier to get the business he gets, it'll take the company years to find out. At which point my boss looked at me. He spluttered. I then later realised which of his two… I said, 'Which of your two directors would 1.4 million buy?' And he spluttered, nearly named two of them. [laughs] And, [with accent] 'Very interesting. By the way, you're in charge of the costings, reporting to me.' [laughs] He was a Scots Presbyterian. So, my first thing was in fact the costings for this big, complicated, and the logistics, and the rest of it, including modelling it.

[29:42]

Then, after I had cut my teeth on that, I acquired Export Division, which was the Middle and Far East as a planner. Then I acquired the European subsidiaries. Then I acquired the UK R&D budgets, as a corporate planner, with all the studies that go round it. And because I had come from the IT industry, obviously I got global policy. But that meant looking at IT and comms around the world, not just in the UK. So if you looked at what… And we never went for a global deal, because none of our suppliers was competent globally. Different ones were competent in different areas.

[30:26]

In your second year at Wellcome Foundation, as you were doing all of this work, a political event, in fact, an eruption, an earthquake, occurred in British politics, in 1979, with the election of Margaret Thatcher. Which you must have been very pleased about, I imagine.

[pause] Well, almost immediately I left… I've always been active in politics off and on, not that much. I had done a study for the Bow Group on, hardware support for the soft option, i.e. hardware or software for Government policy, which had been savagely edited by Peter Lilley, who was livid when the people decided it wasn't interesting enough to publish, after all the effort he had put in editing it. Then, when I left Wellcome, I suddenly became trusted within the Conservative Party, because I no longer worked for a nasty supplier. I was working for a user.

When you left ICL…

Sorry, when I left ICL.

…you were trusted.

Correction.

Right.

I left ICL, but, because of ICL, I got various people trusting me within their… But also, the water industry study had been a Tony Ben study, so I was trusted in the Civil Service. And various people knew of me from that. But because I was no longer working for one of these nasty suppliers, I was neutral. And more importantly, I was working for a nice, cuddly Wellcome Foundation, I could bring a global perspective to policy studies. So, I very quickly found myself putting together the Conservative Party's list of contacts with the computer industry, which was looked after by Michael Spicer, later on, most recently, Chairman of the 1922 Committee. That Michael Spicer. Because Michael had been running a computer modelling company, so he had got lots of contacts. Put those together with my Bow Group study team, and we created the Conservative Computer Forum to try and do studies. But, Boz [Basil] Ferranti, I think he was chairman or deputy chairman of ICL, anyway, Boz used to lend me the Carlton House Terrace boardroom for all-party exercises, because ICL wanted to be nice to the unions as well.

[32:58]

So I found myself doing all-party work, supposedly under a Conservative banner, and also as an ASTMS rep on the TUC studies, during the run-up to the '79 Election, and along with Adrian Norman, Adrian and myself were the two gofers on the policy study on telecoms liberalisation, IT and the rest of it, commissioned by Keith Joseph, led by Ian Lloyd. So I actually helped write the policies in that run-up. And my discussion paper, which was intended to, to put the cat among the pigeons, was published as cashing in on the chips after the Election, because the Election came six months early. We had got all our policy papers to stimulate discussion, and then we were going to distil the policy. Instead, suddenly we had to do the policy fast. Adrian drafted the policy. I polished the discussion paper. Adrian's bits were, IT Year, you know, the big awareness campaign. My prime one was the Micros in Schools programme, to make a difference. And the telecoms side really came from Derek Broome, who had been at university with Margaret Thatcher in 1946, and in fact he had gone out with Margaret Thatcher's best friend. So… And Derek had actually run a Baby Bell in the States. So he was one of the few Englishmen with experience, real experience, of running telecoms operations outside the UK. In other words, the sun did not shine out of the anal orifice of the Post Office. There were other ways of doing things.

