An Interview with

JULIE JAMES

OH 444

Conducted by Thomas J. Misa

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Control Data Corporation History Project

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Charles Babbage Institute
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Julie James Interview

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Abstract

In November 2013, CBI director Tom Misa conducted a series of oral history interviews with 13 former employees of Control Data Australia (1963-89) including the details of each person's career, before and after working for Control Data. Topics that are common to many of the interviews include Trevor Robinson's key role in organizing Control Data Australia; the early computer sales in Australia to the Bureau of Census and Statistics, Department of Defence, Postmaster General, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Bureau of Meteorology, and several prominent Australian universities. Control Data Australia did business data processing for such large concerns as Broken Hill Proprietary (BHP), Telstra, and others. A distinctive emphasis was its work in developing computer systems for race-track betting for the state of Victoria's Totalisator Agency Board (TAB) as well as for other Australian states and New Zealand. Other topics include relations with Control Data's headquarters in Minneapolis, business data processing, data centers, database management, networking and Cybernet, and projects done in several Far East countries.

Interviews were conducted with Richard Bament, John Baxter, Ron G. Bird, Tony Blackmore, Lyle Bowden, Marcel Dayan, Ian Downie, Julie James, George Karoly, John O'Neil, Garry Pearce, Rob Robertson, and Bruce Wilson.

Misa: My name is Tom Misa; it's 20 November 2013. I'm here in Melbourne, Australia; and this afternoon talking with Julie James, who was an employee at Control Data Australia between 1972 and 1986. Julie, just to start, could you please say a little bit about how you entered the computing field? You said it was an accident how you ended up getting into computer applications and IBM.

James: Okay. My original profession was medical radiotherapy planning, which is planning radiation distribution for the treatment of cancer (with a slide rule, and a light box, and lots of isodose curves I might add). It's now all automated. I was looking to change jobs because I thought I was going to be a housewife when I got married, but it ended up not to be. I was asked by somebody would I like to take the IBM EDP aptitude test. I said what's that? And they said, like crosswords. So I finished up doing the test and the manager said that was very good, we must have him, and the person who'd done the test said "her" and that's how I ended up joining IBM. They didn't know what to do with me so they put me in the education department.

Misa: And that was 1961?

James: 1961. I left after four years to start my own business, and by that time, four out of about six in the education center were women. So something must have worked.

Misa: Four of six of the IBM staff?

James: Staff of the education center in Melbourne. But I never really paid any attention to it, being the only female; I had a lot of fun.

Misa: Was there something that attracted you to the field of computing at the time?

James: No, purely by accident. However, my background, the rigorous training and the kind of analytic work, really put me straight ahead because I sort of romped through all the training.

Misa: Your work in radiation therapy, where you don't want to have a mistake. It's a life and death issue.

James: Well, there's a human life at stake; there's no automation. It was all done with a slide rule, a light box and isodose curves: take radiographs, you know, plot a tumor and then work for days planning radiation distributions. And it was a modelling kind of approach so, you know, the early days of IT.

Misa: So it was very mathematically intensive but not computer intensive, because computing was with the slide rules. It was a human form of computing, not a machine form of computing.

James: Yes, that's right. It's like modelling or analysis, rather than computing. I taught programming for IBM. When I left I had a contract, and I just worked through the IBM

360 peak load, and then on to the Burroughs 6700 at Monash University, and then was looking around for something else and saw Control Data was advertising for programmers. That was how it happened.

Misa: And that was all done during this period when you were running your own business, you said for seven years.

James: Yes.

Misa: And the character of that business, can you describe it?

James: It was analyst/programmer. Basically, it was whole systems. For example, it was for Mobil, the first IBM 360 in Australia was installed for Mobil, in Melbourne. It was the Agent's Transhipment System, I think. I also did the whole system, but I didn't do the analysis; but subsequently, I did all the analysis, the modelling, and design, and everything, and basically had to sort of learn on the job. I had to make sure that it was properly documented so I didn't get called out in the middle of the night when something went wrong.

Misa: So you're setting up the types of programs that people would need to actually code?

James: And the coding. I did everything.

Misa: And the coding itself, too.

James: Everything.

Misa: What languages did you work in?

James: COBOL, Assembly Language, RPG; I think they were the languages. I learned FORTRAN, initially, on an IBM 1620, but we started with assembly language. In fact, I started with electromechanical equipment. I carried fuses in my handbag. Because of causing back circuits on the wired boards, the students used to blow a fuse by about three o'clock every afternoon.

Misa: Were these electromechanical machines?

James: You know the big control panels, great big control panels, where you wired, you planned it out and you actually wired the electromechanical selectors of the decision process on the board.

Misa: Those were for IBM or was that while you were running your own company?

