Oral History of Richard Boucher

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Elliot: All right, my name is Dane Elliot. I'm here today with Dick Boucher to do an oral history. Today is August 29th, 2016.

Boucher: And I'm Dick Boucher on the same date and also an ex-Intel employee, retired.

Elliot: So we're going to start with the beginning, okay?

Elliot: And I'd like you to tell me a little bit about the family where you were born, raised. While that's not part of the outline it is some of background that we'd like.

Boucher: Okay, I was born in Chicago, Illinois in 1927 and raised in a little town in Wisconsin called Manitowoc, not too far from the Green Bay Packers, and grew up there and married my wife there. We went through high school together in Manitowoc and then I went in the service. I was in the navy for a couple years, got out of the navy, went to school at St. Norbert's College.

Elliot: St. Norbert's was a local university?

Boucher: St. Norbert's was in De Pierre, Wisconsin, a Catholic college right outside of Green Bay.

Elliot: More Green Bay here, so last weekend you were happy that Green Bay beat San Francisco.

Boucher: Yes, and it was very easy.

Elliot: So tell me a little bit about St. Norbert's and why you chose a degree in chemistry. Why were you selecting that particular field and a little bit about the college itself?

Boucher: Okay, when you say I selected the field, I'm not sure I gave it a lot of thought. Came out of the service and knew I wanted to get a college education, and so I went to St. Norbert's and I got very interested in chemistry, so I took a lot of chemistry courses and actually got my BS degree in chemistry. But actually, I took one course in microbiology and thought it was really great and interesting, so then I applied to go to my graduate work at University of Wisconsin in microbiology. I actually got a degree in bioengineering and microbiology, meaning it was the microbiology not related necessarily to medical stuff.

Elliot: It is interesting to me that microbiology and engineering in terms of microbiology was something that was actually subject matter in the '50s. Just seems like a long time ago. Today, everybody talks

about microbiology and how it's related to computing, but microbiology probably didn't mean the same thing at that time.

Boucher: Probably not. Microbiology at that time was more medical. I was, in was the end, relating to industrial, more the fermentation field and that end of the business.

Elliot: Surprised you didn't end up making wine somewhere in your spare time.

Boucher: Actually, in graduate school, we did make wine. Now, I'm not sure it was part of the course.

Elliot: [laughs] And then at a later point in time, I mean, you went to work, but at a later point in time, you went back to school at UC Berkeley. Tell us a little bit about that and what the motivation for that was.

Boucher: Actually, I went to school at UC Berkeley while I was working at Cutter Lab and I was in the biological end of the business, but I was manufacturing of biologicals, so I went back to University of California at Berkeley and got a-- actually, a certificate in production management, which included finance and all the things related to production: how you manage it, how you make it successful, and so on.

Elliot: Okay, so now you have the capability of not only creating the products but you have the wherewithal to manage the development and production of this as well.

Boucher: Yes.

Elliot: Was that an overt goal at that point in time or did it just come out that way?

Boucher: I think it probably came out that way. I found out that I really wasn't a researcher, even though at Cutter, I had developed and was running an anthrax group for a while and at Cutter I developed an avirulent vaccine for anthrax, but I didn't consider myself a researcher. I enjoyed more the manufacturing and the managing of getting products out.

Elliot: Now, this is at Cutter Labs, which you joined in 1952?

Boucher: Yes.

Elliot: For those of us who are not educated in the biological area, tell me what avirulent actually means.

Boucher: Anthrax is a virulent bacterium that kills animals and virulent means it kills people. It gets into your bloodstream and kills you. I located a strain or developed a strain that was avirulent (did not kill), but when you put it into a vaccine, it still produced immunity for the animal.

Elliot: The antigens?

Boucher: Yeah.

Elliot: I understand. Now, you also did a lot of work in human biologicals with blood and plasma and serums and vaccines other than that. What were those?

Boucher: I was put in charge of producing all the human biologicals before I left Cutter. That means we used the eggs and all kinds of things for producing the different vaccines. I also ran the blood fractionations group for a while, where we would get people to contribute their blood and we fractionated it into the different compounds to get the different immunities in the blood. These are used to inject into people, giving them immunity for a particular disease. A vaccine develops immunity in the person receiving the vaccine.

Elliot: How would you characterize Cutter as a company and your experiences there?

Boucher: Oh, well, it was a first class company. The guy that ran it was Dr. Bob. I don't know whatever happened to him, but it was a company that took care of their people well, treated them well, and gave people great opportunity for moving around into different jobs.

Elliot: Excellent, but you did leave there in 1958. Where did you go from there?

Boucher: In 1958, I went to a company called Biofirm, which is in Bakersfield or Wasco, California. Two people that had left Cutter had gone to work there and so they recruited me to come to work for as the Assistant Director of Development for developing products through fermentation and chemical engineering. I ran their pilot plant.

Elliot: And one of the products I know you worked on there was the glutamic acid, which I assume we know commercially as monosodium glutamate.

Boucher: It's a precursor.

Elliot: Precursor?

Boucher: What happened is, we had developed a fermentation process to produce glutamic acid and then glutamic acid can be converted to the monosodium salt, which you refer to as Accent, and in fact that particular process was the reason that the company was bought by International Mineral and Chemical, to get this fermentation process to get because they were extracting monosodium glutamate from molasses, sugar beet molasses, stored in tanks. Very, very messy, difficult process and also lots of contamination when they dumped the stuff down drains and so on.

Elliot: Ecological contamination long before we get into the semiconductor world. So monosodium glutamate was not invented or Accent wasn't a new product as a result of what you did. This was an alternate way to achieve the product?

Boucher: Yeah, it was a fermentation product, the glutamic acid, and then you converted it to the monosodium salt and now you have Accent.

Elliot: Turns out that it's still a huge business.

Boucher: You know, I haven't paid any attention in years. They still sell Accent?

Elliot: I believe they still sell Accent and I don't use it myself, but I don't use much salt.

Boucher: But the plant that they had in San Jose is closed down several years ago, so I have no idea. Even though I hold the patents on the process with another fellow, I have no idea if they're still using the process or not, so the one dollar I got probably got and they probably owe me another dollar.

Elliot: That's all they paid for patents back then was a dollar?

Boucher: That's right, yeah.

Elliot: Interesting. So moving on to International Mineral and Chemical in San Jose, basically everything was the consummation of what you developed at Biofirm Corporation.

Boucher: Yeah, but we had to put in all the tanks and everything, but I essentially managed the conversion of the process from sugar beets to a fermentation project and then its ultimate, you know, converting to the monosodium salt.

Elliot: Can you tell me what the difference in costs in doing it one way versus the other was?

Boucher: You know, I don't think I have a real good handle on that. My guess is (but I'm guessing) that it was monumentally cheaper because you're using bacteria to produce a product and you didn't have to store molasses and haul it across the country and get rid of the discharge.

Elliot: Okay, well, after International Mineral and Chemical, you moved on to Memorex Corporation, which I believe was at the beginning of the corporation. Now, to me as an outsider, it looks like this is a huge change for you, going from chemistry and producing monosodium glutamate ultimately to the computer world, where it still may be not related to semiconductors, but it's really related to the magnetic tape that was in use so heavily at the time. What motivated you to make that change and how different or similar was what you did for Memorex?

