



## **Oral History of Paul Brainerd**

Interviewed by:  
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## Paul Brainerd

### Conducted by the Information Technology Corporate Histories Project

**Abstract:** *In this interview, Paul Brainerd discusses his career beginning in the newspaper business with the Minneapolis Star and Tribune; then with Atex, a company that made terminal-based text-editing and processing systems for newspapers and magazines; and then as the founder and CEO of Aldus Corporation. Aldus was founded in 1984 with its PageMaker software program introduced in July 1985 providing the “killer application” that helped make Apple Macintosh and the LaserWriter successful. He describes how the term “desktop publishing” and the creation of the desktop publishing industry came about based on the “three-legged stool” of Aldus PageMaker, Adobe PostScript and the Macintosh. He discusses the evolution of PageMaker and other early graphics products and the software market, and how Aldus’ growth and profitability began to slow in the early ‘90s, leading to the sale of the company to Adobe Systems in 1994. Since leaving the computer-software industry, he has established the Brainerd Foundation to protect the environmental quality of the Northwest and build broad support for environmental protection. He has also started other entrepreneurial non-profit organizations such as ONE/Northwest (Online Networking for the Environment) and Social Venture Partners.*

### Background

**Suzanne Crocker:** Why don't we start with you telling a bit about your background?

**Paul Brainerd:** I grew up in Medford, Oregon, which at that time was a small timber and agricultural-dependent town in Southern Oregon. When I was growing up, it was about 25,000 in population. My parents ran a photography studio and camera shop in Medford, and I would work there after school and during summer vacations and weekends helping out from the time I was very, very small. My mother says she put me under the counter when I was only two weeks old. I don't remember that part, but I do remember coming in and working in the store from the time I can remember. I have one sibling; a sister, Sherry, who is five years younger than I. In terms of my family as a role model, my entrepreneurial spirit is much connected to the experience of my family running a small business. They taught me about the challenges of running the business, and it was a lot simpler than the technology business that I ended up running much later in life. But, they inspired me and gave me the confidence to do what I did in later life. They would share with me when they were taking out a loan from the bank, the loan would provide us with the cash that was needed to purchase supplies for our busy season, which was always around Christmas. And then, if we did well, we could pay back the loan and take a family vacation and go to Disneyland; and if we didn't do well, we wouldn't go on vacation. It really was that simple in respect to understanding the basics of customer service,

attention to what the customers needed, and the whole process of putting together a plan, earning money and spending it. They shared that with me, and I was very grateful that they did.

**Crocker:** It sounds like you had a good grounding in business basics.

**Brainerd:** I did, and then that continued when I went off to the University of Oregon in 1966. As an undergraduate, I majored in business with a minor in journalism, and I was editor of the college paper, the Oregon Daily Emerald, in my senior year at the University of Oregon. I earned a Bachelor of Science degree in business. After I graduated from Oregon, I went on to the University of Minnesota and earned a Master of Arts degree in journalism with a minor in business. I've always had a strong interest in journalism particularly in the visual part of it. Photography was actually how I became engaged in journalism as a photojournalist; and then I learned writing, editing and production.

**Crocker:** So, your interests in university were focused a lot around journalism and photography?

**Brainerd:** Yes, being the editor of the Oregon Daily Emerald. And then in graduate school, I ended up being the editor of the Minnesota Daily. Both positions were really a full-time jobs in addition to going to school full-time. The University of Oregon paper had a staff of about 35-50. At the University of Minnesota, it was a 35,000-circulation daily with a staff of over a hundred students running it.

**Crocker:** That was a big business in itself.

**Brainerd:** It was, and I learned a lot of valuable lessons there both on the editorial side as well as from a business perspective. I converted both papers from hot metal composition to cold type and offset printing. That dramatically changed the business model for both papers in terms of allowing them to be sustainable from a cost perspective, and publish a lot larger editions with higher quality, particularly for the photographs because offset allowed us to do things with photography and design that we could not have done with the letter press.

**Crocker:** That was probably invaluable experience to you to go through that process and certainly foreshadowed what was to come?

### **Early Newspaper Experience**

**Brainerd:** Yes, and as part of all that, I was production manager of each of these papers, at one point or another, so I learned all about page layout and what it took to put together a publication from a production perspective. So, you can tell where we're going here; that this

whole idea of page layout was near and dear to my heart, because I had done it the hard way with exacto knives and razorblades and wax on the back of cold type.

**Crocker:** Me, too! I remember those bad old days.

**Brainerd:** You can hardly find anybody anymore that knows what you're talking about.

**Crocker:** So, did you do this graduate degree in two or three years?

**Brainerd:** I did the class work in two years, and then I went to work for the Minneapolis Star and Tribune Company. They offered me a job as assistant to the operations director who oversaw all the production aspects of the Star and Tribune. It took me about three years to finish my thesis as I was working full-time. Eventually I just took a month off work and finished the thesis graduating with my MA degree in 1975. I worked at the Star Tribune for seven years from '73 – '80 implementing all the new pre-press technology. We converted from hot type composition in the composing room – if I remember correctly there were 120-something people in the composing room – to a cold type operation using computer typesetting. Each year, I was working on various aspects of implementing technology; as the project manager for all the pre-press operations, I developed the contracts and the specifications working with various companies. And the most important one was Atex. It developed text processing or pre-press editing system using CRT terminals – computer terminals – that reporters could use to write their stories.

**Crocker:** That was about the only game in town, wasn't it, for a computer typesetting?

**Brainerd:** There were others. DEC – Digital Corporation – had its own system. There were four or five competitors, but for the major publications – both the magazines and newspapers – Atex certainly held a large market share. I don't know if anybody ever published market shares in those days, but my suspicion would be that they had 30 or 40 percent of the total market. But, there were a lot of others. Atex was a significantly more costly system for small dailies or weeklies; mostly it was the larger, metropolitan dailies that were using Atex as well as publications like Newsweek and TIME and Business Week.

