John Sculley:
The Truth About Me, Apple, and Steve Jobs

Part Two

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Recorded: December 2011

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John Sculley: There was a engineer, who was actually the first engineer that Steve Jobs ever hired at Apple, named Bill Atkinson. Bill was not only the first Apple][engineer, but he was also a lead engineer on the Macintosh team. After Steve left, Bill became an Apple Fellow, which meant that he could go work on projects that he wanted to. One day, I got a call from Alan Kay, in about 1987, and he said "John, you gotta go talk to Bill Atkinson." And I said "well what's wrong." And he said "well Bill's in tears because the engineers are really beating up on him because they say we should stop fooling around with this project he has, and he should go help them out on getting the next Mac release out." And I said "well, what's the project?" And he said "well, you got to see it, it is really clever and it is part of what's going to be needed to be solved if there's ever going to be a Knowledge Navigator in the future." And so I went and looked at it and the product later became known as HyperCard.

And HyperCard was the first use of graphics-based radio buttons where you could click on an object and it could link you to something else on the screen. It was actually going back to some of the ideas that Ted Nelson had, even back to Vannevar Bush's ideas of interactivity and hypertext and things of that sort. And Bill actually implemented it on a Macintosh. So I said "okay Bill, why don't you move your office next to my cube," so he actually had his cube next to mine and I said "you can go work on that, but I've got two conditions. The first condition is I'll fund it out of my office and we'll try to develop it as a product, but you've got to have a scripting language to with it so that people can actually create their own applications from it." I wasn't a programmer, but I did under that that the Mac was very hard to program and that unless we had a simple scripting tool that we weren't going to get much adoption of what became HyperCard. Bill agreed to that and he brought in another engineer to work with him on the scripting language. And then I said I have a second point I want you to agree to, which is I was interviewed by this guy Danny Goodman for a profile in Playboy…

Dvid Greelish: OK

JS: … and I looked at Danny, and I thought he was just an exceptionally good writer and I read some of the books he wrote on how to use computers …

DG: Right

JS: … will you agree to have Danny sit alongside of you while you're creating HyperCard and write the story and explain to people so we have a written handbook that goes along with the scripting language. And so Bill got to meet Danny, they hit it off, and Danny did that. So HyperCard became three parts, it became the product itself, it became a scripting language, and it became Danny Goodman's book on how to create all kinds of interactive, graphics-based applications using HyperCard. Just to give a little context to history, one of the big users of HyperCard was the High Performance Computing Lab at the University of Illinois at Urbana. And they were taking Cray X-MP/48 super computers and they were using Macs with HyperCard as the front end, and enabling them to connect the Macintosh over the Internet, remember in

those days there was no World Wide Web, back to the supercomputer. It was at that lab, I think, you can check with Marc Andreessen, I think that was the very lab that Marc Andreessen was working in at that time.

So I give Bill Atkinson a lot of credit for being one of the first guys, even before Tim Berners-Lee or even before Netscape was created, Bill was actually developing a tool that enabled the Macintosh to have a graphics user interface over the Internet to be able to control an X-MP/48 super computer. So that's another historical piece to the puzzle. Another piece to the puzzle was that Jean-Louis Gassée, who was heading up Apple's technology after Steve left, wanted to be able to simulate what graphics-based computing would be like when you could actually manipulate 3D geometries.

Back in 1987 you couldn't do that. You could just barely raster a photographic image and it would take the better part of a couple of minutes just a photograph at a relatively low resolution, a black and white photographic on a screen, much less manipulate a 3D object. So, Jean-Louis came with a proposal which I supported that we ask the Apple board to spend 28 million dollars, which was a lot of money in those days, to buy a Cray supercomputer, which we installed in its own building. And Jean-Louis Gassée's engineers used it to do simulations for building the interactive tools and understanding how do you manipulate an object in 3D much the way computers, again with Moore's Law, would eventually be to do off of a personal computer four, five, six years later.