Boucher: Well, the reason I made the change is that two of the fellows I worked with at Cutter, Rex Lindsey and Larry Noone, started Memorex, along with Larry Spitters. Noone and Lindsey came after me and wanted me to come in and run their manufacturing, because I had worked for both of them at Cutter. Again, keep in mind I wasn't the technologist but I understood all the technology and I was running the manufacturing of human biologicals, so moving into another kind of technology but still manufacturing. I thought it would be something I would like to do and could do.

Elliot: And did you find it so?

Boucher: Yes. Yeah, did very well in it.

Elliot: And I know we've kind of touched on this, but you basically set up a manufacturing plant to produce plastic reels for computer tape, so what was being used before plastic reels?

Boucher: No, we were using plastic reels, but they were very expensive. We had, begun the use of management by objectives program, so we had put together different objectives to manage. One of the objectives was to produce a plastic reel for two dollars or less, and so the result of that was, we built a plastics facility in Los Angeles to produce plastic reels, an injection molding plant. And it was successful.

Elliot: Okay, and one of the things you told me before was that a lot of the materials came from Europe, the base materials, I assume, the polyesters. Tell us a little bit about that and why you did that and what a duty drawback really is.

Boucher: Actually, we were manufacturing, computer tape, the base material was a polyester and we were buying it from companies in the US initially, but we then converted to buying from companies in Europe still US owned companies. We bought them in Europe, so when they brought the products in to us, they had to pay a duty and we worked out a duty drawback, so we drew back a significant reduction in costs by drawing their duty back that they paid, because we're using the product in the US that they pay duty on.

Elliot: And this was a program that was sponsored by the federal government?

Boucher: No, it was a program allowed by the federal government, as if there's any difference, but it's not something anybody was doing at the time and I'm not sure how we fell upon it, but worked out very well. I went to Europe and negotiated an agreement and worked out extremely well.

Elliot: Were these companies the same company you had started with in the US and just they're European plants.

Boucher: Yeah, in fact it was DuPont.

Elliot: It was DuPont, okay, excellent. How were they in terms of being pleased with this kind of a deal? Did they make more or less money on it?

Boucher: They continued to have our business, which made a big difference, because we were a big user at the time, so it wasn't a threat. It's just that that's the way they maintained their leverage with us.

Elliot: Now, just to be clear, the tape that you were creating and using was used in computers, right, not audio or video.

Boucher: Yes.

Elliot: Did you eventually go into making this for videotapes?

Boucher: Yes, we did. Yes, with videotapes and other types of audiotapes, but the big products were videotape and computer tape.

Elliot: Same kind of quality issues and what not for both of them or is there different quality required for different products

Boucher: Video is much more demanding than computer tape.

Boucher: It depends upon where you use it. Some computer tape used in heavy NASA activity and so on, that was very demanding, but in general, videotape was probably much more demanding.

Elliot: Basically because people can see the results better or not as opposed to just recording information.

Boucher: Well, in computer tape, it's more than recording it. if you have a flaw, if you have what they call a dropout, then it destroys the storage of the information.

Elliot: Did they use any error correction codes or anything at that time?

Boucher: I think that's before this became an issue we're really early here.

Elliot: We're really early here, okay, because I know that in terms of improving the quality, ECC became a technology and did a lot for digital tape. Now, the videotapes that were talking about, they weren't digital videotapes at the time. They were analog.

Boucher: No, analog.

Elliot: Now, you mentioned the fact that there was a time when you were responsible for metal reels and I didn't understand the issues there. You want to elaborate on that?

Boucher: Well, in some areas of the government, they didn't use plastic reels; they used metal, and we had a company in Los Angeles called Substrate Corporation that produced them and I happened to run that.

Elliot: So it was basically a customer requirement.

Boucher: Yes.

Elliot: There were certain customers that weren't happy with plastic, so we had to have that on it, okay. And tell us a little bit about the disc pack development that was also, I believe, done down in Los Angeles and then brought up here.

Boucher: Yeah, we did the development of disc pack manufacturing did the initial work down in Los Angeles and I think it's because there was some equipment down there that was needed and then we moved it up to Santa Clara and built a plant for it and so we were then into the disc pack supply.

Elliot: Okay, and by disc pack, you mean rotating media on large computers?

Boucher: Yes, rotating media, yes.

Elliot: Meaning you can take the disc out, put another one in?

Boucher: No, they were disc packs. In other words, they were storage media and you took a whole pack and moved it into a disc drive.

Elliot: Okay, so this was like some of the early IBM machines that I learned on, where you had a drawer and there was a disc pack that could be changed out in there. Not a lot of storage on those, as I recall

Boucher: No.

Elliot: Who was the customer for the disc pack? Was that an IBM, Burroughs, Univac business?

Boucher: Who was it? Yeah, IBM, but lots of the big storage companies.

Elliot: Okay, so back in the day, it probably would've been in the Honeywell, Burroughs and other big computer mainframe companies

Boucher: Yes.

Elliot: Now, you're also responsible for P&L there, so tell me a little bit about that and the revenue growth that you managed while you were there.

Boucher: I was responsible for what's called the information media division and it was producing about $50,000,000 in revenue per year. But the disc pack prices had dropped tremendously, 35 percent, 40 percent, and so we had to cut direct costs and marketing by, you know, 20, 30 percent just to stay even, which we did, we stayed alive.

Elliot: Now, those didn't last, obviously. We have completely different media at this point in time, so basically, what happened to the corporation and that business in what timeframe?

Boucher: I was interested in managing a start up so I spent a year or so as President of CMX Systems a joint venture between Memorex and CBS. The product was integrating computers with videotape editing. The CMX 600 did a rough cut with editing decisions stored on Memorex disk pack drives for random access which took the decisions and auto assembled the final program. I had written to the Emmy Award Academy requesting we be considered for an Emmy award for technology achievement. Result was CMX Systems was awarded an Emmy award in 1973 for outstanding technical achievement. I asked my CBS counter part Harry Smith then a CBS VP to accept the award for me. We kept the award in a glass case at our office in Sunnyvale. When we (CBS, Memorex) decided to sell the company the award was very useful in selling the company to Orrox Corporation, Bill Orr, in 1974 along with the Emmy.

Boucher: I left and ultimately, I think it was sold to Burroughs, but I'm not sure. When I left, they were still doing okay, not fantastic.

Elliot: But the writing was pretty much on the wall that this was going to be superseded by something else. Okay, any other comments about Memorex that you think should be included here?

Boucher: No, other than that it was a good company to work for. I mean, they treated their people very well and I enjoyed working for them.

Elliot: Okay, you did a short stint at Electronic Arrays. You want to talk about that a little bit?

Boucher: Yeah, I was approached to go over there to be the president. Actually, it was the president--there's two in a box and the other one was Moshe Gerson, who was not well at the time and in and out, but a very tough guy and so the two of us sort of managed the company and so I introduced management by objectives and some of the things that I'd learned at Memorex, and also got them going on their first microprocessor program.

Elliot: Now, a lot of people don't recognize that Electronic Arrays was in the business of developing microprocessors, and this is obviously after Intel had introduced the first one in '71, but they were going through a lot bigger fish, if my memory serves me correctly.

Boucher: Yeah, it was, I was only there for a year, so it wasn't anything that was big. They weren't working anything significant. As I say, we started the first microprocessor program, but then I left before it came to fruition.

Elliot: And what was Electronic Arrays like beyond the fact that Moshe and you had a mutual management responsibility?

Boucher: Well, no, we had a good relationship. It's just that I'd never worked in a two in a box situation before.

Elliot: But you did subsequently.

Boucher: I have subsequently seen a lot of it. I don't think I've ever done one personally, though, even at Intel.

