# Ann Moffatt

Interviewed by

## Elisabetta Mori

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Via Zoom

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*Welcome to the Archives of Information Technology.  It's 19th October 2021 and we are recording this interview on Zoom.  I am Elisabetta Mori, an interviewer with Archives of IT.  Today I'll be talking to Ann Moffatt.  I am in Italy, in Tuscany, and Ann Moffatt is in Queensland, Australia.*

*Ann Moffatt started working in the information technology industry in 1959.  She has professional experience at all levels, including programmer, analyst, designer, project manager, company manager, and she has served on several company boards.  She's a Fellow of both the Australian Computer Society and the British Computer Society.  From 1998 to 2010 she was a Director of the Australian Computer Society Foundation.  In 2002 Ann was inducted into the Australian ICT Hall of Fame and in 2011 she was inducted into the Pearcey Hall of Fame, which is the highest Australian professional award for a lifetime achievement in the ICT industries.  University of Southern Queensland awarded her an honorary doctorate which was conferred in May 2006.  In May 2014 Microsoft listed her as one of the 12 Australian innovators. Welcome, Ann.  Let's start with simple question like, when and where were you born?*

Thank you, Elisabetta.  I was born in England, in London, in the middle of London.  It was only two months before the start of the Second World War.

*So it was in 1939?*

1939, in July.

*Okay.  Can you describe your parents?*

Yes, my mother had never worked.  She'd been a housekeeper, a home keeper.  And my father was a carpenter that didn't have a permanent job but just went from job to job being a carpenter.  And they lived in Harrow.  Harrow is famous throughout the world for the boys' school where Churchill went to school, and so on.

*What was your family life like?*

I guess it was fairly mundane.  What I remember was my mother and father were forever squabbling about something.  In fact, an uncle said to me once, 'They'll be squabbling as they go through the pearly gates of heaven'.

*Did you have any siblings?*

I didn't hear that, sorry?

*Did you have any siblings?*

Yes.  Seven years after I was born I had a brother and sister who were twins, Richard and Rosemary.

*You were the first person in your family to go to grammar school, can you tell us more about your education?*

I had fairly normal education from a school actually that was started by Lord Shaftesbury who did a lot for the slave children in England, and we had a plaque on the wall of the school commemorating it to Lord Shaftesbury.  But of course it was wartime at the beginning of my school career, so food was short, we were always having to sort of go and hide away because the planes were coming to bomb us, because we were only 12 miles from the centre of London, so I guess it was a weird school career.  But when I, the first day at school I was asked to, we were all asked to take hold of somebody else's hand and walk in in twos, and I took hold of a girl who was tall like me, Kathleen, and she and I were friends for 60 years.  We saw each other through everything.  Kathleen was always much cleverer than I was and got wonderful reports, but I always got 'Could do better', but I knew that I couldn't do better than Kathleen because she was absolutely fabulous.

*What were your favourite subjects?*

My favourite subject was geography.  I had visions of travelling round the world, seeing all these wonderful places that I'd read about.  But second was 'sums' as we called it, not mathematics, but sums, because it was easy.  I mean it was just, it was, if

you had to write an essay, an English essay, somebody who marked it could have an opinion about what you'd written, whereas with maths there was one answer, it was right or it was wrong, it was simple.

[0:04:53]

*What was your first job?*

My first job?  Well, I worked delivering newspapers from the time I was 13, which was the first time you could work in England, but that was just a morning job.  And then I did a Saturday job at a cosmetic, a large cosmetic store, and that was really fun.  Actually, I worked with the buyer of that store and I used to do all her, as she called it, her mathematics, but it was really just sums, it was adding up and multiplying and sometimes percentages, that's the highest level of maths we got to.  But she wanted me to work and train as a buyer under her.  My mother wanted that, she wanted me to leave school, but my headmistress decided that I was far too bright to do that.  In fact, she said to my mother, it's rare we get two girls to go to Oxford or Cambridge, but Ann and Kathleen will both go to either Oxford or Cambridge and she'll get a PhD.  And my mother didn't understand any of that, but agreed with the headmistress I could stay on another year.  Then money got tight at home and I had to leave school.  And my mother and father said, if anybody had had to stay at school for a long time it would be my brother, because he was the boy and the two girls, that didn't matter, we'd get married.  So I left school and I joined the Met Office.  The reason I joined the British Met Office was that they would give me time off to study and get my university entrance exams and then to go to university, and that was really my goal.

*How did you feel about your brother going to university instead of you?*

I felt very sad because my brother actually had an intellectual disability.  When we had him tested he had an intellect of a ten year old and had, the whole of his life had.  And my mother kept pushing him, she kept paying for him to go to schools, and he really didn't have the ability to take that opportunity.  He never worked and, you know, I mean he is my brother and I loved him dearly, but he had an intellectual ability of ten.

*So what, who were the important influences in your early life?*

Well, I guess the lady I worked for in the cosmetic store.  She influenced me a lot, because she used to go ski-ing and she used to go to Austria and Germany and places like that, and I thought, a woman who could go and do this!  She was the only female buyer in the whole store, it was a very big store, and she was highly regarded as working very hard.  So I really, I wanted to be like her, I wanted to travel, that was my aim.  I didn't want to work for work's sake, I wanted to work so that I could earn enough money to travel round the world.   And so she had a lot of influence on me.  I guess my mother had influence in a way.  The influence my mother had was I didn't want to be like her, I didn't want to be dull and the only thing I would do was read novels or something like that.

*So you joined the Met Office in 1956, what motivated you to do so?*

Well, I joined the Met Office because I knew they would give me time off to study to get into university and then to go through and do a university degree.  So that was really why I joined them

[0:08:33]
*And when did you hear about computers for the first time?*

Well, I guess I'm talking about the end of the fifties now and there was a lot in the newspapers about these mechanical brains, they called them, that were going to rule the world, they were going to change our lives, they were going to stop people going to work, we would all have leisure the whole time and the computers would do all the work.  So that was the image I had.  You heard that on the radio as well, and on the television.  Mechanical brains.  I mean they aren't mechanical, but they called them mechanical brains.  So there was that information about computers, but the first time I heard about computers in a professional way was when my boss was invited to go to a course at Bletchley Manor to learn about…

*So…*

Sorry?

*So your boss at the Met Office.*

At the Met Office.

*So you started in 1956, what were your roles at the Met Office at the beginning? What did you do for it?*

Oh, when I first got to the Met Office I was in the Sunshine Section, and I was responsible for checking sunshine records and seeing that towns that had sunshine recorders recorded correctly, they didn't burn their – the seaside towns would burn their cards to show that they had more sun than they really had – so that was my job. And also, to do a sunshine diagram so that if you looked at the trajectory of the sun across the sky, often there were buildings or trees or something in the way, so you had to work out where the recorder could record and where it couldn't.  So that was quite a complex job.  But the Head of the Met Office came to my boss's office one day and said in front of me, 'You might all have noticed there's been a lot of rain recently and not much sun, so my little ray of sunshine has got to go and be a raindrop, so you've got to go and work in the Rain Department'.  I thought that was very funny.

[0:10:50]
*And then what happened?*

Well, I was working for a man who was writing a book on statistics in Chinese for the Chinese market.  He wasn't Chinese, he was British.  How, why he did it, I have no idea, but this was his life's work.  And it was really good because he gave me all his work and he was very patient with me and showed me what his work was.  But he had a big blotter on his desk and every time somebody came in he hid the work that he was really doing, which was writing this book in Chinese.  So one day a letter came for him that said that the Met Office was going to get a computer and that he had to go to a course at Bletchley Park to learn about this computer.  And the people that were going to be on this course were the five people in the Met Office that were his grade, which was many grades above mine, who reported to the Head of the Met Office, our

boss, who was called Aloysius Bleasdale, which is a lovely name.  And so I showed him the letter and I said, look, Dr Grindley, you've got to go to this course.  And he said, I can't go, my book's late, I can't go, you go instead.  And I said, I don't think I could go, I'm much lower grade than you and they wouldn't let me.  Anyhow, to cut a long story short, he argued with his boss and eventually I was supposed to go, but only if I got my forecast exams – I was training to be a weather forecaster.  And also I wanted to get my entrance to Sir John Cass College at London University.  So, I'd got my forecaster exams, I'd got my entrance to London University, and my boyfriend and I decided that we would cycle to John O'Groats, which is the north of Scotland.  We'd cycled to Land's End the year before.  And cycling up the highest, to see the highest inn in England, on the way down I hit a big stone in a drystone wall that was in the middle of the road, came off my head, seriously fractured my skull, and I was a vegetable for, well, I was out cold for three weeks.  So, when I came round again, of course they'd suspended my university entrance, the course at the Met Office on computing had come and gone and my boss had to go to that, and I was told that I'd be a vegetable for about two years, I wouldn't be able to work properly for about two years.  The Met Office agreed to pay me, but I wasn't allowed to go to work.

*And so what did you do?*

Well, I went on going to night classes to get more qualifications for the university.  My boyfriend worked for Kodak and he said there was a job advert on their noticeboard wanting somebody with a maths degree to train to be a computer programmer.  And I'd actually sort of got excited about computers and I'd read a little bit about them and I knew they weren't this sort of mechanical brain that the newspapers said.  So I read all the books in our local Harrow library on computers, and there were three books, I read those.  And then I got on to London University and I asked them for all the books they had on computers, and they gave me all, or they sent me all their books and there was ten.  So I'd read 13 books on computers, that's all I'd read.  So I said to my boyfriend, well, I haven't got a maths degree.  And he said yes, but you've read all those books about computers, surely that'll do.  And I thought oh well, you know, I'll apply.  So I applied.  I was interviewed by nine people and when I told them I'd read books on computers, all they did, instead of interviewing me, they just argued between themselves about which books they'd read

and which books I'd read and so on and so on.  And they asked me a couple of questions and said, well subject to a medical test, I could have the job.  And of course I'd been told I had to not work for two years, and this was about six months after I'd had my skull fracture.  So I thought they'll find out, if I have a medical test or if they go to my doctor, they'll find out I'm not supposed to be working.  And I still had very, very bad headaches from the skull fracture, but I thought oh well, let's see.  So I went for the medical interview and nobody asked me about the scars on my face or whether I'd had an accident or not, so I didn't tell them, so I got the job.

