



## **Oral History of Caroline Rose**

Interviewed by:  
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**Weber:** I'm Marc Weber of the Computer History Museum, and I'm here on the 28<sup>th</sup> of November, 2023. We're here with Caroline Rose, who's a pioneer of modern technical documentation, and I'm interviewing her with my colleague, Hansen Hsu. Thank you for doing this.

**Rose:** Sure. Thank you.

**Weber:** So, let's start at the beginning. What's your full name, and when and where were you born?

**Rose:** My full name, now, is Caroline Rose, but I was born as Caroline Rufolo in New York City back in 1947, February 22<sup>nd</sup>.

**Weber:** Tell me about your family.

**Rose:** That actually is significant, because my grandparents all came from a poor part of southern Italy and came over here on the boat to Ellis Island—that's how we ended up in New York—and they were interested in making their fortune here and having their children do well, and their children wanted *their* children to do well. So I was always pushed to succeed, and that had a big influence on me. My father was actually also born in Italy. He was conceived here, and then my grandfather, his father, had an argument with his boss and went back to Italy <laughs>. So, my father was born there and then they came back, in 1911.

**Weber:** So he was a dual citizen—or no, he didn't choose to take Italian citizenship?

**Rose:** He was born there, so he was an Italian citizen. I wish I could be one, but apparently it goes down the matriarchal line, not the patriarchal. So I'm just an American.

**Weber:** You were born in New York—Manhattan, or where?

**Rose:** Queens, but it was a big point with us that it was New York City. But it wasn't Manhattan. In fact, I lived most of my life in Queens Village, which was on the edge of New York City, just before Nassau County, and that was important to me. I really loved New York City, loved Manhattan, which is where my father worked. I admired him, and I admired that city a whole lot.

**Weber:** What did your parents do?

**Rose:** My father was a newspaperman all his life. (He didn't even finish high school; he got his greater education later—picked it up here and there, including in the Army.) He lied about his age and started working as a young man during the Depression, as a copy boy, and he never left the New York Daily News. He eventually became the head of their library. And my mother was a registered nurse.

**Weber:** Did you have brothers and sisters?

**Rose:** Two sisters: one older one who was born in '43, and the younger one, unexpected, much later.

**Weber:** Describe your childhood. What was your neighborhood like? What did you want to be when you grew up?

**Rose:** It was a beautiful neighborhood then, from what I remember, which is why we moved to Queens Village (that was the one on the border that I mentioned). It had stately elms, which are all gone now, thanks to Dutch elm disease. It's a much different place now. Back then, it was mostly people—you knew their ancestry and their religion; that was the big thing. Mostly Italian Catholics. There were a few [others]—maybe an Irish Catholic, maybe a German Protestant—but we ruled <laughs>. And there were a lot of kids my age. I didn't get to mingle as much with them as I wanted to when we first moved, because I had rheumatic fever as a child and I wasn't allowed out of the house very much. I know that also has a lot to do with what I ended up becoming.

I don't think I aspired to do anything in particular, except I always wanted to work in Manhattan. My father would sometimes take me there, and I thought it was the most exciting imaginable city. We were heavy readers in the family. We were a family where the four of us (my younger sister came much later) at the dinner table were mostly all reading. Because of my rheumatic fever, I also liked math a lot, but I'll get into that more [later]; you'll probably ask more about all that, and how that developed. But in terms of what I wanted to do, I didn't know. I only knew that I wanted to work in Manhattan, and stay in New York, <laughs> which I didn't.

**Weber:** Describe your school experience. What were your favorite subjects?

**Rose:** That's very interesting. Because of the rheumatic fever, I didn't spend a lot of time in elementary school. My parents hired a tutor for me, because even though I didn't feel sick—maybe I felt a little tired, but I basically felt OK—I wasn't allowed to move, wasn't supposed to tire myself. So I couldn't get out of bed; my father would carry me up to bed at night [from a daybed on the ground floor]. That meant no school, except this tutor, and the tutor tutored me only in math and English. Even to this day, I'm not very knowledgeable about history, geography, <laughs> and all the rest. Just math and English, because that was what I needed to pass tests, to do well, and ostensibly do well. I think a well-rounded education would have served me better, but that was it. And when I wasn't being tutored, I was teaching myself things without realizing it. Since I couldn't go out and play the way everyone else was doing, I would read, I loved logic puzzles, I taught myself chess and Scrabble (which I still love to this day)—just used my mind all the time, and ended up, all throughout my life, having good focus and loving math and English. So that was a big influence on me in grammar school.

**Weber:** You moved at what age?

**Rose:** We moved from an apartment in Jamaica, where I was born (it's also in Queens, but closer to the city); I was, I think, five years old when we moved to Queens Village.

I started in a public school, but my mother wanted me to go to a Catholic school, and when she was able to move me to the Catholic school into second grade, it was too easy for me. The public-school education was much better; I didn't belong in the second grade in the Catholic school. So after I memorized a prayer <laughs>—that was all I had to do—they moved me into the third grade, young enough that I started high school at 12.

**Weber:** How many years were you being tutored, then?

**Rose:** Well, I had three rheumatic fever attacks: I was like eight, ten (the ones at eight and ten were the big ones); twelve was a little less. It was almost a year at a time, as I recall. My mother, I think, was a little overprotective—I kind of blamed it on her being a nurse for a living—and she didn't want to take any chances. So, I ended up being tutored for at least three years, on and off. When I was in school, I didn't like it as much. I didn't like being taught by the nuns. It didn't suit me, but I had to do it.

**Hsu:** When you would have the attack, you would be tutored at home?

**Rose:** That's right.

**Hsu:** But then you would go back to school for a period?

**Rose:** Right. So even then—and it certainly carried over and has a lot to do with who I ended up being—I wasn't used to socializing with other kids very much, or other people. I was shy, withdrawn. I had one best friend, and that was all I needed. We got to be so close because she also had had rheumatic fever. She gave me all her Superman comics, and that was a real bond between us.

**Weber:** Could you see her in person frequently?

**Rose:** I could, because she lived only a block away. She was pretty much the only one I saw while I had rheumatic fever. And the rest of the time, when I was out there, I wasn't very popular, because no one wanted me to be on their stickball team or anything, because I was never allowed to be active. Even when I wasn't being tutored, I was still being affected by the rheumatic fever, in terms of being held back. And that carried on into high school, when I wasn't allowed to take Gym. That's why I'm making up for it now. I'm extremely active now, but back then it was all hitting the books and having Gloria, my best friend, come over. I wasn't allowed to do too much else.

**Weber:** Did you like your tutor? Did you get along?

**Rose:** I did. I loved math and English. Something about my mind, and it still is this way: I liked that they had order and structure. You learned a formula in math, or you learned a grammar rule—I loved diagramming sentences—and then you could just stick in values, and you got the right answer, so to speak. I thought that was so easy and interesting, as opposed to having to memorize other subjects, like the soft sciences. I remember in grammar school, History involved reading a chapter—because it was taught by nuns who weren't, I think, good educators especially, though some were—and you had to

memorize a nutshell, as they called it, at the end of every chapter. There was no discussion, there was no interest, and I thought, "This is boring."

**Hsu:** Do you still remember which prayer you memorized <laughs>?

**Rose:** I think it was called the Apostles' Creed. It was a strange little prayer. It wasn't like the Hail Mary, or any of those from when we were <laughs> knee-high to a grasshopper. I couldn't remember it to this day. And *that* was even hard for me, because it was pure memorization. <laughs> I didn't like memorizing.

**Weber:** Given that your mother wanted you to go (I assume your mother), you said, to the Catholic school, was religion or politics a big part of your family life?

**Rose:** Religion was. In every Catholic family, it was a very big thing. (You'll hear, when you ask me about my later life, that it is indirectly what pushed me to come to California.) It was very big—and I had a very big family. My mother was one of twelve, my father was one of maybe eight (there were a few who died, but it was around that same size), and we celebrated every single religious or even quasi-religious occasion <laughs>.

**Weber:** Saint's days? <laughter>.

**Rose:** Yes, pretty much. I look back on those parties with great joy, because they were a lot of fun, and I missed that after I left New York. But yes, it [religion] did play a big part, with my mother especially—my father didn't really enter into that—and it was even because of my mother that I had to go to a Catholic high school. So, religion was a big thing. Politics, not so much. You didn't talk about that, but you talked about religion a lot.