**Crocker:** All of the major business magazines, I remember, had the Atex system.

**Brainerd:** I was in the same position – assistant to the operations director – for the entire period I was at the Minneapolis Star and Tribune, and I really enjoyed it. I learned so much there not only about the technology but how to run a business. It was an exciting time for me just being out of college and really getting grounded in a company that had been there for a long time. That was an advantage for me in terms of learning and being mentored by some excellent people, because they put a lot of emphasis on how to manage and provided us with a

lot of training opportunities I wouldn't otherwise have gotten. It was also a curse, because it was pretty hard to advance there as a young person. I was very young compared to many that had worked there for 20-30 years and held positions that I would be unlikely to get into, unless I stayed there for another 10 or 15 years. I was offered a position by Atex to become the vice president of their whole maintenance and customer service side, vice president of customer service. For me, having the done work at the Star and Tribune as a young turk out of school, it was a perfect opportunity to get into the high technology industry. So, I moved from newspapers to hi-tech at that point.

### **Career At Atex**

**Crocker:** When you joined Atex, did you have to move out of Minneapolis?

**Brainerd:** I had to move to Boston. So, I packed everything up and headed for Boston and lived on Beacon Hill for a while. I commuted each day out to Atex on Highway 128 and managed the customer service business. It was an eye-opener. Things moved a lot faster than at the Minneapolis Star Tribune. Anything at the Star Tribune required a report, a proposal, a written document and then usually two or three months to make a decision. At Atex, things were decided around the water cooler, at times in a matter of a minute or two. It was just a totally different pace, and I really enjoyed that and learned a lot. I stayed until Atex was purchased by Eastman Kodak Company in 1983. I had moved to Seattle to head up the division of Atex that was doing the microcomputer development of the next generation of text processing systems using microprocessors. It was largely an engineering group and manufacturing operation.

**Crocker:** You were probably happy to get back to the Pacific Northwest?

**Brainerd:** I have always been an avid hiker, and the mountains and access to the outdoors in the Northwest has been a very important part of my life. So, the opportunity to go back to the West was one that I had been looking for. I enjoyed Boston, but it wasn't for me in the long term. So, I came West and started to manage that division for Atex. A year or so later they sold to Eastman Kodak, and Kodak immediately decided to close down the West Coast plant, which I found rather ironic since that was the whole reason they bought Atex was to get into the future of microcomputers, and they laid off all the microcomputer engineers. I never understood that. And that was the impetus to start Aldus Corporation.

**Crocker:** So, you saw an opportunity to do something new at this point from all you had learned and seen at Atex?

**Brainerd:** Yes. I had actually developed with the engineering group on the West Coast a graphics terminal called GT68 which had a visual graphics interface. I wouldn't call it the

Macintosh, by any means. It definitely was based on different technology, but it allowed a trained operator to layout a full page of editorial text and graphics.. It was basically a prototype in a couple of locations where newspapers were using it to begin to do electronic layout.

**Crocker:** What was that called again, Paul?

**Brainerd:** It was called the GT68, a graphics terminal. The reference was to the Motorola 68000 processor that was inside of it. But, it was fairly arcane in the way it operated in terms of user interface. It would take someone probably a month to be trained to learn the commands necessary to make it work, not that it wasn't valuable to the newspapers. But it wasn't something that could be used by your average person in an office.

### **Founding Aldus**

We didn't use any of that technology or concept when we started Aldus. We started over completely from scratch. So, what was the motivation for starting the company? The first motivation was that I was out of a job. I talked to several people including my mentor Charlie Ying who was one of the Atex co-founders that had sold the company. I told him, "I'm at a point in my life that I'm considering starting a company. Do you think I have the skills to do that successfully?" I can still remember his answer. He said, "Well, you may or may not. There's a lot of factors that go into starting a company and whether it'll be successful, but regardless of whether you're successful, you will learn a great deal from that experience."

I've always been about learning and challenging myself to learn new things. I really took that philosophy to heart when we started Aldus.

From the sale of Atex to Kodak – they had distributed shares of stock that I owned in Atex – I took that small nest egg along with all my savings and gave myself six months to write a business plan and build a prototype working with the engineers. I had my pick of probably 16 different microcomputer software engineers that had been working at Atex. They had all been laid off as well. Microsoft had offered them all jobs, as they were hiring aggressively at that time. But some of them wanted to do their own company. So, I made offers to four of them as my partners, and we gave ourselves the task of doing the business plan, building the prototype, writing the functional specification, and raising the money that we'd need to continue. We literally had six months to do it because we only had roughly \$100,000 in capital which is what I put up. The engineers worked at half salary and I worked for no salary for that six months. There are a lot of stories about that period in terms of what went on. I wrote the business plan and did all the business side things, then worked with the engineers in the afternoons to develop the functional specifications for what became PageMaker. We wrote out a detailed user interface and developed some new ideas such as the tool box, the floating palette,, and so forth, that nobody had done at that point. So, there was a lot of interesting challenges in just figuring out how the user interface would work. Then I started trying to raise money during the

summer of 1984; I called upon 50 different venture capital firms both in Seattle and Silicon Valley and was told 'no' 49 out of 50 times. We got all the way to September which was our drop-dead date. We had less than \$5,000 left in our bank account. Finally, we got a commitment from a group of venture capitalists in Silicon Valley – Palo Alto – that was made up of some partners who had been former Apple Computer executives, and they understood what we were trying to accomplish and why software might have value. The basic reason I was told 'no' is that no one felt that a software company had any long-term market value; that basically anyone with an idea could come up with this in his garage, and in a matter of a weekend or two, write the software. Microsoft hadn't gone public yet; it was still a private company, and people just didn't see how a software company was a worthy investment. It was too risky.

**Crocker:** They were still stuck in the semiconductor - hardware mold?

**Brainerd:** Exactly; very much so.

**Crocker:** Who was the VC group?

**Brainerd:** It was Vanguard, and the partner was Douglas DeVivo; he was on our board until we sold the company. The former Apple person was Gene Carter. So, in the summer of '84, we raised \$864,000 in one round of early-stage financing based on our business plan and a very rough prototype. The product shipped a year later. The Macintosh was introduced in January, and we shipped PageMaker 1.0 the following July.

**Crocker:** At the point, when you were going out to raise money, did you know about the Macintosh and the GUI [graphical user interface] – everything they were doing?