[0:15:35]

*So what was your job routine there?*

I'm sorry, I didn't hear that.

*What was your job routine at Kodak?  So what was one typical day of work?*

So we had plug compatible card sorters in those days and I worked a bit with those.  But then came the day in April 1959 when I was told I would go and work with, go on a course at Ferranti computers to learn about programming and computing.  And so that was really exciting, but my boss told me the course cost £50 so I had to make use of it.  And I had to write a chi-squared analysis program, because we used a lot of chi-squared tests for quality control at Kodak.  And they had a regression program and they had a correlation program and so on, but they had no chi-squared programs.  So I went on the course and everybody was told to write a program on calculating the day of Easter in the year 2000 – there's a formula for that.  Or calculating the cost of grass seed if you had to plant a lawn with certain shaped flowerbeds in it.  But I was writing my chi-squared program and an interesting thing to me was my tutor was Conway Berners-Lee, who's the father of Tim Berners-Lee who invented the worldwide web.  Little Tim was four and his mum was just about to have another baby, so Tim got brought to the class and I being the only woman in the class had to sit at the back and keep Tim quiet while the class was on.  So you see, I've held the hand of the hand that wrote the worldwide web, and that makes me very proud.  On the Friday everybody had to run their programs on the computer and everybody else – there were about 12 people in the class – everybody – all men – and everybody else had a tape that was

about an inch across.  My tape was about a foot across, and the tutor said obviously I'd misunderstood what I was supposed to do.  I'd stayed up every night of the week to get my program right, so I had to be last on.  And of course my program failed.  And he looked at me and he said, what are you trying to do?  And I told him, he said, I haven't taught you that yet, but I'll help you.  I can write what he called an extra code, this is a little subroutine to tack on to the end of the tape that fulfilled the function that we hadn't learnt yet.  So he did that, but it still failed.  So he told me to go home at the weekend and write one of the programs that we were told to write.  So anyhow, at the weekend I worked very hard on my chi-squared program.  I couldn't find out what was wrong with it, but on the Monday we learnt about the function that he'd put in for me, and he'd got it wrong.  And I told him in the break that he'd got it wrong.  And now I knew how to do it, so I'd write it myself.  And so I wrote it and my program worked and immediately it was put in the Ferranti library and stayed in the Ferranti library.

[0:18:56]

*What was program testing like at the time?*

Well, in those days it was £100 an hour to use Pegasus.  Pegasus was in a magnificent old Georgian house and it was housed in the ballroom with floating floors and painted ceilings.  The air conditioning was having the windows open and having a big aero-engine at one end of the room to blow cold air through the computer room.  If you were working on something secret there was a little bag with sort of a beautiful silk cord in it that you took out and put across the computer to show everybody you were working on secret work and nobody was to come near the computer while you were working.  But £100 an hour, £100 in 1959 was an awful lot of money.  So, computer time was very, very scarce, or very expensive, I should say.  So we desk checked our programs, we swapped them with other people and asked them to desk check our programs and so on, and we didn't actually run them and test them until we were absolutely sure everything was right.  And this is something girls do very well, you know, we don't want to be found out doing things wrong, so we check and we check and we check and we check so that nobody sees us do things wrong.  So you had about two or three goes at clean compiling your program.  Of course the program was written in machine code, it wasn't even written in Assembler, so it was just all

numeric.  But yes, it was fun.  To me it was like a big maths problem, you know, it's just like maths.  You had to get the numbers in the right order and it was pretty simple, I enjoyed it.

[0:20:54]
*March 1960 you got married.*

Yes.

*To your husband who worked at Kodak.*

To my boyfriend, yes.  Actually, when I came round from my skull fracture I wanted to look in the mirror to see what my face looked like, because I could feel all the scars on my face, but I wasn't allowed to.  And I said to him, 'Nobody'll marry me now!'  He said, 'I will'.  So I said, 'Right, you're on'.  So we got engaged there in the hospital, and that was a very silly thing to do, but that's how it happened.

*What was his name?*

Alan.

*And so what was your life like after you got married?  What was your work-life balance?*

Well, in those days women just didn't work after they were married.  In fact in many places, specially in Australia, but you weren't allowed to work after you were married.  Or if you did work you came back as a sort of a temporary person in a lesser position.  But in England I was working for Kodak and I was only one of four computer programmers they had and so I was quite valuable.  And they promoted me to the level where usually only men get to this level and they get there in their late thirties and it's usually men with at least one degree.  Now, here I was in my twenties, a woman – in my early twenties – a woman with no degree at all and yet I was promoted to that senior staff level and allowed to eat in the senior staff dining room and so on.  So work-life balance, my husband was very good, he helped with things at

home, we both enjoyed what we were doing at work.  He was a chemist at Kodak, I was in operations research.  Operations research in those days was very interesting because we got all sorts of problems that Kodak had and we were asked, could we solve them.  Often they weren't solvable with a computer, but they were things that were worrying Kodak.  I'll give you an example.  Kodak was losing a lot of 35mm cans of film that people have in their 35mm cameras, and they didn't know where it was going, so they sent me down to the darkrooms, because most of the stuff at Kodak was done in darkrooms, and sent me down to be the new girl to work in one of the darkrooms.  And the women very quickly tried to help me because they knew that I was saving up to get married, so they showed me how they stole these films and they stole them by putting them in their voluminous bloomers, their knickers, and they went out through the security gate with them in their knickers.  And they said, well, no security man- the security man would look at the handbags and the shopping bags, but he wouldn't think of looking in their knickers.  So that's how they were all getting their film out and selling it of course on the black market.  But that was something they gave to operations research to try and solve, you know.  It was really funny, because it was nothing to do with computers at all.   But we also used computers to computerise Kodak's process control and production control and we had the whole multi-stage process from making emulsion for film to packing it, to cutting and slitting and packing it and then marketing it.  We had that all computerised.  And that was something quite amazing in the early sixties.

[0:24:38]
*So what other computers did Kodak use at the time?*

We started with Pegasus, but what we were doing soon got too much for Pegasus and we moved on to Mercury.  We didn't own a computer in those days, but we moved on to Mercury which was the successor to Pegasus.  And even that wouldn't do some of the stuff we were doing.  We were doing a lot of linear programming and to get linear programs out, sometimes we'd hire time on another computer.  We hired time on a Mercury in Sweden, for instance, and our systems ran for three weeks non-stop, which again was unusual in those days because computers didn't work for three weeks, usually they broke down.  But we had checkpoints so that we could restart.  And it still, the system still didn't resolve and give us an answer.  And then we heard

that Britain was going to, Britain was way ahead of America in those days, well, way ahead of everybody else in terms of computing, and Britain decided that computing was going to be a new business that Britain would really be the top dog in the world for computing. And they decided, the government decided to build a computer that was the biggest in the world, it was called Atlas, and it was the first computer with an operating system. Previously we hadn't had operating systems. People ask, what did you do when you didn't have operating systems? Well, we had little routines that were printer routines or magnetic tape routines or something like that and we used to either borrow them from the library or borrow them from each other, swap programs to do those things. But Atlas was to have an operating system. Not only that, but several programmers were going to run at the same time, so it was multi-programming. And we just, we could hardly believe that, it was just so exciting. And there was a lot in the newspapers about it, this was Britain's enormous mechanical brain that was going to rule the world. But Ferranti couldn't get it to work, so they asked companies like Kodak that were interested in using it if they could send their best programmers up to help to get the operating system working. And I was sent up to Manchester where Ferranti had its head office to get the computer working. I did some work on what they called the 'drum learning program'. So we'd call it now swapping or multi-processing. And eventually it worked and then Kodak said we'd like to buy 10% of the London University Atlas when London University was going to buy theirs, so that Kodak could use a computer like that to do our work. We wrote to Rochester, Kodak's head office in the States, and said this is what we want to do, and Rochester said you can't do that because Kodak is now standardising on IBM computers. The IBM computer, the IBM 360 computer is going to be out very soon. So we asked if we could see the specs. And they sent us the specs and we thought this is such a primitive computer we couldn't believe when compared with the Ferranti computers we'd been using. So we asked them what on earth they thought they would do with this computer. And they said invoicing. And we couldn't believe that, we had a whole group of girls in Kodak who did invoicing for us, you didn't need a computer to do invoicing. We'd been working on scientific computing and mathematical computing.

[0:28:28]

*What was your relationship like with your colleagues at Kodak?*

With my?

*Colleagues.*

My colleagues?

*Yes.*

It was really good.  You know, people talk about being a woman in a male industry, but I was sort of the junior woman in most of the places I was in and the men were so helpful, they'd help me with anything.  I mean it was the days when women had very full skirts and lots of frilly petticoats underneath, and I would flounce around in my full petticoats and say, I don't understand this, please can you help.  And the men were very good, as was my boss at the Met Office, in helping me learn and get ahead.  So there was never any problems with me being a woman.  There was problems from outside, from outside in Kodak.  People said she must have slept with her boss to get to where she is.  But, you know, my boss and I both knew that wasn't true, so that was fine.  And anyhow, I was a married woman by that time and married women didn't do things like that.

*When did you join the British Computer Society?*

I joined in 1960 when it was first started.  It was the London Group only in those days and I went to all the meetings that I could go to.

*What were your early roles?*

I didn't have any, I was just a participant, I just went to learn.

*What, can you describe one of these meetings?*

Oh look, it was so exciting.  Everybody would come and talk about the jobs they were doing and it was very open, I mean there were no sort of secrets.  The only people who were secret were people who were working in things like weapons control or

something, for the government.  But people in the commercial life were very helpful and you'd say, well I'm stuck with my program in this way, and somebody would say, oh, I did that last week, I made it work this way.  And so, you know, they would share with you what they'd done.  So it was very collegiate and very open and usually I was the only woman there and so, you know, I used my feminine charms to wheedle the men to give me all sorts of things, it was really great.  Great fun, great fun!

