Kolence Heads in a New Direction and so Does Boole and Babbage
Margaret Greenberg

[Note: indentations signify quotations of the two managers. Author commentary begins at the left margin or is in italics inside brackets for clarification.]

Kolence spent some time resting and regrouping after he left "the Boole", as he often affectionately called it. The John Greenleaf Whittier quote, "For all sad words of tongue and pen, The saddest are these, 'It might have been'." sprung to mind as I thought about what happened with the Boole founders. Kolence picked himself up and went on to start a company in software physics. He was a technological genius. But he may have spread himself too thin or didn't have sufficient business experience. Or was he blindsided by the lack of ethics that he saw with the SLAC manager? Not to worry though, the company survived. And so did Kolence.

There were two more individuals involved with the leadership switch at Boole: Pitch Johnson and Bruce Coleman. Johnson stayed with the company; however, Coleman had two separate stints with the Boole. Their take on what happened was interesting and enlightening to me and, hopefully, to you as well. So, for a management perspective, read on.

Franklin Pitcher ("Pitch") Johnson was interviewed in 1997 for inclusion in the Computer History Museum specifically for his involvement in venture capital for the Boole. He repeated the story of Katch and Kolence who were interested in funding their company. The market was ripe for their product to make IBM mainframes run faster and more efficiently. Johnson began:

> The first product was called Problem Program Evaluator or PPE and it just gave you an analysis of where the time was being spent. It didn't give you many answers as to what to do about it. But it told you where the problems were.

> The second product, which came along soon afterwards, was called Configuration Utilization Evaluator, or CUE. It looked at how much time the peripherals and the mainframe were taking to interact with each other and gave you an analysis of where that time was being used. It gave you a look at where you should turn your attention to reconfigure the system to speed up the interaction between the mainframe and various peripherals.

> I don't remember if we got to a million in 1968 or 1969, but I do know in 1971 our sales were $1.7 million. So within a couple years we had accumulated $1 million worth of sales. We had a big party that year. And for several years, we had a big party after work every time we had $1 million more in sales. But, when the company got up to $200 million in sales, we didn't do that anymore – because it got to be too many parties! We did continue to have some pretty good parties with the high morale and high spirit of the company, but we didn't do it based on $1 million in incremental sales. And we began to improve those products. Those were the two basic products that got the company going. PPE, after many, many evolutions and changes, is still in our product line. And CUE as well. But they are only the primitive forerunners of the products we sell now. The [current] products tell you a lot of what to do about the problem, not just identify where the problem is.

By being independent and by having independent-minded people, the company developed kind of a personality of doing things its own way because there was nothing to pattern after. There were companies like Pansophic[i] out there, but we didn't know much about them. We just knew that there was a new thing happening and wanted to be in on it. In 1971 Bruce Coleman came on board from a company back east and he brought business discipline to the company. It had been a technical company to that point. They had sales and marketing, but they didn't really have much business planning or strategy. Bruce brought that to the company and served as President pretty much through the 1970s. The company grew under his leadership.

Ken left the company when Bruce became the president and started a company in a field that he called software physics. He felt that he had discovered the underlying principals of software design and left to focus on that.

Well, there were two big challenges to Boole & Babbage in the earlier days. One was a product that NASA had that they gave away. We were really worried about the fact that it was a product that was competitive with PPE and was given away by NASA. [*Actually was SLAC (Stanford Linear Accelerator Center). This facility has been renamed SLAC National Accelerator Laboratory. Johnson was a businessman and not an engineer. NASA was ever present in the media of the 1960s and 1970s and stuck in his memory.-mg*]. We thought, "Gee, how can we possibly sell against that?" It turned out, though, that an orphan software product that isn't maintained and kept up can't compete. We did have people who chose "freeware" over our product but they didn't have any help. They didn't have any support. They didn't have maintenance. Because IBM put some new upgrade to the operating system every few months and we had to keep on top of that.