The power of the X-MP/48 which we bought for 28 million dollars was the equivalent of about 50 MIPS (Million Instructions Per Second) or today as we say, megahertz. That 28 million dollar computer was about as powerful as one of the chips we have in a watch today for a couple of bucks, which is how consistent Moore's Law is. But it was extremely valuable for Apple to figure out how do we manipulate multimedia. I'd always been interested in multimedia coming out of marketing and advertising and stuff. Our engineers were very interested in it. We had a very talented engineer named Steve Perlman, who also having challenges getting along with the mainstream engineers and so I moved Steve over to my office and so he sat outside my cube as well. He was the one who developed the first microprocessor assist which could run what we call QuickTime, which was our multimedia engine for the Macintosh. The Mac was the first personal computer that could actually do multimedia. And that was Steve Perlman who created that. Why was this all significant to me? Because to me it was just another step along the way to the Knowledge Navigator. You had to do something like HyperCard, had to do something like QuickTime. And all of these things, if Alan Kay was correct, would be commonplace 20 years later, but in the late 1980s, these things were highly experimental and really nobody else was working on them. We had pretty good knowledge of what other people were working on in different labs, and they weren't working on these kinds of problems.

DG: Yeah, certainly QuickTime was a very breakthrough technology, a leader in that category.

JS: As you know, Steve Perlman went on to found a number of successful companies. His most recent one is pretty amazing, called OnLive. OnLive is doing real-time video games over tablets and smartphones and things of this sort, from the cloud. Steve has been one of those remarkable individuals who've been not only think about the future but can actually go and build it. These people from a historical standpoint were key innovators for what we know as present day computing. The other things which I became interested in was a small company that was started by two former Apple engineers on the Mac team.

DG: I think I know.

JS: Andy Hertzfeld, Bill Atkinson, along with a third individual who wasn't from Apple named Marc Porat and it was called General Magic. Their idea was, this was before the World Wide Web, that the future was going to be about small handheld devices that were going to be mostly about communications. They would have a lot of smarts built into them and they were going to be even more important than personal computers eventually. I sponsored that product out of my office. We invested in it, they were a separate company. I was on the board of it. And they worked with AT&T and Sony as partners, and the thing probably would have been successful except Tim Berners-Lee came along and invented the World Wide Web.

And then all of a sudden things called cell phones became popular in the 1990s and all that eclipsed what General Magic was doing. Inside of Apple there were several competing projects. There was a project inside of the Macintosh team that was working on a handheld Mac. There was another project called Newton, started by a small team that spun out of the Mac group. And when I got involved with it and heard about it, Larry Tesler, Larry had been the engineer at Xerox PARC who had led Steve Jobs around to see the Alto and the Star which were the inspirations for the Lisa, which later was to become the Macintosh inspiration. And Larry left Xerox Palo Alto Research Center, joined Apple, was a key engineer inside of Apple for many years and then later became the head of the Newton team. What intrigued me about Newton, was that while I was totally opposed to licensing the Macintosh technology, because I didn't know how we could do it without destroying Apple as a company. I was completely open-minded to the idea that Apple should do its next generation of where computing was going after the Macintosh, it should do it with a very different model, and it should build the microprocessor as well as the software. We went, and I give the credit to Larry Tesler on this one, Larry realized that if you're going to do very sophisticated graphics manipulation on a handheld product, that no processor existed at that time that was both powerful and low powered enough to be able to even attempt that.

Larry Tesler found a man in the UK named Hermann Hauser who had founded the Acorn computer company. Hermann was a professor in computer science from Cambridge University. Hermann designed a microprocessor that was very low powered, which you had to have for a handheld device, that could handle graphics. So it had a very sophisticated architecture to it, floating point architecture, you needed

floating point for graphics. We developed up with a team we founded out of MIT, up in Kendall Square, a software team which developed an operating system that was really closer to the work Alan Kay had done with SmallTalk and a following operating system called Schema, back in the 1970s. But now with the floating point technology of the 1990s, you could actually do this at some pretty high performance levels. It had unique features like garbage collection, and object manipulation, and things of that sort. All of that technology was built into a product called Newton. The thing which I did not understand, because I wasn't a computer engineer, that I didn't understand that the things we were working on were probably still 15 years away from being realistic in the marketplace.