[0:30:49]

*When did you leave Kodak and why?*

Well, Kodak was going to give me some… Kodak had a rule that you weren't allowed to work once you were pregnant.  First of all you weren't allowed to work when you got married, and I got over that one, because I was doing something important.  And then you weren't allowed to work if you were a woman and you were pregnant.  And then they said, well alright, well you can work – if you're well – you can work until you're six months' pregnant.  So six months came and I thought I was going to have to leave.  They said that I would have to be checked up by Kodak's doctor.  Kodak had a whole little hospital, because it was a dangerous place to work, I mean they had a lot of very complex machines with cutting knives and things like that.  A lot of the work was in the dark, so they had to have a full hospital and they had four resident doctors.  And I was examined by one of those doctors every week to see that I was still fit to go to work.  But when my due date came I decided that I really probably didn't really want to go to work because I might drop the baby on the way to work.  [laughs]  So I stayed at home and I did some work at home.  When I had the baby I was still working from home and for about a month or two, I worked from home.  But what upset me was, every time I went into Kodak to take my work, somebody there had changed what I wanted and they hadn't told me.  They'd told the other people on the team but they hadn't told me.  And they were very sorry about that and although it wasn't my fault, I had to do the work again and I felt really bad about that.  So just before I left Kodak somebody had cut out a little slip of an article in the local newspaper that said there was this woman, Steve Shirley, who was working, setting up a company working from home for women who had their babies and wanted to work from home.  So I thought well, I'll apply, I'll find out what she's doing.  So I applied, and I remember Steve had just got an office, she'd previously been working

out of her tiny little cottage in England, but she'd just got an office and there was no furniture in the office and I sat on the only chair for the interview and she sat on the windowsill in the room and I was fascinated because she had very bright red painted toenails and, you know, in England in those days women who were, good women didn't paint their toenails bright red.  I remember thinking that right the way through the interview.  I found out that there were only 11 people working for her in those days, but she'd just won the contract to analyse the black box for Concorde.  You know the black box that they analyse when a plane crashes.  Well, for Concorde, because it was a very new aeroplane, it was decided that the black box would be analysed after each flight and it wouldn't be allowed, wouldn't be given an airworthiness certificate for the next flight until that black box was proved to be right.  And there were 40,000 instruments on the flight deck and each was read sometimes about ten times a second.  I knew what some of them did.  I knew, for instance, aircraft elevation, I knew the fuel consumption, I knew the speed, but I didn't know what all the other things…  But it was like a big, a big statistical analysis with norms and averages and things like that.  And it had to be written in machine code, okay?  So there was one Concorde being built by France and one being built by England and there was a special purpose computer in each country built by STC, not like any other computer and didn't have any assemblers or high level languages or anything like that.  Both worked on machine code only.  We were told that – Steve was a very good salesperson, so she'd sold this system and she thought it would only take one person to build the system.  But if we finished the system by the time Concorde was due to fly, because they hadn't flown yet, we would get a bonus of $20,000… £20,000, and that was a tremendous amount of money in 1965.  So I started working on this system and it was much bigger than I could do by myself, so I got another person to work with me, and another person and another person, and the time was going by.  And Concorde, and they were pushing us to try and get the systems finished.  In the end we had 20 women working on that system, not just one, not just me.  And in fact, from some of the analysis we did, because the Concorde was running on the ground, it just wasn't flying, from some of the analysis they did, they actually changed the shape of the Concorde's wing from some of the analysis we did, and that delayed the Concorde again.  So we got it, we got the system working just in time for the first Concorde to fly, and we got our bonus and we had a big party.

[0:36:05]

*So, what meant to you to work for Steve's company, Freelance Programmers?  What meant for you?  What was working from home like those days?*

Well, it was wonderful because you were working with other women who had babies, who were managing the children, and some of them had more than one, I only had one at that time.  But they were managing their children, they were doing their work, they were vibrant women, they all enjoyed computing and programming and so on and it was very collegiate and the company was growing, and we were getting so much publicity.  There was already also all this stuff in the newspapers about Steve Shirley's company.  And there were things like, I remember we did a system for Littlewoods, Littlewoods the football pool people, and there was a big, big story in the local sort of rag newspaper saying on Mondays these wonderful women leave their washing and their babies' nappies to pick your results from their computers.  Well, course it wasn't anything like that at all.  But, and I remember when I was expecting my second baby, I was interviewed for a newspaper and they said 'Vastly pregnant, Mrs Leach…' – as I was then – 'sits at her home with her children, writing computer programs'.  It was just very interesting and there was always something.  And all those interesting things brought us more work, more and more work.  In fact the British government thought we were so interesting because we were using skills that were scarce, and in other words would be lost to business, because in those days if you were out of the computer industry for say, two years, it was very difficult to get back in because things had moved so quickly.  So we were given lots and lots and lots of work from the British government, but from big companies as well, and it was very exciting.  We really felt we were working in a new way and looking after our babies at the same time.  It was great.

*Can you give us examples of projects you did with Freelance Programmers?*

Well, the biggest one we had was when I was, I think it was when I was pregnant with my second baby and I didn't want that much work, so Steve was just asked to have somebody who was an intelligent woman – the guy specified woman – an intelligent woman to talk about applying computers to hospital buildings, and just to talk about it with him.  And he was Dr Buckland from the Economist Intelligence Unit.  Now what

had happened then, England had changed governments and the English were very cranky about the amount of money that was being spent on warfare, on munitions, on, you know, weapons of war when we didn't even have proper hospitals.  It was really bad, after the war England was in a very bad state.  So he said that if anybody could think of something good to do with money they should tell him – this was Prime Minister Wilson – should tell them the scheme they had to spend money on and if his little panel thought it was good, they'd give the money to those people to spend and they'd spend less on defence.  And in fact a guy who was head of the architects' branch of the Department of Health had conceptualised using computers to standardise on hospitals, to turn them out like a pre-fabricated, pre-fabricated building to build what he said were activity units.  So built on activity units.  So an activity unit could be to wash your hands, to clean your hands, and today that activity unit might be a tap and a washbasin and soap and so on and so on, but in the future it might be that you just held your hands up to some sort of vapour or something and it cleaned your hands.  So his idea was that you had activities units and from the activity units you could build up what a ward was like, with a bed and all the electronics and so on and so on, and then you could put wards together and make a unit, say the maternity unit or the delivery unit.  And you could do it just like putting Lego – we didn't have Lego in those days – but just like putting Lego blocks together, and you could just decide what you wanted in a hospital.  So one hospital could have certain blocks and another could have different blocks.  And he did all this in his head, he was actually quite brilliant, the architect, chief architect.  And so he'd asked the Intelligence, the Intelligence Unit to think about this, it was a sort of thought experiment, could this be done.  And I worked with Dr Buckland on that and it was a wonderful job because he lived in a big house near Hyde Park, which is near Buckingham Palace, and in the middle of the afternoon when we'd finished talking – and mostly it was just talking – he'd say, I think we should have afternoon tea now, Ann, and we'd walk through the park and go to the Ritz for our afternoon tea.  It was very elegant.  Anyhow, the day came when we had to start doing the design, the system design for this system and we did that.  FPL managed to get, I think about 20 systems analysts and designers and all the women we had working for FPL were sort of all over-qualified.  I mean they'd all been senior women in their own right in their own companies, so it was very easy to put a team together to do something.  Steve noticed that we were getting more money from this project, because we were charging a lot of money per head for the service,

and she decided to break FPL into two parts: a programming part and a design and consultancy part, which she called F2.  And I was one of the directors of F2 when it started.  And we got more projects, but the real main project was this project 727, which was applying computers to hospital buildings.  Now it was very exciting because Computer Aided Design was very, very new in those days and very experimental, but we were using Computer Aided Design to prototype these awards and so on.  Very, very exciting.  I'm talking now about 1968, very early days, and we were back using Atlas at Cambridge University for the computer that we were using, it was really fascinating.  It got to be a very big project.  It engaged all sorts of people.  Lots of architects of course, lots of designers on the building side, lots of the big building companies, the people who made windows, Crittalls who made windows, and the idea was, again, to make standard windows that would fit into all the hospitals, like Lego bricks.  And in the end we had 200 companies working on the system and each of those companies had 20 or 30 people working for them in the system.  And so what they really needed was a big PERT system to keep the whole thing in control, and they offered us to build the PERT system for them.  So that was really a huge project.  Yeah, that was one of them.  But all sorts of systems.  I mean we worked for Mars, the chocolate company, we worked for… what else did we do?

*What did you do for Mars?*

Pardon?

*What did you do for Mars?*

Oh, accounting systems or something like that.  We worked on the first computer system for the Stock Exchange, the London Stock Exchange.  Oh, it's too many to remember.

[0:44:26]
*What was your relationship like with Steve?*

Oh, it was great.  I mean Steve was a brilliant marketer and a brilliant conceptionalist, but I managed all the technical people.  By this time we had about 250 or so technical

people.  And I remember, I had my second baby, I had him at home and he was all round the wrong way and he was ten and three-quarter pounds, so he was very big, and I thought I'd done a really good thing to have this baby at home, and about an hour after I had him my husband rang Steve and told her that I'd had the baby.  Along came Steve with a great bunch of flowers and a bottle of champagne and said to me, 'Now will you be Manager Systems and Programming, now will you manage all the technical people in the company?'  And I said, 'Look at my baby first!'  And she looked and she said, 'Very nice, dear, but now will you do this?'  [laughs]  So it was really, it was a good relationship.

*And can you tell us about the 1966 Donald Davies talk about the National Physics Laboratory, do you remember that?*

Yes, I do, I remember that.  I was amazed when I heard what was going on.  It was a special Computer Society talk, but held at the National Physical Laboratory and Donald Davies was working on what we later came to call packet switching, but we didn't call it that then.  But the idea was to send packets of data across the world!  Across England or across the world, using computers, sending files of data.  On telephone lines.  I mean this was just amazing that somebody was thinking about this, and I thought if we could merge together computers and telephone lines, gosh, that would open up just such an interesting life.