So we had to figure out how to compete. It turned out that we made the correct decision when we decided to give terrific service. At the time we were only charging about $10,000 for the product – maybe not even that -- but we would have service people go to help install it. And the customer would buy maintenance. I don't know if we were the first, but we were among the first companies to realize that maintenance was something you could charge for. We did a year's maintenance with the sale and then we charged for maintenance every year as every software company does now. Maintenance is where the profits are. I would call us pioneers in charging for maintenance. But it also made the NASA product ineffective because it didn't work very long or very well and people had no way to get help by calling them. A multimillion dollar computer shop was far better off to spend a few thousand bucks on well-maintained, well-serviced software.

Most of the companies were just guessing how to pattern their businesses. There were no existing business models; however, often what they did became standard practice as the industry evolved. Johnson goes on to explain:

That's true of every business. It applies to those of us that were early into venture capitalism. There was no business. There were no proven ways of doing venture capital. We just fooled around and figured out. You use common sense and the little education you have, and you figure out what is it that makes companies successful.

And so, we built models about looking at future values, discounting and the things we do routinely now.

Any industry – software, venture capital and biotech are the ones I've been involved in -- all invented ways of doing things because they *had* to invent them. It wasn't that this was an on-going business. It was a blank slate and people started writing on it and some things were wrong. We did some things wrong, too.

The other thing that we were dealing with every day was the IBM salesmen who were informed by sales management about how to give away products to make the sale. This is what we knew was happening. I didn't sit in the meetings, but we had reports from customers that IBM was giving away stuff and talking down Boole & Babbage because they realized that you couldn't sell a mainframe if our product showed that the problem was in the peripherals. I had a classmate, a good friend named Spike Beitzel, who's still a good friend of mine and who was IBM's national sales VP or something like that. I ran into him at a trade show and he said, "You know, you guys are competitors of ours, really, because when you sell your products, people postpone upgrading their mainframes."

We realized that IBM had no motivation to provide their customer base with far more efficient software and a far more efficient operating system. They upgraded computers faster because of the inefficient software. So Boole & Babbage found its niche by saying "If you spend a couple of thousand with us, you can postpone the upgrade to your mainframe." Everybody was growing and had a need for increasing capacity a lot. And so, by customers delaying purchases for a while by using Boole & Babbage software, we essentially postponed business for IBM.

Anyway, we were under a lot of pressure from IBM. But IBM, being a smart company, had an excellent local man who was the VP for industry relations for this region. We sat down with him, without having a lawyer present, but having had legal advice, and said, "Look, we think you're doing things to hurt Boole & Babbage. You're threatening to give away products, you're including things that we charge for, and we think that you're behaving in an anti-competitive way." I was Chairman at this point. I became chairman when we made the transition from Ken to Bruce.

So he said, "Well, I don't know any facts. Let me hear what you have to say and let me check and see what I can find out." He didn't admit a thing and he shouldn't have. But it wasn't more than two, three weeks later when a blue letter came out. Blue letters are the letters that IBM sales management sent out to IBM salesmen. It said, "We'd like to reiterate our policy that we do not give away products which other companies are charging for." Of course, it was actually a change to their policy. They included specifically the concerns we raised about their behavior and said that they would continue to have published prices for their products and that they wouldn't be giving away products just to make a sale. And they stopped doing it. If they had kept on doing that, I think Boole & Babbage would have had a hard time growing. They had begun to develop products somewhat like ours which weren't as good as ours, but they did give them away [when necessary] to get the business. Nobody sued them: they decided to stop the giveaways.

Another issue with IBM was getting them to tell us about things that were going to change so that we could have our product ready to fit the new configuration. Now, they didn't have to do that, but they made a wise decision to cooperate with Boole & Babbage. They decided, I think, at some point in the mid 1970s, that it was a good idea to help their customers run their computers better, that it was strategically smart to have data processing run as efficiently as possible, so in fact, it would become more and more useful to their customers' organizations. So with that policy change, they decided to give us information about their product releases. So that was a cooperative thing that IBM did.