James: They were for IBM training. In my own business I worked through the IBM 360 peak load, and then swapped to Burroughs 6700. It was at the Monash University. There

was also a Control Data 3200, and that was connected via teletype— this was Royal District Nursing Service that I automated. The data were transmitted via teletype and we used to take the tape off the 3200 and take it across to the Burroughs machine. And, yes, it was a comprehensive system for medical records. There was also a medical billing system that I did as well. But when that was finished, I did a process costing system for Fibermakers Ltd., a subsidiary of ICI. That was a sort of a bill of materials system. So that was the sort of things; it was basically, whatever was needed.

Misa: Was that common to have an independent programming and analyst firm like this?

James: No, not at that time.

Misa: Not common.

James: No. But I had all the contacts because I'd been teaching at IBM. So I actually left with a contract and further business contacts.

Misa: Did you work with other people or was it more or less a one-person affair with yourself?

James: Actually, I worked with other people. Well, there would always be a representative from the company. In fact, my daughter was born eight hours after the first

production run of the Fibermaker system, and I was on the phone with the production team. [Laughs.] It was just the times.

Misa: Did you hire other people?

James: No.

Misa: You were just working by yourself, working with the client, of course.

James: Yes. Working with the clients, yes. And with the Royal District Nursing Services system, there was prime contractor — don't know what they call themselves — it was a hospital computer study group at Monash University. They were doing a number of systems and they just subcontracted one of them to me.

Misa: So you were actually buying or renting time?

James: That was part of the agreement, I didn't have to buy the time. The time was always at night, of course, as before with my testing, contractors got the machine after midnight.

Misa: Can you describe the working conditions? You'd go in late at night and then work through the night running your program?

James: Yes.

Misa: Can you describe that a bit?

James: It was an interesting time because IBM was in the red light district, both in Melbourne and Sydney. I used to sort of drive up to the back door at IBM and get out, and ring the door, and the operator would let me in. And at night, the girls, the ladies of the night that were cruising up and down with their lights on in the street, see, to be picked up. And one night, the operator let me in and immediately afterward, a bloke rang the doorbell, the operator came to the door and four policemen hopped out of a car and grabbed the caller. [Laughs.] There's a night in Melbourne when I went to sleep at the wheel and drove through a red light; no damage done, but I never drove myself after; I always got a taxi.

Misa: So what would typically be your working hours then?

James: I'd probably rest in the early evening. Well, I'd only be a few hours, actually, with the testing; get home and sleep some more. No children in those days, but of course, once the children came along, well then I'd work when they were sleeping. And then I didn't do the night testing; in fact, I'd have a courier pick up the tests and of course, it was all in machine language, the testing in those days. You'd get a core dump and then you would directly patch the machine language; and I had a hand card punch; and then

the courier would pick up and take it in and test it. And the next day I'd get the results back.

Misa: So you didn't have to physically be there, with that setup.

James: No.

Misa: You'd be able to have that run, so to say, remotely.

James: Yes. And it wasn't too much room for error. I think people forgot how to test properly, when we went online testing; the discipline of testing programs in that way, such that you couldn't afford to make mistakes.

Misa: What kinds of things did you need to pay attention for, in the testing?

James: Adequate test cases, I would say, is the most important thing when you learn how to program. My first program was for an 8k (byte) machine, I think, in multiple overlays. So everything was completely modular because there wasn't any other way to program. And so you would test each individual module. You would test the tree and then you would just add each module, tested independently and then integrated. So it was fairly systematic testing. It wasn't as if there was any great theory about it, it was the only way to do it because of that very low memory.

Misa: And so you had to pay attention that you were using the right data for testing?

James: Test cases were the most important.

Misa: Test cases.

James: Yes. So you had to have some idea of the whole, as well as the parts.

Misa: That was a different type of testing than the online?

James: Yes, because everything was preplanned, and you would write up coding sheets, and punch cards, and you would have to test module by module. At one stage, there was a comment like "who is this person who writes COBOL like FORTRAN?" Because of the modular approach.

Misa: Write in COBOL as though it were FORTAN.

James: Yes.

Misa: That wasn't particularly done.

James: No. Well, of course, then you got COBOL, you got the languages that weren't so close to the machine and much more memory, and that rigor was no longer necessary to actually program.

Misa: People could write programs without being acutely attentive to memory requirements.

James: That's right.

Misa: That's a big long story, isn't it, across a large number of decades. Is there anything else you'd like to record? Maybe we can move on to your work, then your coming to Control Data Australia.

James: Yes. I had an 18-month-old baby when I joined. There were reasons why I needed the work, so I kept a fairly low profile and just put my head down and we were doing maintenance programming for the AMFAR system, which was the radio frequency system for the whole Commonwealth of Australia, including all classified frequencies.

Misa: And the name of that, again, was?

James: The AMFAR system; Australian Modular — I've forgotten — Frequency something or other, Frequency System. Anyway, the actual frequencies were embedded in the code, including all the classified frequencies. One morning, we were raided by

ASIO because we had people working on it that didn't have a security clearance. So we all got a security clearance very quickly. That was at 598 St. Kilda Road.

