Oral History of Dame Stephanie Shirley

Dame Stephanie (“Steve”) Shirley is one of Britain’s most celebrated IT pioneers, entrepreneurs, and philanthropists. In 1962, she founded a contract programming company exclusively for women, seeing untapped potential in the large numbers of educated women who had left work in order to raise children at home. Shirley’s company grew rapidly and had a successful IPO in 1996. Since retiring, Shirley has spent her time supporting various IT-related causes and, most recently, organizations researching and providing services to those with autism. This edited interview is based on an oral history conducted by Marie Hicks, professor of history at the University of Wisconsin at Madison, on behalf of the Computer History Museum. The original transcript may be accessed here: www.computerhistory.org/collections/catalog/102738707.

Marie Hicks: I thought I would start off by asking you about your autobiography’s title—Let IT Go, or “Let I-T Go.” Can you talk about why you titled this book about your life in a way that showed you moving on, moving away from computing, given that it’s largely about your experience in computing?

Stephanie Shirley: It took me 18 months to write that memoir—and it is a memoir, not an autobiography—and the title took me longer than anything. What would be an appropriate title to encapsulate a long and very active life? Let IT Go, with its pun that some people see and some people don’t, was suggested by my co-author, who’s a journalist, and I think it’s lasted quite well. But it tries to wrap up perhaps what might be a Buddhist feeling that life is not just about material things, that it is a holistic life, that you can’t chop me up in little bits, that I’m not sometimes the businesswoman, sometimes the computer pioneer, the mother, the wife, the mistress. It really tries to pull it all together.

I think the memoir has shown the development of a young and somewhat disturbed person into what I hope is now a serene, mature life, and I’ve moved to a certain extent away from computing and become really a manager, a businesswoman, and later with the need to care for my learning disabled, autistic son, into really a career, and then a philanthropist. That’s now what I do. I try to give money away in a wise way.
Hicks: Could you talk a bit about how your early life circumstances shaped your view of technology and politics?

Shirley: Early trauma affects a person and affects their life. I was an unaccompanied child refugee, and that experience has really driven my life. It is as strong today as it was 75 years ago, when, as a traumatized, weeping five-year-old, I was put on a train and sent to a strange country with strange languages, strange people, strange parents, strange food. It would’ve been disastrous, I think, had I not been with my older sister, a nine-year-old who was really not ready yet to care for a younger sibling.

But what that two-and-a-half-day transition between Vienna and Liverpool Street Station in London did for me was it made me able to cope with change, and I think that’s relevant to my technical career, because I dealt with so much change during that time that I eventually came to welcome change, and so I always want the latest equipment. I’m always an early adopter of something, and it really has helped in my transition from analog computing, from working in binary, to the sort of applications that I fringe on today.

It also drove my life in that I became very conscious how lucky I was to be saved from Nazi Europe, how fortunate I was compared to the million and a half children who were killed during that time, and it made me very driven. Each day has to be worthwhile. I have to do something better today than I did yesterday. I became a learning person. I’m a perfectionist. I think all these things stem from the insecurity of a traumatic childhood.

And finally, I became a patriot. I love my country, England, with a passion that perhaps only somebody who has lost their human rights can feel. So it’s made me a different sort of person, but then life does that to you.

Hicks: You made a decision to enter the workforce at an early age. Why did you make that decision, what sorts of circumstances led to your going to work rather than going to university, and how has that directed the course of your life or changed your approach to things?

Shirley: As a refugee, I was very lucky. We were not in penury in any way, but we had to watch money very carefully, and I was stuck with a sort of insecurity about what I was going to do with my life, where I was going to live, who I was going to live with, if that was relevant. And that really drove me. I wanted to go to university. I’m an academic person. I love to learn. I love to do things properly. So I would’ve liked to have gone to university, and for years, in fact, I had a solid chip on my shoulder for not having achieved that.

But when the time came, I really did not have enough money to even sit for some of the examinations. I took one set of examinations and it cost me four guineas, and I didn’t do very well. So shortage of money certainly drove me to say, “I’m going to get into work. I’m going to be self-contained. I’m going to earn my own money,” and so I went for a job as a junior mathematical clerk, but in a very fine place. It was the Post Office Research Station. Very fine quality. There were about 200 graduates there. Quite a reputation worldwide. So I started right at the bottom there and loved it. What happened was that, at the age of 23, I had moved ahead because I already had five years’ experience of working, and then I got my degree by studying evening classes, and I think that was the beginning of moving ahead. I wanted to be first. I wanted to be in front, and at 23, I was already ahead and I’ve always tried to stay ahead, keep my brain as sharp as I can, though I notice the difference through the years.