**Weber:** And values, ethics that came out of any of that?

**Rose:** Yes. You had to memorize your catechism and <laughs> be a good girl in thought, word, or deed—which instantly started me out as a rebel. I didn't get it. I didn't get the thought or word part, and I would ask questions. Even then, I guess, I was kind of analytical. I remember in grammar school, I would ask questions that they didn't think I should ask, because they couldn't be answered—like "If Adam and Eve were white, where did black people come from?" I even had questions about the Immaculate Conception; I said, "This isn't computing for me." <laughs> (I didn't use that word, of course.) I think having a strict Catholic upbringing really does lead one to say, "Wait <laughs> a minute," and to push away, and that's what I did. That was the effect it had on me.

**Weber:** So, talk about high school.

**Rose:** I had to go to a Catholic school, and that was also largely because they separated girls from boys; in elementary school they did, and I had to go to an all-girls Catholic high school. My mother didn't want me mingling with boys any more than necessary. There was a Catholic high school in Flushing (which is also in Queens) that was an annex, Bishop McDonnell High School; I went to it for two years. Then for the

last two years of high school I had to go to Brooklyn, which was a very, very long commute—bus, several trains, wasn't conveniently located—just so I could go to the Catholic school.

I still didn't much like being taught by nuns. I enjoyed teaching myself more than I enjoyed being taught by them, except for my geometry teacher. I loved geometry. I loved proving theorems; that was so exciting for me. They had these tests called Regents, the state Regents exams; I got 100 on the geometry Regents exam—a big point of pride for me, but also for my mother <laughs>. It was always my mother; my father said, "I just want you to be happy," all my life, but my mother let it be known early on that I was going to do really well in school, that I was going to go to college, that I was going to graduate with honors—that kind of upbringing. So I was very proud to bring home my 100 score on the geometry Regents. In English, I got 98—

**Weber:** But there's still room for <laughter> improvement.

**Rose:** —and she complained. I don't want to make her sound that bad, but she did say, "How come you didn't get 100 on the English?" "Mom, I'm doing my best." I don't think they gave Regents in anything else. That's why the tutoring was so significant: I always did well in tests to determine where I would go from wherever I was, because it was always in math and English, thank god.

**Weber:** The nuns were not mean, though—or were they?

**Rose:** They were kind of mean in grammar school. You'd occasionally get smacked with a ruler or something, but it wasn't that bad. By high school, I think they were already being told, "Don't do that," because they were nice enough. I only realized later how [well] people are being taught in modern times, and I didn't have any of that; it was more or less just that you'd get the book, you'd read the book, and you'd be tested on what you read in the book. It wasn't made very exciting. The excitement I got was from the subjects that were my two favorites; the rest, I thought, was pretty boring.

And I thought it was pretty boring not being able to go to a public school. I was 12 when I started [high school], I was starting to get interested in boys, and there were no boys around; it was all girls. But I made some nice friends, and high school went well enough. Because it was a small school, I scored high relative to everyone else, but Alice somebody or other got to be the valedictorian (or whatever the equivalent was). *She* was the highest, and I was right below Alice. I didn't like Alice very much.

So, I did well in school. I was kind of making up for lost time. It helped to have competition of other students and try to beat them, like Alice, all the time. I always wanted to do well. I was told I was going to, and I tried really hard and succeeded in high school.

**Weber:** Sometimes people who go to strict schools rebel by being wild in their off time. Were you starting to—?

**Rose:** Yes, I did, but not at 12 quite yet. <overlapping conversation> At 16, when I started college, it hit me then. Also, school changed a whole lot. Should I skip to that?

**Weber:** No, I mean, high school, any particular favorite teachers? You mentioned the geometry teacher.

**Rose:** In high school it was just the geometry teacher. I don't remember anything else. I hated that I couldn't take Gym. I was always set apart from everyone else. I was shooting targets with arrows, and everyone else was playing basketball and having a good time. So I was still socially backward.

**Weber:** But you were doing archery?

**Rose:** That's because it wasn't strenuous. I did archery, and anything where I could stand still and not do much. And I was always interested in music; I had wanted to study a wind instrument, but my mother said, "That's not going to be good for you."

**Weber:** Because of the effort of—

**Rose:** Because of the effort. And then I said, "OK, violin," and she thought that would be too much, just holding the violin up. So I took cello.

**Weber:** Because you can sit down.

**Rose:** <laughs> Yes, because I could sit down and just do this <gestures playing a cello>. But the music teaching wasn't that great, either. I loved music, of course (because I was a math lover), and reading it and all that was fascinating to me. I've been a musician ever since, but with different instruments. As soon as I was able to, as part of the rebellion thing, I took a wind instrument: I played flute for about 15 years. So, rebellion was a big part of my life, but not in high school. It was more when I was starting college, and beyond.

**Weber:** Anything else about high school, before moving on?

**Rose:** No. It's all a blur.

**Weber:** I'm assuming that you weren't exposed to computers in college?

**Rose:** No. You'd be surprised when it [exposure to computers] finally came in college: not at the beginning. Because of my good grades in high school, I got into a really good school that was free. It's free admission now (I don't mean money-wise; I mean anybody can get in now), but in those days it wasn't, and I was fortunate to be able to get into Queens College of the City University of New York. It was a no-brainer, in that I knew I wanted to major in math, and I loved college. There were not many girls in the math classes, and I still felt very competitive. I tried very hard to keep up. I remember the shock, though, of being the second-highest grade in my small high school and then going to college and going, "Oh, this is very different. <laughs> This is a whole new world." I had to work a lot harder, and I certainly wasn't second-highest <laughs> in my graduating class from college. But I did well. I did graduate with honors.

Math was very hard after a while, not in the beginning. I remember that when it got to solid analytic geometry, which I think was in my junior year, I was finding it hard, and I was also starting to wonder what I would do for a living, because I hadn't had a clue. No one had ever advised me about it; they weren't very good with advising people then. I didn't even know there was such a thing as an advisor until someone foisted one on me, I think at the beginning of my senior year. I graduated in '67, so it must've been '66 that was the first time Queens College offered a programming class. I took it, and it was a one-credit course in FORTRAN. You could go out of your way to look at the computer if you wanted to, but you didn't [normally] see the computer; you got a coding sheet, and you were told what program to write, and you wrote it, and you handed it in, and then they would enter it into the computer, and you would be given it back and told if it worked or not. I thought that was for idiots. I mean, I could not <laughs> believe it: here's solid analytic geometry and a FORTRAN program to add numbers or something, and I thought, "What?!" So I didn't want to get into computing. I thought it was too simple-minded. I never was good at seeing the big picture of things. I just thought, "*That's easy, this is hard.*" But the math was so hard, and I knew I didn't want to teach, because I was too shy; that's not my thing, speaking in public. So, they advised me to consider getting into either accounting or statistics. I chose statistics—I thought that was a bit more interesting—and I focused on that.

I continued not to have much of a social life, except for the friends in my neighborhood. School was very serious, as far as studies went. I probably couldn't have afforded to be in any sororities, but they wouldn't even have let me in, because the school was—I don't know how they got away with this—mostly Jewish children and *they* were allowed to be in the sororities, but if you were not Jewish you couldn't be in a sorority. You had to be in—I forget what they called it; they called it something else. And the boys wouldn't want to go out with me, because they were mostly Jewish and their mothers wouldn't want them to go out with someone who wasn't Jewish. So, I didn't fit in there either. I liked all those people but I didn't mix with them much. I just hung around the neighborhood with Gloria and a few of the Italian kids in the hood. It was like leading two different lives. I'd hang around with them, and it was very different from when I was hitting the books and studying in school.

**Weber:** So, they were still in high school. You had gone to college early?

**Rose:** Yes, I went early. They didn't go to college. When I was going to college, they would start getting jobs. I was also the first in my family, in my generation, to go to college. It was not common then.

**Weber:** But I mean, your first two years of college, a number of your friends were still in high school.

**Rose:** Right, they were still in high school.

**Weber:** You said you started to rebel in college?

**Rose:** Oh, yes. Well, [that was] probably around the time I started. It was the '60s, and I was still going to church, because I was expected to, but I wasn't into that much anymore. People were starting to smoke pot—again, the neighborhood kids were like that—but I also had a very serious studious side, so I was split between the two. And I really wanted to see a path to getting out of my home environment at some



point, because my mother was so strict. She was trying to control who I went out with and how long I was out, and I was letting her, because she had been my nurse for all those years, which is, I think, one of the reasons that I always did what she said. I followed her instructions. So when Gloria would say, "What do you mean, your mother won't let you go out on this date because you didn't behave?! Just go anyway," that was inconceivable to me (which also leads to how I ended up coming to California, but we'll get to that). I needed to figure a way out, and I knew that if I got good grades I'd get a good job and I'd make good money, and I'd eventually have enough to escape. That was my motivation for doing well: to get out of there.