Elliot: That was certainly a big thing at Intel at one time or another.

Boucher: Yes.

Elliot: So after the year there, you were recruited to join and run Microma. Now, I've done a little bit of research there and I understand Microma was originally started on the east coast, which I didn't know...

Boucher: I didn't know that either.

Elliot: ...and then moved out here, and I've still got some details to work out, but one of the guys that I've been talking to was talking about the original patents were actually obtained by an east coaster and the company started there, so I need to work out those details, but you came on in, like, '73.

Boucher: Seventy-three, seventy-four.

Elliot: Okay, and you were hired by Bob Noyce and Gordon Moore. Tell us a little bit about the motivations their and what you walked into when you joined the company. And again, there's a transition here and motivation for the transition would be interesting.

Boucher: Well, I was very impressed with Bob and Gordon. You know, they were giants even then in the industry, so I was very flattered they even considered me, and then I interviewed also with Andy Grove and it's a gross understatement to say, a very straightforward, demanding kind of manager, and we sort of hit it off, so it was OK but going into Microma wasn't going into Intel. Microma was a small organization, not necessarily well run. I don't know if I said that right, but I mean, it wasn't being closely managed. So it was a very difficult startup, getting started for me and understanding everything went on.

Elliot: Now, two of the founders were Don Rogers and Bob Robeson...

Boucher: Yes.

Elliot: I don't think you really ever knew them, so I assume they were gone by the time you arrived.

Boucher: I knew Robeson, but not Rogers.

Elliot: So he was still there when you came on board.

Boucher: No, he was-- came in a couple times.

Elliot: Okay, had a vested interest.

Boucher: He had a vested interest, and of course, his vested interest, he'd probably already taken out.

Elliot: You hired and managed a bunch of people who turned out to be superstars in a lot of other areas. Why don't you tell us about them?

Boucher: Keith Thompson ran Manufacturing for me and he was the right hand man of Andy Grove, and so I was really pleased that Andy said, well, he would, if I would be willing and wanted to, have him move over and Keith came over, and then I hired Jim Beck to run Engineering, and Des Fitzgerald also came over from Intel and he ran Quality Control, and he really did a good job at Intel, so I was elated to have him. I hired Irv Cooper for Sales. I'm trying to think where Irv came from, but he'd run a sales organization for someone else. I'm trying to think where. Can't think of it right now, and then had Simon Chang. We hired him for LCD development and Rich Melmon came in for Marketing and Liz Mackelfish ran Personnel.

Elliot: Simon Chang was a particularly interesting hire and very instrumental at making the whole thing come together, I believe, because of the LCD development. You want to talk about that a little bit?

Boucher: Yeah, in fact Bob and Gordon would come over often to look at the LCD display stuff that Simon worked on. He was really instrumental in getting the LCDs to be an acceptable product and worked well so that they never had any problems later on, but initially a lot of work, and he gets the credit for doing that.

Elliot: Now, just for reference, the state of the art before LCDs was LEDs, Light Emitting Diodes, and the big deal was that light emitting diodes consumed a lot of power, so the watch was only on when you wanted to look at it by pushing a button or something, whereas the LCD was a continuously viewable display because it used so little power.

Boucher: It was a watch. An LED display was a product where you could tell the time if you wanted to, but you couldn't tell the time all the time as we could with LCDs.

Elliot: Jim Beck ran Engineering. How big was the engineering organization?

Boucher: We probably had 10 to 12 engineers.

Elliot: Okay, so not huge, but substantial for the required work.

Boucher: Not huge, oh, yeah, but pretty good sized considering the timeframe and so on.

Elliot: I mean, there certainly weren't larger teams at Intel building chips at the time.

Boucher: No.

Elliot: And these guys did semiconductor engineering, developing the original CMOS devices?

Boucher: Actually, Intel still did the design of the chips and our engineers met with them to tell them what we wanted in the chips and what they had to do and then check the chips out, in our products.

Elliot: And I believe at that time, that was probably the only fully CMOS device that Intel was producing.

Boucher: I think you're right, that is.

Elliot: Today everything's CMOS, but not in the 1970s.

Boucher: Everything's CMOS, yes.

Elliot: Back then, it was a big deal but it was only for extremely low power applications.

Boucher: And a single chip.

Elliot: And single chip. That was another big deal that I don't think a lot of people recognize: the fact that it was single chip. Prior to that, watch chips had off board drivers.

Boucher: Yes.

Elliot: So they were much more difficult to assemble. They were more expensive to manufacture because of the additional devices. Why was it possible for Intel and Microma to come up with a solution that was a single chip as opposed to...

Boucher: Well, course Intel bought Microma and Intel had the technology and could make Microma, technically speaking, successful. Microma didn't design the chips. Intel had the capability. Microma supplied what the need was.

Elliot: One of the things that I've heard repeated a number of times is, the motivation for Intel to get into this business, being it's a technology business. Want to comment on that?

Boucher: Yeah, they went into it as a technology business, but it wasn't a technology business; it was a jewelry business. In fact, we showed our watches at jewelry shows and so on, and so it was a jewelry business. Keep in mind, that this is before the Fry's Electronic and companies like that were around, so there weren't any technology consumer products, and so as a result, we had a watch that we were selling to jewelry stores and people bought them as jewelry items. Some people may have bought them as technology gadgets, but not very many.

Elliot: Any other comments you want to make about the personnel and staff that were there, their contributions?

Boucher: I don't think so. Keith Thompson, who did a super job, ultimately ended up as a vice president at Intel when we went on and closed Microma. We had a number of other people that, you know, ended up doing well at Intel. Right now, today, I believe the assistant to the Chairman of the Board of Intel is an ex-Microma employee, so they're still there.

Boucher: They're still around.

Elliot: Okay, Microma had a lot of different values, and I'm not sure that I've gotten the numbering right on this, but the 5810 that is shown here, was used in the Microma Watch and was the first SOC (System

On Chip). You and I were discussing what that actually meant System On Chip, Silicon On Chip or Single On Chip. The implication was that Microma delivered a lot of technology firsts. So you want to go through and talk about Microma in terms of kind of who they were, and what they did?

Boucher: Okay, we introduced display backlighting, so that you could-- and we put it on all our products, so that you could see the time all the time. We had the originally Liquid Crystal Display, it was a gold display, which in the light, didn't show well, but when we advanced the LCD with backlighting, you could see it all the time. Some of the other problems we had to solve were-- it sounds simple, but it wasn't-- we had trouble getting enough watchcases. We got most of our watchcases from Hong Kong. Very difficult arrangement going, getting them from Hong Kong and meeting our needs and so on. So we invested in watchcase manufacturing equipment from a fellow, I think his name was Paul Zutter. We also invested time and effort to make watchcases, but we never were successful. It required more metal fabricating understanding than we had. So, although we tried hard, but we didn't make it, so.

Elliot: So ultimately you went back and continued to buy them from Hong Kong.

Boucher: So we would buy them from Hong Kong.

Elliot: What was the difficulty getting the supply chain going from Hong Kong?

Boucher: I don't know, it was just a difficult arrangement. And lots of reject products, and it was maybe because there were inexperienced. Fairchild was also in the watch business at the time, and the demands of the digital watch were very different from other semiconductor requirements. Watchcase demands were mechanical and there were many different sizes and shapes needed to satisfy the market, very than for the other products the industry had experience with.

Elliot: Okay. Now your biggest-- or your initial large contract was with Penney's, and I believe Irv Cooper was the one responsible for that. Tell us about that, and how significant that that was.