Hicks: It seems like you ended up in an amazing place for your first job. How did you come to find that first job?

Shirley: A lodger that my mother had knew somebody who knew somebody who worked at the Post Office Research Station, and I had a similar introduction to another corporation and had interviews at both. The first one, General Electric Company, was fine and so on, but they were not terribly interested in me, in my future, in my continuing training and education, and so although they offered me a job, I went with the Post Office because they clearly were interested in ongoing education. They told me afterward that I was so insecure that I was asking at 18 about what their pension system was like. So I was really trying to put down roots, which I certainly did at the Post Office.
Hicks: Do you recall anything about taking a civil service exam, or about it being a different exam for women than for men at the time?

Shirley: Women were quite rare in the public service at that time. We did exist. I was not a first at that stage, but I began to realize that as a pretty, young 18-year-old, life was very pleasant. Everyone—and everyone was male—encouraged me and made a fuss of me and taught me and spent time teaching me things, accepting what my capabilities were. I love mathematics and had some sort of flair for it in those days.

I had, incidentally, something called “figure sight.” I was working on a desk calculator or Comptometer, I think it was called, a Brunsviga … a strange thing. But I could look at a whole mass of figures and, to the irritation of my colleagues, say, “I think there’s something wrong there,” and be right. That sort of figure sight goes with the years, and I think by the time I was 30 I’d lost it completely. It makes me think, with my current work in autism, that there’s a commonality of picking out patterns and the beauty of patterns, which is why I think we like mathematics, if one does.

In civil service, you have grades and are paid according to age. So when you’re promoted, you start at the bottom of a different scale and then when you get to the top of that scale, you’re either promoted or you stay at the top of that scale. To my horror, I discovered that the pay scales for women were different and much lower than the pay scales for men, and I was very cross about this. I didn’t think it was fair, and I think philanthropy is all about making the world a fairer place, and I began to resent this. When I went for promotion, there was also some sexism around in that at a certain senior level, a group of people who were supposed to be evaluating me on an interview panel said that they would never, ever appoint a woman to this grade, and so there was no point in their sitting on the panel. They stood down from the panel, so there was difficulty in getting an interview group together.

To begin with, it was just, well, that’s how life was. I was just so glad to be paid anything and get out of my financial problems. But I then began to be quite resentful and aggressive about it. So when handsome young men would offer to carry my equipment for me, I would say somewhat aggressively, “I believe in equal pay and will carry my own things.” Because if women want to achieve, we have to perform to the same standards as the rest of society. Nowadays, of course, if somebody offers to carry my things for me, I just say, “Oh, how kind. Thank you very much.”

Hicks: Since we’re getting into issues of gender in mid-twentieth century, could you talk a bit more about the decision to use the name “Steve” initially?

Shirley: I had already launched my own business when I began to become professional. Not just relying on introductions but actually going out and marketing and getting new business, and in a very naive way I was writing literally dozens of letters, introducing my company’s services, and getting absolutely no reply whatsoever. It was my dear husband of now 50 years who actually suggested, “Well, perhaps it’s the name.” I was writing with this double feminine, Stephanie Shirley, Shirley being my marital name. He asked, “Why don’t you use the family nickname of Steve?,” so I wrote exactly the same letters as Steve Shirley, and I began to get some replies.

This an example of how life is skewed a bit for women, and we have to learn to cope with it. I didn’t find it alien in any way. I noticed that I have of my generation several colleagues and friends who are Joes and Leslie, androgynous names that could be either. I think they’re doing the same sort of thing. I knew one woman in the computer industry, Joan De Smith. It was a double-barreled name, and she used to introduce herself on the phone as Miss De Smith, and so people thought she was a man; it’s a sort of dodge that people dissemble in order to move their business forward, in order to protect themselves from sexism. There are variety of reasons, and I’m still called Steve today. Having got a dameship, it is now, Dame Stephanie, but all my friends call me Steve.

Hicks: How common would you say this was during the mid-twentieth century? Was this something that a significant number of women did because it was effective?

Shirley: A number of women certainly, and I’m just thinking many of them I know of rather than have worked with.
My business was very special. It was a woman’s company in the computer industry; 297 of the first 300 staff were all women. It was really a female-friendly organization. It was set up as a crusade rather than to make money, and indeed it took a long time before it did make any money, and I was very proud eventually when it succeeded that I’d set up this special women’s company. Again, another first, I thought, because I have to justify my existence.

And then, almost to my horror, I discovered that there was a lady called Elsie Schuett in East Coast of America, who had set up, long before me, in 1957, a company called Computations, Inc., that was structured in exactly the same business model, working on the scientific side and never actually getting very big. I did meet her many years later, and she had eventually employed dozen, dozens, of colleagues, whereas I got to eight and a half thousand, you know. It was a different sort of corporation.