I forgot to say that I also really liked Latin, which I had to take as a Catholic girl—you had to so you would understand the masses, which were being said in Latin—and that tied in with my love of English and gave me a real appreciation of roots of words. I was even more fascinated by the language when I did that.

**Weber:** But the Vatican II was the early '60s, right? When they made the mass—

**Rose:** Right, but—

**Weber:** But it took a while to—

**Rose:** It took a while. I think by the time they were saying it in English, I wasn't going anymore. <laughs> I remember it always being in Latin and understanding it because I had to study Latin. But even now, I benefit from that (I always did): understanding the meaning of words from knowing Latin. I recommend it for everyone, but <laughs> it's not really done anymore.

So, there I was in the college, where I didn't fit in, and it gave me much more opportunity to buckle down and study. And so I graduated. Oh, I did make the mistake of taking a few soft sciences in my senior year. I thought, "Criminology, that sounds interesting. Sociology, hmm, sure," and that's what brought my grade point average down. My first C's. So I graduated only cum laude, rather than any of the higher ones. But my mother said I would graduate with honors, and I did it; I fulfilled my obligation.

I was expected to get a good job but I was also expected to get married. I'm not sure how that was all supposed to fit together, but you'll hear how it turned out <laughs> when we get past college.

**Weber:** By this time the counterculture was starting up in New York City as well, to some extent.

**Rose:** Oh, yes.

**Weber:** So, you're going to parties, and—?

**Rose:** Yes, everybody was smoking pot, nothing worse, but yes, parties. Still being good Catholic girls, but really liking disobeying Mom in some lesser ways. Like saying you were with a girl: I would say I was staying overnight at a girlfriend's house; this was a big move for me, because I so feared that my mother would find out that I was doing these things, but you would each say you were staying at the other one's

house. One of my greatest adventures was going on I think it was a 50cc motorcycle over the 59th Street Bridge (maybe it was 90cc, but it wasn't much bigger than that), sitting on the back of it, no helmets or anything, going into Manhattan to a club that I didn't even realize at the time was some kind of gay dance club. I didn't find out even later what it was. All I know is it was great dancing and great music, and you'd stay until 4:00 A.M., and you'd come home the next day, and I'd tell my mother <laughs> I had been at my girlfriend's house. That was great. So I had fun—but I was being careful. I'd always been wanting to party and have a good time like my neighborhood friends, but like my college friends I also wanted to do well and stay on the path that would lead me to the success that was so expected of me.

**Weber:** What music did you like at that time?

**Rose:** <laughs> What didn't I like?! The music was fantastic then. I knew every Shirelles song by heart; I still know all the words to them. Now I sing and play guitar—not that music, but I loved all the music that was popular then, which was Motown. I loved to dance all my life, but it started when that music hit, and how could you not dance? I mean, that's what we did. And we even had groups, mostly the boys—quartets, singing on the street corner. So at one point, the—

**Weber:** A bit like barbershop?

**Rose:** —girls and I formed one.

**Weber:** Not barbershop, though?

**Rose:** No, not at all. Like doo-wop.

**Weber:** Motown? Oh, OK.

**Rose:** At one point the girls tried to form their own group; we called it the Four Flirts <laughs>. It never developed into anything—we didn't have enough range—but the boys had a falsetto and bass and everything in between, and they were good. That was the big thing to do then, that and drive '57 Chevys; we really liked those cars. Well, that had been when I was younger, I suppose, but they were still popular even in the '60s.

So, I had a lot of fun, but I never let it interfere with my studies, and it was a balancing act. That's how I've always been. I never really changed from that: a good balance of fun and work.

**Weber:** Moderation in some things.

**Rose:** Moderation was important. Otherwise, you go too far into either of those camps and the other one suffers, and I didn't want either one to suffer.

**Weber:** So once you had graduated, you were free, or could be free?

**Rose:** <laughs> Could be.

**Weber:** Oh, sorry. I guess in college, though, did you change directions in your studies at all?

**Rose:** It was math from beginning to end. I did, as I said, take a few electives that were not in my field at all toward the end, to the detriment of my grade point average. But, no, I never changed direction. But I never knew what I wanted to do for a living—except not teach, which is why my opportunities were so limited.

**Weber:** Any important mentors or professors?

**Rose:** No, surprisingly.

**Weber:** Computing didn't grab you at that point?

**Rose:** I thought it was for morons. <laughter> Imagine how I felt when I hit solid analytic geometry and said, "Oh, my God, math can be very, very hard," and that same year I'm taking a one-credit course in FORTRAN. The fact that it's one credit tells you how simple *they* even knew it was. That was all they had.

**Weber:** Because a normal course there was how many credits?

**Rose:** Three. One was like nothing—and it was nothing.

**Weber:** You didn't dream your career would be in the <laughs> computing industry?

**Rose:** Not at all. Not in a million years, except that the first job I interviewed for seriously—maybe even the first one at all after I got out of college—was at IBM. It was known to be a good place to work, I needed to make money so I could get away from home, and it [the job] was to be a technical writer at IBM. I didn't pass the test, <laughs> which I think is so funny. It was kind of essay-based and I was nervous, there was a time limit, and I was overwhelmed. And I was in upstate New York; that was overwhelming <laughs> in and of itself. I had to take a railroad up there. I didn't really want to work in upstate New York; I wanted to work in Manhattan, as I said. But I think it's pretty significant that I failed IBM's technical writer test, given what I ended up doing for the rest of my life.

I also interviewed to get a job at Bankers Trust—I think that would've been more in statistics—and they rejected me because of my heart murmur, not because I'd had rheumatic fever (I was well over that) but I had a slight heart murmur, which I was born with and still have. I'm extremely physically active [now]; it's never hindered me in any way whatsoever. But they were an insurance company, and I didn't pass their requirements, so I didn't get that job.

I got a job in Manhattan with a very small statistical research firm called Market Statistics. It was a couple of Chinese immigrants, the Hongs, and maybe no more than a half dozen other people in one room in Manhattan. But I was thrilled to be working in Manhattan. The room was mostly taken up by a huge card

sorter; this was my second exposure to computers, after that one-credit course in FORTRAN, and it still didn't impress me very much. I guess different companies filled out questionnaires, and these cards were punched and fed into the machine. I never had anything to do with that; I just analyzed the statistics that came out, and we published reports, and that was that. But I was happy to have found a job in statistics. I didn't have to be a teacher. I was making reasonably good money, which I remember was \$5000 a year. The emphasis on money was not only because it had always been drilled into me that that was an important thing to do, but [also because] my mother told me—and I do believe it, although none of my cousins were told this (my mother didn't tend to lie)—that it was an Italian custom that she would dock a third of my salary: she'd keep it until I got married and then I would get it back. That was the pressure to get married.

When I started working in Manhattan, I started saying that my goal was to be a playgirl with a penthouse apartment in Manhattan. Something in the Village would've been more appropriate than a penthouse apartment, but I started thinking, "I'm going to be a Manhattan gal. I'm going to have a job in this city the way my father did." (I adored my father; I was closer to him because he wasn't so strict.) There I was, for June, July, and part of August, living the life, and not too happy about my mother docking my pay, and no intentions of getting married, and still not sure how I was ever going to get away.

**Weber:** But you were still living at home at this time?

**Rose:** Yes.

**Weber:** You didn't get the apartment, even if it wasn't a penthouse?

**Rose:** Well, not in just a couple of months, but that was the goal. I didn't quite see how I was going to, with my pay being docked. It was only \$5000 a year as it was. Again, Gloria probably would've said, "Why do you let her do that?" She had more freedom with her parents, and she was a lot closer to moving out; she wasn't getting her pay docked, and they were fine with her moving out. My mother I don't think wanted me to move out. She didn't want me to get in any trouble. The marriage thing was part of the Catholic thing: "Don't mess around with these boys. Marry one of them." But that wasn't going to be my path.