And so, at the same time we were developing Newton, Donna Dubinsky, who used to work at Apple, had left to co-found a company called Palm Pilot. And they took one of the oldest processor architectures, the 8088 that Intel had developed, and it was just at the time when cell phones were becoming popular in the mid-1990s and it was at the same time that the World Wide Web had now led to email becoming popular and there was no directory, there was no phone book, for either e-mail addresses or for cell phone numbers, so the brilliance of the Palm Pilot was it didn't take much technology to create the synchronizing engine and a storage device that would let you hook up to any personal computer and download your contact list onto this little device. And that was the Palm Pilot.

And the brilliance of it was that it took a real problem and solved it in a very simple way. We on the other hand with Newton, took a very complex problem and were solving it in a very sophisticated way. And I wasn't experienced enough to know that it was actually going to be maybe 10 or 15 years later before the things we were envisioning with Newton became practical. In the last speech I gave at CES, was in January of 1993. And it was at that time that Bill Gates always gave the Sunday night keynote, I gave the keynote on Monday, and my keynote was about the future of what was called convergence in those days. When communications, computing, and content were going to come together. And you would be able to have all kinds of new services that would combine each of these things, communications, computing, and content. The device that I talked about, I said, was going to be called a PDA, and I'd come up with the name PDA just because we needed a name just like we did with Knowledge Navigator. It's not that it couldn't have been a different name. I couldn't use PC, personal communicator, because PC already had a legacy meaning to it. So I said, why don't we call it just as we did in the Knowledge Navigator a personal digital assistant. So we called it a PDA.

I gave a speech at CES in January of 1993 and I said in the future there are going to be these small devices and we're going to introduce one ourselves, called Newton and we call it a PDA, a personal digital assistant and they're going to sell in the billions. And by sell in the billions, I was not talking about Newton, I was talking about these devices were going to be far more pervasive than personal computers. At that time, there were probably 150 million personal computers sold a year, so the idea that you'd be selling anything in the billions seemed completely absurd. I got completely ridiculed in the press for that

speech and I think you go back, even the Wall Street Journal said Sculley announces that Apple is going to introduce a product that they're gonna sell in the billions. I didn't say that. Any more than I fired Steve Jobs. What I said was, that there are going to be these personal digital assistants in the future and we were going to introduce one ourselves, and they would ultimately be sold in the billions a year. So, I was wrong by 20 years.

As you know, whether it's iPhones or Blackberries or Android devices are actually in the billions of them sold per year. The part of the story that most people don't know is that the microprocessor that Larry Tesler helped create for the Newton, was a new company that we had to put together that was 47 percent owned by Apple, it was 47 percent owned by Olivetti, a name from the past, and the rest of it was owned by Hermann Hauser. And this company we called ARM. While the Newton was not commercially successful, it was too early for its time, the ARM processor became the core of every mobile device that's sold even today. ARM I think is probably about a 26- or 27-billion dollar market cap company today. After I was pushed out of Apple, Apple decided to license the technology and stop making one or two cool products a year, and made many, many different products and the company started to spiral into huge losses. When I left Apple, we had about 2-billion dollars of cash, we had maybe 200 million dollars of debt.

By the time Steve Jobs came back, Apple was almost bankrupt. The decision that really helped keep the doors open, and I give Gil Amelio credit for two things, one was he sold the 47 percent that Apple owned of ARM for about 800 million dollars, or so I'm told, and that 800-million dollars was crucial to keeping Apple alive, and he brought Steve Jobs back. If those two things hadn't of happened, there never would have been the rest of the story. Ironically, today, if you look at the iPad and you go back and you look at the Knowledge Navigator, Alan's concepts, I was just part of the team, there are remarkable similarities between them. If you look at any of the Apple devices beyond Macintosh, iPhone, iPad, they all run on the ARM core.