Misa: And 598 is very close here. We're, what, 478 here?

James: Yes. So there were other systems. For one of the finance companies, we had a system. This comment about there were no commercial system is incorrect, there were. Subsequently, I was asked to do the analysis for the Diner's Club Australia, the initial system. And I did the system analysis for that and wrote the programs. It was run on Cybernet but the problem was the charging algorithm of Cybernet, which really favored complicated computational applications, not data. Not that the commercial applications weren't there. What happened was that people would get the analysis and design done [by CDA staff], and then they would take the business elsewhere because of the cost of running it on Cybernet.

Misa: Can you explain why the Cybernet favored computation?

James: No. It just did.

Misa: It just did.

James: Yes.

Misa: It was a question of having the computer time be what Control Data was trying to maximize rather than the data time, I suppose.

James: Yes. And the things that ran on Cybernet, you know, some of the large mathematical packages and that sort of thing, I suppose they would be relatively economical, but data intensive applications were not. And it was just the way that the algorithm was designed, and the pity was that there was competition between the divisions. That's where things started to go wrong because Control Data really had a total solution. You know, with professional services division; quite a lot of analyst skill, and data services; and then systems, larger systems, but we were working mainly with large applications. So, yes, that was a weakness, I think.

Misa: So those three (professional services, data services, and systems) could have been better aligned or better able to work together.

James: Yes. Professional services would design their systems, which would run on Cybernet until such a time as they were fully installed and they needed perhaps a system. And they weren't small systems. The other problem was that Control Data was missing the advent of minicomputers, excepting special applications like TAB. I can't remember where Diner's Club took their business; Data General, or somebody else, I can't remember.

Misa: So you did analysis for Diner's Club.

James: It was the startup of the company in Australia. So, yes, that was interesting.

Misa: So I understand that Cybernet was for a time, at least, run directly from Minneapolis whereas Control Data Australia was in parallel, so there was a bit of organizational tension.

James: I'm not certain; well, this was in early to mid-1970s. I don't quite know when; it might've been run directly. I don't know about Minneapolis.

Misa: Sometime during the 1970s Cybernet was brought more firmly within Control Data Australia is my understanding.

James: There was a machine on the floor at 598 St. Kilda Road, and I can't remember at what stage it moved to Knox [Data Centre], that was much later. And then, of course, we went online later also. But in the meantime, I tried to keep a low profile. I was informed one morning that you are now the project manager for a commercial application for a food processing and distribution company. I could probably write a book about that on its own; there were some strange personalities working for that company. And I took the role, attempted to bring it under control, but finally, I wrote a lengthy report to the then-managing director, copying everybody in the line of management — I think it was Peter MacGregor — saying we'd better get out of here. Pull out. The problem was that the Cybernet salesman had a professional services quota and they would go and bid business;

well, I mean, promised to do the impossible for a fixed price. I don't know whether they were trying to get a system in there or whether it was Cybernet at this stage — I don't remember — but I got the job and it was interesting. I think there was a Canadian data processing manager, who had an absolute fixation on some method that he wanted to use and there were some other interesting personalities. So we had a meeting, you know, that the data processing manager would be shouting, one of the others would be crying, one would be shaking, and I would get up and start to walk out. And the manager would say, "Don't go, Julie, don't go!" [Laughs.] But anyway, after that I was asked to manage the Telecom project which was in deep trouble. But from then on, we got the first system up successfully, and at this point, just grew from there.

Misa: You say the Telecom project, was that done for the PMG [postmaster general], or was that for Telstra?

James: It was Telecom. Telecom had been the PMG. The PMG had been split into Australia Post and Telecom, and it was responsible for the whole of the telecom network nationally, and individual areas. It had a very large engineering division; it had a data processing division; there was war between them and engineers used to get their work done on Cybernet and using professional services, Control Data Professional Services people. By this time, was probably into the mid-1970s, and we got the first system, which was a national network forecasting system up and running, but they decided they wanted to get extremely ambitious and they wanted to go have a forecasting system for all circuits, all routes, for all time. This was the mid-1970s. Ted Codd's original paper on

"Data Management and Relational Systems" was only written in 1971. So it was early days.

Misa: There were different models of database management but Codd's work became very influential, of course.

James: Yes. There was a competitive system being developed in Europe based on linguistics, on language, rather than mathematics and that was coming out of Siemen's in Europe and out of the Data Management Research Labs of Control Data.

Misa: I'd be interested in your perspective on the differences between the two.

James: The data analysis comes first. The data, the relational model of data analysis, starts with the declaration of an entity. Now, if it's an account or a customer or something, it's quite clear what an entity is. And then a record would be created around that entity, and then it had to be normalized. If it wasn't in optimal normal form, then you'd get database anomalies. In fact, Ted Codd worked in the IBM research labs and the whole idea was to create database management systems where there was no redundancy and no anomalies. Whereas in some applications the existence of an entity was not entirely clear. You would think that a telephone exchange would be clear, but I used to attend the planning meeting at Telecom for years and they used to have arguments about what is a telephone exchange. You'd think that was obvious, but not so. So in the linguistic approach, which is what you call fact modelling, you simply record the facts.