[34:50]

Right. If we take a bit of a helicopter vision here and pull back from that detail for a moment, and, I want to see your responses to and reactions to this process that I'm going to suggest happened historically. In the early stages of the development of computing in this country and certainly in the United States, the State, the Government, was a very very important investor, a very important user, and, often on the military side, but also there was some private involvement. The Government became very involved with the rise of social democracy, with the organisation, chivvying companies together to form ICL, also creating, perhaps, it has been said, a wasteland around ICL where ICL was the focus and also a drain of money, and eventually however, with the Thatcher revolution, there is a considerable change. And I think that this is put together by a man who died last month, Ray Atkinson, who was a civil servant, a mandarin in the Department of Industry, and he wrote a paper saying, ICL should be refunded by the Government and needs a lot of investment, and

apparently Margaret Thatcher wrote a single word on her document, out of her red box, which was 'Poppycock'.

By then it was too late. ICL was actually destroyed by Inland Revenue. Um… Dearie me. Dick Cross, who was brought in from America to turn round ICL.

Geoff Cross.

Sorry, Geoff Cross. Geoff Cross. That's it. He went… Rodney and he went off to A.B. Dick. That's it, Geoff Cross. [pause] He swung the axe. Sorry. His first 100 days, he did absolutely nothing. He walked round and round the company, seeing everybody. He then swung the axe, chopping one third of those who reported to him. Three months later, the axe swung again. A third of those who reported to them went. General feeling in the company was, if he had swung the axe a third time, ICL would have been turned round. But at that point, Inland Revenue voided his contract. He was, he had been guaranteed a sum net of tax. They gave him six weeks to leave the country or be bankrupted. So he left. ICL fell apart, and that was the point at which I decided to leave ICL. But if we go back earlier, the contrast between Britain and America couldn't be more marked. When Ferranti reengineered the Bloodhound missile contact, using these new-fangled transistors instead of valves, they made a fortune. They agreed with MOD that they would put all of that money into the Atlas computer programme, for MOD and GCHQ to buy, at cost. HMG reneged on the deal. Not only did they not buy Atlas, they bought IBM instead. They demanded their money back on Bloodhound, which destroyed Ferranti's leading-edge computing operations. Britain did exactly the opposite to the Americans. About the same time, de Gaulle wanted to sell Machines Bull to ICT, to create a European champion, and bear in mind their two technologies were compatible; instead the Brits shoehorn ICT into bed with English Electric, with a completely incompatible technology. So the Brits' strategic interventionist policies were utterly disastrous.
[38:51]
Now, Ray was a great man, but by the time he was making those proposals to Margaret Thatcher, and he was right, ICL was already doomed.

[39:07]

Are you arguing there that you are not politically against any strategic intervention, but you say that these strategic interventions were wrong?

I am saying that Britain has never managed a correct strategic intervention in anything. My, the study I did for Tony Benn was the only one of his industry strategy projects that worked. That was the water industry one. It says it can work. But, it was a pure fluke that I was running it and not one of the conventional consultancies. The one on the police computing, which had a similar budget, produced a much glossier report, produced no change whatsoever. It was a total waste of space. And most of those interventions were a total disaster. And, we'll go in straight for the Alvey programme by the throat, because if you look at the history of the Real Time Club you will find the clash between myself and Alvey, because I said it would be better to take the British researchers out and shoot them, rather than have them research product for the Japanese to bring to market.

The Alvey programme was 1983 to '87.

Yup.

And it was the last real attempt to put strategy together.

Yes. And, and it was totally misconceived, because, Boz Ferranti nailed it. Innovation is one per cent research, nine per cent development, 20 per cent pre-production engineering, testing the rest of it, 70 per cent marketing. Alvey was all about the one per cent research, with no concept at all as to how that was going to be developed into product or brought to market. Without those later stages it was disaster, it was merely producing research for others in other parts of the world to bring to market.
[41:21]
And the same applies today, when we look at all our wonderful research programmes. On artificial intelligence and rest of it, there is… And, we have yet to get, civil servants have yet to get their heads round what is involved in technology transfer, bringing these things to market. The Americans, MIT, Stanford, the rest of it, they're wealthy beyond the dreams of British universities, because they've had their

technology transfer operations turning their research into royalty income with industry running for a century. We have yet to begin.

[42:03]

It went even further. There was not only the cessation of strategic intervention, there was a retreat from ownership, with the privatisation particularly of British Telecom in 1984. You welcomed that?