*What was your impression of him?*

Oh, he was just, he was just another scientist telling us about his work.  And that was really what the Computer Society was so good at, it was good at knowing where the work was being done through the people that were in the industry, and picking out people who were doing interesting things and then asking them to speak at Computer Society meetings.

[0:46:40]
*In 1968 you became the Chairman of the British Computer Society's Codicil Working Group on Database Design, what are your memories of…*

Yes.  Databases were hot stuff in those days.  Before that, really all we had were sequential files, and most files were on magnetic tape, but along came disks and they were random access, so we could build bigger files.  And then they needed to be organised and the codicil extensions that were worked on by – oh, I can't remember the man's name now.  It'll come to me.  He designed a whole system of integrating files in a sort of hierarchical way and relating one file to another, which we called database management system.  And he worked on that as a codicil extension to COBOL.  COBOL was the language that most companies used, most commercial companies used in those days.  Sometimes we went back to machine code or Assembler or something like that, or Pascal or Fortran or ALGOL, but in the main businesses were using COBOL.  And so the codicil extensions managed the COBOL, the extensions for database management system.  I'd been working with the British Computing Society group on database and they decided that I would be the Chairman of the group.  Now, that opened all sorts of doors for me because I was often asked to go and talk to companies about what that meant, about what databases were.  And I managed to secure quite a big contract for FPL on that subject.  The British civil service were setting up a system to manage all the 500,000 British public servants, all the personnel information.  You know, not only their technical skills but which languages they spoke, where they were located, what the jobs were and so on and so on.  Quite a complex network of information.  And one of their people was working on the design of this and I was asked to help with that and we got, at FPL, got more and more people working on that project.  That was a very interesting project.  But it opened more doors.  I mean when you get to be the chairman of a group that's a popular technical innovation, you know, you can open all sorts of doors.  And also, being a woman, which was rare, you know, as the only woman in…  No, I tell a lie, there was another woman in the group, Marilyn Tribe from the Prudential Insurance.  So Marilyn and I were the only women in this group.

[0:49:32]
*In 1970 you became also adviser of the British Science Museum on the first computing gallery.  What was your contribution and what did you learn from that experience?*

Oh, that was fascinating.  The British Science Museum asked the British Computer Society if they could provide an expert to just help them through that process and they nominated me.  And it was just fascinating.  I mean, for instance, they had pieces of the Babbage machine there, and the Babbage machine, it was beautifully engineered, but it worked with a handle in those days, but it actually, I found out later, if it was to work – and remember, Babbage invented his machines in the mid-1800s – it was going to work, even though electricity was starting to be used, that Babbage machine was going to work by steam!  I couldn't believe it.  [coughs]  And I used to take my children with me and they played with the Babbage machine.  Nowadays of course it's locked away and behind glass shields and so on and so on.  But it was really, really interesting, but we decided that what we needed to do was to show people how computers worked, just the man in the street that was going to the Science Museum.  So one of our programmers wrote a system on the British Underground.  You're probably familiar with the British Underground map, which was quite complex.  And what she did, she wrote a system which said if I get on at Marble Arch and I want to go to Tower Bridge, these are the changes I need and these are the lines I need to go on.  So this was really new stuff in those days, so you as a visitor to the Science Museum could walk up to a teletype terminal – no VDUs in those days – a teletype terminal and type, I want to go from here to there, and it would tell you your route and it would tell you the approximate time that route would take.  And people thought that was absolute magic.

*What other machines were on display?*

Oh, we had a Pegasus.  That was lent to us by the Prudential, or I think it was given to us by the Prudential, they'd finished with it.  And what else?  We had a Pilot Ace.  I remember being very excited to get the, I got the Pilot Ace to add four and three and got seven, I was very excited by that.  What else did we have?  I think in those days that was about all we had in the way of computers.  We had a computer design group design us a sort of a tunnel that you could walk through and see all sorts of images on the walls projected, of Computer Aided Design, but I mean this was just running from a tape, it wasn't running from a computer.  Had been, but on display it was just running from a tape.  And we had things like punch card machines and, what else did

we have?  We had examples of valves and so on.  Of course no transistors at that time, but, yes.

[0:52:50]

*Okay.  So what happened, what led you to stop working with Steve Shirley and what did you learn from that experience?*

Well, my first husband left me.  He decided that he wanted to work for Kodak in America and we'd been to America a few times and I decided that I didn't like American ethics and I didn't want to bring up children in America.  So we split.  I mean he was my best friend from being 15 so, you know, we split amicably.  And we're still in touch with him and he's the children's father and the children see him quite often and he's been over here to see them and so on and so on.  So I decided that, Steve was very – how can I say – she was very hit and miss.  Sometimes she was good and sometimes she wasn't.  Now I, of course we all knew about Giles, her son, who was very autistic, **very** autistic.  We didn't know what autism was in those days, we just thought he was very peculiar.  And she had real trouble in this son that was beautifully handsome that she loved, and she had to put him in a home and so on.  You can read all that in Steve's book.  But we were all a bit worried about, you know, the company was run by Steve, Steve did all the marketing, she went out and got the jobs.  We only built the systems and did the job.  Although Steve used to say to me, I did 70% of the marketing, because about 70% of our projects were repeat business.  When we got near the end of a project I'd go and visit the client and say, you know, is what we did good?  Yes.  Before we break the team up is there anything else we could do?  And almost invariably they said the same thing, they said look, we love, the work was excellent, the price was excellent, the people were lovely, but we're just a bit worried working with FPL because we feel it's like slave labour, you mustn't be paying your people very much money because we get so much value for the amount of money you charge.  And I'd done some statistics on how we work and how we measure the people that we never see working and so on for estimating purposes.  And I thought, yes, we, thinking about measuring us up against another company, we're at least twice as productive and some people, one woman we had was six times as productive as average.  So I'd say to them, look, for your project alone, we'll show you all our statistics and you can see that people are being paid very, very well, better

than they would be paid in a real time job, and they're just very productive.  And so this would usually lead to us, lead to the client saying, can you make our people work like that, can you put your systems and procedures into our company and make…  But whenever we did, these were people working in the office and it just didn't work, it only seemed to work for us, working with people working from home.  So we were a bit worried that the company was really going to go bad.  And I had two young children to look after and I had a very big mortgage.  So I thought I'd better start looking around.  But one of the systems we built was for the Professional and Executive Register, it was like the labour exchange or job exchange for executive people in England, run by the government, and we built all the systems for that, so I knew how it worked.  So, when I went to the time when the Minister cut the ribbon, the day the Minister cut the ribbon on that project, somebody said, can anybody demonstrate this system?  Well, of course, all the other people in the room were men and none of them would say that they could touch a keyboard.  And so I said, oh, I can do that.  So I went in and I started filling out the forms that I knew about.  And I was being outrageous, I was putting, the salary I wanted was enormous and I wanted all school holidays off and I wanted a company that was 15 minutes' walk away from my home, and all sorts of things.  And when everybody was going the man who managed the system said to me, 'You were having fun, weren't you?'  So I said, 'Yes'. He said, 'Well, look, we've got 3,000 jobs in the system but you're the first person to put information in seeking a job, would you like me to leave your details in the system?'  So I said yes.  And then after a week I got a letter saying – and I knew this because we'd done all the coding – got a letter saying your information's been accepted.  And then I got a letter saying there's a company interested in you.  And I thought, I would know if there was a company that could pay me this sort of salary that lived within 15 minutes' walk from my home, and I thought, oh, that's interesting.  Would you like us to give the client your name and your CV?  I said yes. And then I got back, the client wants to see you, wants to interview you, would you… I said, well, who is it? When they told me, it was my friend Iann Barron.  Did you interview Iann Barron?  He's certainly up on the Archives.  He'd invented a thing that we would now call a mini computer, which was sort of unheard of.  Not only that, it didn't need a lot of environmental stuff, it didn't need air conditioning and stuff like that.   It was about the size of a desk.  Computer the size of a desk?  We couldn't believe that.  And it did wonderful things.  And I'd heard Ian speak and I mean he was

a friend, he only lived 15 minutes away from me, and I thought, oh, I didn't think he was looking for somebody with that salary. So I went for an interview and I wasn't, I thought I'd be interviewed by Ian and we'd have a laugh, but I wasn't interviewed by Ian, I was interviewed by their Chairman. And he said well, we want to hire people like you because we feel that the- I said, I don't want to work for this company, I hear it's a mad magician's workshop, you're inventing things but you're not selling much, and so on. He said, no, well we want to employ people like you who understand the way commerce works in England and can go out and help us sell these systems. Not sell, I didn't want to market or anything, but help on the technical side. And I said, well, the salary's very high. Oh yes, we can afford that. I said, well, what about the school holidays, you know, a month in the summer. He said, oh no, we can do that, we can do that. So I accepted the job. But when I got there, Ian was brilliant, always brilliant, but it was really like a mad magician's workshop, everybody was working on different systems, they weren't coming together and also they'd sold a lot of systems which had Ian's computer that was called the Modular 1, at the centre, but they'd sold disk drives and printers and all sorts of peripherals that wouldn't fit on this computer and they hadn't built them properly, so they couldn't deliver. So it was really quite a mess, a mess. But Ian used to get the senior staff together and tell us what the future was going to be. And I remember one day he said, one day, one day, you think the Modular 1 is small – it was desk size, as I say – you think it's small, but he said, one day there'll be smaller computers than that and they'll be in lifts and cars and houses and in your cooker and things like that. We couldn't believe that. They'll be so tiny- and we just didn't believe that. In 1988 we had a big conference in Australia for our bicentennial year and Ian was one of the speakers I'd invited over to talk about those times and I had to tell him he was wrong. Oh, he said, I know what, he said, he said computers will be the size of house bricks. But when he came over I had to tell him he was wrong because they were now smaller than house bricks in 1988.