Boucher: Well, that was really very significant, because Penney's had it throughout their whole chain. And Irv Cooper is the one that lined it up. I remember coming to New York and having dinner with the Chief Purchasing Agent and so on. And they put it in all their stores. And you know, it worked very well for us.

Elliot: Okay. Were there other things that made things go very effectively?

Boucher: At about the same time, there was an article in *Business Week* about Microma and Intel's investment in Microma, and the LCD display, which was very positive that the LCD was really the way to go. And it was very positive about Microma and Intel. So it was very, very helpful in marketing our products.

Elliot: Okay. Now, you told me a story about some of the problems you ran into when you first arrived. Why don't you tell us about that one again?

Boucher: Well, when I first arrived, and I'm not quite sure how I figured this out or understood it, but our nightshift, we had a shipping department that was shipping at night, was selling watches at night out of the back door, taking orders over the phone, and delivering watches, not for Microma, but for themselves. They were actually stealing product, and selling it. So I contacted the Sheriff's Department, and they were kind enough to put an undercover agent in, and we got him on the nightshift, and he was a guy driving a big Harley, with a big beard. And he actually set up a buy for some watches. Gordon Moore put up the money for the Sheriff's Department to make the buy. And so one night, the Sheriff's Department, the deputies came in, and arrested a lot of people. Of course, we let those people go. So that was sort of an introduction to nighttime stealing for me.

Elliot: Obviously, the people were arrested and prosecuted. But, I guess I'm curious as to what the effect on the rest of the company was when you did that?

Boucher: Positive. I have a feeling that maybe a lot of people didn't know about it, or maybe the fact that it was going on for quite a while, which I don't know. Maybe it was accepted practice, I don't know. But the rest of the people were very, very pleased to find out that we were taking actions that we took.

Elliot: Excellent, I understand you had a lot of contact with Bob and Gordon on the development of the Liquid Crystal Display. Why were they so interested in this?

Boucher: Because it's technology. I mean, when you stop and think, they weren't interested in the chips. They knew all about chips. But we didn't have a Liquid Crystal Display capability within Intel. And so it was interesting to them. They spent a lot of time with Simon; they'd be looking at his progress on LCD development efforts. They spent more time with Simon than they spent with me.

Elliot: So where did the Liquid Crystal Displays get manufactured?

Boucher: We did it at Microma.

Elliot: At Microma. So you had your own process line there for LCD displays. And I believe it was probably the first LCD process display line in existence.

Boucher: You may be right. I don't know that, but I was more interested in getting ours going right.

Elliot: Now, one of the big problems that we all know that Digital the Watch industry faced was the fact that it was really a distribution jewelry business, not a technology business. But to that end, you introduced a second brand line for Microma to help address this.

Boucher: Yes.

Elliot: Tell us a little bit about that, and where it was marketed.

Boucher: Even though we didn't understand the consumer business, we did have knowledge that you couldn't sell the same brand to a discounter that you sell to emporium. So we introduced a second brand called SyncroQuartz, and we sold it to the discounters. The discount clients like, I'm trying to think of whom at the time that they were. It wasn't Costco, because they weren't around. Oh, I think it was like Sam's. They were Sam's discounters.

Elliot: Oh, Sam's was an example of that. Was that a successful product line through the discounters?

Boucher: It was a product line that we sold product to. I wouldn't call it monumentally successful.

Elliot: Now you've talked about the fact that the watch was a piece of jewelry, and not a technology issue. Was that, in your opinion, the biggest issue facing the success of Microma as an organization, was this your the perception of what you were doing versus the reality in the world?

Boucher: Intel invested in Microma, because it was a technology opportunity with the capability to spread it throughout the world. It turned out, that wasn't true. And Intel was a technology company, so it really didn't fit. They didn't feel themselves competent or interested in being in a consumer business competing with a product that isn't perceived to be first-class technology and leading an industry.

Elliot: I know, Intel has always shied away from consumer business, or let's say, in future years they continued to shy away from consumer business. You think this whole effort and all was a significant part of their insight into whether they wanted to be in the consumer business? Did it affect how they thought longer term?

Boucher: You know, I'm not really sure. I think when Andy did the Intel Inside program. Since he was so heavily involved in Micrema, I think he had more of an understanding of Marketing, of a consumer approach, to marketing than he would have had without what we went through.

Elliot: Up to that point in time everything Intel did was technology, marketed as technology, not a consumer oriented type of situation. That changed with Micrema's TV ad.

Boucher: We convinced Gordon to do a TV ad. We did the ad with the actor who played the priest in M*A*S*H., a guy named William Christopher. Gordon approved the ad, which I think a lot of people in Intel were very surprised, because it was a consumer ad.

Elliot: But let's talk about the ad for a minute, okay. So this was Intel's very first TV ad. And I assume you hired a television producer, and had all this stuff done?

Boucher: We hired an agency to put it all together. I can't think of the name of the agency, but we went down to Los Angeles when they produced the ad, Christopher was there, and they did a good job in the production of the ad. We sent out notifications to all of our customers as to when the ad would be shown and so on.

Elliot: Okay. You mentioned the fact that you didn't think the ad was as successful as it could have been, because of the coordination with the supply chain and whatnot.

Boucher: Yeah, we didn't have a good handle on the relationship, the consumer business, and to the supply line. A lot of the customers ran out of product. And we weren't really cognizant of managing when the ads would run, so that all the stores had inventories in those particular areas and so on. So it was a learning experience.

Elliot: So the ads ran in particular areas at different times.

Boucher: Yes, yes.

Boucher: We let people know they were running, but we didn't monitor their inventory.

Elliot: Let's talk about the repair facility issue.

Boucher: I think our warranty was one of the things that was very positive for Intel is that. I recall it was three or four years. Intel wanted to make sure we had a facility to honor the warranty, no matter what happened to the company. So we set up a separate repair facility, a warranty facility that ran for, maybe four years beyond when we sold Microma to Timex. We didn't warrant Timex products, but we warranted Intel/Microma products, and that facility, in fact, I ran that facility, amongst other jobs I had, made sure it was there, and the people were there. But they were Intel employees, and it was there for at least four years. So along with placing all the people and the warranty, it says that the company, Intel, had a lot of integrity.

Elliot: You also negotiated a number of agreements as you shut down Microma. So Microma actually goes on until-- what was the date you actually closed the company, or the timeframe?

Boucher: I think we closed it in-- I'd have to look. Probably 1976.

Elliot: In closing Microma, you spent a lot of time negotiating watch agreements with other companies. And agreed to supply watch chips to them for a long time. But eventually, as you shut this whole thing down, how did that go? Who went where? How was it received by the employees?

Boucher: Well, I think, fortunately, Intel was hiring a lot of people. And Microma employees, once we announced the closure, had first shot at all the openings. All the people that were considered competent and had good reviews and so on, and were doing their jobs were eligible. And we placed anybody and everybody that wanted to be placed. So Microma employees had first call on all the openings.

Elliot: Now I believe the engineering organization actually went with the sale of Microma.

Boucher: When we sold Microma, we sold it to Timex. And we had an agreement with Timex to take the whole engineering organization. And also part of the agreement with Timex was that we would supply the watch chips, we had a long-term agreement with them. And so it was a very good relationship.

Elliot: In previous conversation's, we've discussed the fact that they basically took everything Microma had to design and manufacture digital watches.

Boucher: Everything. Equipment, tools, everything we had.