Interestingly, I regarded the liberalisation of telecoms as far more important than privatisation. The rolling back of the BT monopoly. And I still do. And, while… And, when it comes to most of our privatisations, most of them worked reasonably well in the short term, but they have ended up as… They, they all ended up as local monopolies, effectively monopolies, many of them in foreign ownership. I regarded liberalisation, competition, as more important than privatisation, and I'm a great believer in municipal enterprise beating hell out of central government. It's just that I don't believe in the steam age centralised nation state. It's too big to be competent. Devolution is much better. The one thing a steam age central state could do, but doesn't, is hold global cartels in check.

[43:26]

Two years into the Thatcher revolution and Thatcher government, three years before the BT privatisation, you helped form PITCOM, Parliamentary IT Committee.

Yup.

Now this is a combination of people from the industry, users and vendors, and also parliamentarians from the Commons and the House of Lords. Why PITCOM, why was it needed?

The core concept was actually, Ian Lloyd. When we did the studies for the '79 Election, Ian felt, after the Election, Parliament needed informed discussion. It also needed a research operation. My group running the Conservative Computer Forum wanted to go all-party, and Labour MPs wanted to help, and we created the Parliamentary Computer Forum, which was running neutral briefing sessions on hot

topics. Ian Lloyd created a conventional all-party group, half a dozen MPs, speaker of the day. We had the awkward situation that my group was having, filling Committee Room 10, granted only about half a dozen MPs, but lots of people from industry, to hear. His group, empty room, half a dozen MPs, couple of speakers. The obvious thing to do was to put the two together. John McWilliam was bidding for a job on the Privileges Committee, so we, it was set up very tightly with governance in line with what senior MPs thought the governance process should be. And throughout its life, while I was running it, that was the core to the way it was run, with, the whips essentially decided who the chairman was going to be on the parliamentary side and setting the rules of engagement. The core thing was, it was Parliament and industry. When it was set up, I was the first industry vice-chairman, and the reason I was industry vice-chairman was, I didn't work for one of those nasty suppliers, or professional bodies, or trade associations. I was with the Wellcome Foundation. And my boss was giving me ten days a year kind of public service leave, because he thought I was going to become an elected politician at some point. He withdrew that when he discovered I didn't want to stand for election, and at that point I had to choose, and I ended up joining the National Computing Centre, but the National Computing Centre was the *use* of computing, lots and lots of cuddly users, who they wanted to listen to. They didn't want to hear those bloody suppliers. Bloody suppliers can lobby us any time. We want to hear informed users discussing these things properly. So, it went off, it got off to a flying start. It was a big event.

[46:27]
What do you think PITCOM has achieved?

Um…

It might have raised the consciousness of IT among parliamentarians, that's some type of achievement. But, what has it really achieved?

Part of the governance of PITCOM was that it was not allowed to lobby for anything. It was there to stage debate. Motherhood and apple pie are all very good. Now let's call on Satan for her point of view. So it wasn't there to lobby *for* anything. So therefore, it did not have any achievements, it only staged debate. Now, set to one

side, the extension of copyright to cover computer software was the subject of discussion over a dinner table after a PITCOM event. At the time I was Acting Vice-President BCS, a professional, because Reay Atkinson was the Vice-President and had smashed himself up in his car crash. And Reay had only accepted the job if he could have me as his deputy, because he knew me from running the original water industry study, and, the computers in schools and so on. So we, we got on extremely well. We had a meeting at BCS, where we agreed something must be done, because, the embryonic computer games industry was being destroyed by piracy. So… [electronic sounds] Sorry, can I…

We can turn it off. Yes, [inaud]. We'll cut there.

[break in recording]

Good.

No problem.

It's always a wrong number, because I've not given anybody the number of that thing. Sorry about that.

[48:32]
No. Sorry. Let's just see where we are. I understand that one of the things that PITCOM can claim fame for is at least providing a forum in which the issues of computer software copyright were raised. Is that right?

No. Let's… Can we cut, cut that, cut that bit.

Yes.