Then my boyfriend from four years ago, when I started college—my childhood sweetheart, who had gone in the Navy when I went into college—came out of the Navy when I got out of college and looked me up, and we started seeing each other. That changed the course of my life. He had studied electronics in the Navy, and he had seen San Jose and some more of the Bay Area, but mainly San Jose. He bought a VW Bug for \$2000 and was going to drive it across country, return to California, and go to San Jose Community College. He thought California was terrific. I remember, specifically, that he talked to me about the roads. Turned out, I realized later, it was the fairly new 280 freeway that he had become enamored with, because there were all these potholes in New York, and here was this luxurious, beautiful highway with trees all over. He fell in love with California, and he intended to go back to California. This was in August of '67 when we were seeing each other, and he was going to go back to go to school, I think in October, when the quarter started. He surprised me one night, when we were parked in his VW

Bug and he got out this little pad of paper (which I saved for many, many years) and said, “Pinky” (that was my childhood nickname), “I’ve done this math”—<laughs> math always appealed to me—and, he said, “I could work part time while I’m going to community college, and work during the summer. If you came with me, you could—” He wanted me to join him in this adventure. I thought, “This is the ticket out.”

I should mention that '67 was the Summer of Love, which we heard a lot about in New York as what was happening in San Francisco. There was “Do You Know the Way to San Jose” and “If you’re going to San Francisco, be sure to wear some flowers in your hair.” This was very appealing to all of us, but none of us were about to go over there. I mean, that was way too much, so far away, and a whole other world. <laughs> Chris, the boyfriend, was very straight, and he was just out of the Navy; that wasn’t appealing to him. But he loved these other things about California, and I liked both aspects of it. <laughs> I thought, “I can get away, I can probably get a good job there, and there’s a lot of groovy people over there.” <laughs> It appealed to me. I didn’t like the idea of leaving Gloria, my best friend, but I felt it was the right move for me, and I was still fond enough of him—and kind of talked myself into being fond enough—to do this with him. Let me put it this way, to make it a little bit more dramatic: That night, because he was in a hurry, I asked my mother how she would feel if I married Chris and we moved to California.

**Weber:** And get the third back.

**Rose:** She wanted me to get married, and it fit the plan. She wasn’t crazy about me moving; I wasn’t crazy about that aspect of it in some ways either, because I did like some things about family and my friends, but I also liked California. So, she said yes, and the next morning when I told Chris, he was surprised, and I was surprised that he was surprised, because, I said, “my mother’s always liked you.” I remember being surprised by his not expecting that reaction. Turns out he was surprised because he hadn’t proposed marriage! But he didn’t tell me until three-ish years later. He didn’t realize how controlled I was by the scenario of getting married. He was suggesting that I just accompany him over there and live with him for “another four-year hitch,” as he [later] put it, like the Navy, but I thought we were seriously getting married. That was why he was surprised. It was all an accident, really. In fact, if he had said, “Oh, I didn’t mean to get married,” I wouldn’t be where I am today. But he went along with it because he wanted my company that much. It wasn’t because we were so madly in love with each other. What did we know? I mean, I was 20, but I was a very young 20. I was very slow to mature; I think it had a lot to do with what I told you about my background.

So, he said OK, and I overlooked that he was surprised that it was OK [with my mother]. Even the night before, he was saying, “So, Pinky, you don’t think this is going to necessarily be forever, do you?” I said, “Of course I do,” and I attributed it to cold feet. <laughs> And that’s how I got to California.

**Weber:** So you got married?

**Rose:** We got married rather quickly. He suggested the idea in August and we got married in September. We were out here in October and he immediately got a job—that was the beginning of the whole thing for me—at Tymshare, as an electronics technician. (It was a part-time job, because he was going to San Jose Community College.) And they needed a technical writer. I had no idea what a technical writer was,

but I knew I could write, and I knew I could understand technical stuff. So I interviewed with them and, purely on my strengths in math and English, I got hired by someone that I'm eternally grateful to: Neil Sullivan at Tymshare figured I could do the job. That's how I got started.

**Weber:** We've interviewed Ann Hardy, Norm Hardy, and LaRoy Tymes from Tymnet.

**Rose:** Nice people. I liked them all. They were brilliant.

**Weber:** There were also, earlier— was it Sullivan? I'm forgetting the names of the co-founders.

**Rose:** Dave Schmidt and Tom O'Rourke.

**Weber:** In the early 2000s, the Corporate Histories Project here interviewed both of them, I believe. I realized you were with Tymshare later, but I didn't realize you were there fairly early.

**Rose:** I'd love to see that. That's ancient history.

**Weber:** So, talk a little bit about Tymshare.

**Hsu:** What year did you start?

**Rose:** I started in December '67. My first day was something like December 27<sup>th</sup> or 29<sup>th</sup>, the very end of the year.

**Weber:** And they started in what, '65 or something?

**Rose:** Something like that. It was still pretty new. It wasn't a big company where I was—the technical hub—but they did have people elsewhere, like sales and all that. I didn't see any of those people. The office where I worked, which was on Bubb Road [in Cupertino], seemed like no more than a couple of dozen people, as I recall.

I could talk about how the job was. Because it was such a small company—to me, it seemed—there was no orientation, and what did I know about computers other than my one-credit FORTRAN course and the IBM card sorter? That was it. Well, that didn't bother them, and it didn't bother me. The first thing they showed me was how an editor worked, and I remember <laughs> my first thought being "Editor?" To me, an editor massaged something already written, and here an editor is who actually enters the text with an editor [on the computer]. OK, I could take that. What kind of text, I barely knew. They wanted me to say [in the manual], "You can enter any text at all," but I'm not sure what other context there would've been other than code writing then. Tymshare did have the ARPANET, but you weren't allowed to use it except under very certain circumstances. It wasn't as if people were chatting with each other over the ARPANET. So, I could barely grasp the concept of an editor or what you were editing. And I wasn't using a Tymshare system to write the documentation. I could see how it worked and check it out on there, but I was writing in pencil; it was transcribed by a guy in the Production department, who typed it up on an IBM Selectric

typewriter. (In a later review of some of my documentation, they praised the fact that it was two-color; this was very big—what the user typed and what the computer replied with were in different colors—and made it really clear. That was a big innovation.)

Going back to when I just started: I'm kind of not knowing what's going on, but I'm certainly able to explain how the editor works, and I start writing the manual. I was there for maybe up to a month, I hate to say, but I was there a while, when a guy (the guys there were super-friendly and very helpful, always willing to share their knowledge) came in one day and said, "Would you like to see the computer?" I was so ignorant that I didn't realize that the Tymshare terminal was a terminal and not a computer. I said, "This isn't the computer?" What did I know? So <laughs> I said, "Sure, I'd like to see the computer." I mean, I kind of got that you dialed in with a modem. Tymshare's slogan was "A computer at your fingertips," and I knew that what I was doing was new. I could be wrong about this, but I think the only company doing it [timesharing], that I knew of anyway, was GE, and I knew of no existing manuals that were explaining how to use computers for ordinary people. I was one of the first, if not the first, to do it in Silicon Valley, and that was exciting. But what exactly was going on, I didn't quite get until that day, when he said, "Let's go look at the computer." It was right across the street on Bubb Road. I remember crossing the street, and the entire building there was filled with the computer. It was huge. It was noisy; they had all these fans. The other thing I remember is that behind that building on Bubb Road, including where Apple would later be, was a huge, beautiful apricot orchard. <laughs> In the spring it would all be white flowers, and it was gorgeous back there. It was kind of the country.

So, there was Tymshare where we worked, and Operations was across the street; finally I got the whole picture <laughs> and realized, "That was the computer, this is the terminal." That's how I started out: not knowing a single thing.

**Weber:** You were writing the user manual for the customers of Tymshare, for the editor?

**Rose:** Right, and for something called the Executive. I don't have my full list handy, but it was easy, high-level documentation for users.

**Hsu:** The Executive was like a shell, or a command line?

**Rose:** Yes, it must've been. I don't have that manual anymore. I donated some things here. Somehow I've lost a few of the early manuals. (I still have one, though.) So I hardly remember what the Executive was, but it must've been that.

I found it [the job] so easy that I was kind of twiddling my thumbs wanting to learn more. It was as easy as that one-credit FORTRAN course, though much more interesting to me to be writing documentation. But I still wanted something more complicated, and these guys—they were all guys, as I recall—who were programmers were willing to help me. I was very excited to learn first assembly language and then FORTRAN. It was such a small company that they had me doing minor work on the applications themselves, like bug fixing, or maybe implementing something small, or quality control. I got my hands into the programming itself while I was writing user documentation.