Misa: The label was?

James: They called it fact modelling. It's now called object role modelling. It was based on Chomsky's idea of the deep structure of language, and you would describe the problem, and then it would be reduced to deep structured elementary sentences, the elementary structure of language, from which you would extract objects and roles. It was a rigorous process, in fact, it could be automated and the Data Management Research Labs did do it; they did automate it. So once you had your deep structured sentences stated in a fairly formal way, then the objects or the entities would fall out at the end and thus, your database structure.

Misa: You said roles and entities.

James: Objects and roles, we would call them, yes. You didn't presume the existence of an entity. Some of the things would become entities when we put our tables in the database and some would not, they were simply roles.

Misa: So is it accurate — I know this is a simplification — was the linguistic model more of a bottom-up type of approach rather than imposing a structure from above?

James: Yes, but really so was the relational method because you would declare entities. Even in simple commercial systems, you'd start with customers and accounts, and things

like that's fairly obvious anyway, and that method was used in such systems successfully, because there wasn't any dispute about the existence of an entity. But later, on some of the applications I came to work on, it was not at all clear. I said, they couldn't agree what a telephone exchange was. So in Europe, I think the NATO logistics system was one of the early systems; there was one for the Dutch government, I can't remember what it was, but it was something quite obscure; and the South African Electricity Board, and the North Sea Mining of ELF Aquitaine — I can't pronounce it properly in French. They were modelling seismic data, and these were the sort of applications, initially, and telephone traffic data, of course, was pretty difficult. Attempts to solve the problem had so far failed. So when we got the first successful system up and we were asked would we address this. To me, there was no available way of knowing, how to address this system. But one of my colleagues in Canberra, I think; I'm trying to remember; no, it's one of my Australian Computer Society colleagues, because that was one of the committees of the ACS, and he drew my attention to some work that was going on in Europe, and it happened to be that it was Control Data. So when I was a delegate to the Professional Services symposium in January of 1978, David O'Connor, who was then Professional Services manager gave me a 'round-the-world ticket, and said go and talk to the people in Europe. So it was my first overseas trip and I went around the world in 26 days flying east.

Misa: The conference that you were attending?

James: It was the Professional Service Symposium. It was in a place, sort of a resort, out of Phoenix in Arizona. So we stopped over at Honolulu and Los Angeles. Remember, this is 1978, this was not like today's air travel, and then we were due in Minneapolis for a week. I managed to drop out and caught the Greyhound bus to Flagstaff, Arizona, see the Grand Canyon, and then to Las Vegas, Nevada. And then flew to Minneapolis. And from there to London. Theoretically, I had meetings in London, Paris, Brussels, and Stockholm. The London and Stockholm ones fell through, but I had meetings in Paris. My Control Data colleague; he was a Hungarian who had come to Paris to buy a French computer and then [he] stayed. This was the time of troubles in Hungary. He lived in Switzerland, and commuted to Paris and Brussels. He took me to meet ELF Aquitaine management, with my terrible French pronunciation. That was the company, and I was introduced as Madame James, who "was a systems expert from Australia, not one of those dumb Americans." [Laughs]

Misa: Oh, okay. [Laughs.]

James: We were never too popular in Paris. So from there, I went to Brussels to the Data Management Research Laboratories. Professor Sjir Nijssen was the director, and he was brilliant but not very diplomatic, so he was always having disputes with Minneapolis. I can remember meeting him one gray day, and he wondered what on earth this crazy woman from Australia was coming to Brussels for. When I told him I wanted to model and forecast telephone traffic data. He said "my dear, telephone traffic data?

Come on, I'll buy you a drink." He was looking for prestige applications for his wonderful method.

Misa: So he had a tool, looking for a chance to exercise it.

James: Yes. And they had, in the research labs, they had also developed not only method, but a data management language, which was close to English, and in which you could write it. And the software tool (IAST) would automatically produce the fully relational tables and normalized data model. And they had the database product IMF [Information Management Facility] as well. Meanwhile, in Arden Hills, CDC were thinking about developing a database managing system. And then [in the] end it was war, because I think this was probably a superior product that had not been invented in America.

Misa: So Arden Hills would've been the center of programming research and the center of database management but this quite advanced work [was] going on in this Control Data subsidiary in Brussels. So the two were in contention with one another.

James: Yes.

Misa: And you've had contact with both?

James: Yes.

Misa: You were in Minneapolis; it doesn't mean you went to Arden Hills.