Hicks: Do you think your business would have become what it did without Steve?

Shirley: Probably not. One needs to make a mark to break into the established world. It became a unique selling proposition. We were the women’s company, this is what we remember, this is how we recruited, this is what we were, and in the long run it didn’t serve us well because people remember us for what we were rather than what we did, and we had to change the culture away from that feminine reactive group to something much more professional.

Hicks: Your startup focused on ensuring that women who had the skills to do this work, to program, would be able to use those skills, and you accommodated them in ways that other employers didn’t for decades to come, such as working from home, part-time work, things like that. You’ve alluded to the fact that social justice was part of the plan all along, and I’ve read elsewhere that you initially thought of setting up the company almost as a charity rather than as a company. Why was social justice an important part of the plan for your company right at the get-go?

Shirley: I don’t think I was trying to change the world, but I was certainly looking for an environment in which I could thrive professionally and in which others could thrive. It seemed after working in the public sector, which was fine, full of wonderful opportunities, and working in a very bright, small company for less than two years—in neither of them did I feel able to reach my potential, so I decided to set up my own company. So it was a response to an environment that didn’t let me and other women do what was in us to do. I care deeply about other things as well, but women, from the personal point of view, I just felt it—being subject to anti-Semitism, I didn’t want to be a second-class citizen. I wanted all the opportunities that all the guys had, and so I became quite a feminist in deed but not in word. I never called myself a feminist because feminism in the ’50s and ’60s was very anti-male, which I certainly am not. I was very much first angry and then driven to have this crusade to try to make things better.

Hicks: You had experience working both in government and the public sector, and then working for a time in a for-profit computer company. Are there any general comparisons you can make about how women were treated in the public sector versus private industry?

Shirley: Because I’m so marketing oriented, you will expect me to say that the private sector was more female friendly. In fact, I found it was the public sector, because it was structured and had rules. Nobody could say I couldn’t do this if the rule book said that I could. In my generation of women, there were many things you couldn’t do. One college that I attended part-time didn’t have washroom facilities for women. My job actually would’ve entailed me going onto a cable laying ship, and I couldn’t do that. Women just did not go on working ships. I couldn’t work on the stock exchange. I could write software for the London Stock Exchange, but I couldn’t actually work there myself. Couldn’t drive a bus, couldn’t fly an airplane. These were legislative things, and the public sector was very firm on things like that, some of which worked in women’s favor.
Hicks: You hired women who had dependent children or who were the primary breadwinners for their family in particular, and then worked on unmarried women and the hiring of single women. In addition to gender and marital status, were there other categories that played a role in these decisions either explicitly or implicitly, for instance, class or race?

Shirley: It’s such a complex question really. I employed a guy who’s since died, Sylvan, who was the first black director in the city of London, I believe. We turned up for some event, and I was already unusual—a woman doing this sort of thing. I turn up with a black escort, because my husband didn’t take part in my business career. I learned a lot from him and how he dealt with the problems of color.

One of my first early staff was an Indian woman, who used to wear the most gorgeous saris, and when she applied she was competent; we worked well together. The fact that she was Indian was almost—you look back and say, “Well, in the very early group, there she was.” I was walking through Henley, which is a very established city, with her some time ago, and people still stared and I thought, “My God,” you know, and that was just walking down the street.

Her name was Bakaya. I don’t remember her Christian name. I don’t think I ever knew her Christian name, because in those days life was very formal. Two 18-year-olds sitting in an office would say, “Would you pass me, Miss French, the rubbo?” the machine or the coffee or whatever it was. “Yes, Miss Brooke,” she would say, handing it over, and it was several years before we said, “Well, when nobody’s here, shall we use Christian names?” The world was very, very different and very formal, so I didn’t know much about her. She was obviously well educated. She had worked with IBM, which was a very good trainer of people in the computer industry. IBM did a great deal for my company in a negative sort of way, because they were sexist and didn’t allow women in part-time roles, but they did train them because, again, they were structured. I recruited their rejects avidly, because they were well trained. They were well connected, and there was nowhere else for them to go, simply because they were only working part-time.

Hicks: Given that you were recruiting all of these women who had enormous potential, had skills, they had been trained, they could do good work, and industry and government were hemorrhaging this talent, what kind of larger effect do you think this had on the British economy in general? Are there connections that you see between what industry was doing in terms of not fully recognizing or utilizing women’s potential and what was happening more generally in an economic sense?