**Weber:** Were you writing it early enough in the process? Like if you found something that didn't work well or didn't make sense, you could tell them, and they might change the program?

**Rose:** I probably didn't do that yet in the first year or two; I did later on, but at that time I was writing about very high-level stuff and starting to program at a very low level, so the twain didn't really meet <laughs>.

I was the only technical writer [at Tymshare] and I realized early on that there was no path for me. I was considered a glorified secretary. The reason I mentioned that I made \$5000 in Manhattan at that job is that my job as a technical writer started me at \$7000—I knew this was a land of opportunity right then—but to get past that was going to be difficult, because there was no path for me as a technical writer. I was learning programming, and I thought, "I guess I should become a programmer." So I did. Tymshare was a great company to work for, and one of the ways they were was that you could pretty much do what you wanted. They always went along with what I wanted to do. They kept me happy. So when I said about a year and a half into the job, spring of '69, that I wanted to be a programmer, they said "Great."

I was taught on the job by all the helpful programmers there, willing to share their knowledge, and it wasn't so hard that you couldn't just explain it to me on a whiteboard and I'd get it. Everything was just line by line. The most complicated thing was a go-to. It was really not that hard, and I found it fascinating to put it all together and write actual code that people were going to use. So instead of just modifying programs in my spare time, I was writing parts of programs as a full-time job, except I probably, even then, still was being asked to write some documentation.

For seven years after that, I was mostly a programmer. I started at the applications level. I wrote a "paper tape package," whatever that means—something to do with paper tape—and a statistical package. After I wrote a couple of high-level things myself, I wanted to go more deeply into it. So after about a year of that, I became a systems programmer and, being very, very detail-oriented, I was thrilled to be assigned interpreting formatting strings for FORTRAN. All those little characters in these strings, that had a different meaning in terms of how numbers would be formatted—I loved that. So, I would be assigned parts of the FORTRAN compiler to write, and I really liked that, and did it [programming] for, as I said, seven years.

**Weber:** Over that period, Tymshare was expanding the software it could offer to clients, right?

**Rose:** Right. Now, again, being mostly someone who looks down, at the detail level, and not at the high level, I can't tell you much about what they were doing, but I do know that we moved from the SDS 940 computer that was our computer, to the PDP-10, to the XDS Sigma 7 and from BASIC to SUPER BASIC. I programmed FORTRAN in a language called SIMPL, which I think was of our own creation. So yes, there was always new stuff coming up, and that's one of the things I found exciting about doing the job: being able to stay on top of what was happening technically. And it was manageable to me for those seven years, until it became unmanageable. It started getting a lot harder and a lot more complicated.

**Weber:** Who were the main people you were working with, or for?



**Rose:** They were all programmers. (There were no other writers, as I recall; there may have been, but I didn't work with them, because I was a writer for just a year and a half and then became a programmer.) Richard Moore was an early one. Arden Scott. There's so many, but I mainly learned from Richard Moore, still a good friend. Anytime I got stuck, he would write things out on his whiteboard and I'd understand what to do. Frank Bracher; he's probably no longer with us. Those were the two main people I worked with.

**Weber:** What was the corporate culture like, the company culture?

**Rose:** Very nose-to-the-grindstone, but also we had what we called Building T, the Tap Room, which was right around the corner—actually, in the town of Monta Vista. (Bubb Road is at the end of Cupertino, and then there's a little town called Monta Vista.) It was known that on Fridays everybody went over to the Tap Room, or else they went to the park and got high, or both. So we had that, but at work we were very nose-to-the-grindstone, a bunch of hardworking people, probably working already more than 40 hours a week. The thing I found fascinating about them is that even though they probably all had computer science degrees, they would turn me on to interesting literature; they were very well-rounded in their education. But when you weren't working, you were having fun. I thought it was great. And everybody was friendly with everybody else. I don't remember any friction. It was a happy company <laughs>, and a lot of really competent people.

**Weber:** Did you work much with Ann Hardy or Norm Hardy?

**Rose:** Not at all. They were like the company geniuses, like our gods. They were always doing stuff that was more advanced than what I was documenting, so I didn't [work with them]. But, even though I didn't, they were super friendly and approachable. I was on very friendly terms with Ann and Norm and LaRoy—and everybody. That's the kind of company it was. Even Tom and Dave. Everybody mingled with everyone. It was like a flat hierarchy, in a way. I never had any problem with bosses or anything. We just all were very excited about what we were doing.

**Weber:** I remember Ann telling the story of how they—I guess one of the co-CEOs or whatever—didn't believe she had written the operating system, and thought that it was Norm <laughter>, until she—

**Rose:** I'm not surprised.

**Weber:** —went into the hospital <laughter> to have her first kid. Then something broke and the guy called Norm, and Norm's like, "I don't know, that's Ann's thing."

**Rose:** <laughter> I love that story. I did listen to all of her interviews <laughter>.

**Weber:** But what was it like? Obviously, there was Ann there and you were a programmer. But what was it like being a woman in that environment?

**Rose:** It was kind of like <laughs> when I was taking those math classes in college. It worked in my favor, though, because I was kind of a novelty, really enthusiastic, and like a sponge. I wanted to learn whatever they wanted to share. That worked out well. There was no competition. Then there came, I think, another female programmer. So it was starting to change. But I've never experienced prejudice in the workplace because I'm a woman; it either worked in my favor or I was just considered an equal. I think in that case [at Tymshare] it worked in my favor. I was kind of this cute young thing: "Oh, teach me, teach me!" <laughs> And they did. It worked out well for them, because they knew they were passing on their knowledge, and it worked well for me, because I was able to learn how to program without needing a computer science degree <laughs>. It was easy enough at that time, and when it started getting too hard, which it did, I stopped being a programmer.

**Hsu:** Could you describe how it got more difficult?

**Rose:** Well, let's see. I was seven years as a programmer, and while I was programming, toward the end especially, I was still occasionally being asked to write, and I remember a significant milestone was MAGNUM. (It was originally called MIDAS and they changed it to MAGNUM.) It was a relational database system, and suddenly everything was not just line by line, do this, do that, go here, go there, or maybe an occasional "for" loop. It was object-based. While I was programming parts of MAGNUM, I was also asked to write the documentation for it. That [MAGNUM] was a whole new world, which I found both exciting and intimidating. It was exciting to learn about it (I had to learn about it pretty deeply to write the documentation), but when it came to the coding, I was starting to get a little intimidated, and I was beginning to see that computer programming could be pretty difficult after all. I can't tell you the details of why I felt that way, but I did, because I remember saying to myself, as I was making the decision to go back to writing full time, that to stay a programmer I would have to keep learning new languages, whereas to be a writer I had a language I'd mastered and I didn't need to learn any more languages. I would get to learn about all these new products, and I wouldn't have to learn new languages.

I was also beginning to see that, as computer programming became more specialized, you would probably get to work on one thing for a very long time if you were a programmer. I thought that wasn't as interesting as being a writer and just moving on to the next exciting technology and learning about it, and not having to get that deeply into it; it seemed perfect.

So, that was when I decided to go back to writing. And Tymshare, in its beautiful acceptance of whatever you wanted to do that you were good at, said "Sure," and didn't cut me back down to a writer's salary, because they realized at that time that it was important to have someone writing developer documentation who actually had programming experience. I think the smartest move I ever made in my career, other than my pre-career move to come to California, was to be a programmer for a while, so that I could more deeply understand whatever I was going to write about from then on.

**Weber:** They had enough need for writing by then. I mean, you could do it full time. Were you the only writer still? No. There was a team by then, right?

**Rose:** I wasn't [the only writer] anymore. I don't remember the other writers that well, but I remember not being happy with what they were doing, because it was very hard to find a writer with programming experience, and I didn't like that they didn't quite understand what they were doing. Oh, by the way, I should say that I was never edited. That's one of the things I loved. I didn't need an editor; I didn't have an editor. I just did good work, and that's what went out. So, I ended up being the senior writer, looking at the work of and editing the work of other writers, and I was never quite happy with it [their work]. I can't remember who they were, but I know that didn't thrill me.

**Hsu:** What year did you go back to technical writing?

**Rose:** From '67 to '69 I was a writer, so [after seven years as a programmer] it was '76 when I went back to writing. That was about when the graphical user interface was being developed at PARC. I found out about it in '77, through a guy I was seeing who worked at PARC, who said one Saturday, "Let's go over there and play a game on the computer." I thought, "That's a crazy idea." He was so excited about it, but again, lacking a big picture, I didn't quite get what the implications were, that you could draw things on the computer. I should also mention that my father and mother both worked one place their entire lives, and I thought I would be at Tymshare forever. Talk about lack of a big picture!