James: No, I'd been to Minneapolis. Subsequently I was summoned to Minneapolis; and that was afterward. No, I just passed through Minneapolis and met a few people. Because the Telecom project was growing at such an astronomical rate. I mean, it was pulling in I think about $1 million a year in professional services revenue; I think pulling behind it, about $3 million. I can't remember whether the total revenue was $4 million, of which that accounted for $3 million; or whether it was a little lower. But anyway, it was the vast majority. It became the Data Services revenue and, of course, if you're modelling the Australian telephone network, all circuits, all routes, it's an awful lot of data. But we actually used the [Brussels produced] data base management product IMF [Information Management Facility] and their method, and we had a working prototype in six months for the system. But, of course, when it started to come online, what we had to do is try and optimize the Cybernet charting algorithms, so we had to go to a very low level language. By this time, it had become more, not only a project, but a branch and I was appointed the External Consulting Services Manager. We had the internal data processing, we had a few other professional services things, but most of the work was Telecom. We also maintained the exchange networks provisioning aid for Telecom. So the main systems of the engineering division in Telecom were developed by professional services people and run on Cybernet. But the writing was on the wall, as soon as the project started to grow. You know, for what they were spending a year on data services

revenue they could've bought a system. And this is where the problem arose of the competition between Cybernet and Systems.

Misa: Okay. So the Systems people saw this as a million dollars in [potential] sales, and Cybernet saw this as a million dollars in ongoing revenue.

James: Yes, and they had quotas, they had professional services quotas, which as I said, they used to go and promise the impossible for a fixed price and then professional services had to deal with it. [Laughs.]

Misa: Before we go on, I'm curious to know the approach that Arden Hills took with database management tools at this time. Were they following the IBM approach?

James: Well, they were intending to develop a relational database management system, which is after Ted Codd's method. And I don't remember the details, it just seemed to be taking an enormous amount of time. I think they eventually decided to purchase one of the products that had been developed in IBM, but they attempted to develop one for years. I really don't know much about the software development, but there were engineers with computational expertise and probably didn't have much expertise in database management. Nothing subtle about it, but I mean, they're not really going to know much about it, going on for years and years. And I think also that during that time that Control Data was missing the move to minicomputers and still staying with large systems, which were great systems for the applications they were suited, which were

mainly government, intelligence, military, very large companies. As long as they were computational intensive applications, Cybers were well suited. That is my opinion. I mean, Cybers weren't my expertise.

Misa: The fate of this Brussels project is intriguing to me, as well. You actually had a system running here in Australia using that technique. You had modified it and implemented it, so it sounds like it was completely viable. I'm curious what the legacy of that might be.

James: It was a viable system. We were running on Cybernet, of course. It was data intensive, which was the problem, in my opinion. I mean, obviously, this Cybernet charging thing was a trade secret. But this clearly favored computation intensive applications and so the packages that Cybernet marketed — the analysts worked on and then marketed. I think the charging algorithm suited that. Eventually, you know, the business just kept growing. I was saying "look, if you don't sell them a system you're going to lose this business." So a bit of warfare went on. Eventually, Cybernet took over the consulting services branch and I was asked did I want to continue as branch manager and I said no. I presided over the growth of the business I would not preside over its decline. So then I went back to consulting, and I worked with the people in Europe. We brought Sjir Nijssen to Australia, and a few other people, and we ran seminars on this fact modelling approach. I [also] went to Minneapolis to assess a product for the international market, a software product. This was after the international division had been established. When I first went to Minneapolis it was to the "gold brick," they used to call it, at

corporate headquarters in Minneapolis. They called it the gold brick, it [had] a gold glass windows.

Misa: Right, it had a gold sheen.

James: Then they established the international division, and it was in a different location. But I had an assignment there to assess a product in the international market, and it was completely unstable. The application was a good idea but not unique. In the meantime, I was sitting in the office and I was listening to the international manager of whatever it was, who had probably been a successful district manager in the Midwest or somewhere, and became international manager. I would hear him on the phone trying to communicate with the European colleagues, which was interesting.

Misa: How was that interesting? Culture clash do you mean?

James: Yes. You know what Winston Churchill said, "two great peoples divided by a common language."

Misa: Right. [Laughs.]

James: Might've been our common language. You know, out of Brussels the Europeans were doing very well with professional services with these methods. And then, I don't know how it was planned, but there was a task force formed to determine systems

engineering future of Control Data, which sounds rather grandiose. Probably had to do with all the troubles they were having in Minneapolis with the database management system. So there were meetings in Europe, and people from Minneapolis, from the Netherlands, from France, from Belgium, and one from Norway, I think. Two Americans [pause]

Misa: You were attending those meetings, too?

James: Yes. Two Americans, and one was female, and then one — forgotten their names now — but there was quite a bit of robust discussion. I actually then experienced the divide of our common language because the other woman thought that I would side with her, which I didn't always; sometimes and sometimes not. There were communication problems based on language; there are nuances of difference.

Misa: Do you remember an example?

