An Interview with

JOHN KEANE

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Conducted by Martin Campbell-Kelly

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John Keane Interview

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Abstract

John F. Keane is the founder of Keane Inc. (formerly Keane Associates Inc.). Mr. Keane
was educated at Harvard University, where he took an MBA in 1954; he subsequently
was in the Navy and was employed by Arthur D. Little and IBM before founding Keane
Associates. Mr. Keane attributes the phenomenal success of Keane Associates to the
development of a systematic project management technique, later published as
Productivity Management. He describes milestones in the evolution of Keane Associates,
including forays into software products and integrated systems, the development of the
health-care division, and company acquisitions. He concludes with some reflections on
his public involvements including those with ADAPSO and Information Technology
Association of America (ITAA) where he served as president. This oral history was
sponsored by the Software History Center in conjunction with the Center's ADAPSO
reunion (3 May 2002).

Preface

As part of its preservation activities, the Software History Center (SHC) worked with Dr. David Allison of the Smithsonian Institution's National Museum of American History and Dr. Jeffrey Yost of the Charles Babbage Institute to plan and conduct a number of oral history interviews of early software company founders and other key industry contributors. On May 3, 2002, in conjunction with SHC's ADAPSO Reunion meeting held in Washington, DC, SHC arranged for 15 individual interviews by historians well qualified by their knowledge and interest in computing history.

The following people were interviewed together with the name of their interviewer:

Bruce Coleman, interviewed by William Aspray
Richard Crandall, interviewed by Paul Ceruzzi
Gary Durbin, interviewed by Philip Frana
Martin Goetz, interviewed by Jeffrey R. Yost
Bernard Goldstein, interviewed by David Allison
John Keane, interviewed by Martin Campbell-Kelly
Ernest E. Keet, interviewed by Philip Frana
Frank Lautenberg, interviewed by Paul Ceruzzi
John Maguire, interviewed by William Aspray
Joseph Piscopo, interviewed by Thomas Haigh
Lawrence Schoenberg, interviewed by Martin Campbell-Kelly
Charles Wang, interviewed by David Allison
Robert E. Weissman, interviewed by Paul Ceruzzi
Lawrence Welke, interviewed by Thomas Haigh.
Sam Wyly, interviewed by David Allison

Each interview was tape recorded, transcribed and edited by SHC, the interviewer and the interviewee to ensure clarity and readability without changing style or flow. The original tapes along with the edited transcripts were donated to CBI, which placed the edited transcripts on the CBI website.

Martin Campbell-Kelly: I am a computer historian from the University of Warwick. It's one o'clock on May the 3rd, 2002 and I am talking to John F Keane, the founder of Keane, Inc. John, tell me a little bit about your background and education, when were you born?

BACKGROUND

John Keane: I was born in 1931. I grew up until I was about ten years old in Brooklyn and then moved out to Long Island and that was a very interesting experience. It was very rural and I picked lots of potatoes, culled a lot of cauliflower and then went on to Harvard and then to its business school, went into the Navy and from there I joined Arthur D. Little.

Campbell-Kelly: Tell me about your parents.

Keane: My Dad was an investment advisor on Wall Street and my mother was the mother. He stayed on Wall Street when we went out to Long Island and would come out Friday nights and go back Monday mornings.

Campbell-Kelly: Tell me about your time at Harvard, what did you do there?

Keane: Having grown up on Long Island, there was just one other boy and myself who went to college and I was actually petrified, well not petrified, but very nervous about how I was going to do in college.

Campbell-Kelly: What subjects did you take?

Keane: I majored in economics and applied myself and at the end of the second year I decided to get through in three years and then in the third year I decided to go for honors and I graduated magna cum laude.

Campbell-Kelly: So what year was that when you graduated?

Keane: That was 1952.

Campbell-Kelly: So I guess computers were just starting out about that time. Had you heard about them when you were at college?

Keane: Not an awful lot. I just started to hear a little bit about it about 1952. I was accepted then to the Harvard Business School and went on to finish that in 1954. I did an MBA. which took two years.

Campbell-Kelly: What did you do next?

Keane:　　　　　　　I had been in the Naval Reserve Officers Training Corp. (NROTC) in college And when I finished my freshman year in 1950, that summer the Korean war broke out, so I went back to school, and said, "Holy smokes, I'd like to take the exam and go for NROTC." To make a long story short I passed the exam and it carried over from college to my business school. When I finished business school I had a cruise which was final completion of the NROTC over in Europe, and then I worked for a little bit with Arthur D. Little.

Campbell-Kelly:　How long were you in the Navy?

Keane:　　　　　　Three years.

Campbell-Kelly:　Did you have any exposure to information technology then?

Keane:　　　　　　No, none whatsoever.

Campbell-Kelly:　So what year did you start with Arthur D. Little?

Keane:　　　　　　I started at Arthur D. Little actually in 1954 but it was only for a short spell prior to going into the Navy. Then I came back in 1957 and after having done a little jaunt to Europe and then I looked at a number of jobs and I decided I was going to return to Arthur D. Little.

Campbell-Kelly:　What kind of things were you doing then? Were you working with computers?

Keane:　　　　　　No, we didn't have anything to do with computers then. I worked in acquisitions. I worked in market studies. I worked in diversification studies. Just the whole range of business consulting. And then about 1959 I started to think that since I was having a child early in 1960, I figured it was about time that I settled down. And when I moved, maybe my family would move with me but I wouldn't have to do an awful lot of traveling. I was doing a lot of traveling for Arthur D. Little. So I joined IBM.

IBM

Campbell-Kelly:　Where was that?