Replacing Ken and bringing in Bruce was difficult because Ken was a good friend, but I really don't think that Boole & Babbage would have been able to grow like it did without Bruce's management experience. [*Often the founder was/is replaced by more business-savvy people, another adaption to the business model of many start-ups or troubled companies.-mg*] So those were the early threats. The company consolidated itself pretty well and made money throughout the 1970s. Bruce was hired away by Informatics to be their No.2 guy. After Bruce, we brought in Mike Patatucci and later Jim Norris. But the company continued to lose ground because of the changes in the market and in the IBM technology platform. In 1980, we brought in Jack van Kinsbergen, who had been at IBM and Amdahl. He ran the company through the early and mid-1980s and took it public. Then, IBM made major changes to its operating system which obsoleted a lot of the Boole & Babbage products and the company lost a lot of money. We brought Bruce back in as CEO and he got things turned around, and the company became profitable again. In 1988, Johannes Bruggeling, the president of Boole and Babbage Europe, replaced Bruce. In 1991, we brought in Paul Newton, who was a board member. He got the company refocused on the client/server platform, and has run the company successfully since then. [*Interview was in 1997, prior to 1999 sale to BMC .-mg*]

In 1967, there wasn't much of a venture capital business at all. So we were looking for things to invest in. We felt that it just made sense to have standard products instead of every company designing their own. Ken and Dave really had that insight very early on and I just thought it made sense. We had a group of venture capitalists who were very much individualists and went with what they thought sounded like a good idea, even if it haven't really been proven at that point.

One of the things I do know is that was very easy for two guys to sit down for six months to a year and write a very good start up software product. The hard part is product number two. Then you're a company, you do it with people you hire who want to work 12-hour days instead of all day and all night. So the next product always costs a lot more because the entrepreneurs just work day and night until they get it done.

Many of the other software companies of that time were "boot-strapped", i.e., they used their own money for financing. An example would be the early Morino company which was financed by himself, family members and friends.

Bruce Coleman graduated from Trinity College (Hartford, Connecticut) with a degree in Economics. In those days, a degree in economics wasn't a career starter. So he went to work for IBM in the Hartford office first as a trainee and later as a salesman. He managed to get into IBM by bartending IBM parties He enjoyed the parties and sought a job with them. When they discovered his technical skills were not appreciable, they decided he would be a salesman. He fit right in.

> I remember one night looking about the office 6:30, 7:30 at night and sitting at one of 45 or 50 gunmetal gray desks, all in a line. I decided that I looked, acted and thought like about everybody else there. And this is good – they are hard working people, reasonably bright, seemed to care about things and wanted to get somewhere. I determined that there wasn't any reason that someone would reach down in the promotion barrel and pick me. I looked too much like everybody else. I noticed then that two or three of the men seemed to have a better understanding of where they were, where they were going, and how to get there. And it so happened - I don't know whether it was serendipitously or not - that they all had been to business school. A friend of mine had applied for and been accepted at business school. I talked with him about it. So thinking about it I said, "I'm going to need this to make me a little bit different."

He applied to Stanford, Tuck and Harvard. Much to his relief, Harvard accepted him. The other two schools were heavy into quantitative methods and he wasn't exactly a math whiz.

> I believed then and I'm sure now that the issues requiring business skills as a CEO are not those that are well suited for quantitative analysis. You have to be able to understand balance sheets, basic numbers, P&L, and those kinds of things. Rarely do you get into heavy mathematics to figure things out; and, fortunately, if you have to, somebody else can do it. So the other part of Harvard that I liked immensely was the case method. Harvard specializes in mixing a group of people, most of whom have had work experience, together in classes. They have people from government, military, education, business and a nice potpourri because the value of the class comes not from the lectures but from the case method where you debate with the classmates about what the problem is, what the facts lead you to and what the answer is. I was delighted to find that unlike my undergraduate degree, my response was, "I could really use this. This is interesting, it's helpful, it's very stimulating and I'll be damned if I'll fail." So unlike undergraduate school, I worked very, very hard and did dramatically better.