The key thing is that PITCOM wasn't allowed to lobby for anything. It could only provide a platform. In the course of those discussions, quite a number of things happened, and got spun out from discussions over the dinner table, but PITCOM itself was not involved in any of them. The first was the extension of copyright to, to cover

computer software.   PITCOM discussion. I agreed to pick that up as Acting Vice-President, British Computer Society, because Reay Atkinson had had his car smash and I was covering for him. We had a BCS meeting on the issues, which agreed something should be done. And, we'll figure out what should be done, and then we'll report back. We never did report back. Those at that meeting themselves controlled the budgets, to create the Federation Against Software Theft, to run the campaign, to, which ended up with a Private Members' Bill to extend the Computer Copyright Act to cover software. And that was the fastest campaign from original conception to legislation on the books, and enforcement, in, since the 1920s I think. It was done in eighteen months flat. Now that happened as a result of a discussion at a PITCOM meeting. The first women into IT campaign, again, happened as a result of a discussion at a PITCOM meeting. There were a number of things happened because of discussions at PITCOM, but PITCOM itself did not *do* any of them. Because it wasn't allowed to *do* anything.

[50:48]
One of the things that PITCOM did do, or at least provide a forum for, was international trips.

Yup.

And you put together some very interesting ones. I would like you to focus, just briefly please, on the 2000 trip to the United States, to Silicon Valley, Menlo Park et cetera. What were your main conclusions from that, when you compare and contrast the UK scene to the US scene?

The first and most important is that, the Californian view of the UK. The UK is the far, far end of the red-eye, even more out of touch with the real world than Washington. Out in Silicon Valley, virtually… It, it was a microcosm, virtually everything happened within a two-hour travel radius. Now, given the traffic jams that were already in the area, you couldn't get anywhere far within two hours, except by helicopter. And two hours enabled the venture capitalists to do two visits a day, one in the morning, one in the afternoon, by helicopter. So a two-hour radius by helicopter, from their base, that was where you did the investment.

That determined the geography of it.

That determined the geography of it. Now, the UK had one secret weapon, which was called the Cambridge Computer Club, which was well-known in California. Nobody had ever heard of it in the UK. And, they knew it California because it was backed by Barclays Bank. Like hell it was. Matthew Bullock. the local bank manager, had this club that met in the upstairs room of the Eagle on Thursdays to discuss technology, provided once a month he could slip in a meeting on how to run a business, like, get them to pay for the last one before you sell them another one. And he paid for the beer and sandwiches, because, he was looking after these Barclays customers. And he also fixed for them to be registered as a club, and use Barclays discounted travel facilities for regular trips out to San Francisco. So the Cambridge Computer Club, and, you know, the person who fixed the programme was Hermann Hauser, you know, out of it, you can, you can think of all the people who were involved in it, and became in it, that was the UK's only thing. And that was because of direct flights from Cambridge to San Francisco. And of course Cambridge itself is a little cluster. So that's how Cambridge became a cluster with Stanford, as opposed to Cambridge, New England, which would have been its natural cluster. But, you know, that was one very big difference, that it was all local.

[54:15]

The other one was that American public sector computing was as big a mess as British. The Californian state population, about the same as that of England, and the Californian systems, for driver registration, you name it, it was a mess. And, San Francisco, their, their systems were as big a mess as London. That's where we picked up the, the phrase, that you're, all these wonderful new, put in common interfaces, lipstick on the face of a pig. And, you know, basically, all of the stuff that we've had with government transformation and the rest of it, unless you can actually transform the underlying reality, simply putting a front end on it is worthless. Now that was another core message from that trip. There were lots of others. What's it, the, Elvis year one is basically its zenith, and, lots of technology is fashionable within this country. The Elvis year of them was about four or five years back. That's when they passed their zenith, and were already doomed.

[55:33]

Right. Why, in your opinion, is the public sector so bad in its use of IT?

[pause] Basically… At the moment, the prime reason is that they listen to the consultants. They have outsourced. They do not listen to their users. They therefore do not have flexibility. They have, they have over-centralised. If instead they devolved, municipal enterprise, local responsibility, local flexibility, given that, you get the best and the worst, and you then use publicity to reward the best, and get the local electorate to crucify the worst. But, we've lost that. That's, that was Victorian municipal enterprise. From 1906 onwards, we've been centralising, centralising, centralising on London. We've created a world fit for the 1920s.