Elliot: And the engineering organization stayed down on Bubb Road, locally here.

Boucher: No, actually they moved to another facility that Timex ran. And they-- the total engineering organization went with them. And Jim Beck went with them and ran it all.

Elliot: What happened to Simon who developed the LCD display?

Boucher: Simon got a top-notch engineering job back at Intel, and stayed there for many years. In fact, when he left and started his own company. When I retired, I even joined his Board. And of course, I mentioned earlier that Keith Thompson stayed with the Intel. He became a Vice President and General Manager of a division. Liz McLelfish had already gone back to Intel before that., Dick Sermone who was running personnel for Microma went back to Intel, and ultimately became Vice President of Human Resources. So Intel was very good at finding places for all the people that wanted to stay and who were good people.

Elliot: And they were with us in Marketing at Intel for a long time. Interestingly enough, I think that really is kind of a measure of how companies operated at the time. They were really concerned about their employees and they wanted to make sure that things worked well. Do you agree with that?

Boucher: Well, I can't speak for all companies. But I can speak for Intel. Intel was more than understanding and wanting to make sure that their employees at Microma were given proper opportunities and jobs in the company. As I mentioned earlier, one of the Chairman of the Board's Assistant used to work at Microma.

Elliot: All right, so one of the things we kind of skipped over was some of the business opportunities that you negotiated some supply and distribution agreements. There was one large Swiss company that you worked with, but it didn't work out particularly well. Want to talk about that little bit?

Boucher: Well, this is after when I first arrived at the company. We negotiated a large module contract with the company called SSIH. They produced Omega watches. Although we negotiated the agreement, it turned out we couldn't meet the specifications when we put it into manufacturing. We had lost a fair number of engineering people when we had management changes. And so as a result, we failed to be able to meet the contract. It was a good learning experience, because, rest assured, after that we were very careful in what we did, and we reproduced, you know, high quality products, and we had good quality control, and really had a top-notch engineering organization.

Elliot: Right. And you delivered on-time, on-quality for a long time.

Boucher: Yes, in fact, along that line, Andy Grove sent us a great big poster with the four managers' names on it, showing a watch. And on it, it says, "Intel delivers. Microma also delivers." And if you know Andy Grove, that was a top-notch compliment for a tough taskmaster to the Microma people.

Elliot: Yeah, I think that really was a compliment. You also set up distribution organizations in a number of other countries?

Boucher: Yes, we had distribution in Japan, Europe, but not South America, but we had distributors that distributed, but we had organizations in those other ones. In fact, we had one fellow that reported to Irv Cooper that was in Germany and ran Europe.

Elliot: Was that a new learning experience for you? I know you were in Europe for the Polyester business when you were at Memorex.

Boucher: I didn't have any direct experience I wasn't selling product then. I was buying a lot of product. This is our first shot in my Microma/Intel life for distributing in Europe. It worked out well.

Elliot: So you sold the assets and the product and the technology from Microma to Timex**.** Earlier you mentioned that there was another potential buyer at the time that failed to work out. Who was it, and why?

Boucher: It was Gillette. In fact, I went in to meet with Gillette. I didn't tell my people I was going in to meet with Gillette, because by that time, we knew we were wanted to sell the company but we hadn't necessarily announced it. We had a contact at Gillette and I went in and made a Proposal to them to sell the company. And they were interested. They sent people out, but they didn't officially come out to talk about buying Microma, they were coming out to buy modules. I didn't want everybody to know we were thinking about putting Microma on the block. And they did a lot of investigating. But ultimately decided they weren't going to enter that consumer business.

Elliot: They clearly had the distribution knowledge and everything, but selling razor blades and selling watches was completely different

Boucher: I think that's what they figured out. And I think they felt as though the margins on razor blades were very high and this was the business they understood.

Elliot: Extremely high. And the introduction to Timex was through a contact from Art Rock.

Boucher: Yeah, Arthur Rock, for some reason, I don't know how he made this, but there's a fellow by the name of Angus McDonald, who worked in the area of finding homes for companies or selling companies was the contact. I worked with Angus and began working with Timex. But it was initially through Arthur.

Elliot: Okay. I'm interested to understand kind of the overall perception of Microma. You also sold the name Microma to someone. And so Microma remained a brand. But the perception in a lot of places is that Microma was pretty much a failure in terms of dumping a lot of money into something that didn't succeed. Would you agree with that on a long-term basis?

Boucher: No, I don't think so, because the fact that we sold the company to a first-class company, Timex, is not sort of a run-of-the-mill company. They perceived value in it. The company was probably one of the leaders in the watch business at the time. The fact that it didn't fit with Intel's technology business perspective didn't detract from that added value. And we did sell the brand, the name, which sort of surprised Gordon. We sold the brand name; I think we got $100,000 for it. An ex-Microma employee was working for a Swiss watch company. But I think there was a lot learned from the experience.

Elliot: And a positive financial experience.

Boucher: And the people that were kept were proud of that they worked at Microma.

Elliot: Yeah, I think they still are today. I've talked to a number of them. Okay, any other closing comments on Microma?

Boucher: No, I don't think so. I think you've covered it very well.

Elliot: So we're going to move on from Microma to your time at Intel Corporation. When Microma was closed, you went to work for Intel directly. And you worked there for another 11 years, I believe.

Boucher: Yes.

Elliot: So let's talk about, you know, some of the things you went in and did. And I think the first one that's particularly important is automotive. That's a huge business today, but this is back in the mid-'70s that Intel's just getting into the automotive business. So tell us what you did there, and what the significance of that was.

Boucher: I was working for Les Vadasz at the time. We negotiated an agreement with Ford to take over the development of what they called Engine Control #4 or EC4. Earlier this had been a Motorola product. But we got the award from them to design the EC4. We did the design, manufactured the product. We did the whole design, working with the Ford engineers. We were very lucky, did a good design job, and did a great job manufacturing it!

Elliot: Was this a competitive thing with other companies designing other products?

Boucher: Yes, it was competitive with Motorola. But Motorola was the second source on this. For Intel, having a second source wasn't something we were used to.

Elliot: And the result was, however, was Intel still enjoyed most of the volume?

Boucher: We got probably the major part through the whole life of the contract. My guess is, probably in today's environment not big buck, but probably three or four hundred million dollars' worth of product we sold to Ford during that timeframe.

Elliot: So why did Intel get such a big share, and Motorola get relatively little?

Boucher: Because Motorola, as a second source, was required to have the capability to produce the product in the way that we designed it. But getting the information doesn't mean you can do it.

Elliot: Okay, so, contractually, there was no requirement that you go teach them how to go do it. Just to supply them the information?

Boucher: We would supply information, and answer the questions. We didn't do anything subversive, or anything like that. We gave them everything they needed, of course, getting what they needed, and what they asked for maybe they didn't. If they didn't ask for it, we didn't give it to them. We gave them everything that was in the contract.

Elliot: Actually, Intel had done some second source things before that, even back in the 1103, with the original 1K memory. There were half a dozen other companies, and one or two second sources that Intel supplied. Did that experience affect how this one went down?

Boucher: I don't think so. Because automotive at that time was not a big thing at Intel. And so we had a small group, and not a lot involved in the previous second sourcing.

Elliot: Okay. So you went back and negotiated the agreement. I assume there were other people involved in the negotiation on the Intel side as well.

Boucher: Yes. Probably the prime person was Brian Knowles. I don't know if you know Brian.

Elliot: I do.