Keane:　　　　　　In the Boston office. I might add that in 1954 when I finished the business school I'd interviewed at IBM but I decided that I wasn't going to join them and then I joined them in 1960. I joined in sales. And I was with them for just a couple weeks short of six years.

Campbell-Kelly:　Was that good training for you?

Keane:　　　　　　It was terrific training. With Arthur D. Little I had a good feeling for business but I didn't have a feeling for what would be information technology in a business and nor did I have a feeling for sales. And so I started a year and a half of full time training on computers and it was terrific training.

Campbell-Kelly:　So you were just learning for a year and a half?

Keane: Just learning for a year and a half. Well, it was seven phases. You went to eight weeks of school, and then you'd go out in the field and you would work back at the office. You'd go back to school for another three weeks and then back to the office, back to school for so many weeks and back to the office and that's the way it went.

Campbell-Kelly: So that takes you up to what – 1966 thereabouts?

Keane: Yes.

KEANE ASSOCIATES

Campbell-Kelly: So tell me about, when started your own business – it was Keane Associates to begin with wasn't it?

Keane: Yes. I started Keane Associates on December 15, 1965.

Campbell-Kelly: Right, so that was when you were still with IBM. Were they happy about you doing that?

Keane: Well, you know, life was a little bit different then. They were caught by surprise, didn't know what it really was all about. IBM up to that point in time had been saying to a customer - we will provide whatever support is necessary to make you successful. We will commit to a number of people or whatever it is that's required and I started to develop the feeling after I had sold a number of computers, that they were no longer able to do that. One customer that I had was Boston Edison and we had 3 or 4 IBM people and had to install it before 1965 was over and we couldn't do that for every customer. We were hiring programmers, actually hiring people, there weren't programmers out there for hire. You had to give them aptitude tests, you had to train them and then you had to sit down and lay out the business for them. And so I came to the conclusion that maybe there was a need for an outside firm to do this.

Campbell-Kelly: To do what? The training or something else?

Keane: To do everything. To just tell a customer to bring in a computer. I know what's necessary from there to guide them through it but also to do it for them.

Campbell-Kelly: That's quite early – 1965. Were other people having the same idea at the same time do you think?

Keane: I don't think very many did because we were one of the first. The IBM S/360 computer was announced April 7, 1964 and it was that computer that was really a step above all other computers and our team had literally buckets of papers about three feet high on the technical aspects of the computer and the operating systems and so forth and it was continually changing and so to be knowledgeable, to make this thing work, you had to understand all of that. And the average people who could work on it were in the finance department and the engineering department and other places in the company and it was going to take them a long time to learn it. I felt that there was a need for guiding them, coaching them, doing it for them, the difficult aspects of the program and that's what I thought.

Campbell-Kelly: Tell me a little bit about Keane Associates when you started – how much money did you have to start with – who were the associates of Keane Associates?

Keane: Well that's one of the strange things about starting my business. I started it myself. I don't know how much money I had because I had maybe $10,000 in the bank but I had thought about this for about a year and I didn't have any illusions as to what size company I was going to be. I just figured if we could put together something for six people or ten people and have them productively work and be happy at it, it would be a very successful venture. But then I realized when I got started that there's all sorts of knowledge in IT and that you had to be versatile, you had to be ready for change. You had to not just finish one project, you have to start other projects and so it was a need to continually grow. And therefore we started with just myself, and then within 90 days we hired the first person. At the end the first year we had twelve people and after the second year we had thirty people, and after the third year we had sixty people and then we went on from there.

SELLING PROJECTS

Campbell-Kelly: What was the first project you managed to land?

Keane: The first project that we landed was with New England Electric which had been a customer of mine. It was a project for $9,000 to provide 45 days of unnamed consulting.

Campbell-Kelly: That was just you as an individual?

Keane: As an individual, and then from there I called on a number of other companies and finally we got another customer – it was United Fruit– and it was to write a couple of programs and then from that there was another one – United Car– and there were a number of programs and so that's how it started.

Campbell-Kelly: How did you make yourself known to other companies? You mentioned telephoning, but cold calling is a difficult business.

Keane: Well I did cold calling in spades. I had little 5x7 index cards and I would call a company and write down what we concluded or what the essence of the call was and then I would call them again and I would rate it an A, B or C prospect and then put it back in the file. I called so much that within the first year I got a polyp on my vocal cord.

Campbell-Kelly: So you would just call up the MIS manager and the idea was that eventually they would need some work done and they'd know who you were?

Keane: Yes. You know that was an interesting point of view because the CIO or the DP manager or whatever you called them then, each call was, I would say, a half hour call. And I would say what are you doing? What computers do you have on order? Do you know what you are getting into? And we'd talk a little bit about the nature of the technology and what they were planning on doing and then I would offer my services. And I think they felt that they got something from the call and the reason why the calls were so long is that they were getting something from it. And of course I was getting something from it too.

Campbell-Kelly: So you were in the Boston area. Who were the other competitors that were in Cambridge and Boston?

Keane: There were no such things. We didn't have any competitors. There were no such companies as you know of now – companies that provide professional services to do whatever. You can go to lots of companies now. There was no such thing as a professional service company like that then.

Campbell-Kelly: That would be 1965? If you move forward say to 1968 would that still have been true?

Keane: In Boston yes, and then I think a couple firms started in specialized fields. There was Clasby Associates and there were a couple of other little firms. And there was also another firm that was started before I started which was Philip Hankins. That was very technically oriented. They were more systems software oriented than applications software.

Campbell-Kelly: So how many firms do you think there were in the United States then? Take say 1968, how many firms would you guess that there would have been then?