James: Yes. There was a great argument going on and I sort of backed off, and she said what's your opinion, Julie? And I said I am "indifferent," which meant that it didn't matter; it was not an issue; and she took it as an insult.

Misa: Indifferent in your sense was being just neutral, not taking sides . . .

James: Yes.

Misa: . . . and since she had the expectation, possibly, that you were supposed to be backing her, indifferent was a rejection of some sort.

James: Yes. It was one example I remember.

Misa: It must have been quite complicated for Control Data, as a relatively young firm, to find itself operating in many different cultural climates and linguistic contexts.

James: And Minnesota's a great state, but in those days, it was fairly inward looking. How could it be summer anywhere else in the world when it was winter in Minneapolis? There were people who didn't even know where Australia was; they thought it was Austria and they were surprised that I spoke English.

Misa: Austria, okay; it's got some of the same letters.

James: Yes. A wonderful place, but very inward looking place and a very closed culture. I guess that it was the very containment of it helped generate those great computer companies. But the international CDC subsidiaries were fairly free-wheeling, I think they were actually embedded in their own cultures. The driving force of Control Data Australia was Trevor Robinson. I mean, he established the culture. There were great things about the corporation in terms of their training programs, and employee selection, and there were many wonderful things about the corporation worldwide.

Misa: You're talking about CDC at large, not just CDA.

James: Yes.

Misa: Can you say anything about the training or the corporate culture that you found particularly notable?

James: Well, they had an employee appraisal system that actually worked; it worked for me, anyway. I could give the staff a copy of the appraisal form for them to fill in themselves and I would make a few notes, and read it over, and we'd agree on it. It had an employee selection system which I think was quite innovative. Of course, as sole female manager in our region, I got all the training. Equal opportunity grants; Equal Opportunity legislation came in in the States. I don't know whether that was in Minneapolis or whether it was federal.

Misa: I think that was federal.

James: That was when female managers began to appear in CDC; some of them actually fairly inexperienced for the positions they occupied.

Misa: You'd been working in the field for quite some time, so you must have been one of the more experienced female managers.

James: Probably. I did just fall into it by accident, rather than by design.

Misa: Going back before 1961, so this had been a long term area that you've been cultivating and you've been active in and had quite a diversity of experience in Minneapolis, but also Australia, and then Brussels, and on and on. You had a bit of a wider view than many people even in Minneapolis could've had.

James: Yes, although I think that the European view was a bit closer; the culture of Control Data in Europe was really eclectic.

Misa: Was what?

James: Eclectic, I suppose.

Misa: Eclectic. What would you mean by that word?

James: Well not a fixed view. Perhaps I'm using that word wrongly. I suppose they were very astute negotiators, except for their boss, actually. Sjir Nijssen was no diplomat; he just tried to bulldoze through and it didn't please people in Minneapolis. Actually, what happened, subsequently, is I brought him to Australia and I can remember picking him up at Melbourne airport and he wanted to drive straight to Queensland. He had no idea of the size of the continent. So I said we're not going to Queensland but check you

into a hotel and I suggest you spend a few days in Melbourne and then you take your time; we plotted a route. Anyway, he got to Queensland and immediately applied for a professorial position at the University of Queensland, and he never went back.

Misa: This was somebody you were trying to hire?

James: No, no, no; I brought him as a speaker. He thought there was going to be a nuclear war in Europe so he wanted to get out. So he actually became the inaugural professor of Information Systems at University of Queensland. I'm trying to remember — another guy from Siemens, I brought him out, too. He was also chair of an IFIP committee, the International Federation of Information Processing organization, and I've forgotten his name. Think of it in a minute. Anyway, he came and worked with Sjir Nijssen at the University of Queensland, which became quite a center of data modelling. And I was running courses in Australia, as well, in the data modelling method.

Misa: And the course would've been within CDC, or within CDA, rather?

James: Yes.

Misa: But would people outside of CDA also be able to sit in?

James: Yes, we were selling the courses.

Misa: You were selling them, yes. Trying to essentially launch this method, launch this set of techniques.

James: Yes, and generate revenue for Professional Services. We were successful with it, but of course, you taught the courses in five-star hotels and brought international speakers out, that sort of thing, it didn't make a huge profit. In the meantime, the war between Professional Services and Cybernet over Telecom continued until ultimately, Telecom took data services business away and took it to CSIRO net.

Misa: To whom?

James: CSIRO's network.

Misa: Okay.

James: And that resulted in the sale of the Knox Computing Centre, Control Data's Knox Computing Centre.

Misa: That was one of the centers of Cybernet then?

James: Yes.

Misa: I don't remember where that was.

James: You haven't actually heard this before?

Misa: I've heard a version of it. I'd appreciate it if you might give me a version here.