1906 being the election of the Liberal Government.

Lloyd George. That was the start of the centralisation. Lloyd… It was actually…
Oh well, was Lloyd George, was it Lloyd George's Budget, Lloyd George's…

Chancellor.

Chancellor. Yah.

Chancellor of the Exchequer.

Yup. Now, you, you can argue all sorts of things about that. But, it began a process which accelerated in 1917, so, our centralised university funding, all sorts of things. The creation of a world fit for heroes, we are going to centrally plan it, we are going to sweep away all this past stuff. Now it took a long, long time to create that. We finally got there in 1947, '48. And we're living with the consequences today.

[57:30]
So really, you're a Victorian liberal, aren't you?

I'm not a liberal. Not a liberal. Liberal is a dirty world. I was taught by Maurice Cowling. They don't come much nastier, more racist, more intolerant, than John Stuart Mill, nasty piece of goods. But I am, I am a believer in Victorian free trade.

Victorian free trade. And, therefore, for globalisation. And, also, with globalisation comes a, go and do it, and, we're not quite sure what you are doing, but we think, we're worried about it, but still go and do it, i.e., a lack of regulation. With this process of globalisation has come a lack of regulation, and therefore we have two things occurring at the same time, and I'd like your, your responses to them. We have one, an amazing amount of monopolisation, from companies that are extremely young, and have been able to monopolise areas which we were told would be vibrant, would be competitive, and they aren't. There's a dead, there's a whole dead area around Google, because it just sucks up anything that it likes to have, such are its, such are its revenues to be able to do so. And secondly, they're just not regulated. So we have this appalling position of, the intrusion of privacy at the moment. Surely, your analysis would lead us to believe that that was all good.

No. My analysis says, let's look back. Great tranches of Google's position are the exploitation of patent and copyright laws, which should never have been granted, and would not have been granted in this country in the nineteenth century, because the Statute of Anne limited protection to fourteen years, and also, if you did not bring things to market, you lost your patent protection, your copyright and the rest of it got voided. And there were all…

The Statute of Anne being, the 1709…

Correct. Correct.

…first Copyright Act in the world.

Yes. And then in the eighteenth century, it was on the copyright and also patent law, whereby, for instance, Boulton & Watt could not shut down all the competition. Most of the steam engines weren't built by Boulton & Watt. They were built by their competitors, and they were always trying to shut them down and sue them and put

them out of business. Under then patent law, they could not, hence the vibrant growth of the… This is one of my regrets. Because, when we did the extension of copyright to cover computer software, we had a long discussion as to what or criteria for success were, and our criteria were basically, if looking back fifteen years out we were still pleased with what we had done, then we'd probably done a good job. Fifteen years out, we were still pleased. Today, I am profoundly ashamed. Because, the, the way in which Google has used a mix of copyright and patent to, for a position it should never have been granted in the first place, because, a core of Google's IPR are the techniques used at Bletchley Park in World War II, for signals intelligence, i.e., digesting all the material to decide what to break. Now because they were secret, they were never patented. Google has patents and IPR that should never have been granted, because they were prior knowledge, and that, the American patent system is rotten to hell.

[1:01:08]

Now, I said right at the very beginning, I'm a tribal civil servant. My grandfather was the, went on the first electrical engineering degree course immediately after the First World War at the East End College, now part of Queen Mary's, and he adjudicated most of the electronics patents of the 1920s and '30s, including all those long life light bulbs that were bought up and shut down by people who didn't want them made. You know, the abuse of patent that comes in in the twentieth and twenty-first century has got to be addressed. Now, but those are things that in Victorian days, the judges would have struck down. Then you run to 1911 and 1912, Google's leverage is straight out of the leverage of the American railroad companies to try and move into road haulage, United States versus St Louis Railroad Company, whatever. One of the great cases when they were struck down. Result was, it broke the railroad cartel, eventually led to Amtrak and all sorts of other things, but it broke the cartel. Now today, you can't even find those. You try and google for those on Google, you can't even find the cases.