Shirley: I was just interested in getting somewhere where I could work, where other women could work. I was motivated very much by this fairness and opportunities, not the national good.

I’ve done more, I think, by acting as a role model, showing that it could be done. Other people did copy me. Not as much as I would’ve expected, but there were one or two. ICL [International Computers Limited] in particular had a very large group of women working from home, and I eventually headhunted one of them to head my company. The national impact of women was much broader than just what was going on in computing. Britain is still, sadly—and it’s a country I love, so take it right—but it is still class conscious. There are remnants of class in some of the things that go on today, and until that gets going, we’re not going to catch up with the States and everything.

Hicks: One of the most famous programmers at IBM in the United States was a woman named Edith Windsor, but she isn’t known for her work as a programmer and a manager at IBM. She’s known because when her wife died, she took her case all the way to the Supreme Court to get the Defense of Marriage Act overturned because she was not able to inherit her wife’s property as a lesbian, and when she was working in the ’50s and ’60s and ’70s at IBM, she wasn’t out in the workplace. But there were, of course, a lot of people like her. Because your business was woman-centered, a little bit different in culture, did you know of any lesbians who were either working for you or with whom you worked in other capacities? What was that like in the context of the time?

Shirley: When the company was small, we knew a lot about each other’s families. I knew which child had gotten measles. When it came to gay and lesbian people, we might’ve guessed. It probably wouldn’t have been something that we talked about. It wasn’t relevant to our mobility,
which was something that we were always very interested in. It’s clear that we did attract many lesbian staff; we employed thousands of people over the years, of course.

To my knowledge, there were two transgender situations. One from male to female; the other female to male. The male to female was much more difficult to manage in the group in the sense of the group dynamics when somebody changed. Because I wanted to do it as well as I possibly could, and I didn’t know how to cope managerially with what was going on because there was nothing in the literature, I went to the Institute of Directors, which had an HR service and said, “This is happening. How do you advise me to go on?”

Their response was quite interesting. “Why bother? The person will leave the company halfway through the transition and then start again under the new gender with a new employer,” and I said, “Oh. But we’re a very special company. We really want to make this work. Everybody likes this person. I’m sure we can make it work. Just help me to do it,” but they were quite right. In both cases, the person left halfway through the transition, and I lost contact with them.

I think the situation is interesting. We have a gender pay gap in the UK, and I think worldwide that is true. But when you look at some of the gender issues, it’s the same person now with a different gender. Their views on their employer, how their skills are used, and so on, are really quite special and should be listened to because maybe we can learn something from them.

Hicks: That’s fascinating. Thank you so much for talking about that. A lot of times that gets lost or submerged in these histories because there is a good-hearted fear of outing people. But it’s so important to see people in the record from the LGBTQ community.

Shirley: Yeah.

Hicks: Transitioning to more of the technical side of what you worked on, what were the most memorable or important pieces of software that either you personally or teams you supervised worked on?

Shirley: I can remember in the early days sitting in my cottage garden discussing with a very senior gentleman from the police force whether I could write software to recognize fingerprints, and I was fascinated. I love to do new things. I love to make new things happen, and really thought about it for some time and had to go back and say, “No. I don’t think my company could do this,” and it took 40 years for that to happen, because I have seen it now. One of my charities with learning-disabled people uses fingerprint technology as keys so the children don’t have keys. They use their finger to get into the different areas. So that was a project that didn’t happen.

The big ones that happened were—we were lucky. An early project was to develop software standards, sort of management control protocols, and that was wonderful because we were paid to develop the management processes we should have been doing anyway and were even paid to update them over the years. Eventually those standards were adopted by NATO.

Another big one was for the “Black Box” flight recorder for the supersonic Concorde airliner. That was taking analog readings from all the various things, dozens of them, converting them into what’s called a best protected black box or something like that. They’re not black, by the way. The only ones I ever saw were yellow, and that was a project that had a team of about 30 people on it. It was led by a woman Ann Leach, now Ann Moffatt, who has been the President of the Australian Computer Society. She was leading that team, and I remember it not really for the technology or the size, but on the financial side, because I didn’t get paid for it. I had to turn up with a client, and I sat on the director’s floor for several days. People asked, “What are you doing here?” and I said, “I’m waiting to get paid,” and eventually a message came from the chairman, Arnold Weinstock, say, “Tell Mrs. Shirley to come back tomorrow and her check will be ready,” and I got it. Because a lot of things that happen in business have nothing to do with the technology. They’re to do with business and people.