Keane: In the United States in 1968? I don't know. I know of others that had started in the New York area. I would say there may have been ten or something like that.

Campbell-Kelly: As few as that?

Keane: Oh yes, if there were that many.

Campbell-Kelly: And how did you get paid? Did you usually work on a time and materials basis or fixed price?

Keane: The thing about almost all cases was they were not accustomed to going outside and they asked "why should we do business with you?" Well, because I've done it before and I know a lot about this technology, because I installed the 360s, the first ones, and one good person is worth five mediocre ones. Oh well that's interesting; how much is it going to cost? And so we'd pin down the cost and then we would do it. And in the early stages when you start going you can't pinpoint the cost and it usually takes a little bit longer, so you work nights, weekends and very often – you would go to work and you wouldn't come home until seven o'clock the next morning and be back in the office at eleven o'clock that morning and keep on going. But we were young and we had lots of energy and it didn't make any difference and that's how we worked.

IPO

Campbell-Kelly: You had your initial public offering in 1970 – how big was the firm at that stage?

Keane: We had $2.7 million in revenues. We had $350,000 in profits and that was it.

Campbell-Kelly: That was pretty good. And how many employees would there be?

Keane: I guess about 100 employees.

Campbell-Kelly: So what was the reason for the initial public offering?

Keane: Well you know that is another interesting subject. There was a firm down in Texas – there were a number of firms and they would come up and say, "Gee what are you doing and are you interested in being acquired" and so forth? And they had lost their president and came up and said, well, just come down and take a look at us and you can be the president and you can run the show – we'd just like to show you what we got. So I went down and it was a service bureau and it was nothing special and they had job control cards that they used to change from one customer to another; it was owned by Sterling Electronics. And so I went to see the president and I said you know, you don't really have a lot there and so he said well that makes no difference. I need $2 million and if you can get me $2 million for the company or whatever then you can have the rest of it. And so I was shaking my head and when I got back to Boston I went via Newark and I called up some advisors that I had, one was Gene Friedman, who ended up as the chairman of Coopers & Lybrand, and another was Saul Kaufman who was with White Weld. And we got together that night when I got back to Boston and I told them the story and I said, "Gee that doesn't smell too good to me." And so they said, why don't you think about going public. Me? Going public? We're only $2.7 million. But he said, I think you're good enough. Is that big enough to be a public company? And they said yes, I think so.

Campbell-Kelly: Did you own all the stock at that time or was it shared? Did you own the whole company at that time?

Keane: No. I had given some options out at that time. So, we decided, well maybe we would start to think about it and then we filed and then in April we got a go ahead from the SEC but then the market just went to pot and it came back in about September and we went in November.

Campbell-Kelly: You say the market went to pot; just elaborate on that; this is 1970.

Keane: Well for a little company it wasn't worthwhile going for an IPO. It just wasn't a good market for it.

Campbell-Kelly: Because that was just at the tail end of the boom in electronic stocks?

Keane: We just missed it for a number of months and then we picked it up and then we went back in November 1970.

Campbell-Kelly: Right, so how much equity did that bring in? How much of the stock did you issue?

Keane: We issued about 15% of our stock then I think. The company was valued about $16 million and we brought in about a $1.5 million or something like that.

Campbell-Kelly: What was the money – what did you use that money for?

Keane: We had two other offices besides Boston then but they were very small and we put the money in the bank and a year later the IRS came by and said you got too much money and they hit us with Section 531, the excess accumulation of dividends. That was another story which ended up with us going to court. The IRS court rotates and they came out to Boston and said okay, we're going to go to court on say Wednesday and they wanted originally $550,000 and I said no way. So to make a long story short the night before they said well we'll settle for $50,000 and I said, well I want to go home and I want to think about it. So I went home and thought about it and I couldn't wait to get into the office and I said absolutely not and I called the lawyer and said no way, I'm ready to fight it. I got four calls from various members of the firm saying, you know, you've got to give in, you've got to. He's going to get pissed off and you're apt to get socked with 300, 400, 500 thousand dollars. So I conceded to that. But we didn't have any need for money. I felt very firmly then, although less so now because times have changed, that a software services company, well run, did not need money.

Campbell-Kelly: Because I suppose you were using the clients' computers?

Keane: We were using the clients' computers or we would make an arrangement somehow to borrow computer time.

Campbell-Kelly: And you were leasing the offices so there wasn't really any investment costs.

Keane: That's right. Now there were companies that did borrow money to start but they never did very well.

IBM UNBUNDLING

Campbell-Kelly: In 1970-71 was the big computer recession and there was also IBM unbundling so you've got sort of one thing that is good news and one thing that is bad news. Tell me what's happening in Keane at that time?

Keane: I would say that I would look at 1971-1976. It was really tough going. We had about $4 million in revenues and we always were profitable but we just couldn't grab traction and do anything. And what was the other part of your question?

Campbell-Kelly: About IBM unbundling? What was the effect of that?

Keane: IBM unbundling did not really affect us very much.

Campbell-Kelly: Why is that?

Keane: Because we had a very good relationship and even when they weren't unbundled I'd get a call from an IBM salesman who would say, I've got a computer coming in, they are falling behind, they're not on schedule. The salesman had an on-schedule bonus when a computer was coming in and if he didn't make that delivery date he didn't get that on-schedule bonus. So I would be called in and sit down with a customer and we would then work out what was necessary to get that computer in and installed. And we were small enough that it didn't affect us very much and although IBM was unbundled the customers were not accustomed to going outside. That's what it was I think as much as anything.