**Brainerd:** I found out under non-disclosure. There were a couple of people that really were the glue that made all of this come together, and the most important was Jonathan Seybold. He was consulting to both Adobe and Apple. He and I knew each other for a long time going back. Based on my work experience at The Star and Tribune, I'd gone to his publishing conferences for years, and we knew each other very well. So, he told me some time during '84, probably in the first quarter, that there was some confidential information that I needed to know. He got clearance from his clients to be able to share it with me. And then he arranged meetings with John Warnock to learn about PostScript and the things that Adobe was doing as well as meetings with the LaserWriter product manager at Apple, Bruce Blumberg. Bruce and I met, and immediately we hit it off; he was really critical in so many ways, but he could see, most importantly, that this application could help sell the LaserWriter printer. I didn't realize it at the time, but later on when Bruce and I compared notes, he was really under the gun because the sales force at Apple did not want to sell the LaserWriter printer; they thought it was way overpriced and would fail in the retail channels that they were selling in, in those days. Apparently, there was quite an active campaign to kill the project and only because of Bruce and Steve Jobs did the LaserWriter actually come to fruition. If I remember the original price, it



was about \$7,000. The argument of the sales force – they'd just gone through the experience with the Lisa – was that the price point was too high for the retail channel, and they just didn't see how they could sell a \$7,000 printer. But when I first gave Bruce the demo of Version .6 or something of PageMaker, and I started putting text and graphics on pages and showing the output, it was immediately apparent to him that this was an application that could sell LaserWriter printers and a lot of them. And as it turned out, he was right and we were right.

**Crocker:** Now, when you had this first meeting with the Apple Product Manager and you were shown the Macintosh in its early stage, were you also shown the PostScript printer?

**Brainerd:** The Macintosh actually showed up prior to this. There was an Apple branch office here in Bellevue, Washington, and they had an OEM sales person there. He came and visited us in our first six weeks of being a company in a little studio apartment below the Pike Place Market, and he loaned us two prototype Macintoshes. He didn't know us from Adam. I had called the office and set up this appointment. He showed up; he got two Macs out of his trunk, brought them into the office and said, "Here. You take them for the next six months." So they didn't actually come from Apple – I mean it came from Apple, but not from Cupertino. This whole relationship with Apple was based on individual Apple employees from the working level, i.e. Bruce Blumberg and a sales person. It had nothing to do with any high-level decision making on the part of Steve Jobs or anyone else at Apple.

**Crocker:** So it was just people using their own initiative?

**Brainerd:** It was.

**Crocker:** Where you just blown away by those first Macs?

**Brainerd:** We were and saw immediately the advantage they would give to the page layout application, particularly considering what was available on the IBM PC platform as it existed in those days with the Intel 8080. Everything was character-based on the screen. IBM did have a graphics card, but you had to address it from your software application; there was no graphical software interface. It was simply pixels on a screen. And it was very difficult to develop that whole interface that Apple had already done. So, we immediately started to work on PageMaker for the Macintosh, with the intention from the very beginning – our first press release says this – that we would do a version for the IBM PC. We had no idea how, but we were committed to being multiplatform. And, of course, Windows came along, and we had to make a decision between it and the GEM graphical operating system from Digital Research; we chose Windows.

**Crocker:** When you saw the Macintosh graphical user interface, did that change your thinking about what PageMaker was going to look like?

**Brainerd:** It went hand-in-hand with what we were already thinking about, so it just gave us the underlying system tools to build the page layout application. We still had to develop a lot of those concepts like the floating tool box, and the whole idea of laying text into the columns. Nobody had done that before. It's hard to believe now, because everyone takes this whole idea of the object-based interface for granted, they've used it for so long. But, in those days it wasn't. We certainly took inspiration from the early MacDraw and MacPaint. It was quite a jump from that to PageMaker in terms of some of the things we had to develop conceptually. But, we did that using the inspiration of what we saw and the tools that were available in terms of things like fonts, that we didn't have to do on our own.

**Crocker:** Getting back to the first vision for PageMaker, at that point in time, was it your idea that you were going to sell it to lots and lots of people, or was your plan to sell it to more professional users?

**Brainerd:** That's a very good question, because when we first formed the company in January or thereabouts of '84, it was essentially for the professional user. But, I made one really smart move, which was we loaded everybody up in my Saab – myself and the three engineers – and we took a ride down Interstate 5 to meet with potential customers. And talk to them about what it was that we had in mind, a page-layout solution for small newspapers. It wasn't the scale of what Atex was doing in metropolitan dailies, but the next level down. That trip, which took us a week - we literally went down Interstate 5 from Seattle to Medford, Oregon where I grew up, stopping in every major town – convinced us of one thing above all, was that we would be out of business by the time we sold anything. We learned that all these smaller newspapers were owned by chains and/or other corporate entities, and that their decision-making process, in terms of capital equipment, was typically a one- to two-year process. I looked at that, and knew we didn't have one or two years or a sales force that could sell that kind of thing. It just all connected in my mind. It's why it's so important to talk to customers. They loved what we were doing in terms of what it could give to them, but I realized that that market wasn't the right market. When I started working on the marketing section for the business plan, I totally revised our strategy to focus on small business, offices, churches, schools, small publishers, and that's where the whole desktop publishing idea came from.

**Crocker:** That was a huge leap because from your background at newspapers and at Atex you were working with big publishing systems, and so it seems like it would've been perfectly normal to think you were going to address some subset of that market. But, to leap from that to school newsletters and to something that ordinary people could use was a huge shift. Was it by seeing the Macintosh that you got the idea that it could go into many, many hands of ordinary people?