Around this time, in the mid-70s, people were leaving Tymshare for Apple, which had moved half a block away—wait, I shouldn't say moved; that's where they were <laughs>—and they would, one day on their lunch break, go down there and chat, and end up getting a job at Apple and leaving. I saw this computer [the Xerox Alto] at PARC around that time, and I played Hangman on it; he was so excited but I thought, "I could do this faster on a piece of paper." <laughter> The big picture—of the graphical user interface, people going to Apple, personal computers versus timesharing—still wasn't enough for me to think that I would ever leave Tymshare.

About a year later, in '78, Tymshare acquired Doug Engelbart's group [from SRI], and I started getting a little bit more of an idea of what could be happening in the future. That's when I first used a mouse. Again, I always loved learning new technology, and it was exciting from that perspective, but I still didn't quite get the implications. The mouse was awkward to use—it was a big wooden boxy thing—and I had no interest in using his keyset.

**Weber:** If you went to PARC, there were the three-button mice at PARC, but it might not have registered as—

**Rose:** Yes, he was controlling the computer and just showing it to me, so I didn't really use it. But in Doug's group, it was something else entirely. I wouldn't even remember except I have a photograph of myself using it. You probably know about his keyset idea?

**Weber:** Yes.

**Rose:** I never subscribed to that <laughs>—didn't get that either.

**Hsu:** But you did use the Augment system that Doug developed?

**Rose:** Yes, and I wrote some Augment documentation. And I loved the people in the group. They also were a real happy, brilliant bunch of people.

**Weber:** Harvey Lehtman was there. Who else do you remember from that?

**Rose:** Well, very significant was Dirk van Nouhuys. He was a writer there. Oh, and Sandy Miranda.

**Weber:** Right. I think she talked about you in her book.

**Rose:** Probably.

**Weber:** Who else?

**Rose:** Nina Zolotow. I can't remember any more names offhand, but what I really liked was that I got out of the Tymshare physical environment and moved to Menlo Park. I started working in their Menlo Park building because there wasn't enough room for the group to work in our Cupertino building. I remember my excitement about its having windows you could open (I was always very environmentally conscious). And I hated when they [Tymshare] started having cubicles instead of offices; it's a terrible thing for a writer. No writer should have to work in that environment, but that's how it was. It was always too cold; you couldn't control the air conditioning. And people smoked like chimneys inside. It was horrible. I was thrilled to go to the SRI office in Menlo Park. It was completely different. You could let in fresh air, and it was a fresh, new beginning for me to be working with these interesting people. And they were very excited about what they were doing. They got the significance of it more than I did, which is typical for me.

**Hsu:** That started in seventy—?

**Rose:** '78.

**Weber:** I don't think I realized that when they went to Tymshare, Engelbart's group stayed physically in Menlo Park, because Harvey talked about walking across that orchard to Apple.

**Rose:** Yes, then they moved. They [Tymshare] needed to get more buildings before they could move those people over.

**Weber:** So they were acquired, but still in their own offices, basically?

**Rose:** Right, still in their own building for a while.

**Weber:** You had talked in some interview I found about using the ARPANET early on.

**Rose:** Yes, way back.

**Weber:** But at Tymshare, or—

**Rose:** Tymshare.

**Weber:** Doing what with it?

**Rose:** Sending little love notes. <laughs> You weren't allowed to, but I was going out with someone in Operations. I wouldn't even remember this, except I kept a journal at the time; there was this yellow paper tape that things would get printed out on, and I would have notes that I would save because they were so sweet. If I was out of town, we would communicate that way. So yes, I used the ARPANET—illegally, probably, but everybody would sneak in and use it now and then.

**Weber:** Because they had a connection? And then they had their own Tymnet, of course, right?

**Rose:** Right.

**Weber:** But you weren't involved with Tymnet particularly?

**Rose:** No, I didn't have much to do with that.

**Weber:** Because that split off in the late '70s?

**Rose:** Yes.

**Weber:** Norm Hardy talked about how one of his regrets was that they were overpricing Augment. He used to chat with Doug, but he felt that Tymshare was selling Augment at such a high price that it kind of destroyed the potential market.

**Rose:** That could be. I didn't know that. I never understood why more wasn't done with that. It just seemed like it didn't really fit, ever. I didn't know about the high pricing—I was out of that part of the loop—but we didn't seem to take as much advantage as we could have of what was going on in that group.

**Weber:** Did you know there was tension between Doug and—?

**Rose:** No, but I always had the feeling it wasn't a good fit. I didn't sense tension; I never did—until around the time I decided to leave <laughs>, and that was part of why I decided to leave, but not the main reason. After I was in the Augment group for a while and really enjoying it, I hit another salary wall, and I was Peter-Principled up to management. I became a writing manager, and that's not a role that I'm best suited to. I want to do hands-on work. And I didn't have that flat organization feeling that I had before. At least they kept me and my little writing group in the Software group, because we were writing developer documentation; I thought that was really important, That would change over the years in other companies, and I'm sure it's not done now, but [at the time] I was still tight with the programmers. But there was more

tension [than before]: there was who was going to get what cubicle, who was going to get the corner cubicle. It was a bigger company by then, and there were some tensions then. But I never sensed tensions between the Tymshare core and the Augment group. I just knew nobody knew what to do with it. I didn't know it had to do with money; that was one aspect of it that I didn't know about—the price.

**Hsu:** You mentioned various relationships. By this time, were you divorced?

**Rose:** Yes. I should've mentioned that. It was only another four-year hitch, as he had intended. So by '71, that was over.

**Hsu:** But what did your family think about that?

**Rose:** <laughter> They weren't happy. My father said, "Whatever makes you happy," but my mother didn't like me being divorced, because of the Catholic thing. And they both were disappointed that I didn't come home. But I was really into what I was doing by then, even after only four years. I knew this is where I wanted to be. I liked California a lot, but it was mainly the work. I thought "Wow!"; I didn't mention this—maybe it goes without saying—but I felt like technical writing from the beginning fit me like a glove. I didn't want to work for IBM; IBM was the enemy <laughter>. So I wasn't going to go back to New York and work for IBM. They didn't want me anyway. They rejected me <laughs>.

**Weber:** So, you moved to programming just because there wasn't that much more writing work?

**Rose:** That's right.<sup>1</sup>

**Weber:** But then the programming served you very well when you went back to writing?

**Rose:** That's right, and they kept asking me to write [while still officially a programmer]. So I was able to say, "Which one do I want to do full time?"

**Weber:** It's a good combination. I mean, it's very rare to find *technical* technical writers.

**Rose:** Right. Well, we're leading up to where that's going to be very significant. Should we go to the early '80s? <laughs>

**Hsu:** Yes.

**Rose:** I became this writing manager in '81 and, as I said, there started to be tensions. I wasn't happy with who they gave me as my manager, I think, at that time. And writers under me, I wasn't really happy with their work. And, as I mentioned, for years—even before then—there was this migration from Tymshare to half a block away, to Apple. As I was in this management job, the Macintosh was being

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<sup>1</sup> The actual reason was, as stated earlier, that there was no career path for a technical writer at Tymshare; programming was a new, interesting challenge and paid better.

developed down the street, and I was still thinking, “I’m going to work for Tymshare forever”—not using my head the way I should have: getting up from the detail level and saying, “Wait a minute, what’s happening here?” But fortunately, Dirk van Nouhuys, who was one of those who went to Apple from Tymshare, knew my work, and he was in the Lisa group, and Steve Jobs had a writer working on the Macintosh developer documentation that had no programming experience and wasn’t doing a good job of it, so he wanted to find someone else. He made an announcement to everyone in that building, I think it was Lisa and Mac people, saying, “Does anyone know a good technical writer who has programming experience, who can do a better job on the Inside Mac?”—I don’t know if it was called that then, but on the Macintosh developer documentation. Dirk said, “Yes: Caroline Rose.” I was Rose by then. I changed my name; it was the thing to do, to change your name to names of flowers. Actually, Rose had become my middle name when I was 12 years old and had a Catholic confirmation ritual, so I decided to make it my last name.