PROJECT MANAGEMENT PROCESS

Campbell-Kelly: In 1971, in the papers I've seen, you talk about perfecting the project management process that you had in Keane. Can you tell me a little bit about the background? I assume this was some kind of baptism by fire and some things had gone seriously wrong.

Keane: That's true. I went on vacation and came back in August 1971.

And within I would say less than four weeks there were five projects that were well over budget which I found out by various different ways. And we started to assess what was wrong and we found out that we were, at an estimate at that stage, we were $350,000 behind budget. And I said, "Holy smokes!"

Campbell-Kelly: So that's the profit for a year really?

Keane: Yes. So I collected documentation on each one of the projects and I went home and I would look it over and I would say, on this one we didn't get into enough detail when we started the project. And on the next one we didn't agree with them as to what the acceptance criteria were.

Campbell-Kelly: What kind of documentation would you look at? Would it be a project file?

Keane: Yes, a project file. I was looking at correspondence between the customer and us. I looked at proposals, what that original project was.

Campbell-Kelly: And did you have some paperwork inside the firm that accounted for the individual developers time?

Keane: Yes I did. But you know all that gets into such detail and a lot of it was, in a sense, extraneous. And so I came down to establishing six principles: not getting into enough detail, estimating the time and cost and so forth and so it became the six principles of productivity management. And so how could I take this and permeate it through our organization so that all future people who were working on projects would get the benefit of it?

Campbell-Kelly: Just for the record, if you can remember those six principles off the top of your head, please tell us.

Keane: Define the job in detail. Get the right people involved. Estimate the time and cost. Break the job down into 80-hour components. Provide for out of scope and provide for acceptance criteria.

Campbell-Kelly: Provide for out of scope? What does that mean?

Keane: Let's say you're going to mechanize your human resource activities and when you get into the details of it, you find out something else has changed. You might need to add benefits or something that you didn't really expect so that would be out of scope.

And those rules seem so simple. Like all good ideas, they were so simple. You'd say, I know that. And so we were trying to communicate it to others in the organization and at the time there was a little machine was available that could synchronize tape with film so you'd have a film and you'd synchronize it. So I put on a presentation on that and we started a whole number of seminars and the seminars were to be given to only top-level client people and our own people.

Campbell-Kelly: Clients?

Keane: The reason for the client people was that clients had a major impact because there is a symbiotic relationship in this development and they had a major impact on how you design systems. It was so easy when I thought about it – does it have a fixed price? Fine. Come on back when you're all done. That's not the way the real world is, you know, you have to find out what you're doing and I don't know what it is. That's up to you to find out and that's where a lot of the breakdown is. And so this mechanism of holding seminars wasn't good enough. So I went over to the business school at Harvard, and tried to see if I could find somebody who could put together some case studies. And I got a young fellow who was going for his doctorate degree and he came in and we put together seven case studies.

Campbell-Kelly: Of projects that had gone wrong?

Keane: Projects that had gone wrong. And in some of them, part of the project was very good, very well done, but in other parts it was awful.

Campbell-Kelly: But they were all financially unsuccessful.

Keane: All financially unsuccessful. And so we put that together in the seminar. That improved it somewhat. Now this took a lot of time but I would say back in 1978-79 we were still doing that and it just wasn't getting the wallop, wasn't getting the effectiveness that it should because all of these principles sounded so easy.

Campbell-Kelly: So you had been pursuing this for what? Six or seven years?

Keane: Yes, and I couldn't get anybody to write a book.

Campbell-Kelly: Were you still getting projects coming in over budget?

Keane: Yes, but now it was far less, far less.

Campbell-Kelly: But that is because the managers were getting more seasoned?

Keane: Yes, but the interesting thing about this field of information technology is there are no standards. People that you know of that have gotten into information technology in the commercial field – how much schooling have they had in what they are doing? They haven't had any. This one may have learned it this way and that one may have learned it another way, but they don't have a common language, and that was the problem. And so to make a long story short, every week for 43 years, I've had a date with my wife Friday nights and so I was lamenting one night, I said, you know I can't get anybody to write this damn book. And she said, she had been with IBM, that she could write it. So, for the next two years I spent hours and hours with her and she wrote the

book and I edited the book and so we came out with the first edition of *Productivity Management*, and that was a major step forward. I mean I can't tell you how many people would come up to me and say, you know, I've got a copy of your *Productivity Management* book, and I'd say yes, but have you read it? No. No, I haven't read it yet. And people just tend not to read it. Well we've now gone through the second edition and it has now gotten to be very much a culture, but it has taken a lot of years, a lot of years and a lot of hard work.

Campbell-Kelly: Was that kept just within the firm or did it go outside the firm?

Keane: It went outside the firm. There have been a hundred thousand people I guess trained in it. And now we give it in three days but it's only an introduction. You know those six principles and you can repeat them and you say, what is it - that's not very much. But there's an awful lot more detail behind that. We give it to customers primarily so that they would be easier and be more understanding: Oh yes, there is a lot more to it than that and they would be much more receptive to what we're talking about.

Campbell-Kelly: How would that compare to a methodology like Soft Systems or SSADM. Can you tell me what the difference is?

Keane: That's a process, a process of Soft Systems or whatever. This is a state of mind. It's a culture of how you develop systems and the flexibility that you have. For example: define the job in detail. Well, you start to think about what does that really mean? Let's say I'm going to do a human resources application. So you have to do a lot of thinking to get the right people involved. Well, the right people are often the client people and the client people have other jobs and you have to impose on their time. If that doesn't happen, you're going to go off the wrong direction. It is that type of thing that you have to think through that has nothing to do with what are the processes. Define acceptance criteria before you start so you know what the deliverable is going to be. The 80-hour rule is every 80 hours. One of the problems in software development is that you get a project manager and you're given six programmers. You don't know how good any of them are. I want to protect you, right? So you lay out the job and you break it down into 80-hour components. And then I start to do something and in 80 hours I haven't finished it. Okay? That gives you an opportunity to check what happened and an opportunity to check on how good am I? Each one of those has to have a tangible deliverable.