**Brainerd:** Yes, it did, but it wasn't as fundamental a shift in our thinking as you're implying, perhaps, because the Macintosh with the LaserWriter was still going to be a \$10,000 solution. We really underestimated how fundamental, even at \$10,000, the value proposition was in terms of what PageMaker, the LaserWriter and Macintosh could do – the three-legged stool, as I've referred to it. Basically, what we were doing from an economics perspective was providing

an order of magnitude gain. We were making it easier to use and also saving a lot of time because of the proofing cycle that was required before which was very frustrating and costly – you had to go back and forth to your typesetter. So, we built that value proposition as our central marketing message. I began interacting with customers once we had beta customers as well as after shipping the product. We were absolutely amazed at how many small publishers there were, particularly organizations like churches. On the phone one day to an early customer, I just asked, “By the way, how many of these do you publish?” And he said, “Oh, about 650,000.” I just dropped out of my chair! We didn’t have any concept that church publications would be going to 650,000 people; and that PageMaker would be the tool that they’d be using for that kind of publishing. It was just beyond our imagination. We started to show this in January of 1985 when the LaserWriter came out. We were there at that product launch, of course. When we started demonstrating it, people were grabbing for the sheets coming out of the LaserWriter because they couldn’t believe that we could do the quality of output with the quality of text, and that it really was coming close to what you could do with a traditional publishing system. It was then that we really began to understand how widespread the market opportunity was for desktop publishing.

### **Creation Of Desktop Publishing**

**Crocker:** I want to return to that phrase ‘desktop publishing’ because, of course, you are the inventor of the term. How did that come to you, and when was the first time you used the term?

**Brainerd:** We were discussing the marketing plan in a board meeting with the investors who were involved, so it had to be probably in the late fall of ’84. We were still talking about this whole idea with lots of words – putting text and graphics on pages, et cetera, et cetera, et cetera. One of the board members said, “We’ve got to come up with a simple two-word explanation. There are way too many words here. We’ve got to boil this thing down.” And one of them said, “Could it be desktop-something?” And I said, “How about desktop publishing?” That was all that was said; we didn’t dwell on it. Two weeks later, I came back to it, because it stuck in my mind. I said, “Let’s just use desktop publishing.” And from then on, we used it in all our materials.

**Crocker:** It certainly did stick. Were you going to the Seybold conferences as a speaker at this point and talking about desktop publishing?

**Brainerd:** Yes. I know Jonathan was really keen on it, and he had John Scully speaking and several us talking in the following couple of years at the Seybold Conference. I think by the time the LaserWriter came out, he was very much on top of it. Of course, he knew already that Linotype was working on a typesetter and several other people were working on PostScript devices that might further extend this into professional publishing.

**Crocker:** Let’s go onto markets and competition.

## Early Competition And Market Positioning

**Brainerd:** Well, our first competition before we even released the product was from Microsoft. Few people know that. They acquired a product through a third-party development program that they had in '84 - '85, just before we came out. There was MacPublisher on the Macintosh but it was very much more of an amateur-focused product. And then on the PC, of course, there was a lot of competition, including Microsoft Word and Ventura Publisher. We were very scared about Microsoft, even in those days. They acquired this product and they put all of these marketing materials together in a preliminary form describing pretty much exactly what we were planning on doing, and then released them. But, lo and behold, the product never worked! They had to withdraw it from market. The code base that they acquired was so riddled with bugs and couldn't be made stable and, apparently, Microsoft decided they had better things to do than to try to make this thing stable. So, Microsoft spent the money to acquire the product, but it was never marketed. They were through with it within a month or two of its release which is a little known story.

And there were some others of that nature. Those were the days when there were lots of people building software products just like those the investors worried about, where they would work for a few months with an engineer or two and come out with something. But, it didn't necessarily mean that it was real, in the sense that it worked; and there was a commitment to customer support, service and improvements. I'd say about half of our competition just simply dissolved over time, and the other half was committed and stayed around but made other errors along the way. Our key competitor, though, on the PC side was Ventura Publisher which was eventually acquired by Xerox. Then on the Macintosh side was MacPublisher and eventually many years later, QuarkXpress, but they focused very much on the professional market. Our challenge with PageMaker was that it had become such a broad product, one product for everyone, that it was very hard to differentiate the product for professional users and focus on their needs without diluting our base of all these other users.

**Crocker:** But you did do some things that were definitely aimed towards the professional market?

**Brainerd:** Yes. We were very acutely aware of QuarkXpress and what it was doing.

**Crocker:** How important were third-party developers to you sort in the mid-'80s from when PageMaker really took off?

**Brainerd:** Oh, very important. We had a person working fulltime with them from early on. There were two sides to that; one was the technical side of standards, particularly the early TIFF standard that Steve Carlson, one of our engineers, developed out of self preservation because there was no standard for importing graphics into programs. Every device company developed its own. If we were going to succeed in handling graphics, we needed a standard format. Steve Carlson was our graphics import expert who dealt with all these different file

formats. He developed the standard, and then we went out and promoted it in a series of meetings with specific companies as well as some workshops we ran in Seattle or the Bay Area during the Seybold shows or the MacWorld shows, where developers could get a copy of the specification and meet with Steve and understand what it was we were doing, why we were doing it, and why they might want to support it. But the other side of the third party developers' program was getting compatible products, in a much more generic sense, as little add-ins like clip art or just things that made PageMaker work better. We had a lot of co-marketing arrangements in the early days with a lot of different small companies. Many of them were family owned 'mom and pop' kinds of things that developed various fonts, clip art packages, and things like that. So, that strategy was to reach out to other companies to build a whole solution of which PageMaker was a part. Aldus Magazine was also part of that, capturing the names and addresses of all our customers and providing them with a really nice publication that talked about how PageMaker was being used and providing lots of great design ideas because a lot of our customers didn't come from professional graphics-trained backgrounds. They really enjoyed things like Aldus Magazine that showed them new ideas.

**Crocker:** It just seems like there was a whole cottage industry that rose up around PageMaker.

**Brainerd:** It did; our strategy was basically to support them in waves by providing staffing and meetings and access to our technical people like Steve in order to give them the information that they needed.

**Crocker:** Did you do formal developer conferences?

**Brainerd:** It didn't really go that far because we didn't have that many technical things. If there was a Macworld Conference or something like Seybold, we'd do a site meeting for an hour and half about TIFF, solicit input, and listen to ideas for improving the standard. We actually went through several revisions to the standard based on input we got from various companies which was more of an engineer-to-engineer type thing.