After graduate school, he had many opportunities, including returning to IBM. But he had kept telling people that he was interested in running a company about five years out. His choice was Logic Electronics[ii], a company to which he was steered by his broker. And he had to start to manage somewhere, right? It was about eleven days away from bankruptcy when he started. He left after 18 months. Things had significantly improved — they were only 30 days away from bankruptcy. Many payrolls were missed and he was number two behind his boss in the line to be missed. He had to take side jobs to make ends meet. Then, he met and married his wife. So they needed to get serious about a regular paycheck. So why did he sign up with Logic Electronics? He explains:

> I knew that I wanted to be running something, be a manager, even though I didn't know then really what a manager or a leader was. But I wanted to do that and the benefit of

business school was that it gave me the analytical skills to do what was needed, although it was clear even then that business school doesn't give you people skills. Many business school graduates don't understand that and expect to go gallivanting off and be enormously successful. Because I had six years of business, I knew some of what I didn't know. I didn't take myself all that seriously. I took a look and it was in the integrated circuit testing business. I said, "What the heck, not a bad place to start." After mailing resumes to all 83 of the venture capital companies in the national list, eighty-three back then as opposed to probably a thousand now, I received responses from three people, all associated with Boole & Babbage.

The chairman, Pitch Johnson of Asset Management, interviewed me along with the CEO, and he basically crammed me down the CEO's throat. Things struggled for a while. I was about ready to leave because working with a founder was challenging. It ended up that we cut the company in half, the founder was fired, and I became vice president and general manager, and then CEO about the time that Pitch wanted to go to the 1972 Olympics and he said, "Well, it's yours, goodbye." So that got me to my first real leadership position.

He goes into explaining the founding and the measurement products. He continues:

The year that I joined them half-way through, they had sold $1.6 million worth of software. Back in 1971, that was a hell of a lot. That was the good news. The bad news was that they spent $2.14 million and were running out of cash. That's where I came in. I remember thinking that if we sold these rascals for $7,500 a piece, then you could afford to have field sales people sell that kind of product. The average price of the sale would be $8,000 to $15,000, but we were able to afford a salesman that actually knocked on doors. I remember thinking, what happens when we go through all the computers that we know where they are, IBM machines, what happens to the marketplace? And one of those revelations came, well the market grows, people that say 'no' today will say 'yes' tomorrow and your product can be enhanced. All those things that happen in any other industry; but this was my first industry. Over time I saw that you could add products and your marketplace would expand and your average selling price could go up. I worked with Boole & Babbage the first of two times between 1971 and 1978. The company became profitable at about $8 million in revenues, 22% pre-tax and $2.5 million in the bank when I left.

He wanted to run a larger company and took a position of group vice president of the software group at Informatics. Six years later, he became the COO under the founder, Walter Bauer. They eventually disagreed on how to run the company. And, Coleman suggested that he'd resign because he felt his idea was better. Bauer said that it would look bad if Coleman quit. Two weeks later, Bauer fired him.

He did the best thing in the world for me because I went off to do a turn-around for Walker Interactive in 1985, then a turn-around for Boole & Babbage, a turn-around at InSci and now I'm in my eleventh interim CEO job. Since then, I've learned a great deal, had a wonderful time, doing things that I think fit my skills set very well.