Campbell-Kelly: That represents two weeks work I guess? That's interesting; it is not an obvious chunk of time. Was that just born of experience?

Keane: Yes. It had to be a short period of time but long enough to be meaningful. Anyway, it has turned to be very productive. What we're doing now is we're at CMM level 3, level 4, level 5. Are you familiar with that?

Campbell-Kelly: No I am not.

Keane: It's a Computer Maturity Model [CMM] which the Carnegie Mellon Institute has come up with. That's now a process and we have 37 sites where we have a third party go in and examine them for their procedures and say whether they are at level 3, level 4, or level 5. Most software development sites are level 1 or level 0. In our outsourcing now, we are engaged with a

company and we say that we'll bring them to a level 3 in one year. It usually takes 3 years. But that's just another bit of knowledge that we have.

Campbell-Kelly: But it has evolved over time as well?

Keane: Yes, yes.

MAJOR PROJECTS

Campbell-Kelly: Tell me about some of the projects that you did in the 1970s – are there any that stand out?

Keane: Well, I don't remember an awful lot about projects. The projects in those days, when you think about them, were not like the projects today. Today, I can say we've done this system for Goldman Sachs or we've done that system for Fleet Bank. In those days, and this is another one of the problems, is that if you were going to put something on the computer, you would put on your payroll. Today you wouldn't put just your payroll on your computer. You'd put your payroll on but you'd also put your human resources on your computer. You would put on a whole bunch of things; it was that integration that has made systems right now more involved but much more inclusive. In those days a big system would be a payroll system, a manufacturing system, but it would be scheduling manufacturing or bill of materials or something. Not the complete manufacturing cycle. So, when I say what I remember, I'm remembering smaller pieces rather than the bigger pieces that are going in today.

Campbell-Kelly: Did you have some limit to how large one project could be of the firm's revenue and would you accept a project that say amounted to as much as 5% of a year's revenue?

Keane: We really didn't have that choice. We marketed to the CIOs who weren't called CIOs then. And it was helping him get his work done. And for the most part he didn't have work in big bundles. He already had a department and he needed some help on a database or something in some area or he'd take a little bit of it and just give it to you and have you work on it and then give him the finished package.

Campbell-Kelly: Did you do any body shopping as well, just people?

Keane: Well, that is an interesting point because in 1977, 70% of our revenues were fixed price. Then from 1977 on, there were so many companies that took things on fixed price and we couldn't complete them. I remember a meeting with a man at General Motors and I was telling them all about my Productivity Management and we can do this and that and so forth. He said, that sounds terrific, but could you do something for us not on fixed price, because he had so much bad experiences with companies that did that and they went out of business. So from about 1977 on, companies started to go to time and materials. It was starting to become more everyday that people went outside. There were programmers available so you could hire a programmer and I would say through the 1980s and part of the 1990s it was a lot of time and materials and body shop. In fact a number of our customers I remember in the 1980s said I need that project done, but I don't want your project managers. I just want somebody who knows MIS. Well, he was missing the whole boat but you were either going to satisfy his need or you were not going to do business with him.

SOFTWARE PRODUCTS

Campbell-Kelly: Did Keane ever get involved with software products as opposed to custom software?

Keane: Yes we did. Maybe I should step back and say how did we evolve as a business, because about 1972 I got involved in hardware. Not hardware that was anything like you've been thinking of. It was from a company called the Cogar Corporation in upper New York State; the people were formerly from IBM and they had a little machine called the System 4 that weighed about forty pounds and they would have two tapes and you could make it with as many as eight tapes and it had various levels of memory. It had a little CRT and a keyboard and it rented for $225 a month including maintenance. It was really a small PC and so we started doing that as I remember.

Campbell-Kelly: It was an integrated system?

Keane: Yes, an integrated system. Now we had to do all the programming for whatever it was going to do.

Campbell-Kelly: What kind of systems and applications would it be used for?

Keane: Well that was a challenge. So I invited numerous CIOs to come down to my office, saying: "I want to show you something." And we showed them the machine and asked what do you think? Would you have any uses for it?

Well, we installed about 250 of them in the Department of Welfare's system in Massachusetts. They had offices throughout the state in which they had welfare recipients and they'd input the data for that recipient and it would have to be keyed in and then there would be some mistakes and so forth. And so what we did was program it so that it would do the validation and editing right then while the customer is right there at his side and then when the tape was all done, for that person and other people, at the end of the day, they would send the tape in and it would update the files. To make a long story short, Cogar ran into financial problems and it was picked up by Singer.

Campbell-Kelly: That became Singer Business Systems?

Keane: Yes, but we had an exclusive on all sales east of the Mississippi. It was enough tangle between sales organizations that we just sold it back to Singer. But that was the first one. Then in 1975 we acquired our healthcare systems division and that was hospital software that did everything a hospital needed, for a fixed monthly fee. And we provided the computer.

Campbell-Kelly: So who did that, who was the acquisition from? Who created that system?

Keane: It was out on Long Island and we acquired that company.

Campbell-Kelly: And what did you acquire? Was it a piece of software, or people or machinery?