**Crocker:** Let's move on to the products unless we're forgetting something; please add anything that I didn't bring up.

**Brainerd:** The alliance that formed between Apple and Aldus, was very much critical to both companies in different ways, but equally important to their success. For Apple, it was critical to the success of the Macintosh, and for Aldus, it was critical to our survival as a small company because we did not have the marketing budget required to bring PageMaker to the broader market. My market launch budget had only \$60,000 for advertising, for example.

**Crocker:** Apple was a good partner. But, on the other hand, Apple was desperately in need of a killer app because they were really struggling.

**Brainerd:** They were in the summer of '84 when Macintosh unit sales weren't doing that well. Bruce Blumberg came to me and said, "There's an opportunity to go in front of the new president." Steve had been pushed aside in that timeframe, or at least John Scully had come on the scene, and John wanted on his desk, from his product managers, a marketing plan. Bruce said, "I can't do this by myself, and I want to partner with you. Can you pull together a marketing plan for desktop publishing?" So, I hired a marketing consultant locally, and in three or four weeks we put this thing together from nuts to bolts. We developed the whole marketing plan for desktop publishing for us and Apple, and we went down and presented to Bruce the night before. I gave him presentation books, and then it was the next day that he had a meeting with Scully. They didn't fund the whole thing, but they funded a whole lot of it. That's how I ended up with the full page ads in The Wall Street Journal and major publications showing the Macintosh and the output, and that market positioning just took off. Apple was putting a million dollars-plus a month into it, and that gave us incredible momentum – we could never have done that without their help. But it was interesting because there's a story inside of that – Bruce and others at the Macintosh division would know more – when John Scully came in and said, "We've got to change course here, at least we've got to get something going that's different from the IBM PC," meaning different from what they were doing initially in the first six months or so.

**Crocker:** It sounds like Bruce Blumberg is sort of an unsung hero. He did a lot of behind-the-scenes things that helped Apple and the Mac really get off the ground?

**Brainerd:** He did. He is and was a very quiet, unassuming individual but extremely smart. Last time I talked to him he was at the MIT Media Lab. He was an associate professor or something there at the Media Lab for a number of years in Boston. I actually went out and talked to one of his classes. But, that was like 10 years ago. It was the last time that I saw him.

### **Products And Product Acquisition Strategy**

**Crocker:** So, let's continue with the products, technology and your product acquisition strategy.

**Brainerd:** Clearly, PageMaker was always a flagship product and our most important revenue generator. PageMaker would take all of our engineering resource, no matter what we did, because there were always more requests for new features, new functions, and there was competition like QuarkXpress. We had two development teams working on it in the later years, because we were developing the old product code base and then a whole new code base for what became InDesign when Adobe took over. So, it was very hard for us to do other new product development within Aldus. I saw that fairly quickly and realized that there were a lot of small companies such as Altsys down in Plano, Texas that had developed FreeHand. There was a natural connection for us to do a marketing development agreement with them where we could cooperate, because we had the marketing, sales and distribution, and they had an excellent technical team. The two products were highly synergistic. That was the idea of building a product line extending out from PageMaker to incorporate different types of graphics and build upon our customers and their needs for different types of tools. So, FreeHand was

definitely the first and the most successful in that product acquisition strategy. We paid Altsys a royalty for each copy sold. We worked very closely with them. I would visit them two to three times a year and our product managers would work with them in terms of new feature development.

**Crocker:** Did you end up finally acquiring FreeHand outright?

**Brainerd:** No, we never did. There's more story to that, because when we got to the point of selling the company, Jim VonEhr, the President of Altsys, was obviously not very pleased that the people [Adobe] buying all this were his chief rivals in terms of the competitive product.

**Crocker:** That was Adobe Illustrator?

**Brainerd:** Yes. At that time, he cancelled the agreement, and we worked out a deal. Then he eventually sold the whole company to Macromedia. Persuasion was a slightly different arrangement. The developer was a single individual, and he was willing to work with us for a couple of years, but we ended up taking over the development of Persuasion, doing the engineering, and were continuing to work on new versions of that up until the time we sold the company. So, we did the development work on that and made a one part-time payment to the developer with a bit of extra since he stayed and helped us with a couple of versions. Then we developed some prepress products that complimented mostly PageMaker. But as color came along and we needed to do color separations, we had a separate little group that was working on prepress addressing more of the professional aspects of how you took output and did things like color separations. There were certainly some other products that didn't perform as well. We had our problems, but the growth of the company was largely based on continuing to build the core product, and then putting around it a whole suite of graphics products that our customer base would have an interest in, and building our revenues based on the additional products and getting them all to work well together. It wasn't a particularly innovative strategy; any number of companies were trying to do the same kind of thing.

**Crocker:** We've talked about the development of the TIFF format and how that came about. But, can you just talk a little bit about the impact that had on the evolution of desktop publishing?

**Brainerd:** Well it certainly helped. Any standard was helping us, and that one, particularly, stuck because everyone that was involved in developing anything having to do with photography or graphics output that involved bitmaps realized that it was crazy the way it was with every device using its own standard. The manufacturers and the software developers understood that. As long as the standard could do what they needed, then why not support it? So, that's how TIFF really got off and running and in a way, and continues to this day, although JPEG was eventually the standard because the web adopted it. But, it's not the same as TIFF. It's a different concept technically.

**Crocker:** It helped establish desktop publishing as a serious tool?

**Brainerd:** Yes, along with other things. But again, I think it was more of self preservation in that it was crazy the way things were, and we came along at the right time to influence it. The biggest problem in those days was the engineers – when I say problem, I don't mean in a negative way, but the engineers were running the show, as far as the technical development in most companies. Little did they understand the bigger issues of compatibility that confronted customers and market development. For them, if it was a great technical solution, then everybody else must like it. So, Steve Carlson went out and talked to all those engineers – and by all those, I mean the five or six that had wielded influence over the standards in their respective companies – and convinced them that it was in our joint interest to support a common format. If they had ideas about how that format could be improved, we were more than happy to incorporate those into the standard. Steve played the diplomat role in dealing from an engineering perspective with those various egos by listening to them, incorporating their ideas where it was possible to do so, and getting them on board.