Back at Boole:
There was one competitor from SLAC called SlacMon. Stanford Linear Accelerator

Laboratories had written this program and put into public use this monitor that wasn't quite as good as ours but that was an early "for free" competitor. The most serious competitor was Candle Corporation. Aubrey Chernick had started this company and written a better monitoring program than our CUE. For a while he thumped on the company pretty well. But when I came back - having left the company for seven and a half years and then came back to do a turnaround - part of it was getting ourselves back on an even footing with Candle. Interestingly, Candle and, then, we went from a direct sales model to a telesales model only. Rarely did they go out to customers, but they could close hundred thousand dollar deals on the phone only. So we learned from them. One of our salesmen that went to work for them was very successful with us as a direct sales person, equally successful as a telesales person; unusual, because the skill sets are fairly different. The disciplines are fairly different, but the selling process is much the same. And he came back to us afterwards. I hired him back. He helped us do 75% of our business telesales and only 25% direct sales. So the competitors were first to try other ways of doing it. Obviously "no interest" is always a competitor or "we'll do it ourselves," although less of "we can build it here" than other places, because writing interrupts and that sort of thing was arcane enough that many companies didn't want to do that. The savings, time savings, were significant and could pay for the product within thirty days, but it was a young and immature marketplace so the idea that someone should use software was unusual and that you could tune systems required proof and credibility. We did a lot of demos. Give me your data and we'll show you enough to show that you ought to buy.

The tech would go and say, "Now look what we found here, wouldn't you like to have more?" And it worked very well because it was a product and a concept that was absolutely right for the times. Half the time we were paid. We'd do a two-day technical study for like six or seven hundred bucks a day. Half the time, if we thought the installation was big enough, anybody who had a model 65, good size machine back then, we figured it was a slam-dunk. We may not be able to sell them but the need was there. So maybe half of ours were paid demos and the others were: let's have a wing at it, we think we can convince them and we've qualified them; we think that they will buy if we meet their criteria. The most significant customer profile was having a machine of size at an installation site. A System/360 model 50 back then was on the cusp. If they had a need, if they were having performance problems, we could get them; or if they were a little more advanced in their thinking. When we saw a 65 or anything bigger was our key. The second thing was, how receptive was the DP manager? If that person was open – say, "Well you could prove it to me" – we'd have a wing at it most times. We'd qualify them to make sure they were serious; they had money in the budget and that sort of thing. If we had an old timer from the old punch card days or IBM 7090's, who said we don't do that sort of stuff, then we'd say, "Well, we better find some good allies there under and around this character or else we won't bother this time." Because then, even though we weren't sure how many we were going to sell, it was a fairly new marketplace and you had other places that you could go - although we pretty well quickly found all the large sites. IDC published site listings, and we found them pretty quickly. So I think those were the two largest criteria that made a prospect a good one.

No particular industries were targeted because it was a horizontal rather than a vertical sale. Insurance companies tended to have larger installations, as did banks.

They tended to have big budgets so you went there not necessarily because it was a good industry fit but the other parts of the sale process were right: Lots of machines, money, and technical people of competence. Aerospace was obviously a good one, and aerospace sometimes had performance problems by the compute intensive nature of their business that would manifest itself before a traditional payroll or something like that. And as you moved more toward the online era, the 360's became 370's became 3090's became whatever the hell they are now. More horsepower is required. There are more places where poor performance can be hidden and can manifest itself with great pain. IBM's IMS system, one of the first real online systems, and CICS had pockets of problems by the way they were architected and set up and by the way the user implemented them. They could make systems very logy, very low performing or quite good. And now not just people in the information systems department, but executives, were seeing the results of processing. "The damn online system isn't working. It doesn't even work on my desk." It gives you a good news/bad news visibility to higher level CEOs that heretofore had not been seen. Reports went to the CFO and they kind of do the numbers; but as we became more powerful and communications oriented, computers reached more of our customers and had more visibility. So that became another criterion as the 1970's moved on and we used more of the communications systems, CICS and IMS. We had products that were specifically designed to tune, to optimize and to account and log for IMS and CICS; so we not only had more to sell with our base products, but we had other specialized products to sell to them as well. All of them built around the ability to make computer systems and their component software and hardware run better.