Hicks: Was there a general theme or character to the types of projects that you took early on?
Shirley: My interest was scientific, but the market such as it was … most people didn’t value software. They thought that hardware was much more important. But the market was commercial. Big projects that were available were things like payroll, which, apart from the size of some of the files, I found not particularly interesting. So I hit a compromise with operations research, and one of our early clients was a company called Business Operations Research. I’m still in contact with the individuals, who were operational research consultants. They eventually offered to take over the company, and we developed a specialism in operations research. It was the time when scientific stock control was just coming in. We did one stock control application and then another stock—there’re lots and lots of stock controls—and we were scheduled doing logistics stuff, scheduling freight trains for British rail, timetabling coaches, that sort of job, and that kept some sort of scientific interest going. We had a scientific division that did a lot of public service work, which we eventually closed down simply because we couldn’t make it profitable. I think the specialism was in operations research work.

Later there were other specialisms … a lot of banking work. The telecom side disappeared, although I came in from telecommunications. I got into computing with telephone exchanges and things like that. I was very fortunate, which I should get on to the record. One boss I had was Tommy Flowers of Bletchley Park coding fame, and not only was it a privilege to learn from him, he was an extraordinary manager, and in the sense that I had a role model, I think on reflection I probably would emulate his very gentlemanly, soft style, which perhaps today might be called a feminine style.

Hicks: At that point in time, he didn’t speak about what he had done in the war for decades.

Shirley: Yeah.

Hicks: How aware were you, if at all, about the fact that he had done something very important during the war?

Shirley: At the time, he was just a very, very super guy that we knew had done something clever and was gorgeous to work with. Afterward, he wasn’t recognized nationally in the way that I have been, for example, which was really quite a disgrace. Partly because of the Official Secrets Act. But a group of people, of whom unfortunately I was not one, but a group of people thought, “What can we possibly do now in retrospect?,” and we got a little road near the Post Office Research Station renamed Flowers Close, which means Small Road, and that was our tribute to him. The Institute of Electrical Engineers, which has since changed its name, has a room called a Tommy Flowers room; I came across that recently when I was in the building. So I think most people now recognize the contribution that he made. He was a brilliant scientist, but also an extremely good manager.

Hicks: You talked about professional norms and how that hooked into the gendered mores of the time. Could you discuss the struggle to be seen as professional and how much you tried to fit in versus how much you tried to do things your way and transcend the norms of the time? How has that changed over time? What was different in the ’60s versus the ’80s?

Shirley: I tried to merge into the male background, not to stand out. I was very short of money even once I started working, so I had very few clothes, but it was very much gray and the equivalent of a male suit, I suppose. That has sort of stuck with me.

My company started in 1962, so in the ’60s, we encouraged employees to have a style, a way of behaving. For a long time we said, “No trousers.” Because we felt that would aggravate the men, because they wanted us to be feminine, so we certainly had that as a house rule. It wasn’t written, but I remember we had one party and I’d given a reminder about suitable dress, and somebody took exception to this, so they turned up in what was it? A sort of long skirt. Absolutely lovely. Very elegant. Lovely woman. Halfway through the evening she took off her big skirt, and she had tiny little shorts underneath there, and my, I was not pleased. So there were things that went on with dress that were pretty important to how women were seen.

Back in the mid-’80s, I can remember recruiting for a finance director who would be director as the company went on to the main stock exchange, and I had women come forward with little
dresses with puffed sleeves and a décolleté, lovely, pretty things. Now, you just look at them and you say, “In no way am I having her represent my company in the city of London.”

Hicks: About the trouser suit ban or informal ban—do remember when the trouser suit lost its negative connotation?

Shirley: Mid- to late-’70s, and I always wear trousers now. They’re so much more comfortable than skirts.

Hicks: You had a business that was more about management consulting and systems analysis so that you and your company would not get stuck as being seen as “coders.” Tell me about being in a position where you were not just building infrastructure but were calling the shots about how that infrastructure might be designed for a company, or the government.

Shirley: There are some gender issues involved in this, because as the technical work started, it was considered to be very much a woman’s role. We were anxious not to tread on male territory because we knew that was dangerous. We moved from coding programming—my company was originally called Freelance Programmers; we only became Freelance Programmers Limited later—and we moved to include systems analysis. We set up a new company that just did systems and consultancy and started moving up there.

When it came to moving from technical to management, it was a different issue. It was a question of leaving an area in which you excelled or were at least competent and moving into an area in which I knew I was incompetent. I’d had no training; I read books, but there wasn’t anything that really referred to service companies. So it’s a difficult transition that most people don’t make happily. Many people opted out of the management role. My company eventually had dual career paths where you could either go up the management track or stay a consultant. So it was something that had to be managed. But you’re quite right. I did turn into a manager. Such knowledge as I have of the technical world is purely of interest and very superficial and lay. What I’ve become is some sort of a manager.