James: Well, this just simply was the cost of running that data intensive application on Cybernet. It wasn't that Cybernet, you know, was an unreliable service. Control Data Professional Services developed the systems. It was just simply the astronomical cost because they could've bought a system to do the job for what they spent in a year. So it was all rather sad, and then from my point of view, the writing was on the wall for Control Data Australia. But I was asked would I come back as branch manager briefly at the end. I can't remember whether I said yes or not. Then I was headhunted by Koranya Proprietary, Ltd. Koranya were a Canberra-based IT strategic planning organization. And so I accepted the job.

Misa: Koranya?

James: Koranya. K-O-R-A-N-Y-A.

Misa: And that's in Canberra.

James: Yes. Well, I ran the Melbourne office, but we were using the fact modelling method, as it was called in those days. The only one that ever used it on a very large

application in Australia, anyway and these were government departments. So we did the Department of Employment and Industrial Relations, and we had teams running around the country doing it. And I did the information systems modelling. Koranya had a method of modelling organizations in order to realize the information systems requirements to produce a strategic plan. I did the information systems part of that.

Misa: It was Canberra-based but you stayed here in Melbourne?

James: No, I had an office in Canberra and in Melbourne.

Misa: You went back and forth?

James: I went back and forth. That was the first one, I think. I don't recall; there was also work here in Victoria, you know, Occupational Health and Safety, and Accident Compensation Commissions, was established by the then-incoming Labour government. It was just set up and I project managed that, the whole IT strategic plan. But the then Big Eight chartered account firms decided to move into selling "shrink-wrapped" consultancy reports to large organizations. I could see that it was tough. You'd go and sell the consulting contract, then when you get started working on it, you didn't do any more selling because you don't have professional salesmen. And then I was recruited by Swinburne University. That was in 1988.

Misa: 1988.

James: Yes.

Misa: And what was your work there?

James: I came in as Discipline Head, Information Systems. This was an institute of technology, at that stage, because there was a binary tertiary education system in Australia. We were teaching postgraduate courses, but the students didn't talk to anybody who had a Ph.D. They wanted to talk to people who had industry experience. And while, I'd done some postgraduate studies. I actually don't have an undergraduate degree; I have a diploma, and I had a graduate diploma. So I came in at the highest tenured level in the Information Systems Discipline and subsequently had a stint as Head of School, Information Systems.

Misa: So head of school, that would be something like a dean, is that right? In the Australian system?

James: Sort of.

Misa: Okay.

James: When I first started at Swinburne Institute, we did some more strategic planning work. At that stage, I did a master's degree; I'd promised I would. So, yes I ran sort of

modelling type things. But there was a management buyout — you probably know more about that from John O'Neil — there was a management buyout of Control Data Australia. And it lasted for a while.

Misa: Couple of years is my understanding. It wasn't a long term success.

James: It was interdivisional conflict. I don't know what happened elsewhere in the world, but in Australia, you know; and such a pity because it was a company that actually had a total solution.

Misa: Interdivisional conflict between the Cybernet division and the Systems Division was really quite a liability here.

James: Oh, yes. I don't know how it was elsewhere in the world.

Misa: If we look carefully, I suspect we could find the same tension between Cybernet and Systems back in Minneapolis.

James: Well, being right in the heart of the military industrial establishment there, what was it? The military industrial complex that President Eisenhower foretold? There were applications that suited, you know, the systems and they had some large systems. Not so easy in Australia; I mean, we had defense, what did we have? We had Australian Bureau of Stats.

Misa: The Census was early.

James: Yes, I'm just trying to think of the Cyber systems. One of the people reporting to me was doing encryption work for what was then Defence Signals Directorate.

Misa: Your secret intelligence agency, is that correct?

James: Yes. So, in Professional Services, the expertise was very diverse. And, of course, the analysts who actually worked in Cybernet, they were the experts in those packages. Mathematical modelling packages ran on Cybernet. In Minneapolis, there was probably enough work for both divisions, maybe, I don't know. The other interesting thing about it was the mission at Control Data — I mean, I had full knowledge at one stage — but do you know what the corporate mission statement of Control Data was before 1983?

Misa: Why don't you tell me.

James: "To improve the quality of life in the societies in which we operate by the application of technology." And after 1983, "profitable opportunities by the application of technology." I started at the hard technical interface, but the real problems were sociological, they weren't technological. Control Data had the technology to do the job, apart from this problem of the charging of it. I got more and more interested in the sociological side of it. That's really the Information Systems discipline, is where

technology and social sciences meet. And so I did a Graduate Diploma including a few subjects along those lines, and so on. So it was really Information Systems discipline.

Misa: And that was then your work from 1988 forward?

James: Yes.

Misa: You mentioned a couple of times, the Australian Computer Society, and then IFIP. Could you make some comments about the relationship between CDA and those professional organizations?