[1:01:12]
*In October 1973 you also met Captain Grace Hopper.*

Oh yes, Grace Hopper…

*So your first and later encounters with her?*

Grace Hopper was obviously very senior in the American Navy, but she'd invented COBOL and so she was a sort of, she was one of those women like Jean Sammet that sort of you held in high esteem, one of the people who'd really changed the world. One of the women who'd really changed the world. But by this time Univac also gave her the job of being their ambassador. I don't know whether they paid her or not, but she went round the world talking about computing and computer technology. And she often came to England. I'd been voted on the British Computer Society Council, the only woman on Council, the first woman on Council and so on. And so I was given her to look after because they thought good for a woman to look after a woman. So I'd go out to the airport and pick her up and take her to her favourite hotel, which was just behind Harrods. And she would always want white bread sandwiches – cucumber sandwiches – with the crusts cut off and weak tea. And she'd say to me, I've been travelling so I must go and change my uniform. She carried two uniforms with her, one to wear and one to be given to the hotel staff to put to the cleaners the next day. And that's all she wore, she never wore anything but her American Navy uniforms. And when she gave a talk she always said, you know, I'm very proud to have contributed to the computer industry, but not nearly as proud as I am to wear this uniform, this American Navy uniform that I'm wearing today in front of you. She was very, very ladylike. But of course, she knew all sorts of things and I was fascinated to hear on the way driving her back into London from the airport, to hear what she'd learnt, what the latest things were in America and so on. So exciting. One day she'd been talking to the Advance Programming Group. Now, the Advance Programming Group had a lot of the people that you've got in the Archives now, but it was just really a group of old lags like me, people who've been in the industry from the beginning, and we'd talk about things and then we'd go out and have a boozy dinner in a pub, that's what we did. And it was a good network. But this particular day Grace Hopper had been there and we took her out to dinner in this pub in the middle of London, bit of an old-fashioned, bit dirty, pub, but a pub. And she said to us, would you like to see the latest computer? And we all said yes, and she had a huge Navy issue handbag that was really huge, and she burrowed into the Navy handbag and brought out a box that was about the size of a cigarette packet. And we said, that's a computer? She said, no, that's just the box. So she opened the box and

she brought out something about the size of a matchbox.  She said this is the computer.  And we looked at it in amazement and said, so where are the peripherals, how do you link to it?  And she said, well if someone can go and find me a teletype and a printer, she said, I'll show you.  So somebody was sent off to find that and she linked it all together.  And we said, but how do you plug it in, what do you do?  And she pulled out of the sides of this thing, which we now know is a chip, we didn't know then, she pulled out a fine wire like about, like a hair out and then more rummaging in her handbag, and brought out a huge transformer, plugged the little wire into the transformer and plugged that into the normal electricity supply, and then showed us that it had the whole of the COBOL compiler on it and wrote a COBOL program in front of us and printed it out.  So that was just, that blew us away.

*What else did you learn from her?*

Ah, goodness me.  She was always telling me about the codicil system, she was very proud of that.  The fact that COBOL had now been extended and extended and could handle databases.  I don't know, I just sort of listened and gathered in the information she was happy to give me.

[1:05:50]
*So what happened in 1974, you changed your company again?*

Yes.  As I said, computer technology was just like a mad, it really was like a mad magician's workshop and I was fed up of going and apologising to the government that the money they'd given us to do a remarkable invention we'd spent on something quite different and it wasn't working yet.  And so I applied for another job at Scicon. Scicon was a subsidiary, the computer subsidiary of British Petroleum.  And they were mainly operations research oriented, and of course that was my base and I understood that, and I got the job there.  But they were so masculine, I was now out into the big wide world and worked only with men.  And they were so… I can't describe it.  I mean the most important thing to do in the day was to go and have a good lunch with your client.  They didn't work very hard but they charged lots of money.  The project manager we had- I was put on a project to rationalise the computer systems to run British Steel.  In those days British Steel was about 200

small steelworks all round the country and they wanted it rationalised to five steelworks all doing specialised things and they wanted a computer system to manage that system.  And I was asked to do a study of the programming languages we should use and the database management systems we should use, and one or two other things for a system like that.  But the manager we had for that system, he was just an idiot, he was just a doddery old man.  And I once said to my manager, I could manage that project, I've managed bigger projects than that, you know, why can't I manage it?  He said, have you ever met the man who manages the British Steel side?  And I said, no, because this guy used to keep that link to himself.  He said, he is also a doddery old man and he said, that's why we have our doddery old man to talk to their doddery old man and that's how we get the business.  Anyhow, one day along came two people from Australia and they said that they'd been asked to hire somebody for the company they were working for in Australia who understood database, because they had a big system they were developing for the biggest company in Australia by far in terms of assets and they'd asked universities, London University and so on, the Computer Society, for somebody who knew something about database, and my name had been on every list, so they wanted to interview me.  So they did and we chatted.  And I remember it was a Friday night and it was fairly late, it was 9 o'clock at night before I got out.  The next morning there was a letter – we had Saturday post in those days – there was a letter, so they must have posted it at the main post office in central London before midnight for it to get to me for the next morning post, and there was a job offer.  So I thought oh, very nice.  They were quite interesting people, I put it to one side.  On the Monday a secretary rang and said had I got their letter, and I said, oh yes.  She said, well, we haven't got your reply.  I said well, no, I said, I told them my situation, I said, I've got all my friends and my relatives and I've got, I'm a single mum with two kids, you know, I've got all my work support here in England, I don't want to go to Australia.  And anyhow, I'd read about people who went to Australia and a lot of them were what we called '£10 Poms', you know, they went there, they emigrated for £10.  And they were all failures, there were people who'd failed in England and they'd gone to Australia and they were probably going to fail there.  But I didn't know anybody really who'd gone to Australia and made a go of it.  And anyhow, I'd heard Australia was fairly wild and outback and all sort of country hicks and so on.  So she said, well, we haven't had your reply.  I said, no, no, I don't want to go to Australia and that's it.  She said, well let me talk to Adrian – was one of the

men who interviewed me – and see what we can do.  So he rang me and he said, look, he said, I think we've offered you too little money.  I said, well I don't really care because I don't know what that money would buy in Australia, don't know how much houses cost and so on.  So really what I want to do is just say no and that's it.  He said, we have to fly back to Australia tonight so could we give you lunch at the Ritz. Well, that was nice, so I said yes, I'd go.  And I talked to them over lunch and they tried to convince me Australia was a wonderful place to bring up children.  And they said they'd give me more money.  And I said, well, it's not the money, you know, I don't want to go to Australia.  So the next day I got a letter offering me twice as much as they'd offered in the first place, and I thought, these people are serious.  Now, I'd travelled in America quite a bit and I'd travelled in Europe a bit, but I'd never gone through Egypt and seen the pyramids, I'd never gone through India, I'd never gone to the East, Thailand, the islands in the Pacific, I'd just read a lovely book about the Pacific Islands.  So I thought, well, actually, I'll find out how much the salary's worth, but I could go out there, I could take three months' holiday and see all these wonderful things and get to Australia and if it didn't work out I could come back. And I started putting out feelers for people in England that I could work with and said look, I'm going to, probably going to go to Australia for two months for a short contract, would there be a job when I came back.  And they all said, without hesitation, yes, there'd be a job.  So I took the letter, the offer letter, to the only place I knew might know anything about Australia, and it was the Bank of New South Wales in the Strand.  And I said to the clerk behind the desk, look, I've had an offer letter for a job in Australia, I just want to talk about what the salary would do, how much are houses and things like that.  And he looked at me, looked at the letter, and he said, just a minute.  And a manager came out of an office and ushered me in for a cup of tea in the office, he said, this is you?  I said, yes.  He said, what are you, a brain surgeon or something?  I said no, I work in computers.  He said, this salary is the sort of salary that we'd pay one of our top managers in one of our largest branches.  He said, women don't earn this money, not in Australia.  So I thought, well I'll go and see.  So I did.

[1:12:57]

*What is the name of the company?*

It was CSA, Computer Sciences of Australia.

*So what happened?  You travelled?*

I travelled for three months, we saw all the wonderful sights, it was fabulous, the children loved it.  I got to Australia and the company had kept on writing to me and telephoning me and saying you've got to come, it's urgent, you've got to come.  But when I got there, to Australia at the end of November, there were Christmas trees and Christmas decorations all over the place and it was hot and sunny and it was summer and I couldn't understand.  Of course it was summer and you do have summer in Australia and you do do Christmas trees and Christmas lights in December, but it's the middle of summer.  Anyhow, there were nothing but parties to go to, parties for the children to go to, presents for the children and so on and so on.   I'd looked up a friend of mine's parents who lived in Sydney and they were lovely, they hadn't got any grandchildren and they sort of took us to their bosom and looked after us.  And then the company took me to Canberra and showed me round some of the top officials in Canberra that they had had a database expert and they could sell me to them for a project for lots of money and so on.  But in the meantime I had to find out why this big project for the biggest company in Australia wasn't working.  The guy who was the database manager of the company, the database designer, was Dr Neville Black and he was excellent, he was a fantastic intelligent man and I looked at what he was doing with his team and I couldn't fault anything he was doing.  Everything he was doing was exactly what I would have done, it was fantastic.  So at the end of a month they wanted a report from me, so I wrote that.  And I was hauled up in front of the managing director and told they were sorry they'd hired me and they knew they'd made a mistake when they'd hired this stupid woman, because they knew that things were wrong and they knew it was in the database area, and they thought I was an expert, but I obviously wasn't.  So I had a two-year contract and a very high salary, so they put me in a room by myself, very big office, and didn't talk to me.  And I thought look, there's something going on, there's something wrong with this system but it's not in the database field.  So I did what I'd done for a lot of the British government contracts, I sort of started investigating what was wrong and why it wasn't working.  And that was quite interesting, certainly wasn't database.