**Crocker:** It sounds like he was a key person in that whole process.

**Brainerd:** He had good skills as an engineer. He was an exceedingly excellent engineer technically, but he also could communicate very well. That wasn't always the case with many engineers.

**Crocker:** Speaking of standards, you also created the Open Prepress Interface. And how did that come about?

**Brainerd:** That came along later, and, again – getting companies to agree on a common standard was hard. I wasn't as integrally involved in that as I was the TIFF format because the company was much bigger at that point, and we had a separate prepress group working on it. I certainly supported them in any way I could, but I wasn't involved in the same level of meetings that I was when TIFF development first started, where I met with a number of people and tried to convince them. In the case of OPI, it involved more the professional companies, the Linotypes of the world, and various prepress vendors internationally.

**Crocker:** It certainly did have an impact, though, on the ability to apply desktop publishing or integrate it with high-end print production.

**Brainerd:** That was the goal. There was need of a transition standard until PostScript could really meet the needs of color publishing in terms of the quality of the output and output devices that were available. There was that two- to three- or four-year period when you had the old world and the new world. And the two had to figure how out how to talk with one another. So, OPI was really the bridge to get through that transition. Some of the vendors of the old world



were very interested in the standard and finding ways that they could connect, and there were others that had no interest whatsoever and wished that desktop publishing would go away, and they could have their market back.

**Crocker:** Well, they didn't get it back, did they?

**Brainerd:** They didn't, no. The world changed.

### **Challenges To Growth And Profitability**

**Crocker:** Let's go on and talk about the challenges that the company had with growth and profitability. Things were really going great guns through the '80s, but the challenges seemed to appear in the early '90s?

**Brainerd:** They did, and not for just us, but for all the software companies. When we first started and PageMaker was first released, it was a \$495 software package which was almost unheard of on the Macintosh. That's another story, but Steve Jobs didn't want the price of anything to be more than \$200. He was quite upset about our price decision, but it was still mine to make, and I made it based on what I knew of the market. I made the right decision because we wouldn't have been able to grow the company and have the revenues that we needed to do that without the price point that we had. So, his interests in selling Macintoshes and my interest in building all this were somewhat different; but nonetheless, it all worked out. The \$495 price point allowed us to have a gross margin of almost 90 percent. It was very inexpensive to produce software in those days, in terms of the floppy disk and the packaging and the documentation. That gave us all the money we needed to reinvest in customer service and support and product development.

We were consistently profitable then from the time we shipped PageMaker, and we kept growing. We reinvested the profits back into the company on a continuous basis, and we grew very, very rapidly. The problem occurred as the industry started to mature, and it became more about marketing and the channels and distribution. The margins started to go down and the cost structure changed dramatically in later years to where you have today's model which, for small software publishers anyway, is pretty much giving away the product and then hoping to get a revenue stream from ongoing subscriptions or selling some kind of additional feature set by upgrading your product to a different level of QuickTime, or whatever it might be. The industry fundamentally changed as it consolidated and got more mature, and it became all about sales, marketing and distribution. It was very hard for a small company to exist independently outside of some very well-defined niches in the general marketplace and get broad distribution of their products. The margins kept going down and down and down, so growth became more difficult. You either had to acquire other companies or be acquired in order to continue to be successful. I saw that in the very early '90s, and two things were going on as far as Aldus was concerned which gets to our next topic. After seven or eight years, I

went to the board and said, "I've really got to work out a transition plan here." We had become a public company at that point.

**Crocker:** And the IPO was in '86, '87?

**Brainerd:** In '87, I believe. That fundamentally changes a company, no matter what company it is, because suddenly you have public shareholders that are no longer interested in long-term product development or whatever. It's that quarter's results that matter. That is really hard to do in a software company when you have a 19-month or longer product development cycle. You may not meet a quarter because your product doesn't ship exactly on the date that you thought it might, or whatever. I ended up spending way too much of my time dealing with attorneys and shareholders and less and less time doing the things I really enjoyed, which was talking to customers, understanding their needs, and working with the engineers to develop the products. Much more of my time was spent dealing with issues of running a public company. I was worn out, and I wasn't having as much fun or learning as much as I wanted to; I wasn't doing the things I wanted to do. So, I went back to the board and basically said, "We've got to come up with a transition plan. I've done this for about as long as I can." The initial concept was we'd find a replacement for myself by hiring a chief operating officer, and then promoting that person into the president's position. We tried that two times, and it didn't work; it's very hard, as you know, to replace a founder in this industry.

### **Merger With Adobe**

Then I went out and actively solicited Adobe, because I felt that they were by far the best company. If the industry was consolidating, and it was, I felt that overall there was good synergy with our product lines – even though there was some overlap with FreeHand and Illustrator – not just from a product point of view, but also from sales, marketing and distribution. Aldus had done an exceedingly good job of developing international sales with international versions of its products; Adobe had stumbled in some key markets in Europe and other markets around the world. We had that to offer to them, and that turned out to be very true in the following two years, when our people took over all of that and really made Adobe successful in the international market place.

**Crocker:** Would you agree that you both had sort of a similar approach to the way you liked to run your companies?

**Brainerd:** Yes, I would agree with that at a 30,000 foot level, but at a working level, there were some very definite philosophical differences. John Warnock was very much an engineer at heart – his true love and passion was for the products and the engineers. My true love and

passion was not only the products, but also the customers. And there was a definite difference in the customer orientation of the two companies. We spent a lot more time doing customer meetings and talking to customers and having them come in to talk to our engineers. Adobe's philosophy was more of an engineering-based one – if we [Adobe] make a great product like PostScript, sooner or later people will figure out why they want it.

**Crocker:** I understand what you're saying; they have always been known as a really technical company. But, they are very fair to their employees and have great ethics.

**Brainerd:** Yes, and that was important to me. I agree completely with your assessment that the underlying value system that I placed most highly, and the reason I would even consider Adobe, was their ethical standard of running a high-quality company that was fair to their customers and their employees. Unfortunately, that couldn't be said of all the companies in the industry, broadly speaking. I found each company had its own profile, but there were several that had some issues.