Hicks: The status of technical work has risen to the point where now at least in Silicon Valley, being technical is an entrée into powerful roles, into management roles, in a way that it really wasn’t in the mid-20th century. Do you have any thoughts on that change?

Shirley: I can remember talking with a banker and saying, “Oh. You know, we’re a technical company,” and he corrected me and said, “All companies are technical now,” which was probably certainly true of banking, and I think this is what’s happened with management. We all have to appreciate the potential and the strategic uses of technology, even though we may or may not be able to still code. There’s a movement in Britain to get children learning to code much, much earlier, and it’s quite clear that one can encourage that sort of discipline in very young children.

Hicks: What are your thoughts on these coding boot camps that have been popular in the past decade or so?

Shirley: Well, I’m out of date. Don’t get me wrong there. I’ve never been to one of these things. If I want to go to a camp and learn how to ballet dance or go to a camp and learn how to code, that seems to be absolutely fine. Why not? And so much of one’s life is spent working, but when it is a joy and a pleasure … I could never believe that I should be paid so well for doing something that I enjoyed so much, and that’s how work should be, and it can be in the technical world.

Hicks: If you hadn’t gone into computing, what do you think you would’ve ended up doing? What would you have devoted your life to?

Shirley: You know, I’ve never been asked that before. What would I be? I wanted to be a ballet dancer. I wanted to be a mathematician, to solve something called Fermat’s Last Theorem, which took another 40 years to do. So I would’ve been a pure mathematician, probably academic. I would’ve enjoyed it, I’m sure. But I don’t really think I had it in me to contribute at that level. I’m much better off in the real world, and I’ve had a wonderful career. I hope it’s not quite finished. As I say, I’m still an early adopter. I’m using a small robot to teach autistic children,
example, and I’m very proud of that, because I can still see that these are opportunities for things that I want to do in a very modern, 21st-century way.

Hicks: Would you talk a little bit more about your experiences with philanthropy related to autism and especially about the role of technology in helping folks who have autism or who have other disabilities?

Shirley: How long have we got? Autism is a strange disorder. It’s known to be genetic, but we don’t really know very much about it. What we do know is that it’s difficult to deal with, and difficult for the people with autism. I’ve set up several charities in the autistic field and so my experience is through them. A child that is dashing about in all directions could today be wearing a Fitbit bracelet to see what’s going on there. They could well be monitored how they’re sleeping, when they’re sleeping and so on. They could be using fingerprints as access keys, because child protection is very important with these very, very vulnerable pupils. Many of them are using iPads to communicate. Back in 1982—I remember the year because it was the International Year of Disabled People—I was starting to talk about using computers as a communication aid, as distinct from process control or calculations, to help the blind to see, the deaf to hear. Communication is vitally important for people with autism, so there’s a whole host of things.

Hicks: There are a lot of powerful, important things that technology can do to keep track of people, and sometimes they can be used in ways that are not necessarily good. For instance, recently in the US, IBM and other companies have been asked to claim they won’t use their technology to build a registry of Muslim people living in the US. Were you ever in a position where you either didn’t take a job or did a job differently because of the way you understood the technology’s potential to do harm?

Shirley: These issues are not particular to technology. You’re fringing on corporate governance and ethics. And yes, over many years in business, there were many occasions when we had to refuse work; in one case I blew a whistle. In one’s professional career I think one has to use the same values of responsiveness of truth that one does in every-thing else, and I don’t think the technology, per se, comes into it. All the things that we do in business, that we do with children, that we do in our lives, that we dream about or fear, all these are relevant to tech-nology.

Hicks: Like many successful businesspeople, you’ve had to walk a fine line between fitting into existing systems and using existing systems to your benefit and then also being willing to break the rules to build something more and to do something new. Would you characterize yourself as somebody who’s more rule bound or more of a rule breaker?

Shirley: Oh, I’m definitely rule breaker. I’ve been called disruptive, and the first time the term was used, I thought they were being rude or something, but yes, I’m disruptive. Partly because I have not been educated as much as I would’ve liked. Certainly in business, nobody told me the things that I wasn’t supposed to do, so I just went ahead and did them. So I broke a lot of rules because I didn’t even know the rules were there, and I think that’s quite healthy if you’re interested in innovation.

Hicks: It definitely seems to help when you look at who’s really made big marks in the industry and in the world. Because you are such a role model for women who are just starting out in industry, what do you think are the major global events that will shape young women who are coming into the field of computing today?

Shirley: Well, I’m trying to think on a world basis, and thinking of the developing world, the really important thing is birth control. It made such a difference to women in the 21st century.
Everything changed once you could control your childbearing, and that still applies on a world basis, and I guess in parts of the States. North America, at least.