Keane: All of the above. They had several hospitals installed. They installed their billing and their accounts receivable and a couple of other areas. They had computer programmers and a computer on site and charged them something like $20,000 a month. And so we picked it up

and we ran with that. And that's now turned into our HSD division which has made quite some refinements on that system.

Campbell-Kelly: What does it supply as of now? Is it still supplied as a turnkey system, or is it simply a software product now? What's the difference?

Keane: It's a software product. In some cases we'll do a turnkey system. It's our software product. We will modify it a little bit for them and we will sell it to them as a turnkey system and then we will maintain it — just like PeopleSoft or SAP or whatever package. That was the first package that we sold. Then we started to think, this is in the late 1970s, and I'm thinking strategy-wise and I say, you know it's tough just working with people and you can't really orchestrate what those people know except if you had a product. So I decided to acquire a manufacturing product from England. We got a license for it and we trained our people on the product so that they could install it.

Campbell-Kelly: Would that be the typical mode of delivery at that time? You wouldn't just supply a product but you would really have to install it and train the people.

Keane: Yes. And then we got involved with an insurance product and then we got involved with IBM's System 36 product.

Campbell-Kelly: Now were these products, were they like you were describing earlier, would it be something like the payroll that satisfied one little area or would it run the whole company?

Keane: These products would pretty much run the whole company.

Campbell-Kelly: So now you would be talking probably early 1980s with this?

Keane: The early 1980s, yes. And we marketed those products until about 1987.

Campbell-Kelly: People often characterize a decision that firms make as follows: You could have custom software that conformed to the firm's historic practices, or else you could buy a software package and the firm would have to conform to the package. Is that a fair characterization?

Keane: Yes, it's got to be conformed to make it work. It's got to conform to the manufacturer's package with very little customization. Here's where I think history is important. In 1987 we were running through tough times and we had our first loss in the second quarter of $102,000 I think. I was vastly embarrassed and said, "Holy smokes!" and got my team together and said, you know this is not going to happen another quarter. What are we going to do? So we looked at the problems and we clipped off our manufacturing software, clipped off our insurance software, clipped off our IBM System 36 software and said, okay, we are now a services company with the exception of HSD which had always been profitable.

Campbell-Kelly: So these were all losing money, the software products?

Keane: Yes.

Campbell-Kelly: Why is that?

Keane: Well I rationalized it by saying that when it would include your total company, manufacturing company or whatever, the sales cycle is very long. There are a number of customizations you've got to make, and then you get it installed and you probably spent as much installing it as you received. And it's easy to delay because Jake down the hall is not quite comfortable with it yet so it was just slippage, slippage, slippage. And in addition to that, I am convinced that the culture of a software products company is vastly different from the culture of a software services company, bordering on the incompatible. When you are in a software services company you have to sell yourself first, your organization second and the product third. In a software products company you have to sell the product first. You have to sell the organization second and then yourself third. And that just didn't jibe. From 1987 to now, forgetting the economic downturn, we just took off and skyrocketed as a company.

Campbell-Kelly: Just by focusing on computer services?

Keane: That is the secret to success in software. You've got to focus a successful business. You've got to focus very precisely on who you are and you have a strategy only when you are able to say no. Most people don't think that. Most think it's a strategy when I can rationalize what I am doing. That's not a strategy and that's what we learned then. It was that we would say no, cut off those things and focus on those things that are going to make you successful. And then you start to realize it is critical mass and it is dominance in the market. You shouldn't start playing with other things which you didn't have the luxury of playing with.

Campbell-Kelly: Just to finish that story, what did you do with the products that you disinvested? Did you sell them or did they just die or were there management buy-outs?

Keane: No, we installed those that we had committed and then we just phased out.

Campbell-Kelly: So the software that you bought from England for example, it was just a write-off, it had no afterlife? Did that leave the people who bought the software stranded without a supplier or did you continue to support them and to help them?

Keane: We continued to support them.

Campbell-Kelly: And still making a small loss on it presumably or maybe once it was installed it becomes profitable?

Keane: Once it was installed it could be profitable; we charged $110,000 up front.

Campbell-Kelly: So all the customization had to come out of that?

Keane: Yes, but again your strategy is learning to say no. Many times you don't want to do business with certain customers, but you are sucked into doing it. For example, if a customer doesn't want to do quite what you want to do and they keep on negotiating, you should just cut it off and move on. And that was very difficult to do when you were starting a new business in that marketplace.

KEANE'S EXPANSION

Campbell-Kelly: When was Keane Inc.'s great expansion because obviously you are a huge enterprise now?

Keane: I think that in about 1987 we were about $40 million and then we just really started to jump forward. The early 1990s was again a bad economic time and it was particularly bad in New England where the banks were really hurt. I became convinced that you must manage your company differently in different phases of the business cycle. When the market really tapers off was the time for acquisitions.

Campbell-Kelly: Right, because they were cheap.

Keane: They were cheap and you could do something with them.

Campbell-Kelly: Except that I guess the kind of acquisitions you were making were people acquisitions mainly– and they are expensive to maintain.

Keane: Well that's right. And up until then we had not done many people acquisitions. We had done some – little tiny ones. The first people acquisition came with General Electric Consulting. I took a look at them and we negotiated an acquisition of about $60 million of business and we had a network of branch offices. When you look at an acquisition and it has an overlapping network of branch offices: in Baltimore, you don't need two offices; in New York, you don't need two offices and you can eliminate a branch manager, a sales manager and so forth and so on. You can eliminate an awful lot of overhead and that's what critical mass is. It brings more consulting power to a given entity. On January 1st of 1993, we acquired General Electric Consulting and the following January 1, 1994 we acquired AGS. We made that acquisition and it was about $160 million.