**Weber:** But you had taken your husband’s name when--

**Rose:** Yes, Caroline Diehl. At Tymshare, I was Caroline Diehl [at first], and then I wanted to change it, but I thought—and this was the feminist thing—“I don’t want my husband’s name. I don’t want my father’s name.” In a way, I kind of now regret that I didn’t take my father’s. I like “Caroline Rufolo.” That was a good name—it flowed off the tongue—and I loved my father; I was really close to him. But I said, “I want my own name,” and people were changing their names to names of flowers, rainbows, rain, and everything else. So that’s when it became “Caroline Rose.”

**Hsu:** That was when, after your divorce?

**Rose:** Yes, after the divorce.

**Weber:** Because you had to change? If you didn’t want to keep your husband’s name, you needed to change to something?

**Rose:** Yes. I changed it legally, too, because I wanted to get a passport. I took my first trip to Europe, and I wanted it to all be straightforward, so I made a legal change.

So, Dirk gave my name to Steve Jobs and, <laughs> thinking I’m going to work for Tymshare forever, for better or worse, I got a phone call from Chris Espinosa, who was the manager of documentation, inviting me to come for an interview. I did forget to mention that I’d interviewed at Apple once before, but the reason I didn’t is because nothing came of it; it was when I was making too much money for them.

**Weber:** But that was for the Apple II group, right?

**Rose:** The Apple II.

**Weber:** So how much before do you think that was, roughly? Two years before or something?

**Rose:** It was probably sometime in the late '70s, when there was a grand migration from Tymshare to Apple. Maybe it was '78. I loved the people in the group, and they loved me; they said, "God, you'd be a great fit, and it'd be fantastic." I even made it clear that since I'd been at Tymshare so long I had a lot of vacation, and they said, "We can work that out." Everyone was great with it, until I talked to the manager. I remember that number, too—it was \$30,000—and she said, "That's way too much. We can't pay you that. Goodbye!"

**Weber:** That was a lot of money back then.

**Rose:** I didn't think it was that much. I mean, it was less than the programmers were making. It was a good writer's salary. It was very decent. It was more than anybody in that group was making, but the people in that group hadn't the programming experience that I had. I thought I was worth it, but they didn't, and I was fine to go back to Tymshare. I figured, "OK, this is my life." I only got called to join the Mac group because of my programming experience. That's why that had been such a smart career move that I'd made before, not realizing how smart it was <laughs> at the time; I just did it because that was my interest.

So, I walked down the block to be interviewed [by the Mac group], and they showed me—it was probably Andy Hertzfeld who showed it to me—balls bouncing on the screen, I remember, and they were so excited. I had the same reaction I did when I was playing Hangman on the Alto computer: I thought of it kind of as a toy. I didn't quite get how that would translate to anything useful, but I thought it was pretty exciting anyway, not because I saw where it was going but I thought, "That's pretty cool, balls bouncing on the screen. OK, what do you want me to do?" "Write the documentation." And I didn't like being a manager at Tymshare. As much as I was married to that company, I did decide to leave, and it was in June of '82 that I accepted their [Apple's] offer.

Right after the interview, I went back to Tymshare, and one of the programmers who was my good friend said to me, "How did the interview at Apple go?" I told him about the balls bouncing on the screen, and he shut the door and said, "Didn't they have you sign an NDA?" I said, "What's an NDA?" They hadn't. He said, "I wouldn't think they'd be wanting you to say this." So apparently it was big news that they were that far along. No one had told me not to tell anyone. That's when I got the picture, "Oh, OK," <laughter> and it made me even more excited about it. "Ooh, this is something no one's supposed to know about, and I'm going to be working on it." So <laughs> I took the job. Salary wasn't an issue. They really wanted someone who could understand the stuff. And that's how I got to writing *Inside Macintosh* at Apple, in the glorious Mac group.

**Weber:** And Chris Espinosa, you were working for him?

**Rose:** Yes. The first thing I did was kind of like a test he gave me, and I still have it: he gave me a printout of a manual that he had written, CoreEdit<sup>2</sup>, and he wanted me to give my opinion of it. I did what they call "bled all over it" (though it wasn't really a red pen; I just used pencil). I had problems with it on every

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<sup>2</sup> It was QuickDraw.



single page—and he loved it. He was thrilled that I'd caught so much that I could improve, and so he knew I was going to work out (and I kind of knew even before that that I was going to work out).

With any new technology, I'm excited to learn something new, especially if it's brand new—like with MAGNUM and relational databases, when I had that same feeling: it was brand new, people hadn't programmed that way before, and with a Mac they hadn't done event-based programming before. That was both exciting and intimidating, because when you have to document it, first you have to understand it yourself, and I insisted on understanding it thoroughly before documenting it. (I've always been that way.) You had to explain it to programmers in a way that would be easy for them to make the same transition. In fact, I had named a chapter early on in *Inside Macintosh*—I think I got this idea from my good friend Scott Knaster—"Everything You Know Is Wrong." They made me change it to "A Horse of a Different Color." But the idea was "This is a whole new world, so you have to change your thinking." That was really fun, and a little bit hard, but I managed it <laughs>.

**Weber:** Jef Raskin had started documentation at Apple way back, right?

**Rose:** Yes.

**Weber:** But then Chris Espinosa was the head of documentation for the Mac team.

**Rose:** For the Mac, yes. I never even met Jef.

**Weber:** There was a whole different documentation group for the Apple II; they had their own whole separate team for documentation?

**Rose:** Their own whole separate thing.

**Weber:** You had no dealings with them?

**Rose:** No, but Sandy says we crossed paths. I knew the people, but I didn't work with them until later, when the Lisa group disbanded and they were all available to work on *Inside Macintosh*. They were completely separate. They were in a building across the street and there was a huge rivalry between us. We had a lot of perks that they didn't have: free this, free that, whatever. Steve coddled us to keep us happy.

I didn't submit to much of the coddling, because I'm a nose-to-the-grindstone, totally focused, leave-me-alone kind of worker—I think, in retrospect, to my detriment, because I probably should have socialized a little bit more. It would've worked in my favor. I think that some of them maybe thought I was unfriendly, but I had to keep my focus to do it all. There was tremendous pressure, and I wasn't willing to work 90 hours a week. That's why there was even more pressure on me: I had to get a lot done in the 40, or maybe worst case 50, that I was willing to work a week. Whereas the programmers—some of them—were living there, practically. I wasn't; I needed a good work-life balance. When Steve Jobs handed out the "90 hours a week and loving it" hoodies, I gave mine away. I would never have loved working 90

hours a week. But I'm glad those programmers did. They worked hard—and they were terrific. They were always willing to give me their time, and they were always not only patient but happy that I would insist on understanding everything down to a really low level, because I would change their thinking about how to write the code just by asking them about how certain cases worked. Even when I was a programmer, I was always thinking of edge cases and finding bugs in edge cases, like the zero case or the -1 case. I was asking similar questions [of the Mac programmers], and they would say, "I guess I didn't think about that one," and they'd go back [and rewrite the code]. It was a great place to work. I loved doing that.

**Hsu:** Was there a rivalry with the Lisa team as well?

**Rose:** Yes. They knew that we were his [Steve's] pet project. We borrowed from them, but there was definitely what you could call a rivalry, except it was always clear that the Mac group were the favored few, as it were.

**Weber:** So, more envy than rivalry or resentment?

**Rose:** It was more resentment than rivalry, I think. Those perks that the Apple II group didn't have, the Lisa group didn't have either. The Mac was considered very special, and that's one of the things I loved about it. I always preferred small companies, and it felt like a small company. Again, it was maybe, at most, a couple of dozen people working really hard together, and everything else was invisible to me and to them. We just did what we were doing. In fact, I think Chris might have even said something like that to me during the interview, that he had the feeling it was like Steve had started a little company within a company, and I loved that idea. And of course I was excited to work for Steve Jobs. I didn't know much about him other than what everyone else in the world knew, and I thought, "That'll be cool, in addition to everything else about this job—getting to work side by side with him" (because he was very much there, intermingling with everyone).

**Weber:** What was that like?

**Rose:** With Steve, it was always both heaven and hell. Enough has been said about him, and it's all true. He had great ideas; it was stimulating to talk to him about how he wanted to do things, and his ideas were terrific. Of course, he didn't code, but he would inspire the programmers. He was great in terms of inspiration and motivation. But I didn't care for the way he would berate people if he didn't like what they were doing; he was really harsh, really caustic. He knew he could get away with absolutely anything and he took advantage of that, and I didn't care for that. I wasn't used to it. There was none of that where I'd come from. I hadn't seen it before, and I haven't seen it since. <laughs> He was very tough and very rude at times, but—especially if you were playing ping pong [with him] and just hanging out with him afterwards (I didn't do enough of that, because my nose-to-the-grindstone thing <laughs>), but if you were willing to hang around afterwards (and we had a ping-pong table and other ways of playing)—he could be very sweet, and charming, and likable. But I knew from people like Dan Kottke that he was not to be trusted. It was always a two-edged sword with him.