Marketing [at Boole and Babbage] was also traditional in other ways. We found, for example, one very good way to market was to use educational seminars. We had enough content to bring people to a half-day seminar at geographical locations that we would set up and learn something about performance. We'd talk in general and of course talk about our products, but that was a good qualifier. If people were willing to give us a morning of their time, they would be a good prospect. We also used a lot of literature mailings, mailing lists and drops, teaser drops, followed by more information, followed by more information. We started out by shipping them – here are all the answers in a big old book that nobody read. Then we got a little smarter and said, let's get their attention for a second step. Someone will call you in three to five days. Did you see something that was interesting? Can we mail you something else? How about a case study? We went to automated mailing where we had these folks on the phone calling, or telemarketing, lead-generating people and then telesales people, who would have steps they'd take folks through as prospects. Do they have a general interest? Can I get it specified? Can I send them something else? Can I prove my point? Can we set up a demonstration, a trial a whatever? So we had steps that we went through, and as a part of this we got smarter about optimization. We had a very rudimentary communications system whereby we could hook people internal to Sunnyvale where our corporate headquarters were or to our branch offices, into dialogues. So they could talk with a customer, order on their PC the next set of information. It would go back to our office, things would get printed out. They would do a pick list basically of information. They could print out what they wanted to see, have the card dropped in and then get a confirmation back when they did their next download. Because we had this Saratoga software system that we had built, it would remind them: you have

shipped, you said you would call in three days, it's time to call X, Y and Z. So we had a nicely scheduled combination of follow-ups, different sets of literature to develop interest and to answer questions that would lead them to the sale. And then the specific steps: you do the demonstration, if that is reasonable. And then you close the sale.

We had International markets. Early on we used Cap Gemini as distributors. They had offices in UK, France, Germany, Spain, Italy and so forth. We got only 20% of the action, which turns out to be too little. We ultimately renegotiated but solved it another way too. They sold and we basically educated them and sent the product. We didn't do any real Asia-Pacific business at that time. One of the groups that was a part of the Cap group, acquired by them, decided it wanted to spin off. They were based out of Holland. There were nine of them that started the European software company. There were two gentlemen by the names of Hans Bruggeling and Roger Dickenson and some other sales people and a couple of technical people. We had heard that our competitor, ADR, who had some performance products, so it was a partial competitor although in the documentation area we had a secondary documentation product that we competed with them on, was going to hire these people as the rep firm for Europe. My VP of Sales, Bob Coolidge, came in and said, "You know, these folks are going to spin off, ADR is going to get them, we need to get them." I said," That sounds good to me. What do you want to do?" He said, "Let's hop a plane." So on a Thursday morning, we hopped on a plane. Roger Dickenson and Hans Bruggeling met us in London Friday morning and we began negotiating. At the end of the negotiation, we had a third ownership in the company and put some cash in. They got 65%; we got 35% royalty instead of 20%. That's about right for what you have to leave for your distributor to be successful. And we were in business. We had marathon negotiations Friday, finished most of it Saturday. Stayed up till 4:30 in the morning with two men that could drink better than anybody else I've ever seen. Finished off on Sunday and then came back to an ADAPSO meeting in Chicago. If there was a Betty Ford then, I should have gone to Betty Ford. But it was a first step – they were a very good sales team. Ultimately, after I left Boole & Babbage, it went public and actually acquired the rest of the European software company and it was made part of Boole & Babbage. So we went from reps to a rep firm that had our products, then to the firm that was acquired completely by Boole & Babbage.