Hicks: A few times I’ve heard you referred to as the Grace Hopper of Britain, and I know you’ve met Grace Hopper.

Shirley: What I remember of meeting her was that we were talking about women going on working—she was very polite about my achievements—and she said that she had made a choice early in her career to remain at a professional level, whereas her sister, of whom I’d never heard previously, had made a different decision and retired into domesticity as a wife and mother. I thought how sad it was that for so many years women had to make a choice, either/or, without realizing that they could do both.

Hicks: Grace Hopper, of course, has a very prominent legacy. She has a conference that tens of thousands of people go to each year that’s focused on solidarity for women in the computing professions. And I’m sure there are some things that, were she around today, she would say, “I’m not really too into that aspect.” If you got to fully define your legacy, what would you want to make sure it conveyed and looked like?

Shirley: We all have to remember that technology is neutral. It doesn’t have good and bad features to it. That only comes from its usage, so when it comes to the technology, it’s there and I would always want to improve it and cheapen it and speed it up and modify it, because that’s what I think is the best thing. My legacy—as one gets older becomes more and more conscious of legacy—I’m sure is one for women rather than technology. What I did in the field was absolutely trivial, but I was one of the first to move from seeing technology not just as something technical but as something that was social, legal, ethical, economic, and in that sense, that is my legacy.

Hicks: Tell us about the Oxford Internet Institute, which you support.

Shirley: The idea of the Oxford Internet Institute was not mine. Somebody approached me and asked for my involvement, and I explained that I wasn’t really in computing any more. They made the point that it was appropriate in my philanthropy for some of the wealth that had come from the computing industry to be reinvested in the industry, and I was persuaded to do it and I’m very glad that I did help them. I served on their strategy board for 10 years as well. It extended this concept of thinking of the importance of technology not from the point of view of its capability, of it’s potential, of the doors that it opened, but of its potential socially, economically, legally, and ethically, and I have been delighted with its progress.

Some of the things that it did in the early days were very basic but needed doing. They started keeping a record of how the internet was used. So they have very good records. They’re considering at the moment the issues of humor on the internet—there’s a whole range of things the researchers want to do. Several professors have already come in with their own interests.

When I set up a charity, my aim is always to have it freestanding, and I back away as soon as I can—that’s one of my strengths. I go there once a year. I have a date in my diary because I want to pick their brains about something, but I’m very proud that it should be now one of the leading international research institutes in the world, and I think, “Well, yes. My little part was helping it getting going.”

Hicks: Could you talk about why it ended up being named the Oxford Internet Institute rather than the Oxford Computing Institute or Computing and Society Institute or something like that?

Shirley: Yes. I was very involved at that level; we had endless discussions. Names, as I mentioned about my memoir, are very difficult and they’re very important. It is quite significant that the word “computer” does not appear in the title. It’s very significant. At one time we talked about not having the word Oxford, and an outsider said, “It’s got to have Oxford,” because that starts it off with some status. But yes. It is significant. The OII is particularly pleasant because you can play with 0,1,1—this sort of thing. It became part of its public image.

Hicks: What do you think of your portrait that’s hanging in Balliol College?
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Shirley: I’ve done several things for Balliol; my current project is life histories of its masters. I was nevertheless astonished when the master of Balliol said that they would like to do a portrait of me. I’m astonished how big it has turned out to be. My husband doesn’t like it. He thinks it makes me look much older. I like it very much. I think it brings out some of the distinctive characteristics. In particular, I’m holding a geometric solid that is reminiscent of the Jewish star, I suppose, which is what I was trying to evoke there, and of course, I’m holding a tablet.

Hicks: Did you have a role in choosing those artifacts?

Shirley: Oh, those sort of artifacts come with endless discussion with the artist, in this case, Saied Dai, who’s also a refugee. We got on very well because of that, but we’ve become friends. It’s a very intimate thing having your portrait done, and I’m very proud to have it hanging in Balliol. I find it significant how at my age now I’m getting so many honors. I’m so delighted to be recognized by the Computer History Museum. I’m conscious that these accolades are flooding in on me at the moment, but I have time. I enjoy them. I serve as a role model; that’s my role in the computing industry at the moment. If I can help today’s women, that’s what I want to do.

Hicks: What would you say to a young woman or maybe a young gender-queer or non-binary person who’s in the field of computing today who is thinking of leaving because they feel like they don’t fit in?

Shirley: Well, my advice is always to the employer. If women are leaving like that, you have to do something about it, and that means things such as holding what I call “stay interviews.” You interview women, and even perhaps all young people: “How are you getting on?” You don’t wait until they’re leaving and discontented.