Campbell-Kelly: Nynex owned it by then?

Keane: Yes, it was from Nynex. And so that put us up to around $400 million and so from $400 million it was up to $550 million or something, $650 million, and then we went from there. Now during the 1990s, after that happened, things started to become pretty good again and the acquisitions were far too expensive. But you could grow and so we were growing by leaps and bounds and in 1998 we moved to a $1.176 billion in revenues and then a little bit less the next year and then the next year we were a little bit less.

ACQUISITION SUCCESS

Campbell-Kelly: So what is the secret of making acquisitions? Clearly there is a rationalization process going on but is it also about imposing your project management discipline to make it more effective?

Keane: Yes, it is just like Productivity Management. In looking at an acquisition, the amount of work that you do beforehand is enormous and the night of the acquisition after you sign the papers you get everybody together and you hold a series of meetings. Let's say you've sold your company. You get up and you explain why you've done this and so forth. Why it is a good thing and

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so forth. I'll get up and say we're really happy to be here and so forth and the following morning, every person is interviewed, what their personal situation is, how about your family, how about vacations, how about health benefits. All these things, so each person starts to feel comfortable. All the ifs ands and buts, of which there are going to be too many, which manager is going to stay, for example, have to be resolved beforehand. And, in essence, a good acquisition is one where the people from the acquired company have to have a reasonable number of senior positions. You're showing respect for the people.

Campbell-Kelly: As you describe this process it makes you sound very hands on but I guess that you've been at such a high level in the firm that you've not actually been involved in these acquisitions directly. So, it's just part of the firm's culture really?

Keane: That's right, that's right.

FAMILY INVOLVEMENT IN KEANE

Campbell-Kelly: Talking about the firm's culture, your sons are now involved. Tell me how that has happened. I think one son is now president, is that right? You have two sons?

Keane: Yes.

One son is not with the company. I have two sons and a daughter. And they are eleven and a half months apart. The first son that joined the company joined in 1987.

Campbell-Kelly: Did he start as a programmer or something and work his way through?

Keane: No, he started in sales. They both went to college. They both joined separate companies. One joined Matsui, a Japanese trading company. The other joined JP Morgan and then they both decided to go to business school. Between the first and second year of business school they thought maybe they would like to look at the company and I said okay, I've got a project for you. You can do a project and then you can decide whether this is something that you want or don't want. Brian, who was the younger of the two, joined the company first. A year later his brother John joined the company and both of them were sales people. They worked their way up to branch managers, worked their way up to area managers and then I formed an office of the president and made them co-presidents. They all had separate responsibilities and they had that for about two years and then they came to me and said, you've got to make a decision and decide who is going to be what. So I picked Brian after a lot of discussion. And about six months later John left and started Arcstream, a wireless software company which he is running now. And so Brian is now with the company and he's doing a great job.

ADAPSO

Campbell-Kelly: Tell me about your time with ADAPSO. You've been a president of ADAPSO. When did you become president?

Keane: I don't really remember. I guess 1992 or so.

Campbell-Kelly: What were the problems with the industry at that time? That was not a particularly good time for the industry, was it, or was it recovering then?

Keane: I guess there's no good time for the industry. I was looking over some papers before coming down here of talks that I've given in front of ADAPSO. It was after some strategy meetings. We were continually asking what do we do for the industry? What is our purpose? What's our strategy? And it really was to make the industry prominent, well known. Then the second thing was to determine what things the industry needed from Washington. The third thing was a culture for young CEOs as to how they can learn from one another. It was really sort of working out these issues and trying to set a different agenda. And now that it's ITAA it has become really more of a government lobby. What does the industry need and getting that across to Congress. And that's very appropriate because now there are many regional associations. There's the Massachusetts High Tech Council which can do much of what ITAA used to do and perhaps better because it's local.

BOARD MEMBERSHIPS

Campbell-Kelly: You also have been an external board member for quite a number of companies. Tell me what kind of companies that you've become involved in.

Keane: Well one was PerkinElmer. It used to be EG&G, Edgington Grimershousen & Greer. They were all government work. They were involved with every nuclear blast that the US did and four years ago we brought in a new president and now we don't have any government business at all. And in the course of this we acquired one of the major divisions of PerkinElmer. So now it's in life sciences, instrumentation and optical electronics. And another company that I am director of is APC; they provide fallback DC power in case your computer goes down. Another one is FirstWave Technologies which provides Customer Relationship Management (CRM) Systems and then the fourth one is iPower which is a new company dealing with supply chains.

Campbell-Kelly: Are these all Boston-based?

Keane: No. PerkinElmer is. APC is Providence-based. FirstWave is Atlanta-based and iPower is Cleveland-based.

Campbell-Kelly: Do you do more than sit on the board? Do you become involved in the running of the firm, on a consultancy basis perhaps?

Keane: I try not to because I don't think that's the role of the board. The role of the board is to provide guidance, direction, strategy and so forth.

Campbell-Kelly: I guess you must have had external directors in your company. When did you start to appoint external directors, early on? Tell me some of the people you have had and the kind of benefit you were getting from them?

Keane: Jack Rockhart was one whom I've known since my days at IBM. He left IBM before I did and he has been with MIT and the Sloan School. There have been others in the interim. There's Steve Steinour from Citizen's Bank. Maria Cirino who is from Gusrdent, an IT security company. But they really had to take a fresh look-see at what we were doing. I feel that it is important for every management team to feel accountable to somebody. I really felt that I had to be

accountable to a board because that is just healthy. You've got to be accountable to somebody for performance.