When I got there, the price had been set. On the first two products we sort of went up from the price of $7,500 to $8,800, priced together $15, 500, to $9,800 each. So it was incremental, how much more can we ask as opposed to what do you think these things are worth? With other products we had a chance to say "What is it worth?" Sometimes it was a guess based upon what kind of value does it bring, how much of that can we prove, and therefore what can we ask. To a lesser extent, suppose they built it themselves, but you see less of that here than you'd see with application software for example. And for some of it there was a competitor or someone that was seen to be competitive so, "Am I worth more or less than they?" And it was kind of comparative. There are other ways of pricing, but that seemed to work. Our products were worth a lot more than we charged for them, not surprisingly. But you had a credibility barrier – what the hell is this software stuff anyhow – to get over, and there are some hurdles if you got over $20,000-$30,000. You know those were big numbers back then and people were looked at a little askance when they said I want to buy some of this software stuff. So that's basically how it came about. It was heuristic; is there some

competition out there? Are we better or worse? That kind of thing, fairly traditional.

We had funding from several VC firms. A gentleman by the name of Phil Fisher, Pitch Johnson, an early VC from Asset Management, and Bill Edwards provided the initial seed monies that had been put into the company before I got there. After I arrived, we were running on our own nickel. Interestingly, I can remember we never missed any payrolls; that was the good news. We came perilously close more than once and had to go pick up checks so that the payroll wouldn't bounce. I recall when my controller at the time, Maxine Heaber, in 1973 came into my office. What a sense of relief I had when she said, "Bruce, we have our first CD in the bank." That was significant because if we had no revenues coming in, we were spending $88,000 bucks a month. I had one month's buffer no matter what the hell happened. It was almost like an albatross had come off my shoulders. So we went then from just barely making it to a little money in the bank, and then obviously by the time I left in 1988 we had a lot of money in the bank compared to the size of our business. So I didn't see the funding part of the venture community. Both Pitch and Bill were very helpful. Pitch spent more of the time being a mentor than Bill did. And they were very good people and good venture capitalists. They come in all flavors these VC's, and some of them, particularly the younger ones that don't know their asses from first base, think they're God's gift to you, you know, the MBA who doesn't know anything but has all the answers. They were and are very good people. I was just delighted to work with them and they are friends now.

Coleman divulged his technical competence:
I was technically obsolete in some respects in 1962. Of the six programs I wrote in Phase 3 training at IBM only two of them ever worked. So from that sense I was not a great technician -- didn't have any interest in being one. The flip side of that is being in the business you learn the fundamental architecture and concepts behind how these things work, why they work and why they are important. So I could sound reasonably credible because I understood what the products did, what the measurements meant, how you change things based on those indicators. So from that point of view as the CEO it's important to know what the hell you are looking for, what are the natures of the operating system, and in that first company, particularly where the leverage is. "You know we should look in this area to find more performance" or "Have you looked at job accounting?" "What about other parts?" "What is it that CICS loaded?" The equivalent, like the modules that CICS loads -- I can't recall the name now -- were always a problem on our PPE. The programmer would of course say, "Oh the problem is this mystical bucket. It's over there where they're loading stuff." It was a big hole, and a place where we couldn't account for products. "Well, why won't we go in there and see what we can find?" So I was actually able to direct people to places with payoff. In that sense I think it's difficult to be anything but a short time CEO and not have some understanding of technology.

So how does he do a turnaround?

After two to three weeks I've got a pretty good idea. After two months it needs tuning. So three weeks – the first – "yes I got it", although along the way – three weeks, two months, six months. You can get a great clue to the problems by looking at the CEO. The boss casts a long shadow. So if you see a CEO that has been unsuccessful and they are an engineer, a sales person, an accountant, a something else. You say, "What

are the mistakes? What are the hurdles of growth that person necessarily would not have gotten over that I'm likely to find?" And, by God, there they are. Salespeople always see things in rosy terms. An engineer will engineer the Hell out of it, doesn't have any sales and marketing experience, doesn't give a hoot about it. So those generalizations become more likely to be good clues to start with if the person is failing.