[1:02:50]

You know, we are living in global censorship. But you know, that is not, that's a different argument to believing or not believing in the UK central government. It basically says, you know, we should allow the law to take its course, and allow a million voters to bring a class action against Google for breach of privacy or breach of what have you. You know, that is the way to address… That's probably the only way

of addressing them. And when it comes down to data protection, we do have precedents, that in the absence of any evidence of loss, £1,000 is a reasonable approximation for the hassle of losing your privacy. There are a couple of test cases. What we haven't yet got is a class action of 100,000 people after a data breach suing, certainly, forget all this bloody information commissioner and the rest of it lark, just let common law take its case, and rip apart some these big…

[1:03:55]

Now, the whole of regulation is all about big business, using regulation to protect itself against people exercising common law rights. So, yes, I'm a Victorian.

[1:04:10]

What's the biggest mistake you've made in your career?

Well, I will… That, that's certainly one of them. The other one was probably…

You mean the software one?

The… The… That decision on, to actually go for a simple extension of computer copyright as being the easiest way of doing it, and not complicating it with additional add-ons. That was probably politically. The other one was, when we split the governance of EURIM from PITCOM, because, had we kept the situation where EURIM, as a company limited by guarantee, reported to PITCOM, we would probably have swung the governance debate of, with regard to parliamentary groups, a different way. As it is, by, by splitting them, PICTFOR is essentially run by a group of suppliers, and all of the parliamentary groups are supplier-orientated, where PITCOM was dominated by users, and the use of technology. So, that ending of that reporting loop, and allowing the two to be split, and also, suggesting that PITCOM needed new blood, and therefore not only should I not be involved in the restructuring but my staff, who were running the EURIM programmes, shouldn't take on the admin of PITCOM, when Frank Richard had retired, that was a big mistake, because, had that happened, Emma Fyer, who still works for techUK, would have probably taken over from Kate Norman, and done a really superb job. Albeit, PITCOM would have been far more environmentally conscious, because she, she's the data centre queen, you know, environmentally efficient data centres. Her love was, was ecology. So I

always knew that I had got, I got her on borrowed time for working on IT. Her real interest was an environmentally friendly planet, and of course, the use of technology to support that. So, you know, that was probably my biggest mistake.

[1:06:57]
A constant theme of yours seems to be, support for the user, support for the user, listen to the user, listen to the user.

Correct. Yup.

And don't trust the suppliers.

Suppliers who listen to users are trustworthy. Suppliers who think they know what the users want and need, are not. When my first chief programmer in STC had me helping him assess early generation software packages, and his firm instructions to me were, 'Don't try and understand the jargon they use. Ask them to explain what it does in basic Anglo-Saxon, and if they can't, tell them in even more basic Anglo-Saxon what they can do with it.' So, you're right; from the very start, I was schooled to test software packages, and then at the National Computing Centre we had software testing operation, and set up software test services. The particular one that, there was one for the medical packages, where… You had some sad results, of a couple of very good systems that did everything, except when it came to the cut to the power supply, and we start it in accordance with the manual. And there was one of them which just didn't restart. And they contested, 'Well of course we've cut the power.' No, they had switched the power off. They had got a wiring fault in the systems as shipped, the battery backup didn't cluck in, in the event of a power cut, as opposed to a switch-off. Another one, they had actually changed the routines, because the original ones didn't work, but they hadn't changed the documentation. You know, there are little things. But you then come round to big issues, and we set up a testing process for accounting software against Inland Revenue standards. Pack of data supplied by Inland Revenue. And we ran the tests, and we reported version XYZ of XY software, used in accordance with the manuals, processes this Inland Revenue pack correctly. Only one – sorry, six software houses, picked up on that. Only one advertised it. It was a small software house from Newcastle called Sage. And they did a nice bit on their ads, in

which, it used this precise form of words, which is all you could agree. You couldn't get Inland Revenue approved or what have you.   But we did manage to get Inland Revenue to agree that on their ads they could put 'Tested by National Computing Centre and Inland Revenue Test Pack' in large print. And they did it extremely well. You know, but there are software houses that are good, there are suppliers that are good, but by and large… Well, in ICL, in the water industry study, a key part of that was the creation of a water industry user group, which met regularly, and told us what they wanted us to do, and we listened. Now, that should be the relationship between users and suppliers.

Thank you very much Philip Virgo.

[End of Interview]