Again, I take no credit on inventing any of this stuff, or having the visions. But I do feel really good that we paid attention to so many of those things back in the 1980s, because they did end up being important in the 1990s and in the last decade. The incredible people who either invented them or led them have gone on to become remarkably successful in things post their Apple days. That feels good, to know that those people got some support when they needed it when no one paid much attention to their ideas and now that their ideas have become a reality.

DG: Well, if I can just make a quick observation about the Knowledge Navigator and the Newton, if you'll indulge me I'll give you a term I coined, it's called a, and I wrote an article on…

JS: Great.

DG: I wrote an article about it last year, it's still on my blog. I call it the Third Tier of personal computing. Essentially you had the First Tier was established was the desktop computer. And then ultimately the laptop or notebook, even as we know it today, established the Second Tier of personal computing. And then what I suggest ultimately the iPhone in 2007 and thus the Android devices, not to take away from Blackberry, which I know you have one, but finally developed the Third Tier because I feel like the most important aspect of it wasn't just Internet access, but a true desktop quality web browser. But, so basically these things all came together into like what we say are billions and billions now. And a lot of the technologies, like the one you spoke of, HyperCard, and I know in another interview this was CNET I think in 2005, you had said that you wished you had, you felt HyperCard was a big missed opportunity. You wished you had done more with it. And I think you probably did as much as you could of with it. By the way, I learned how to program with HyperCard, other than just basic, basic programming. But you know, basically you had CDs came out which you could have access to large amounts of data, pictures and encyclopedias and such. And that lasted for a while. And then the Internet came out, and you didn't need that anymore. So essentially HyperCard, once the Internet came out, you didn't need HyperCard anymore, because you had the Internet with hyperlinks and such. So anyways, these technologies came together in what we know as a smartphone. So the smartphone, to cut this to the chase, is the Third Tier of personal computing that exists now. And all of this has come together from Alan Kay's Dynabook concepts, to of course the iPad being kind of along those lines too.

JS: One of the insights Alan gave me, back when he was my guide in the 1980s, he said that when something first comes on the market in technology, its usually a curiosity. And that's when the real geeks get interested in it, and they sort of tinker with it, and then it goes through another stage if it's going to move on to be successful, and that where people say, gee, it's more than a curiosity, it's actually productive. And he said, this is now in the 1980s, he said personal computing started out with the homebrew computer club and the geeks …

DG: Hobbyists

JS: … and people who built their own personal computer and the Altair and things of that sort. And the you have those leaders that emerge, like Bill Gates and Steve Jobs, who actually create an industry around it, and so, they took us to the era from a curiosity into something productive.

DG: Right. People needed it to get work done.

JS: Right. And that was that was the personal computer era. And then, remember this is now the 1980s, when Alan's talking to me, and he said "in the future, we're going to another generation, which goes beyond productivity, and it goes to indispensable." And he said, "something becomes indispensable when you can't live without it if someone takes it away from you." And so as we thought about PDAs, and when I was preparing for that speech to CES in 1993, that was the context in which I was making the prediction.

I said there was going to be a device called the PDA, at least we named it the PDA, that is going to be held in your hand, it will have amazing communications capability, you'll have an incredibly easy user interface, it will be very powerful, it will be able to manipulate content, and there are going to be billions of them because it's going to be indispensable.

DG: And it is now. And it's the perfect name.

JS: At the time, and you can probably go back and look at the articles that came out after that speech, you'll see that I was ridiculed over the speech. Because they thought I was claiming that Apple was going to introduce Newton and it would sell a billion. It's just amazing to me that everyone knows I'm not a computer scientist, but they do think I'm a marketing guy, what marketing guy would ever go out and say he's going to sell a billion of anything when you first introduce the product. How could anyone possibly think that's what I'm suggesting. As we know, it's not what really happens, it's what people think that happened, so the myth supersedes reality.

DG: I know you've expressed that these weren't all your visions, they weren't ideas you necessarily originally came up with, but even to see, what am I trying to say here. Do you feel vindicated now, though, with the Knowledge Navigator concept. Don't you feel, it sounds like it, don't you feel like you were ahead of your time, but you recognized it. So you know, maybe you didn't originate all the ideas, but you recognized the concepts as valid.