Look at the top, look at the finances: don't run out of cash. What do the numbers tell you? At this last company, I did a layoff in less than two weeks. I knew it had to be done. Got in there and figured it out. Bang, here's what we're doing. And then started digging into the other things. And you can ask a few questions in each area. For example in development – tell me about your development methodology? And wait to see what comes out. Or, how many test regression analyses do you have in your test bag? And wait for the answer to come out. Or, tell me about the sales process? How do you find leads? What percent closed? What's your pipeline look like? How big is it compared with the monthly run rate? So you learn after a while some questions. But what took me a while to figure out is, you can ask those first questions and you can be pretty darn sure of what the answers are after a couple of clues. You don't have to wait too long. Earlier on I'd wait longer. I'd get more data. I would watch it for a while. Now, my wife is finally getting through to me because she can read people in a heartbeat. Looks like a duck, talks like a duck, and walks like a duck. Get on with it. Go find out right away and do something about it. If it's an incompetent executive, do something. If it's a broken process fix the sucker or get somebody else to fix it. So I guess the answer depends, but there are certain things that you look for in each area; in each industry that are lead indicators. And you look at the data, the numbers involved. After a while, after being hit on the side of the head by dumb things you did and seeing it in other people, you say, "Okay, I've seen that before. Here's what we do."

We do the best we can with the skill sets and the information we have, and it's very useful to remember that. Some people, particularly executives, try hard but they are not a good fit. Once in a while they're not good people. Those are the ones I don't have any use for, but the others, well, you know they do the best they can. It may be stupid because they don't have the right skill sets or personality type or whatever the hell. So that's why I went back to Boole and Babbage after seven years.

He also provided some **thoughts on the industry** that he'd watched since college graduation in the early 1960s.

It's interesting to watch the evolution of an industry. I tend to be a mechanic. I get into a company and I go fix things. That's what I like to do. I'm less of a strategist, less of a long-term thinker. In some sense I have to do that in each job; depending on what's there: you build a strategy. You take a look at the trends in the marketplace and that sort of thing. I certainly can do that; it's just that I don't do that as often, by predilection. Certainly back then it was. We had to discover a brand new industry with new and evolving technology with rules that had to be developed. Sure enough some of those rules are just like the ones we talked about before, that are true in every industry and every business. You have to follow those. We found some of those and some that were somewhat different and unique to the software business, so I think it would be interesting to see as you go through these histories, not just what happened but how to paint the maturation and the growth of an industry. Plot that in its volume, its depth, its

technology, the growth of the nature of the people in that industry, its leaders then, what they were and their skill sets and what they or their successors have become. In general I think you'll see a very interesting plot of maturity, of markets, of people, of sophistication of technology of software that kind of go along the same kinds of things. You know you've seen these industry maturation curves and product curves. I can see that and I saw that a little bit as we're going on, how you can just plot what's coming next, what's required next, skill sets, products, technology, organizations, organizational skills, what they have to look at in marketing and sales. Add to that the Internet, what fun, and how that changes everything. So, as a reader of history, since I was not a history buff in college and was glad when I was through it, I would look to this as much for what can I learn from it; Just as I'm thinking about things now and trying to learn from them. What can I learn from what happened, that I and others can apply to make us a little bit better going forward. That would be the excitement for me.

So we can see that Johnson and Coleman were not bad people and that they were taking business steps to save the Boole. And, despite the life changing episode at Boole and Babbage, Kolence thrived and gained great respect in the computing industry for his efforts to optimize software coding processes.

Next time: the summation of Kolence career and, if my luck holds, some interviews of early CMG founders.

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i   Founded in 1969 by Joseph A. Piscopo. who started Pansophic with $150,000 in funding from his family and friends. Pansophic's major products were PANVALET, a source program and change management system, and EASYTRIEVE, a report writer and data retrieval system. Each product was installed at more than 10,000 mainframe computer sites. Pansophic was sold to Computer Associates in 1991 for $300 million.
ii   Logic Ectronics was eventually taken over by its creditors.