As far as individuals are concerned, the world is open, especially with technical skills. If in employment, something doesn’t work, then go out and find something else in the world to do, because we spend a lot of time at work, and if we don’t enjoy it, life is pretty gray, and that’s not necessary. If it doesn’t work, go and move. With any project, you go under it or through it or around it or over it. Just do something else.

Hicks: I bet that’s advice a lot of young women would like to hear now because a lot of folks who have talked to me about my book [Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing] say things like, “Oh. What you’re describing in the ’50s and ’60s, it’s so similar to how we’re treated today.” And they feel enormous guilt about leaving a field in which women are underrepresented because they feel it’s their duty to stay. But it sounds like you’re saying, “Don’t feel that way.”

Shirley: I am very, very disappointed how little the gender issues have moved on over a very long lifetime. But there it is. We have to be realistic, and the world is open to all of us.

Hicks: I think that message will help a lot of folks. As you are cementing your position in computing history, I was wondering if you could talk about what you think is still left out of computing history. Are there things that you feel are under-discussed or under-studied?

Shirley: Well, under-studied is analog computing. I can remember, in the ’60s, serious discussions as to whether the computing world was going to go analog or digital, and the decision quite clearly and rightly is it went digital. But what happened to analog? It must’ve progressed. It must still be in use in certain processes, and one never really sees anything about it. Are there mixed computing systems of which I know not? These are areas where, again, I’m jumping outside the rigid boundaries of digital computing and saying, “What else is there?” Are there new input devices that are quite different from what we have at the moment? I can remember when we had keys to get in and so on. I think I would want to develop some holistic ideas of computing rather than the narrow processes of faster, better.

Hicks: What are the biggest problems vis-à-vis technology that the UK faces today, and what are the areas of greatest promise?

Shirley: Artificial intelligence, I think, is the area of greatest promise that I know of. I do view artificial intelligence not as something that is just today’s technology, because we were working on it about 15 years ago; in 1998 I was doing things that I can clearly see tie up with some of the AI stuff today. I believe it’s going to make a great difference in the world and that some groups
have the responsibility of making sure that it is not too divisive, the haves and the have nots. I know I’m not one of those, but I can see not only the dangers but also all the possibilities, the potential. It’s going to be terrific.

Hicks: What would you say to someone who is not technical, who doesn’t really understand computing, about why they should care about the history of computing?

Shirley: Any historian bringing their discipline into the world of technology has a lot to give, because it is not only strategic in world affairs but it’s also moving very fast. You can see the difference between the sort of programming I did, where I would get two turnarounds on a computer a week, compared with what’s going on in my Apple watch. It just seems like a different world, and it’s still moving faster. Make sure that we know, partly to learn, partly not to repeat yesterday’s mistakes. But we really have to record for national and international reasons what has happened and is happening, including the things that didn’t work, because a lot of researchers only talk about the successes, “What did this and did that?,“ and they don’t talk about the 17 other things that they tried and didn’t work or went wrong. Recording that is very valuable, and that’s why people are prepared to give time to the museum. I mean, the museum has some of my work papers, for example. Now, they’re there. They get more and more interesting the older they are.

Hicks: If you were visiting or taking friends to a computing history museum, what would you like to make sure that museum did that they might not do already?

Shirley: The emphasis on software, which is very hard to demonstrate, but it has to be software and the man–machine interface and so on—most of which is ignored. It’s all hardware. We have a very small computing museum in the UK in which I appear, so I’m a museum piece already, but the emphasis is very much on hardware.

Hicks: What are your thoughts about how one could make and engage a museum exhibit about software given how ephemeral it is?

Shirley: I would think using something like virtual reality.

Hicks: One last question. In the US at least in Silicon Valley, there’s sort of this moment of reckoning as regards sexual discrimination, sexual assaults, sexual harassment. You’ve mentioned a couple of times that, for instance, while pitching a piece of software or trying to get a contract, a high-level government minister had pinched your bottom. Given your experience and seeing what’s going on now, what’s your feeling about how things have changed, or haven’t?

Shirley: Well, I don’t think they’ve changed as much as one would’ve hoped. They have changed enormously from my youth when we were second-class citizens. We were disallowed from certain things, important or unimportant. Today, women still have a long way to go. Some of today’s issues are, I think, trivial. Why is it worth speaking about that? But some of them are not trivial. They’re very important. They attack people’s very being, and it is right and proper that women should, whether individually or in groups, really address these issues and say, as does my family’s saying, “Up with this I will not put.”

ABOUT THE AUTHOR

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