KEANE OWNERSHIP

Campbell-Kelly: What proportion of Keane do you own?

Keane: Well right now we have about a little under 12 million shares out of 70 million shares.

Campbell-Kelly: So you're by no means a majority shareowner then.

Keane: No, and then the management team has maybe 6 million shares or something like that.

ENGLISH ACQUISITIONS

Campbell-Kelly: Tell me a little bit about your English acquisitions. Acquiring firms in your own country is not quite straightforward, but it sounds easier than trying to do it across the Atlantic in a different culture and separated by a lot of space.

Keane: That is a good point. Because we were in the United States and we had Goldman Sachs and Merrill Lynch who were saying we needed to do something over in Europe. We'd like you to be over there. I felt that the UK was the one place I'd feel friendly towards. It was much like the American system.

Campbell-Kelly: That's very interesting but are you saying that actually you had some potential clients over there?

Keane: Well, we thought we did and so we went over and saw them and we liked a company called Icom. But they hadn't really taken off and they were really having a little bit of trouble and then we saw Parallax and we thought that they would be a good acquisition so we focused in on Parallax. There has been a lot of discussion from time to time about going into Europe but I was very hesitant until England was really thriving. You can have lots of loose threads in Europe and you can be a little bit tangled there and not doing too well. And if you're not doing really well in England, you just don't get off the mark.

Campbell-Kelly: How did you do the acculturation to the Keane system if that's the right word? Did you put your own managers in for example?

Keane: No, no we didn't. We didn't do a complete acculturation; however, the current managers have spent a lot of time at Keane. They've gone to school here at Keane. They have their own culture but it's got to be enough of our culture. The Productivity Management culture, the values culture and so forth.

Campbell-Kelly: These were fairly capable firms anyway and I don't suppose they came cheap. They were successful, profitable firms I assume.

Keane: Yes they were.

THE FUTURE FOR KEANE

Campbell-Kelly: So now are you emeritus or are you still fully in office?

Keane: I am spending about half of my time with the company. One of the interesting things about running a company is, starting with one person, how do you just keep on? It's like un-skinning yourself and delegating something below you and then un-skinning yourself and then delegating the next level and I think that I've done it pretty successfully up through Brian and now I don't get involved with any of his CEOs.

Campbell-Kelly: You're really handing over the baton and keeping out of his way?

Keane: He's running the show. Although I am continually double-checking and so forth but not interfering and I think he is aware and sensitive enough that he is interested in my thoughts and he really doesn't want to do anything that I don't want to do, but I think he really feels that he's got elbow room to do what he feels is important.

Campbell-Kelly: When I looked at the various papers you sent me I sensed that while in 1967 you didn't know where the company was going, perhaps, by about 1980 you did. You have hit the targets you set yourself – is that right?

Keane: Yes.

Campbell-Kelly: So the question really is, given where you are now, where do you think Keane Associates will be ten years from now?

Keane: I would say we'll be a 5 billion dollar company.

Campbell-Kelly: Will you be in Europe and Japan do you think?

Keane: I don't think so, no.

Campbell-Kelly: To both?

Keane: No, we'll do a lot of outsourcing.

Campbell-Kelly: You mean outsourcing the development or outsourcing the operations?

Keane: Well both. In other words, lets say Carrier or someone would say, I'd like you to take over these 100 people of mine and then you do the outsourcing and we'll set it up at CMM level 3 or level 4 or something. We have acquired an Indian subsidiary — on March 15th, 2002.

Campbell-Kelly: Is that successful?

Keane: Well, it's too early to tell but I think it's going to really be a boon. The reason I say that is that Pacific Care is a major outsourcer to us, and Carrier is another. This is one month

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from the acquisition, we're talking about moving 100 people over there and I think that's going to be very major in our growth.

Campbell-Kelly: That's interesting. I've heard it said that offshore programming tends to work better in the systems area where it could be more tightly specified and not very good in applications but you're really in applications.

Keane: Well, you are absolutely right. Systems software is like an engineering specification and you can do it and there's not much change over time in the specification. Maintenance of a system can easily be done. But in some development work a developer can say, "Gee, I'm going to come up with a system and I've got these ten users and we're going to think about it and then we're going to think about it again." That type of development and those specifications are too volatile. So I think that for the outsourcing when companies are trying today to drastically reduce their costs, where you can get their procedures ironed out to the point that it is a process, then you can do it. And the process will tell whether there is too much volatility in the specs.

Campbell-Kelly: Why did you not go to Ireland which also has quite a lot of offshore programming and you would not have the linguistic barriers or the cultural barriers?

Keane: Well we had been in Ireland. In fact in about 1988 – 1989 we were developing our HSD software over there and we just found that our procedures weren't refined enough to be able to do that effectively. Now we're starting again. The Indian cost of software is much less than the Irish cost of software and I think it's going to be much better, cost-wise.

Campbell-Kelly: Looking back, this is really the last question, what do you think are the biggest differences between the 1970s and where we are today? What you've described really is a world that has not changed very much actually, it's been about project management. Do you feel that is still true?

Keane: That's right if you make all other things equal. We've gone through a lot of strategies and now we're back on the straight line. What was our strategy when we started? It was helping clients apply technology for competitive advantage. What do we do today? We help clients apply technology for competitive advantage. Now how did we do it then? In the early days we did it with one person helping them here or a little project there. And now how are we doing it? We're maybe taking a whole department and moving it over to India but it is still the same thing and it's just the vastness of it, the volume, the scale is much different.

Campbell-Kelly: Thanks very much John. I really enjoyed our talk.

Keane: Thank you.