**Crocker:** So, when you came to the conclusion that it was time for you and Aldus to make a transition and identified Adobe as probably the likely partner, how long did it take you to get through your discussions with them?

**Brainerd:** It went very quickly, actually. John was scheduled to give a talk on some technical topic at the University of Washington, in Seattle, so I arranged to have a breakfast or lunch whenever he was available. It was at a hotel in the university area. I still remember I met with him and said, "John, here's the situation as I see it. Why don't you go back and talk to your people to see what they think, and whether we should pursue some additional conversations around merging the two companies?" He called me back about two weeks later and said, "Yes, we're intrigued. Let's form a little study group." They did a very quick feasibility study and within three months we really had concluded the deal. We had a very good transition plan team worked out with the management of the two companies. There was a lot of thought that went into that merger. I think it's one of the best executed mergers carried out in those days.

**Crocker:** I've seen a lot of mergers and acquisitions in my career and it's great when the acquired company can feel really good about it, because it's not always the case. So you and Adobe are to be commended.

**Brainerd:** Well, thank you. There was a lot of hard work that went into it and a lot of meetings that took place weekly amongst the merger teams. We had five or so people under confidentiality that were meeting. We couldn't do it in either locale, so we met in cities in between – in Portland or I can't remember all the cities we met in. We worked out every last detail to the management and organizational structure. Then the actual announcement date was scripted to the minute; how they would make sure the employees would get the information before anyone else, et cetera. We were very honest with the employees – particularly at Aldus

because, obviously, when you finish merging two companies there's two accounting departments, and you only need one. And you only need one marketing group. So, we were very clear with the employees the day the announcement was made as to who would be staying and who would not, meeting with them and giving them a fair severance package, telling the ones that needed to stay through the transition that they'd get bonuses for that. I think 99 percent of the employees felt that they were treated very fairly. So, all that worked really quite well. As far as my own involvement, after all the planning was done, the announcement was made and at the end of that day, I walked out the door, and that was the last day I was on the management side of it. I never walked back in the door. I was the largest, single shareholder in Adobe, and I was on the board for two years. That was part of the deal, but with each passing board meeting I was less and less engaged in terms of hearing about the latest PostScript sales. I was off on my new career in the non-profit world.

**Crocker:** Well, I want to hear about what you're doing now, but could you touch briefly on acquisitions of companies that Aldus did? I think you required several?

**Brainerd:** We acquired Persuasion, which was a very small company. Then we acquired Silicon Beach Software.

**Crocker:** Those Silicon Beach products, I believe, were sort of entry-level and consumer-type products?

**Brainerd:** The strategy, perhaps ill-fated, was to do lower-end products. The whole concept Adobe bought lock, stock and barrel, actually. The idea of having PhotoShop in a different version that's easy to use continues to this day as well as their video processing software. Bruce Chizen was the executive at Silicon Beach; I hired him to do that strategy, and Bruce is now the President of Adobe, so there's some fascinating history. The basic concept, though, was to protect ourselves at the lower end of the market with easier-to-use products that could be used by a wider customer base. And that basic philosophy has been carried on. We got rid of the games in Silicon Beach and worked on the graphics' products that they had – SuperPaint and others like that. That strategy does continue to this day with the products at Adobe.

**Crocker:** I think you also acquired CoSA – the Company of Science and Art?

**Brainerd:** Yes, in the video realm. That was done just prior to the merger – I guess it was done about a year before. We ran across this incredibly brilliant group of engineers that was working in the video domain, and they showed us the technology of what they were doing. It was compositing in video, which I knew nothing about, to be quite honest, because I was not a video person myself. But the people there were exceedingly excited by what they were doing, and they sought a marketing partner like Aldus that could help them get out into distribution, because that was a huge barrier for them. So, we purchased the company, and it did

exceedingly well for us for the time we had it and certainly helped cement Adobe in the video space.

We also acquired a clip art publisher in Calgary, Canada that sold third party, after-market type fonts and images. Adobe then sold it back to them, and there were probably some other companies that we acquired as well.

**Crocker:** After Hours Software, was that one? I think they had products called TouchBase and DateBook.

**Brainerd:** Yes, they did. I remember talking to them but I don't remember if we acquired them ourselves.

**Crocker:** According to my research, that happened in 1993. So, I think you had a lot of other things on your mind.

**Brainerd:** At that point, before the acquisition, we'd actually set up a group of people – two or three – that were a team that looked at product acquisition opportunities, and evaluated the technology and the markets they were in. Aldus was a company of over a thousand people at that point, so I wasn't as integrally involved in each of those acquisitions. I was always a party to the dialogue and the negotiations, but it wasn't as if I was doing each of those personally.

**Crocker:** Well, that strategy of acquisitions and adding complementary products has certainly continued on at Adobe. Let's talk about what you've been doing since Aldus.

### **Establishing The Brainerd Foundation**

**Brainerd:** I made a decision to make a clean break with the business world and technology. I'd done this once before in my career, when I stepped over the edge, if you will, from being a journalist when I left Minneapolis Star and Tribune to going into the technology sector. It was scary but at the same time, I knew I could do it. And it was time for me to make a change in my life. The focus that I wanted was to work on the non-profit side, specifically in the environment in the Northwest. At the point I made the decision, I knew I wanted to set up a foundation that would do this work. But, obviously, I had other things on my mind, in terms of making that acquisition work. So, I took three months off, and I went to Alaska first and decompressed for a few weeks. Then I came back and started doing the research and getting the Brainerd Foundation established – the first of the non-profits that I worked on. I spent three months and interviewed about a hundred people throughout the region about what the needs were for a non-profit foundation that would work on environmental issues. What were the issues that were important? What could we do as a foundation that hadn't been done in the past in terms of expertise of staff? What are the focus areas? I learned a lot, and people were very generous

with their time and their advice. I'd always ask them, "If I handed you the checkbook, and you were to write the check, who would you write it to and why?" And people would actually tell me someone other than their own organizations. I had more than one executive director say, "My board chair would kill me if he heard me saying this, but I think you should be focused on this particular issue or whatever." So, out of that came the basic philosophy of the Brainerd Foundation which is up on our website, and you can look at that. It's a very hands-on, regional foundation that gives out about \$3 million a year. I endowed it. I gave one-third of the proceeds of the sale of stock that I acquired and endowed the foundation, so we don't raise money. We just give it away. I hired an executive director and staff, a small staff that reviews all the grants. We're known for the work that we do in the field and for having a hands-on understanding of the issues that we work on and the people that are involved, because the people are so important to us.