*What was it?*

Well, I found in the end that a young man who'd come from Hungary, he'd walked over the mountains in 1956 with his grandmother to get out of Hungary, and come over to England as a sort of war refugee, he had been taken on by his school and in fact, what happened next?  He worked for the British telephone company.  I can't remember what it was called, I think it was called British Telecom in those days.  Anyhow, he decided to, they sent him to Stanford University to get a PhD and when he came to Australia, he worked for Telstra, or Telecom as we called them in those days for a bit, and they paid for his ongoing education.  And I was telling you earlier on about Donald Davies and the packet switching system.  Now, it was in its infancy, the British were trying to use something they called videotext, with computers, but it was very, very early days.  IBM had something they called Prestel, I think.  I can't remember the name, but something beginning with 'P'.  It was a sort of a, it was a very crude version of pictures going across telephone wires.  You could ask the computer what sort of dog you should have and used to answer a lot of questions like, you know, how big was the dog, how much were you going to pay, were you at work all day, did you leave the dog by itself.  And the computer would tell you if you should have a dog like this.  They were very, very primitive systems but they were on personal computers across a network using packet switching.  Australia had started to build a packet switching system, but really computers weren't able to build systems in those days, they were still very primitive, they were large, they were expensive, but they were primitive.  So this guy, who'd walked out of Hungary as a little boy, he decided that he owed something to Australia and he decided he'd find a company that was rich enough to build this system when Telecom decided they couldn't afford to build it.  So he was just building it with a whole team on AMP's money.  But the problem was that you have to interface very closely with the operating system and peripherals and so on if you're building a system like that.  And AMP had a Univac computer and kept on putting out new releases, and every time they put a new release of an operating system out he had to retrofit his system that he was building to that.  And so – and often made mistakes, often messed up the operating system – and so the applications that were being built for AMP I found out that this computer company I'd been hired by was a subsidiary of AMP, and it just didn't work.  So nothing worked, it was just stuck, nothing worked.  But the real problem was, that computers

just weren't capable of building a packet system yet.  So I thought well, I mean I'd sort of got, I'd made friends in Australia, the children loved it.  I mean we ate well, we ate fruit, we could go bushwalking, we were near the sea, there was all sorts of exciting things, I'd bought a house.  But it wasn't working, technically it wasn't working.  I was the only woman, I was really, not by the technical people that I worked with, they enjoyed my company and we sort of worked well together, but people outside, people around, you know, I was just really, obviously an idiot woman that had come to Australia and failed.  So I thought I'm going to go back to England, and I contacted several people in England and said look, I'm coming back early, will there be a job for me, and there was.  And then I thought, well, actually what I need to do is to tell the head of AMP that his system will never work, that the way it's being built, it'll never, never work.  So I tried to see the General Manager.  Now in England I'd been on television and the radio and so on and so on, and if I rang a general manager of a company, it would be yes, come out, I'll take you to lunch.  But who was I in Australia, I mean I was this stupid woman that they'd hired at a great salary who didn't know what, didn't understand technology.  So I couldn't get to see the General Manager.  So I started trying to see the Deputy General Manager, and I got to see him.  And he was writing something on his huge desk and I was introduced by the secretary, and he didn't say sit down or hello or anything like that, he just went on writing.  And I thought well, you're very rude.  And I found a big chair against a wall of his big office and I heaved it over to his desk and sat with my knees touching his desk and thought, I'm not going to speak to you until you speak to me.  Tea lady came in, asked him what he'd like for tea.  He had coffee and he had biscuits and so on, and he just grunted at her and he didn't take any notice of me.  And then eventually he sat back and he stirred his coffee and he looked at me over his spectacles and he said, yes?  I said, 'Good morning, Mr Wheatley'.  And he said, 'I understand we've hired you at great cost and you're supposed to be a computer expert and you're obviously not because you can't help us with our great big system'.  So he said, 'So, you know, that's very disappointing for us because we've got a very large contract with you'.  And I said, 'Well, that's alright' I said, 'I'm going back to England'.  I said, 'I know why everything's wrong' I said, 'because you're on the wrong side of the earth and the blood runs to your head, you're upside down'.  And he looked at me in absolute amazement that I'd said that to him.  I said, 'But', I said, 'I've just got a question to ask you.  How come the board agreements for this project are six million dollars' -

which in those days was a lot of money – 'and the system so far to date's cost 12 million dollars and it'll never work.  I can tell you, I can tell you right now it'll never work'.  And I got out and I slammed the door.  I thought, oh that's done it, I'll have to go back to England now.  Anyhow, about a week later his secretary rang me and said would I like to take morning tea with him.  So I thought, well I'll see how this game plays out.  So I went to take morning tea.  This time it was, 'Oh, come in, come in, Mrs Leach' – as I was then – 'Come in, come in'.  And he got the big chair for me to sit on and he had his little bell and he said, 'I've organised with the kitchen that we'll have coffee and scones and cream, because I understand British people like that'.  So in came the coffee.  I thought, I'm not speaking, I'm not talking about anything but the weather, unless we start the serious conversation.  So we talked about the weather and the coffee was cleared away.  And he said, 'You asked me a question.  You asked me why we've spent the board authorities on this project'.  I said, 'I'm right'.  He said, 'I know you're right' he said, 'I've checked'.  But he said, 'What I've got to ask you is how come my managers don't know this?'  He said, 'I've had them all in and none of them know that'.  I said, 'They do know, they're all too scared to tell you'.  He said, 'But you said another thing.  You said that the project would never work.  They tell me it's 90% complete'.  I said, 'Oh yes, the old 90% complete, I've heard that so many times.  It's not, it'll never work'.  He said, 'But look, we're the richest company in Australia by far, got lots of money, we can get people from all over the world, we can get experts like you'.  And he said, 'I've checked up on you in England you are indeed an expert and you're held in high regard'.  But he said, 'We can get them'.  He said, 'All I want you to do is give me an estimate I can give to the board and tell me what we need to make this system work'.  So I said, 'Well, I'll need access to a lot more stuff to tell you how to make the system work'.  And he said, 'You shall have an office next to mine and you have all the access to everything you need and if ever you get blocked by somebody just tell me and I'll unblock'.  So I worked hard on the estimate and it came out to about 60 million dollars and I gave it to him.  And he said, 'I can't give this to the board'.  He said, 'You know, the board doesn't even know we've doubled their spend, you know, I can't… Look, I know you've got children but will you go home and critically analyse your estimate and give me another one on Monday'.  And of course, as you do, the more you look, the more you find, and I made 64 million dollars and I went and told him.  And he said, 'I don't know, Ann, I just…'  By this time we were really great friends because I found

he made his own homemade jam, and so did I, so we were swapping recipes for homemade jam.  He said, 'I don't know, Ann' he said, 'I don't know how to present this to the board in a way that they'll accept it'.  I said, 'Well, I'm telling you, it will never ever work, whatever you do, you might get people from all over the world, but it'll never work'.  So it was presented to the board, it was to my sadness that they didn't stop building this system and when they finished building it, they didn't build it, they canned it.  When then cancelled the system it had cost 96 million dollars.

*So…*

[1:25:55]
But they offered me a job working directly for them, for their company, because it was hard working for a company that was a subsidiary and yet having a lot of negative things to say about the subsidiary but still being paid by the subsidiary, that was hard.  So he offered me more money, a two per cent house mortgage in the days when house mortgages weren't two per cent, they were a lot more than that, and I was the only woman executive in that company for eight of the years that I worked there.

*And that was the Australian Mutual Providence Society?*

Yes, a big, well, a big financial services company.

*And what did you do for them then?*

Oh, I did everything.  Everything you could think of.  I like managing projects, so I managed a lot of the applications projects.  I looked for a new computer centre because their computer centre was in this subsidiary, in the main window where the buses ran past so that everybody could see what a wonderful computer system AMP had.  Well, you know, if a bus had gone into the window, which it could do, you know, they would have lost all their computing, so they needed a computer centre.  And this time people, certainly in London, were bombing computer centres and so on, so it needed to be in some safe place.  So I set up a new computer centre for them.  And then one day, my boss, who I was reporting then the Deputy General Manager, came in and said, our General Manager, AMP's General Manager plays tennis with

IBM Australia's General Manager every Saturday morning and they've agreed that we'll move back to IBM - they had IBM in the early days and Univac computers when I first joined them - and I want you to make the case.  He said it's decided, but somebody's got to make the case to the board and get board approval.  So I made the case to move to IBM and I remember when the presentation, my boss made the presentation, but I was asked to sit in in case somebody asked awkward questions. And when he'd finished and it was all agreed, the Chairman of the board said to me, 'Ann, is there anything you want to add?' And I said, 'Yes, thank you'.  I said, 'Just because you've got different initials on the side of your box doesn't mean to say that you can't make a mess like you did before, but I think IBM is such a strong company it wouldn't let you make that mess'.  And when I got outside my boss said to me, 'When the General Manager says, when the Chairman says, is there anything else you want to say, you say, no sir, thank you sir, you don't make a comment'.  [laughs]  See, women do things differently.

[1:28:54]
*And in 1987 you moved to the Australian Stock Exchange.*

Yes.  I got, I was a very senior woman in AMP.  By that time there was one other executive woman.  She was the Deputy Chief Legal Officer and she and I were great friends, we still are great friends today.  So we really bonded and were great friends. But I kept on being given jobs that nobody wanted, that were hard jobs like we keep on being wrong on the size of the computer we need for next year, resize it, do it so that we'll buy enough equipment, we won't be wrong.  And it was in the days when VDUs were being used and colour VDUs and PCs were starting to come on office desks and things like that.  And computing was really, the size of the computer was just expanding and expanding and expanding.  AMP didn't mind that because they had so much money, but even so, it was much better to be right than to have to go to a client and say, no, we can't build your system, we haven't got capacity on our computer.  So that was one of the jobs I got.  I was also made the futurist.  I was to look at the future.  We had a strategist who was to look at computing to five years out, but I was to look at computing from five years to 25 years out, so that I could stop AMP from doing something now that would preclude them from getting involved in the future.  That was a wonderful job because I just spent my life going round the

world talking to people at universities, talking to hardware suppliers, finding out the latest in computing, which was just fantastic. And of course, because I loved travelling, I'd tack a piece on the end of all those visits and visit whatever I wanted to visit. And also it was all first class travel, so I'd usually take one of my children with me and change my first class seat for two business class seats or something and take the children with me, so it was really, it was an excellent job. So then I got a job… sorry?