JS: Here's the way I think about it. First of all, I'm at a stage of my life, I don't really have any need inside of me to get recognition for anything. So, I'm not out to claim credit for something. The way I think about things is you sort of step back of your life and say okay, I was good at some things and I was less good at other things. But what was I really good at? When I think about what I'm really good at, and pretty consistently, no matter what business I've been in, I've always been good at systems design. I'm a designer by training, by love, I'm a very visual type of learner. I like to take complex problems and to simplify them. Then to be able to connect the dots and be able to explain it in ways that make sense to people. So that's what my skill is. It was my skill in marketing, it was my skill I think when I was at Apple. So when I look back and say what was my role in all of this, I wasn't the inventory, but was able to connect the dots, and I was able to understand the generalized principles that others, like Steve or Alan Kay, came up with and figure out so when do you need to go in and support an individual, whether it's Bill Atkinson, or Steve Perlman, or Larry Tesler, or these various individuals who really did play incredibly important roles in the technology that we have today.

I remember reading a quote that Einstein said, and it really made so much sense to me. He said, "you don't really understand something complex unless you can explain it in a simple way." And really, that's what I think I do in marketing. I try to take complex things and try to explain them in simple ways that will be inspirational and motivating to people, and hopefully they'll want to buy something that we're selling.

It's no more complicated than that. The thing I learned from Alan Kay was he used to say that point of view is worth 80 IQ points. And so his guidance to me was, John you need to expand your point of view so that you can understand things from different perspectives. I was on the media lab board at MIT for about 15 years and Marvin Minsky was there at that time, he was sort of the father of artificial intelligence. I used to spend a lot of time with Marvin. And Marvin had a great saying. He said, "you don't really understand something until you understand it more than one way." When you think about what Einstein said with "you don't understand something complex until you can explain it in a simple way," "that you don't understand something until you understand it more than one way" Marvin Minsky or Alan Kay saying "point of view is worth 80 IQ points."

I say my contribution is I'm a person who is insatiably curious and interested to learn. I'm willing to put in sort of the Malcom Gladwell 10-thousand hours of hard work to really try to study something and learn about it. I'm willing to take high risks. It was a high risk for me to go to Apple. People in corporate America though I'd lost my mind, to go join the number four company in the personal computer industry when no one had even heard of the personal computer, in most cases. And give up a terrific career at Pepsi. So I've always been a risk-taker and a person led by curiosity, and person who loves to connect the dots, and a person who loves to be around talented people, and likes to make bets on people. And I think that's my contribution to it all. I was on the team, but I had a real cool seat on the bus.

DG: Well John, I don't know, we probably need to wrap it up. Do you mind if I ask you just a few more quick questions?

JS: Sure.

DG: These are slightly fluffier. Do you think the historical perspective of your time running Apple will change in the future? And what I mean by that is Apple the company. I guess I mean, can you ever imagine maybe, you know Apple's built their new campus, you know the flying saucer one they're going to build in the next few years, beautiful building, and maybe they might have a corridor lined with pictures of past CEOs?

JS: No.

DG: [laughs]Can you ever imagine that?

JS: I think that's a horrible idea.

DG: I mean, don't some businesses do that? I've never been an executive, but I thought that, you know, you're supposed to, like, honor your past executives. No?

JS: I think that what makes Apple wonderful, and there are so many things that do, is that Apple is synonymous with Steve Jobs and Steve Jobs is synonymous with Apple.

DG: A lot like Walt Disney, it's like that too.

JS: There's only one person who should be identified in a leadership role with Apple and what it has become. I don't know it will be in the future. But what it has become, there is only one person that should be identified in that way. So that would be an absurd idea.

DG: Do you ever get any fan mail? People that admired you when you ran Apple, that sort of thing?

JS: Yeah. I mean I actually do. It sounds strange, but …

DG: No, it's not strange.