Boucher: Absolutely superb marketing guy. Leaves no stone unturned, either with the customer or the people he works for to make sure that the work, that everything gets done.

Elliot: How about Vadasz? Was he directly involved in some of the efforts?

Boucher: Yes. In fact, Vadasz even got involved with when we went to Ford. In fact, I even brought the Ford engineers, the top purchasing people, and the top technical people to meet Andy Grove. Of course, that was a surprise for them, because Andy was wearing his gold chain, and they weren't quite used to that. But they really appreciated and understood him, and they really appreciated him spending time with them.

Elliot: You also worked with Daimler-Benz. Why don't you tell us a little bit about it? That was a product business.

Boucher: We negotiated a Technology Information Agreement with them in return for some dollars. It worked out okay, but we didn't get a lot out of it. It was still a great agreement, because Daimler-Benz is an important company.

Elliot: Okay. At the time, had you hoped it would go further into supplying product?

Boucher: Yes.

Elliot: And why do you think it didn't?

Boucher: I don't know, because it was shortly after that that, we decided to move the automotive group to Arizona. And I didn't want to move to Arizona, so I talked Craig Barrett into taking it. So and he followed through on that.

Elliot: It's interesting that there's no mention in our conversation previously of anything with either Chrysler, or with General Motors. Were they targets for Intel?

Boucher: Yes. General Motors was a big target. And we met with them a lot, went there, but never successfully closed an agreement with them. And they were a big Motorola user, but we tried and tried and tried.

Elliot: Do you think one of the major reasons was because they wouldn't want to be dealing with us since we were a supplier of their major competition at Ford?

Boucher: I don't think so, no. I don't think it had anything to do with that. I think it had to do with that they were really tied in with Motorola.

Elliot: What about Chrysler? I remember calling on Chrysler down in Huntsville years ago.

Boucher: We never had much to do with Chrysler, keeping in mind the focus on Engine Control Units. And I don't know what Chrysler was doing.

Elliot: In my days it was Entertainment Consoles.

Boucher: Yeah.

Elliot: Okay, so it had nothing to do with Engine Control at that point in time, okay. So after you pass this automotive on to Craig, you went on to other responsibilities but I'm curious, in your opinion as to why Intel essentially got out of the automotive business?

Boucher: You know, I wasn't involved in that but it has to do with the manufacturing capability, and where the biggest return was in product. And if the microprocessors delivered high margins, when you're trying to start wafers for automotive products with lesser margins, it’s difficult to justify the business

Elliot: Yeah, I think that's the issue. I mean, I personally remember even before automotive of sitting in wafer start meetings and trying to get starts for things that had less profit margin, and it was a difficult internal sell.

Boucher: But we did sell a lot of product before it ended production. And the product was good.

Elliot: From the automotive organization you went on to manage Facilities, Legal, Admin and Purchasing. Big change?

Boucher: Yeah, actually, it went in pieces. When they moved from automotive, I ran Facilities, and then I ran the Marketing Communications Group. Those were separate jobs. And then I ran Human Resources. So I ran three of those as separate groups at different times. Facilities was for Larry Hootnick and David Alfer in Marketing Communications for Bill Davidow. I reported to Andy for Human Resources. And then when Larry Hootnick moved into Sales, I then took over all the Administrative, which included Facilities, Finance and MIS and the Purchasing, and essentially all Legal services.

Elliot: Okay. And you actually negotiated a number of contracts and a number of legal issues, okay? I think the AMD one was yours.

Boucher: Yeah, in fact, AMD, I did that with John Calhoun. We negotiated the AMD contract, and it took us quite a while to do it. We got both sides to agree. In fact, we had lots of legal continuing entanglements with AMD that went on for years.

Elliot: So this was the first negotiation with AMD.

Boucher: Yes.

Elliot: Because I think there were two lawsuits filed that went on from there.

Boucher: But we negotiated, in fact, I remember when we finished the negotiation, John and I, we had Intel management, which included, Ed Gelbach, Jack Carsten and so on and AMD management in the same room, and then we described to them, the agreement, to make sure they understood it. That was very critical in the lawsuits later on. So that we had the people really understood, because they were involved by the people doing the negotiations.

Elliot: Right, okay. Yeah, it did go on for a long, long time, however.

Boucher: Yes.

Elliot: You also set up a number of operations in different countries. You want to talk us through some of those? And I think the UK one was the first one that you mentioned.

Boucher: In fact, on one of my-- this was when I was-- in fact, I did that maybe even when I was in Automotive. But I was on my way to Germany, and Larry Hootnick asked me to stop in the UK and negotiate an agreement to buy land in England at the beginning of what became the Intel European operation.

Elliot: Just to set the context there. We had had European operation for Sales in Brussels for years.

Boucher: Yes, but that was for Sales only.

Elliot: So this was for a lot more than Sales, although the Sales organization would move here, too.

Boucher: Yes, that was the intent, to have enough area facilities, land and so on to expand Europe beyond Sales. So I went into the UK, and along with Keith Chappel, and I don't know if you remember Keith Chappel. Keith Chappell was running European Sales. So Keith and I, and a guy named Jerry Strutbecker from Facilities had an all-day and all-night negotiation with the City Council of Swindon, negotiated buying the land. Our first approach was to have Jerry Strutbecker go through Intel, what they did, all the people we were going to hire, why it was important for them to have us, which it was. Because they were originally were going to move us to sort of an outlying area. Ultimately, we negotiated to buy the land we wanted at a fair price.

Elliot: They just didn't appreciate initially what Intel was all about?

Boucher: Well, they didn't know about technology companies. They had to understand what our intentions were, and they really didn't. So we spent half the negotiation explaining who we were, and then the rest of the night negotiating.

Elliot: Does this set a style for how you negotiations for sites and equipment and IP in the future.

Boucher: Yeah, and it's important. I felt that, first of all I needed to understand exactly what it is we want, and what it is that our people were going to deal with. What their positions are and so on, but it's important that whom ever you negotiate with understand what Intel is all about, what's our intention. You want to come across as, a very responsible company with high integrity. And also as one that's going to bring lots of good things to whatever our agreement is. I have fount that's always been a pretty successful approach.

Elliot: You did a number of negotiations to purchase property for new operations here in the US as well. Folsom and Albuquerque come to mind there.

Boucher: Yes, we bought the land in Folsom. I was very, very involved in that. And then I was also running the MIS Group later on, and so we transferred the MIS Group, I promoted doing that, up to Folsom, because provided us a guaranteed supply of electrical.

Elliot: Now MIS stands for?

Boucher: Information Systems Group. In Albuquerque, we went in unannounced. We didn't tell anyone who we were. We went in and we met with the Mayor of Albuquerque and told him what we wanted to do. And then we negotiated with different companies for property, unannounced, other than we were a technology company. When we finally located what we wanted and bought it. It so happened, it also had a big building on it.

Elliot: Oh, already had a big building.

Boucher: Yes.

Elliot: So you were able to use that as part of the facility.

Boucher: Yes.

Elliot: I didn't understand that. What was the impetus for going in, effectively blind, to the people you're negotiating with?

Boucher: Intel was a big company, Going in blind rather than trying to guess what Intel was all about and trying to negotiate with us because they thought we had a lot of money, they had an incentive to help to create their own opportunity. Once we identified what we wanted to buy, then we went into them and explained the company and what we were doing. But initially, to find out what we thought we wanted, we did that unannounced.

Elliot: So you think you got probably a much better deal by doing it that way as opposed to going in with this big technology company with lots of money.