[1;31:08]
*What did you discover, what did you discover in your research?*

Oh, at IBM… did I discover it then?

*What did you discover, like what was your feeling about the future of computers?*

That it was going to…

*We're talking about the late eighties, right?*

Yeah. It was going to go on getting bigger and… the computers were getting smaller, but the capability and the cost was just like nothing else in history. You know, things get bigger but they get more expensive. Now, in computing it's been the other way round. Things have got much more powerful but the cost has gone down and down and down and down. And there's lots of jokes about that, but that was amazing. And it was going into all sorts of areas, you know, it was going into artificial intelligence and so on and so on, very interesting world. Stock Exchanges were run by computers, and so on and so on, so it was an interesting life. Then the boss came to me and he said, 'Look, you've done the strategic plan for next year', he said, 'not only do we need much more computing power, but we need more people, we need another 200 programmers by January 1st or we won't meet our budgets'. Now, finding 200 programmers in those days, skilled programmers, you know, when they were scarce, was really quite hard to do. And this was in November and I had to get them on board by January. So I started talking to the headhunters and looking at people. I found it interesting because I'd asked the project managers what sort of people they wanted.

Now, I had the plan so I knew a bit about the sort of skills they were looking for, but I got, without exception I got from them, no women, no Chinese and nobody over 40. And I said, hey!  Hey, hey, hey, we're an equal opportunity company here.  I said, you can't say that, and anyhow, that's not what I meant, I meant what skills do you want, not what, you know, whether you don't want women or you don't want this or you don't want that.  So I said, so I'm getting all the CVs in, I'll vet the CVs and then I'll anonymise them so that you don't know the age of the person, you don't know their name, and if you want to interview a person to see that they fit into your team, that's fine, but you've got to have a very good reason why you will not take them, and it's not to be because they're a woman or they're over 40 or they're Chinese.  And one of the headhunters said to me, 'Have you ever thought of leaving AMP?'  So I said, 'Oh look', I said, 'I've been here now ten years or so and, you know, they're really, really good to me and, you know, yeah, I'm not necessarily doing the things I want to do. And I see the men moving past me.  I'm not, I'm paid well, but I see the men moving past me doing things that I'd like to do and yet I'm always given the job for the woman, as it were'.  And my, I discussed this with my boss and he said, 'Okay, after Christmas, after you've got these 200 people we're going to make a special job just for you and it's going to be more salary and you're going to be reporting to me and it's going to be just what you want'.  And I asked him what it was, and it was to be his administrative assistant.  I said, 'I don't want to be anybody's administrative assistant'.  He said, 'Well, you're so good at everything.  You know, you're good at writing speeches for me, getting estimates for me, checking out what people are doing for me and so on'.  And I said, 'No, I want to do the work, I want to be involved in the coding and the computing, I don't want to sit and be your administrative assistant'. Anyhow, one of the headhunters said look, I could give you two jobs, twice the salary, right this minute, what do you think?  And I said, 'Well, you can try'.  So he offered two.  One was a company that I wouldn't want to work for and another one was the Stock Exchange.  In those days, the Stock Exchanges in Australia were a different Stock Exchange with different rules in each state and in fact because of time differences and so on, people could buy in one state and then use the rules to sell in another state and sort of, I guess, game the system.  And this really wasn't very good for the image.  Also AMP wanted to be – sorry – the Stock Exchange wanted to be **the** Stock Exchange for the Asian-Pacific region and they had really good ideas about how they could be that.  So by Act of Parliament they'd formed one Stock Exchange,

instead of all these separate Stock Exchanges, one Stock Exchange.  And my job was to bring all the diverse technical equipment together into one Stock Exchange for one Stock Exchange, get it working and also do a strategic plan to take the Stock Exchange to the year 2000.  And that sounded a good job to me, I liked that, so I took it.

[1:36:20]
*In 1989 you also were the initiator and organiser for all the females in information technology and telecommunication at ITT.*

Yeah.  I'd realised there weren't many women in computing and they certainly weren't in senior positions.  You could sort of count the women who were in senior positions on the fingers of one hand – this is in Australia.  And women had come to me, I'd been Chairman of the New South Wales branch of the Computer Society, which was the biggest branch, and I'd had a fair amount of publicity through AMP and through the Stock Exchange.  And women were coming to me and saying, I hate it where I work.  And their main beef was, they were watching the men get jobs that they wanted and they didn't feel valued, and also they had a work-life balance thing and a lot of them had put off having their babies and now they were too old, or they didn't want to leave work and have children and so on.  A myriad of problems that women seem to have today too.  But they all came to me and they all had the same problem.  And I thought, look, I can't solve their problems, they've got to solve them themselves, but if only they'd talk to each other they'd find that they all had similar problems, but they'd solved them in different ways and they could share that information with each other.  So I started FIT and I had three philosophies.  One was that it wasn't to have a membership fee, it wasn't to have a joining fee, because I found that the women who needed things most were women who had not so much money, they were single mums or something like that, they were struggling, didn't have money to spend on themselves.  And also, it wasn't to be a hierarchy like the men have hierarchies with somebody at the top, it was to be a network, everybody was to be equal, everybody was to be sharing.  If we had an event like a breakfast or a dinner or something, we would all share the cost of that, but we didn't have presents and things like that.  And I'm really pleased to say that even now, many years later, 30 years later, because I spoke at their thirtieth anniversary lunch, they still have that

philosophy and they're now 4,000 women strong.  More than 4,000 women strong.
They've got a lot of sponsors, a lot of the computer companies give them money to
exist, so a lot of the events they can put on now are free, and it's a wonderful network
for women.

[1:39:13]
*So what else did you do after the…*

Well, the Stock Exchange, after the '87 crash- yes, the '87, October '87 crash, I'm a
stickler for testing, because, because women are, women don't want to be caught out
doing the wrong thing, so they test and test and test and test until they're blue in the
face, until they're sure that there's nothing wrong,.  And we had an automated trading
system to go live and it wasn't being built by my people, it was being built by a group
of consultants, and it was late, it was a year late when I joined the Stock Exchange.
And because I wanted to test, test, test, test, test it was even later, and I was that silly
woman that they'd hired who does nothing but test, why can't she make the
automated trading system work.  So we got a day when the automated trading system
was to go live and we didn't know, but the day before that was the day they'd had
very, very bad storms in England, big oak trees that had been going for 300 years had
fallen down in parks and things like that.  And so the next day the British Stock
Exchange didn't open, but our Stock Exchange was the, well, New Zealand was the
first to open after the new day, then ours was the second.  And we'd just put this new
system in and we hadn't actually used it to trade, we just delivered it, even though I'd
tested and tested and tested.  And when the New Zealand Stock Exchange opened, the
market fell by half.  And people were running books, you know, betting on each other
about how much the Australian Stock Exchange would fall, and it fell by half on
opening.  And going round the world, the trading was just massive, we had more
trading that day than we had ever, ever had, more trading than we thought the
computer would have to cope with.  We had a new computer, a new computer system
and so on.  But of course I'd tested.  And one by one, I think it was Singapore, I think
perhaps it was Tokyo that opened next, they opened, their exchange dropped and the
computer couldn't cope with the load and it fell over.  Singapore was the same and as
we went round the world we were getting news that all the Stock Exchanges were
failing, but ours was still working!  So I was now an absolute hero because I'd got the

only computer system, the only Stock Exchange in the world still working.  So then going from being that woman who doesn't know what she's doing, I was a hero.  But, what happened was, after that crash, the volume and value of the market dropped by half.  It did all round the world.  And so they couldn't afford to go on with the new system that I'd done the strategic review for, so I got made redundant, and that hurt me a lot.  And I was 48, and I thought, where can I get, I'd got this enormous job with this enormous salary, I'd been going, travelling round the world again for the Stock Exchange and I thought where will I get a job like this?  You know, I won't get a job like this, specially when I'm 48, I'm a woman.  So I went up to my daughter who was working on a cotton farm, cooking for the single men, and I washed floors and I peeled potatoes, and I tell her I'd been made redundant.  They gave me a good handshake, you know, good amount of pay out, but I just told her that I'd burnt out, I'd been working very hard, I'd burnt out and they'd just given me a month's leave.  But when I got back to Sydney it had all been in the newspapers that I'd been made redundant and, you know, the Stock Exchange wasn't going to go on with this re-equipment phase that I'd worked so hard to get them to do.  And there were 12 offer letters, all saying, look, we know how much you're earning, we've checked, or name your own price, or do whatever you like, but, you know, come and work for us.  So it wasn't hard at all to get another job.

[1:43:42]

*And, what happened?*

I picked the wrong one, didn't I?  I picked one because I liked the Managing Director and he promised me great things.  It was a software house, and that's what I really wanted to work for.  But he put a manager in between him and me who, again, didn't like women.  And so there was another woman working for the company and gradually we weren't allowed into management meetings and we were dropped down the hierarchy and so on, so it was the same old story.  I have to tell you though, when I set up FIT, I often, if I read in the newspaper that a woman had got another job, I'd say would you come and talk to one of our breakfast meetings and tell us the road you took, how you got to where you got to.  And then I'd say, over a cup of coffee I'd say, so, can you tell me what your organisation chart looks like, who do you report to, and so on and so on.   Without fail, the woman had all the people reporting to her were

men, and I'd say, ah, that's interesting, isn't there a woman who can report to you that's coming up?  And they'd all say, without exception, they'd say, oh no, now I've got to the top I'm not having anything but male reports, it makes me look much more powerful if I have all male reports.  And I thought that was disgusting, and I understand that still goes on to a certain extent.