JS: … I still get recognized. But a lot of it happens to be more if I go to China, or if I go to, I was just in Prague recently and some people recognized me and I'll be in India and people will recognize me. It tends to be in other parts of the world. And many people read Odyssey, remember Odyssey was written before the Berlin wall came down, and it was for a number of people, the first glimpse of what was possible in the West. I still have people who have come back decades later and say gee that book changed my whole world, and thanks for writing it, and things like that. So that makes me feel good. Because I like, I don't really want any recognition, what makes me feel good is to know that there are things that I was involved with that touched other people's lives in ways that they felt were important. But I'm not looking for any sort of recognition.

DG: That's good to hear. I think even the strongest personality who can feel good about yourself and confident, I think it's always good to hear some outside confirmation that, you know, I recognize you did something that was good, I like it, and so on.

JS: The major role that I have today, I don't have a bright line between work and fun. As they say, Americans live to work and Europeans work to live. I don't need to work, but I work every day. But I work with no title. I'm a mentor to a number of entrepreneurs. And these days I'm very focused on health care, because I think that the same brilliant talent that created the productivity decades with personal computing, and which created smartphones and the reinvention of every consumer industry in the last decade, that same innovative talent, not that it's necessarily the same people, but that kind of entrepreneurial creative talent can be brought to bear on healthcare. So my focus really for the last 7 years has been on healthcare. And I have, I'm involved in about a half dozen startup companies all working with different aspects of healthcare. And we're doing it much the way when I was at Apple, you know, working on the Knowledge Navigator. We're not trying to solve the whole problem in one company. But we're working on different aspects of the problem in different companies. It's actually the most fun

time in my entire life. And if I had not have had the experience of the decade at Apple, I never would be able to be doing the kinds of things I'm doing today, because I was exposed to just what's possible when you put talented people onto exciting problems.

DG: I just found you in the news here, earlier today, John Sculley, former Apple CEO, backs new health sensor startup Misfit Wearables. So that was in the news just a couple of weeks ago. Well, let's see two more real quick questions. Do you remember the film, Pirates of Silicon Valley? You know, where obviously you were depicted, by an actor.

JS: Ah, I did, but you know…

DG: Did you like that?

JS: I never watched any of these things. I never actually, and I still haven't even read the book on Steve Jobs that Walter Issacson did. I'm a great admirer of Walter Issacson, and I did interviews for the book. But it was just too emotionally difficult for me to read it. So I haven't read it.

DG: OK. I understand. I just didn't know if you liked the guy's depiction of you or not in that movie. I think it was okay. Obviously, I don't know you personally or anything. So, last question is have you considered writing a new book or along the lines of Odyssey, I guess it would more updated with your life, have you considered updating Odyssey, whether it be an update or …?

JS: No.

DG: Okay.

JS: I have no interest in writing another book. It seems to me that there's some terrific books that have been written about the things that I was involved with, the Cult of Mac is one of them. Inside Steve Jobs' brain is another. Walter Issacson's book, from everything I hear is terrific. So there's really no need for a book like that. I'm interested in doing what I do. And I still give speeches around the world, but it's largely about the things I'm curious about and the things I'm working on. I'm not there to talk about Apple or Pepsi, or things in the past.

DG: Understand. Well, is there anything else. Anything you'd like say or like to add to our conversation?

JS: No, I think we've covered a lot of ground, and since you're a historian you can go and fact check, but I think it's pretty accurate.

DG: Yeah, everything you've said it pretty much lines up with all my research. So thank you again. Have a good night and happy holidays.

JS: Thank you. Same to you.

DG: All right. Bye, bye.

So there you go. I want to again thank John for spending the time with me. And I think this interview could lead many to a new perception of John Sculley. And stimulate further research and discussion on his years running Apple Computer. I'd like to close with a quick quote from the New York Times article dated October 16, 1993 by John Markoff. There's a bit of criticism in the article, but the title and this quote really stand out. The title is "Visionary Apple Chairman Moves On" the quote is "his contribution to the field was significant, said Nicolas Negroponte, the director of the Media Laboratory at the Massachusetts Institute of Technology. He could almost single-handedly be credited with America's re-entry to consumer electronics."

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