James: IFIP, the International Federation of Information Processing organization, had a number of working groups. One was the database management group; and the guys that were in the data management research labs, they were all on those committees in Europe. In Europe, they were very much at the forefront of the development of data modelling, and the like. Eckhard Falkenberg was at Siemens. Control Data claimed to have really developed the method initially, but I think that Falkenberg had more to do with it. He became the chair of the IFIP data management group at one stage, and I heard him lecture in Australia, too; and he and Sjir Nijssen both joined the University of Queensland. Yes, so there was leadership in data modelling in the forefront. The European Control Data guys, in fact, most of them became professors in European universities, and so on. In fact, Robert Meersman, I really meant to look him up before I came, because he could be an interesting person to contact. He was doing postdoctoral research at the Data

Management Research Lab when I first met him. He became the professor at a few universities.

Misa: That's Meersman?

James: Meersman. M-double E-R-S-M-A-N; Robert Meersman. A Belgian gentleman.

Misa: Belgian.

James: Yes. I don't know exactly what happened subsequently to the research labs after Nijssen left; they weren't too popular with Minneapolis so probably nothing very good. But those guys went on to be leaders in their field in Europe, and I can remember Robert Meersman; well, the first meeting of that task force, the systems engineering task force, in the Netherlands. And Robert Meersman invited me to his home for the weekend in Antwerp. His wife and he had a two-year-old son. Anyway, I think it was in 1981, and I'd meanwhile kept in touch with the group in Europe. Later I can remember sending two of my University staff to a conference, an IFIP conference in Europe, trying to develop skills. Then Robert Meersman decided that he wanted to go to the Great Barrier Reef. So he called an international conference in 1995 at Magnetic Island. The "First International Conference in Object Role Modelling," and his son was there; I think I had seen him at his second birthday; [by then] he was an adolescent.

Misa: So the Great Barrier Reef became a site for computer conferencing.

James: Yes. So I stayed with that approach and introduced it at what then became the university, and worked in it.

Misa: So IFIP was an important place where some of the people met, and then also you said you sent staff members there.

James: Well, development of standards for data management and operability and all those sort of things; that was IFIP. So that was IT and IS at the early days of developing some kind of theory, a theoretical basis, and standards, and all that sort of thing. The other interesting thing about Control Data was its social conscience, I was a member of the Australian Computer Society twice. I was a Melbourne member, but left when it seemed irrelevant. Eventually, I came back and thought about doing something useful. I was a member of the national committee, the software committee of ACS.

Misa: The national software committee?

James: Industry committee. I finished up leading the Computer Society delegation to the Industries Assistance Commission [in] 1983. Anyway, Control Data financially supported that, because we were representing small software houses. That would be Trevor Robinson's doing, I would think.

Misa: And was it connected to CDC's social conscience?

James: You know, a national agenda and that sort of thing. So it was an interesting situation because here was a large computer company; in fact I can remember the meeting before the hearing in Sydney, and somebody from IBM had come along and tried to take over the meeting. Being IBM trained, I took it back from him. [Laughs.] But here's all the small software companies and IBM tries to take over the meeting, but Control Data was supporting the person who was leading the delegation of all these small software companies.

Misa: Can you explain how you took back control from this IBM person?

James: I don't remember, but I was trained by IBM, you know, selling techniques; I don't recall.

Misa: So you had some inspired technique.

James: Barry Jones, the then Minister for Science, was also in the meeting; all the managing directors of software companies sat there and said nothing. Barry Jones stood up, looked around him and said, "You're all a bunch of wimps" and stormed out. [Laughs.] Yeah, he's a bit of a character. So, they were great days, and you can see what sort of company it was by the fact that [CDA] people still meet.

Misa: Yes. Do you have any reflections on what that might mean? It's quite notable, I mean, it was quite a striking [lunch] meeting last Friday.

James: It was a sort of very collegiate organization and somebody tracked me down through the university, and asked me along to lunch. I just finished up, still kept coming. But it really arose when guys used to go out for a few drinks, you know, at St. Kilda Road, before they left, and perhaps kept meeting together. And it sort of grew from there.

Misa: I heard that it was a sort of tradition, when Control Data was at St. Kilda Road, Friday afternoons might be social time, or sounded like there was a once-a-month barbecue, or some kind of social time. Somebody said it was quite important that typically, when an Australian company would do this, spouses weren't involved. This was an instance where spouses, mostly wives, would be included.

James: Yes. Well, also, I mean, with the external consulting services, most of the staff were at customers' offices. I used to bring them back on Friday afternoon for drinks, no matter what company they worked for because they would be completely dedicated to the customers' needs. You had to just bring them back every week and say "hey, you work for Control Data."

Misa: A chance to extend a bit of business.

James: So that's my recollection.

Misa: Any other points that we could record this afternoon, Julie? It's been quite interesting.

James: Do remember that my views are my views, not those of the management. I was never above the first level of management in Control Data.

Misa: It's important to get a view from as many different levels as we can, and this is the reason I'm here, because the view from Minneapolis is an incomplete view. So thank you very much.

James: Okay. I managed to get through without my voice breaking.