*So why do you think it was that?  I mean, if you think of the experience with Steve Shirley.*

They say it's called the Queen Bee Effect, that once you get to be queen bee you don't want to let anybody else take your place.  I hope it's not so prevalent now, but I understand it is.  Anyhow, I was at this company that I was unhappy with, I liked the work I was doing, I did a strategic plan for our biggest railway company for Australia, that was interesting, but it still wasn't what I wanted to do and I wasn't being treated properly.  Paid well, paid well, but not treated properly.  So, a friend of mine was running a system at New South Wales University where IBM had outsourced all their customer and internal training to the universities and he said to me, look – he was a professor at the time – he said, I know it's great, it's bringing in lots of money for the university.  And it was good because the academics weren't paid very well compared with market prices and that company that he'd established could afford to pay the academics by a year as much per day as they were getting out in the main industry.  And also, the university would give them days off to do this, and also they were talking to real customers, it wasn't an academic thing, they were getting to know what real customers did.  And so it was a really good system, both for the university- and it made a profit for the university.  So it was a good thing for the university, it was a good thing for the academics, it was a good thing for IBM.  The whole thing really worked very well.  So he said I want to get back to some of my research, but I want to give my baby, as he called it, to somebody who'll look after it and make it wonderful.  And he said you're the only person I'd like to give it to.  So he asked me to go, university said yes, so I joined the University of New South Wales.  Of course there was a lot- I thought, see, I hadn't got even a first degree.  I mean I'd been so busy doing other things I hadn't got a first degree.  So I thought, ah, this is my chance to get a first degree.  So I went to the computing school and I said, could I please join up as a student, and they said no, you often come and lecture to our students, you know

more than our lecturers, no, no, you can't.  But, one of the universities, Macquarie University, was taking people with experience in at Masters level, so you can go in at Masters level if they'll have you.  So I applied and I got in.  And of course what I really wanted to do was to get a PhD, so I quickly commuted my Masters degree to a PhD.

[1:48:18]
*And, did you get it?*

No.  Because my thesis was that if you put in place the strategies you have to put in place to make home-based working successful – and I knew what that was – if you put those in place in an office environment, you could increase the productivity of office-based people – I'm not talking about programmers now, I'm talking about people in general – by a factor of at least 20%, and I knew I could prove that.  So I did all the literature search and all that stuff, and there was a lot of literature on productivity increases of home-based working, but nobody had done, we want to take those techniques into the office and see if we can improve productivity in an office.  So we came to when I wanted to do my, to prove my thesis, to actually do my experiment, and I reckoned I needed 150 people.  I needed 50 people to do what they'd always done, I needed 50 people to work the way I wanted them to work, and I needed a control group.  So first I went to a company that I'd worked with when I'd had my own company, and that was Lendlease, a big building company.  And they said oh yes, and my director of academics who came with me said, we shall need some money to support this PhD.  And the lady we were being interviewed by said, 'How much?'  And he said 30,000 dollars, so she got her chequebook out and wrote a 30,000 dollar cheque there and then.  But then she came back to me and said, look, you can have the finance department, that's 150 people, will that do you?  That's fine.  Then she came back and said, look, we've just changed Managing Directors and the new Managing Director says he doesn't want a PhD student working in the company while he's changing the company round.  So then we tried AMP and AMP said, oh yes, Ann, welcome back, yes, we can do with that, you can have 150 people.  And then they changed Managing Directors and the story was the same.  Look, we're in a mess at the moment, we want to reorganise the company, we can't do with somebody doing a PhD.  I was a director of TAFE, which is our vocational training system in

Australia, and they said oh, do it on our people.  But those people in TAFE in those days, they really didn't work hard and I knew I'd need a group who really were pleased to work hard.  So my research director said, look, go to America, do it in America, because they've got bigger companies and they're used to having PhD students.  You'll only need to go for six months to prove your thesis.  And I didn't want to go to America.  So I said, 'Well, I don't want to go to America'.  He said, 'Oh for God's sake, Ann', he said, 'just write it up.  You know more about the subject than anybody else, just write it up, they'll give you a bloody PhD'.  I said, 'Well, if it's as easy as that, I don't want one, thank you, goodbye'.  [laughs]

*But then eventually you got an honorary degree.*

I got an honorary degree, which I understand is more difficult to get than a PhD.

[1:51:35]
*And so…*

We've done a lot, we've spent a long time, Elisabetta.  Sorry.

*Yes.  No, no, it's fine.  So I would like just to close briefly your career, so in order to have some reflections on what you've done in your life.  So can you tell us a little bit about what you did in the nineties and…*

Oh, I have just had a ball.  I've just been paid lots and lots of money for having great fun.  And it's allowed me to bring up my children, it's allowed me to indulge my love of travel, I've been all over the world in my job.  I have just had a ball.

*So, you had honours, like in 2002 you were inducted into the Australian ICT Hall of Fame.  Did you expect it?*

No.  No, I just got invited to, they said the Computer Society's holding a dinner at the Maritime Museum in Sydney and would I like to go.  I don't have to pay, but you can go with a partner and you can take- free tickets.  So I asked my son  if he – black tie dinner – my son loves going to black tie dinners, so I took him and we were just sort

of sitting and having a dinner and then the President of the Computer Society got up and he said, well, we all know what this dinner's about, we're going to award the first Hall of Fame for the computer industry in Australia, we really need one.  So the first person he awarded it to was actually a man who'd died, and they said – and everybody clapped because he was great, he'd done great things for the industry – and they said, you know, he's being awarded posthumously.  And then the next man was a man who made a lot of money in the computer industry and done a wonderful job.  And then I was surprised it was me!  So I just couldn't believe it, I just couldn't believe it.  I mean I hadn't prepared a speech or anything and I just went up and I said, I'm absolutely honoured to have worked in an industry like ours, and I said just what I said to you, that I really feel I've had a ball all my life and I've been paid a lot of money for having fun and it's been such an interesting ride, but I just want to acknowledge all the women in the industry who are supporting the industry and they're the ones who've helped me get this honour.

*And you also, in 2011 you were inducted into the Pearcey Hall of Fame.*

Yes.

*Did you expect that?*

No, I didn't expect that.  This is a very prestigious – you can look it up on the website – they choose three people a year and it really is the top people.  A lot of those people have since died, you know, they're people who were in it at that beginning and have died, and they didn't have any women either.  No, but there I was, asked to, I was inducted.  There were a thousand people, it was at a huge dinner that they were giving in Melbourne to honour this.  Again, when they called my name out, I just, well, I nearly, I nearly couldn't climb up the stairs to the podium to receive the award.

[1:55:06]
*And last year you published your autobiography.*

Yes, I did.

*The title is* The IT Girl: 50 Years as a Woman Working in the Information Technology Industry.  *What motivated you to write this?*

Well, I didn't want to.  I'd never been good at English, I'd never written anything except technical reports, but the women, the FIT women coming and telling me their stories, so many of them had told me their stories.  So what I thought I'd do is write a lot of little vignettes about, say, two or three pages about each person's story and what happened to them and how they got out of their situation and so on.  So I started to write, and every time I started, I was writing my own story.  And I thought, no, no, no, I don't want to write my own story, I want to write about these other women.  So I must have tried six or seven times and I couldn't get past, when I read back what I'd written, it was my story.  So I talked to a friend of mine who's a well published author and I said, look, I've got this problem.  She said, okay, write your own story.  She said, really, everybody wants to write their own story, deep down.  Write your own story and then if you've written it, throw it away, don't use it.  But once you've done that you'll have unlocked your ability to write other people's stories, or to make stories up.  And she was right.  But I'm not writing anything else.  [laughs]

*So, if you think about your career, what were the key decisions, positive and negative, you made and what difference did they make?*

Well, of course coming to Australia was quite a career change and although it was hard and although, you know, women were certainly, technical women weren't respected in Australia, I really have enjoyed my working time in Australia.  And there were ups and downs, you know, and I was made redundant when I was 48 and then I was made redundant again when I was 54 and I thought, my goodness to me,  you know, I'll never get a job now.  So I started my own company, which was great fun, very profitable.  So that was a highlight.  Highlight was being one of the only Stock Exchanges to stay working through the '87 crash, that was a real highlight.  And I think contributing to FIT, to setting up FIT, although I really don't have much to do with it now, except I get their newsletters and, you know, they wheel me out every now and again when they want someone to talk about FIT.  You know, women are now talking to each other, they are now learning from each other, they are now understanding the strategies.  They don't all want to get to the top, but they do want to

be respected and they do want to enjoy the work they're doing and be valued in what they're doing and be paid the right amount of money for what they're doing.  So I think I enjoyed that.

*Is there anything you would do differently if you had your time again and why?*

Oh, I've had three husbands, I think- and husbands are good, but I think I would have probably one husband and be more stable and I think it would probably be my first husband, who was my friend from being 15 and who's a lovely man.  He lives in America now, he's done very well, he's about fifth down from the top of Kodak and he retired when he was 50 because he'd earned so much money, and then of course when Kodak went bankrupt he lost all his superannuation and his medical benefits. But a dear man, a very dear man, and I'm sure I would have been happy with him all my life, but I didn't want to bring children up in America.  And I don't regret that decision.

*What advice would you give to women willing to enter the IT industry today?*

Well, realise that you can do it.  A lot of women don't have self-confidence, they think it's a man's thing, they think it's the men who can do things.  Well, women can do things too, women can do technical jobs too, and to just talk to other women, and men, and find out, you know, what other people are doing,  how they can be valued. Stand up for themselves.  I've never asked for an increase in money ever, I've always been given any increases that I've got.  But, you know, stand up for yourself.  If you think you're in the wrong job, leave it, leave it and go for another job.  Don't be frightened, don't think that, oh, if I leave this job I'll never get another job as good, because you will, you will.  Network, network.  We're very good at networking, we women, very good.

*Is there anything that I haven't asked you that you would like to say?*

No, Elisabetta, you have been a wonderful interviewer and I have done as much as I can and taken far too much of your time.  And with a thunderstorm, thunder and

lightning storm to put up with and the internet dropping in and out, we've done a wonderful job.  Thank you very much.

*Thank you, Ann.  It's been a real pleasure talking to you today.  Thank you very much.*

Thank you, Elisabetta.  Can we go now?

*Yes.*

Thank you!  Bye bye.  Bye bye.

[2:00:43 recording ends]