**Crocker:** What kind of projects do you give grants to?

**Brainerd:** Again, the website would be a good source because there's a listing of all the grants that we've given in the last few years. An example that would be publicly visible in a national sense would be the Artic National Wildlife Refuge. We've been involved with it for almost all the 10 years of our existence, working very early on the issue of the oil companies wanting to open up the Refuge to oil development and working with the native people as well as various environmental groups, The World Wildlife Fund, and others to develop a strategy to defend the refuge against oil exploration. So far, we've been successful but it keeps popping back up again. But we won some decisive victories as recently as last year in the Senate, in terms of the votes that we didn't even expect, and got more than a majority. That would be a national issue that we played a role in, but we've worked a lot at the grassroots, local level to empower local non-profits to do good work, in terms of the environment, and build a broader base for environmental protection in the Pacific Northwest. That is a core mission of mine. I've seen so much impact over my lifetime on the environment in the Northwest; if we want to leave a legacy for the next generation, it's really important that we do something in that respect.

I started a whole series of non-profits. Basically, I started being an entrepreneur again, in a non-profit sense. I started ONE/Northwest (Online Networking for the Environment). I'm no longer involved, but I served for six years and helped get that started. I also started Social Venture Partners here in Seattle. It's now an international model in philanthropic circles, where each partner gives x-amount and it goes into a fund like a venture capital firm for non-profits. SVP has affiliates in 23 different cities now across the US and Canada. And with my wife Debbi, we started IslandWood, a children's environmental learning center based on Bainbridge Island, which is all about hands-on experiential learning, largely for fourth- and fifth-graders, on a 256-acre parcel on Bainbridge Island. The project in its very early days was sponsored by the Foundation, but it's an independent non-profit that's totally separate from the Brainerd Foundation. All those projects have their own websites, and I'm involved in a couple or three of them. I'm also involved in an organization called Conservation Strategies which is a non-partisan political organization that works to recruit and elect candidates that appreciate environmental protection as something that's important in terms of public policy.

**Crocker:** Are you involved in a daily basis at the Brainerd Foundation?

**Brainerd:** No, I come in certainly to the office and work here, but my sister and I are board members,, we set the policy direction, but we do not work on individual grants. The staff does that, and they bring their recommendations to the board.

**Crocker:** It sounds like you are keeping very busy.

**Brainerd:** I am, and it's very gratifying work and very different. I never gave up my business career, but this work is very, very gratifying from a personal point of view in terms of what you can do, and the impact it has on people's lives. You just get a lot of satisfaction from working with these really committed people who are working on the non-profit side of things in their communities.

**Crocker:** Well, it's a wonderful thing you're doing. I want to talk about some documents or what you might have that the Museum could have for its archives.

**Brainerd:** There is a lot of material. I have a fairly good archive of a lot of early stuff as well as a lot of marketing materials. It's all stored in boxes, somewhat organized but not to a museum standard. I'd certainly be willing to make copies of things that were relevant. The problem for me, right at the moment, is just having time-- there's probably six or seven boxes of materials kept over the years – everything from marketing materials to original business plans and things like that.

**Crocker:** We would love to have all of those documents for the archives at the Computer Museum, and what we could probably do is have you ship the originals, and we would copy them there, and send back the originals to you. If you have duplicates or anything that we would keep, that would be great, too, but we can always make copies by scanning and putting them into PDFs.

**Brainerd:** That technology [Adobe's Portable Document Files] – we didn't know whether it would have any value. So, yes.

**Crocker:** I would love to get some originals because before 1994, documents online did not exist. And so what we have are very bad Xerox copies which have then been copied again and put online, and they're often illegible. I was able to get some Xerox copies of a few of your annual reports from the University of Washington Business Library.

**Brainerd:** I've got them all.

**Crocker:** I'd love the originals because your annual reports are beautiful examples of using your own product.

**Brainerd:** Right. I probably got rid of most of my dupes because I just didn't want to move them so many times, but I may still have some. I kept them, anticipating that somebody might want them at some point, but I'm not sure now what I have. I'll have to go back and look. I may just have one set of originals at this point.

**Crocker:** Well, we are happy with whatever you can furnish us, and I think having them in the archives at the Computer History Museum is a really good place for them as they're safe there and preserved. So, we would love that.

**Brainerd:** It would take some work on my part because I would have to look at those files to make sure there wasn't material in there that would be of concern to any individual or something like that. But, there are whole boxes that aren't of that nature, that are just marketing materials, for example.

**Crocker:** We would be so appreciative of getting those things. And other people that I might talk to – do you have any suggestions? I have Bruce Blumberg's name down here and Steve Carlsen's.

**Brainerd:** And then there's obviously John Warnock, Bruce Chizen actually, for the later stages of the acquisition and the Silicon Beach piece of it. For an engineer's perspective, which I think is always fun and interesting, there's Steve Carlson, if you can track him down. Another would be Ted Johnson who is running a new startup company along with Jeremy Jaech who was our engineering manager for many years. But Ted, in particular, did the Windows development for PageMaker, and he's a good guy to talk to, very articulate. So, those would be a few names that come to mind.

**Crocker:** That's great. I will follow-up with trying to find them. I just appreciate so much, your time today, and thank you very much

**Brainerd:** You're welcome.

**Crocker:** This was wonderful, Paul because Aldus was so important to the desktop publishing industry.

**Brainerd:** I just really appreciate that you're taking this time to do this, and the thought that went behind these questions. Obviously, you understood a lot and it's very rare now for me to find anybody that has done the kind of work you have, to even come up with a list of questions.



**Crocker:** Well, I appreciate your time. Again, thank you so much.

END OF INTERVIEW