Boucher: Yes, we'd already decided what we wanted, and we eliminated all the other people by not telling who we were. Then we negotiated with someone we wanted to negotiate with, and they didn't try to hold us up to start with.

Elliot: You also spent some time in the Soviet Union or Russia at the time. Why don't you tell us about that. It sounded like a rather interesting negotiation.

Boucher: There was a guy that worked for Intel in Europe by the name of Demetri Rotoff, who was assigned to startup to work in Russia, and he essentially worked for me doing that. I would work with Demetri on sales and locations, since we were trying to locate offices there. During that time, we had a meeting with the Mayor of Moscow I don't think he was called Mayor, but this is the Soviet Union now. He was in charge of Moscow. We were having a very difficult time finding facilities. He offered to give us facilities, in return, all he wanted was one Volvo and three copy machines. So obviously, we didn't get any facility from him. But we finally did eventually locate something on the outskirts of Moscow. And we located there. This is after the coup, after the Soviet Union was broken up. As a result, for security, we hired ex-KGB guys. As a result, we didn't have any problems with security. And our products went through customs very easily. That was probably Demetri's idea, but it was a good idea.

Elliot: I understood you also had to negotiate for Intel's name.

Boucher: Yes, I don't know how the Soviet system worked, but they had allocated the name Intel to some entity. They were using the name Intel, based upon Soviet rules. We had a meeting with top Soviet officials. I don't know how big top they were but there was a big roomful of them. I explained what Intel was all about, what our intentions were, and that we planned to do and where we're going to be here, but we need our name back. And I don't know how they did it, but we got our name back. And I'm not even sure throughout Intel anybody ever knew that we had this going on.

Elliot: And you also set up some other stuff in the Eastern areas?

Boucher: Yes, the Eastern Block I worked on with setting up stuff in Poland, and the Czech Republic.

Elliot: And that really involved introducing a lot of people to what Intel was. Just like you've done other places.

Boucher: Yes.

Elliot: Did you find that once they understood whom you were and who Intel was that they were enthusiastic about this, wanted to move forward, or did they need to be convinced?

Boucher: We already had sales operations in some of these locations, so they knew a little bit about Intel. But I think having people come from what they perceived corporate meant that Intel is really planning to be here and expand.

Elliot: You also did some of the initial operations in both India and China. That had to be a completely different situation than Europe or Eastern Block. Why don't you tell us a little bit about those places?

Boucher: In India, I met with just top officials and so on. India was a different situation in that we weren't selling a lot of product yet, so I was involved in making India aware of what we're doing. In China, I met with the Vice Premier, and I don't know how it got set up, but I met with the Vice Premier and was able through discussions to convince him to standardize on Intel architecture for the Education Group. In fact, I remember him saying to me, "Well, can you tell your President to standardize on Boeing engines for all airplanes. Then I said, "No, our President can't, but you can do this, because you have the power." By the way, he ultimately sent out a memo or whatever he did. I'm not sure they bought a lot of product, but we got notoriety.

Elliot: I bet you did. And finally, I think you spent some time picking out the first site in Puerto Rico. Was that for Assembly and Test sales?

Boucher: I went there with Dave Pratt. **It w**as a Test and Assembly facility. But we didn't have any land there. We met with the Puerto Rico government and we went through our usual approach of explaining Intel. Only they just wanted to talk about how much, what they wanted to sell us and how much it was going to cost and they wanted to get it over quickly. I said, "No, we have to take a few hours to explain to you what we're all about." We eventually negotiated a deal for land in Puerto Rico. But Dave is the one that knew what we wanted. I went in to help negotiate it.

Elliot: From there, you took over and managed the Marketing Communications dealing with McKenna and Chiat/Day. Why don't you tell us how and why that came about and how the split between agencies was managed?

Boucher: At that time I was working for Bill Davidow, and we changed from McKenna doing all of the PR and Advertising to Chiat/Day for Advertising and McKenna for PR. The process was in the works even when I got there.

Elliot: Clearly, Chiat/Day was just for advertising, though?

Boucher: Yes, just for advertising. Regis McKenna was still doing the PR work. One of the problems I found we were having was that, Chiat/Day, had to deal with the different Division Managers we had. To

get the ads together for publication was difficult because when the ads were ready to be published, a Division Manager would come in and want to change something. So we made a new rule, which said, "Division Managers have to be involved in the production of the ads, and the development of the ads from the beginning if they want to come in at the end and change them. Otherwise, they can't change them." And for some reason or other they all agreed to it. It ended up working out well. There was one ad with a motorcycle and the Division Manager didn't like the slant of the motorcycle. He wanted it changed. But with the new rule they didn't. The process and efficiency developing the ads were better from then on.

Elliot: They probably came out on time?

Boucher: And they all came out on time. And that was with Chiat/Day.

Elliot: I found it interesting in a conversation with Regis some years ago that he thought this was such a great deal for him, because he'd always run advertising as a loss leader. I think that probably meant Intel all of a sudden was paying a lot more for advertising than they had in the past.

Boucher: Yes but I don't know whether they were any real metrics for this.

Elliot: From there you went on to run Human Resources. Made some interesting changes there.

Boucher: Yeah, in fact, in Human Resources, I changed the name from Personnel to Human Resources, and convinced Andy to agree to it. Although, Personnel, the name Personnel, was the industry standard all the technical companies used. This is new and different for Andy. He agreed to it but I wasn't sure whether it was going to be, "Over my dead body or not". He finally agreed to it, not because I overwhelmed him. You don't overwhelm Andy. He agreed to it because he finally felt as though the Personnel Department had earned the right to be called Human Resources. If you stop and think about Andy, he said that. And that's really what his intent was.

Elliot: Interesting. So, you know that he can change his perception of what you're saying. From there, you went on to run ASIC Operations, which was a business that was relatively short-lived at Intel.

Boucher: Yes.

Boucher: Jack Carsten was running ASIC. He started ASIC, and Jack had decided to leave the company. Andy asked me if I would go in and run ASIC. And so I went in and after talking to everybody--because, you know, we had, understand the business and where we could make it work for Intel. Gidu

Shroff ran Manufacturing, Ron Smith ran the Technical area. It quickly became clear to me that we didn't have our act together, so I brought in a consultant by the name of Andy Rappaport. Do you know him?

Elliot: I do.

Boucher: And a very smart guy. He knew the ASIC business. He talked to all of our people, Andy, Gordon-- everybody involved, and came to the conclusion that Intel had no business being in the ASIC business. We brought nothing to the market and he proposed that we get out of it. Which since it wasn't making any money, Gordon and Andy were pleased and we turned the existing manufacturing over to Gerry Parker, and later Mike Splinter, the Technology and Marketing to Dave House's Group. And the Sales went back into Intel sales.

Elliot: Therefore there was product that you had committed going out the door that you had to continue to service. It's just not going forward, so you don't want to invest there.

I've always found the work that you did in government affairs and the external industry relation interesting. Can you tell us about that, because it was interesting move on your part?

Boucher: I sat on the American Electronics Board, and worked with the SIA a lot. I did a lot relating to how it works with the industry. But more important, while I was doing all that, I stayed involved in Intel and negotiating different agreements to get different things done. We did the Final Agreement with AMD using a mediator, Craig Barrett, Tom Dunlap and myself. That was the Final Agreement we had to do. While I was doing these government affairs, I also negotiated a settlement with Fairchild. We had groundwater problems, both Fairchild and Intel. But Fairchild's involvement was much larger than ours.

Elliot: So this was back in the original facilities that Intel occupied.

Boucher: Yes. We negotiated with them for them to pick up our responsibilities and we, of course, paid some money, not a lot but Fairchild took on the overall responsibility. There was of an interesting negotiation. The fellow from Fairchild I myself negotiated it all. When we got done, reached an agreement, he called his lawyer, and I called our lawyer, I think it was Tom Dunlap. On a conference call we explained to the two lawyers what we agreed to and asked them to write it up.

Elliot: So this goes back to your negotiating style.

Boucher: Yes.

Elliot: Negotiate with the people responsible but don't use attorneys to do the negotiation.

Boucher: But the attorneys can write it up.

Elliot: Right.

Boucher: So far, it's worked well for me.

Elliot: Okay. You gave me a bottle of the groundwater that was from that site

Boucher: Oh, yes.

Elliot: And I'm going to actually try to find a way to photograph the label of it so we can include it in your oral history. For just for everybody reading this, the groundwater itself was bottled and then given out to everybody that participated in the negotiation?

Boucher: No, we didn't give it to Fairchild. We gave it to our own Facilities Group. Larry Boardman ran the Group, and he had the samples drawn up before we negotiated the settlement.

Elliot: So we'll hopefully include that label in the final product here. You continued with several other negotiations. Why don't you talk about them?

Boucher: There was an intellectual property lawsuit with Hughes Aircraft. And don't ask me why Hughes. I don't know. They had intellectual property that they felt some of our products violated. They sent us letters notifying us of the perceived infringement. I put together a presentation to go over the issues with them, and Gordon and I went down to meet with them. I went through my presentation, which was one of which recognized they had some intellectual property but it wasn't significant in our view. Their original conclusion was that we had not taken them seriously. Later on, they contacted us, and sent a lawyer up. So our lawyer, Carl Silverman, and myself, met with their lawyer and a mediator. This was the mediator we'd used for AMD. And we resolved it with an into the night effort. But, we both got signed it. It was because of Gordon going down there made the difference.

Elliot: Interesting. I don't think Gordon was involved in a lot of efforts like that.

Boucher: No, and he didn't do the final negotiation. His presence during the initial visit said that Intel is paying attention to them. Even though they had said we didn't take them seriously.

Elliot: That comes across a lot better. You also did some IBM negotiations, and negotiated some IP issues with a Florida semiconductor company.

Boucher: With IBM, there was a conflict involving contractual rights. During some early negotiation with IBM, we gave them rights to different things, different products.

Elliot: So this is back in the x86 timeframe.

Boucher: Yes, the x86 stuff. But for some reason or other, we didn't fulfill all the things we said we would do, or they didn't think we did. They were going to file a lawsuit against us. Andy identified me to work with IBM. Their negotiator was their top lawyer. And I've forgotten the guy's name right now. I worked with him for a long period and met down in Florida with him. I had another fellow working with me, Jack Salvador and we finally ended up negotiating a settlement, where we paid them 30 million dollars. But along with the settlement, they gave us a cross license for all their intellectual property. That was part of the, "We'll pay you the 30, but here's what else we want." So we closed it and we were very pleased with the results.

Elliot: Well, certainly Intel and IBM had an interesting long-term relationship. Even to the point of IBM investing a lot of money in Intel when they critically needed it.

Boucher: And when they needed it, they used it at the time for investing in process development.

Elliot: So everything worked out fairly well with IBM. Do you remember who the semiconductor in Florida was?

Boucher: I have a feeling it might have been Harris, but I'm not sure.

Elliot: They were located in the Orlando area, if my memory serves correctly.

Boucher: I remember going down there and it was hotter than blazes. We negotiated with the fellow that ran the company. In fact, I remember he let me use an office in his Legal Area. And I had to tell him I couldn't sit in the Legal Area. So I took over his office, we negotiated in his office, and I used his phones to settle the issues.

Elliot: Was this a time at which you were also approached to take over and run the Semiconductor Industry Association itself?

Boucher: Oh, no, I wasn't asked, by the SIA, to do that. That was something Bob Noyce had asked me to do, join him in Austin at Semitech, which he was running at the time. He would do the Technical, and I would do the Administrative. Which was, as I mentioned to someone before, it's sort of like God coming down and asking you to join him. But Austin wasn't on my list of places to live.

Elliot: You retired in 1996, any other comments about Intel and the Corporation as a place to work, thoughts that you want to share?

Boucher: Other than the fact that it's a first-class company, very demanding but a company with a big heart and understanding of people. And even more important than that Intel drives people to do their best. That drives them to do more than they originally thought they were capable of. That's really a key. Andy was good at that. And of course, Andy was reported to have to have said, "Just doing the right things isn't enough. You have to do the right things right." I thought that those things meant a lot to me while I was working for Intel.

Elliot: How about, in closing we just talk a little bit about what you've done since you retired from Intel. That was 1996, 20 years ago now.

Boucher: I've served on a couple of boards, TYAN Corporation, which is a computer supply corporation, run by Simon Chang. I was on the board of Wright Company, which is a wealth management company, putting together charitable organization, charitable trusts etc. And then on the Talarian Board, Talarian was a software company. In each one of them I taught the Management by Objectives Programs to their staffs.

Elliot: You have mentioned MBOs at several different companies here. A lot of people, I don't think, understand what MBO, or Management by Objectives really is. Can you describe the process?

Boucher: It's a matter of putting together what you need to accomplish. It's a management technique, where you articulate your Objectives and how you will reach them with measurable efforts. Let's say I wanted to build a plant in Los Angeles. I establish an Objective to produce a plastic reel for two dollars. Now add some strategies and measurable Tasks with dates to reach the Objective, The details include specific tasks necessary and dates to achieve the objective in the stated proposals. Then come up with a plastic plant and also the details of when you do that. It's a management technique that drives you to accomplish an objective. These tasks are measured on a regular basis. Objectives are established in concert with both management and subordinates so that they are aligned with corporate vision and staff working to achieve them

Elliot: So not only is it managing the effort but it's measuring the success of the individual tactics and all that goes into the effort. I've always MBO as I learned it at Intel.. What I have found interesting, however, is that there's a lot of companies who resist using MBO techniques.

Boucher: Yes, it's too bad, because it's a super technique, and Intel has done a good job developing and using it.

Elliot: I've asked a couple of friends where we might find a copy of the old MBO course that was taught at Intel, because there was actually one developed. A lot of us took the course at Intel. I tried to use it in a number of places, and I actually had management say, "Oh, no, that's something you do at Intel, you don't do here." I found this just, as you said, amazing!

Boucher: The technique really works. At the three companies I worked with, I had their top people write their objectives. And the results went into their reviews.

Elliot: Anything else you want to close with?

Boucher: I've invested in a lot of real estate over the years in Colorado and here that takes up a lot of time managing it. But I like being involved in it. Still do sailing. I have a boat down in Monterey. I also am a certified mediator. I have done some mediation while in retirement but not a lot of it, because it takes up a lot of time.

Elliot: Yeah, it's a tremendous and complex process.

Boucher: Yes.

Elliot: But all the experiences that we've talked about here, particularly doing contracts negotiating litigation and negotiating for facilities all goes into the mediation situation, so.

Boucher: Yes.

Elliot: So a natural direction. I think we've covered what we set out to. Do you have anything you want to add?

Boucher: No, I think that'll do it!

Elliot: Dick, thank you for your time today.

Boucher: Okay.

END OF THE INTERVIEW