**Weber:** Were you ever on his bad side?

**Rose:** Yes. At first it was fine. He was happy to have good documentation, and Chris was smart enough to release the documentation in a preliminary form: for each manager, like the Control Manager, or the Dialog Manager, he would release just that section, so developers could get a head start and there could be some software to ship with the computer.

**Weber:** When you say developers, you mean the programmers within the team, or outside?

**Rose:** The programmers within the team knew how to do it. I'm talking about the outside developers who wanted their applications ready by the time the Mac shipped; they needed the documentation. Everyone internally kind of just talked among themselves, knew how things worked. I suppose they read it too, but the focus was to get it to outside developers.

**Hsu:** Like Microsoft and other third parties?

**Rose:** Yes, third parties.

That was when I first became the subject of Steve's wrath: he wanted the documentation faster than I was able to write it. It wasn't because I was not working 90 hours a week; it was because the software kept changing, and he was unhappy that *Inside Macintosh* wasn't going to be completely final when the Mac shipped. That was impossible, because the software was changing up until the last minute. He was unhappy, and many people in the company were unhappy, that we didn't have sample code. How can you write sample code when the software isn't stable yet? And my team was only so big. I wasn't going to have writers that couldn't write. There were only a few who really could; fortunately, I had some of them on the team. For a while, it was mostly just me. (Joanna and Chris did some user interface guidelines, and there was someone working on hardware documentation.) Then I managed to get some other good writers. But we were totally [busy] just trying to figure out how this all fits together, and checking with the programmers constantly on what they had last changed. There was no way we could write sample code. Tech Support would write sample code, but it would be temporary; that [code] would change too. So that was another complaint. This was when I first heard from Steve. Maybe it was indirectly through Chris, although since Steve didn't pay any attention to the org chart, he must've blasted me [directly] a couple of times, too, about that. But I was very confident; I knew I had to do a good job and that I couldn't do a good job if I was going to rush it. "You get what you get, so hold your horses!"

Steve was also furious that I didn't start writing the documentation *on the Macintosh* sooner. I couldn't believe that! The Mac was barely ready to write anything on, and he wanted me to move it all to the Mac. This is when I had time pressure to finish the documentation. I said, "That is not going to happen." I was using an Apple III, and fortunately they agreed to let me hire someone (who ends up being significant later on): Louella Pizzuti was a crazy young kid out of college, not knowing what she wanted to do, <laughs> and she took on the job of converting what was almost all of Inside Mac by then (because quite a bit of it was written by then), when I had time pressure to finish it up and I was not about to convert it. She did that job while I was finishing up the documentation. It still wasn't ready at ship, but preliminary versions of everything was ready, and the entire thing came out later—the whole 1400 pages.

**Weber:** You had written 1400?

**Rose:** Yes, [we had written] 1400—and I edited all of it, which means I wanted anything anybody else wrote to have the same quality as what I'd written before, and the same basic structure. I got a little pushback on that from the [former] Lisa people, who had their own ways of doing things (especially the really good writers in that group, like Steve Chernicoff). They had different ideas about how to do it, and I'd already written more than half of it. So I said, "No, you can't do that. <laughs> It has to be like this." I wanted the same consistency from chapter to chapter as Steve Jobs wanted from application to application—which makes me laugh now, because one of my problems in learning new apps is there isn't much consistency anymore, <laughter> and I like consistency. So, I had rules, and I loved writing guidelines and style guides; I wrote a document that said, "This is how you write the *Inside Macintosh* documentation, and that's just it."

**Weber:** Where did that come from, though? Were you drawing on your experience at Tymshare, on things done by the Apple II or the Lisa group? Where did you set your initial style guidelines from?

**Rose:** I just always knew how I wanted things done, and I had never been edited; I was always in charge of my own writing, whenever I was the lead writer on something. I guess I also was always a consistency freak in a way. I think that has to do with liking rules, and why I was attracted to math, and what I said before about English: this is the formula, and you get to plug stuff into it. It [the *Inside Macintosh* style guide] wasn't that rigid, but there were certain rules. English has a lot of variations in it in terms of what's correct, and I couldn't stand inconsistencies, <laughs> even in spelling a word differently in one place than another. For some reason—I guess because of that focus I had—I could remember in the whole 1400 pages when something was inconsistent, and I guess not everyone thought that was so important.

**Hsu:** Could you talk about how *Inside Mac* was organized, and how that came about? The process of developing the strategy of that?

**Rose:** That's a good question. I think I attribute this partly to my programming experience and wanting to learn things the way a programmer would: I came at it not knowing anything, and observed the process by which I learned it—what I needed to know about it and how I figured it out. When I [first] joined the Mac group, I would learn about things at a very low level with no context, or very little context; I hardly knew what a control was when I was writing about the Control Manager, for example. But as I became familiar with all the low-level details (because I'm a bottom-up kind of person), suddenly I started getting this picture. Then I would see the structure for how to put these pieces together, and then I would see the big picture, finally: "This is what it's all about. Aha!" All the documentation I'd ever written had been written that way; I would never write the introduction to any book, manual, or whatever I was writing, in any other way, because what do you know until you understand it down low? You can't really say what it's all about. So, I did that, and then I organized it in the *opposite* direction for the developers. They could benefit from my having seen the big picture [and then presenting it] in an intelligent way rather than just "It's about these controls that you—," which was more specific: [I'd start with] "Here's what controls are" or "Here's what dialogs are" in a broad sense. Then the next sections would introduce what was to follow, which was at the very lowest level, so those sections were kind of [a bridge] between the two [levels]. That just

seemed the way to do it to me. I learned it the other [reverse] way, but I knew that wasn't the way they would want to learn it.

So, I organized it that way because I figured it would be the best way for it to work: "Here's what this is about"; "Here's how you're going to fit all these pieces together that I'm going to tell you about"; then all the low-level details; and then a quick reference summary for once they did know it and they had to go back and get a quick reminder.

**Hsu:** Could you talk about, both from your experience learning it but also in terms of how you approach teaching other programmers, how you approached the difference from regular sort of linear types of programming to this event-driven model, which is very different, right? Very hard to wrap your head around when you're used to writing a program straight.

**Rose:** That was the hardest thing about it. Again, it brought to mind when I first had learned MAGNUM and object-oriented programming and that was a whole different paradigm. I'm not sure what I can add to saying how I approached it other than what I just did. It was possibly after I wrote all the individual chapters that I was able to write "Here's what event-based programming is all about," because then I really got it. It all happens backwards for me; that "Horse of a Different Color" section was probably one of the last things I wrote, because then I fully understood how it was different.

Some of the programmers, from what they told me over the years (and they still sometimes write to me <laughs> and tell me), found it was easy to grasp because, I think from the first days at Tymshare, I always would write the way I would speak to someone. Even though it was technical documentation, it wasn't written in a technical way; it was written in simple language. I was just trying to explain it the way I had finally figured it out in the end, and that seemed to do the trick. I always approached it from how I was able to figure it out—but again, usually at the very, very end of my process would I be able to do that. Otherwise, it would be gibberish.

**Weber:** You were playing with the software as you did this, and what was your process for learning about it?

**Rose:** It was mostly *not* playing with it, because I couldn't do any coding. The programmers would give me the low-level details about how the things worked, and they often wouldn't tell me the higher level. Because they were so familiar with it, I guess they didn't even think too much of explaining it; that would be something I would ask. I would get the descriptions of all the routines, and that second level of documentation that I said I would then do would be how it all fit together. The way I learned a lot about it was that I kind of pretended I was programming in it <laughs>. And I would find problems—cases that they hadn't thought of. (I loved when Andy Hertzfeld was interviewed and he said he realized that if he couldn't answer one of my questions, he'd have to go back and change the software and then say, "OK, here.") It was all in my head. I couldn't program it; I didn't have access to that, so I just figured it out. I might've written down a few [routine calls] to see if I understood the order in which they'd be called, but I never got to run any of that myself. It was all hypothetical. But in *my* head "hypothetical" is not at a high

level, it's at a very low level, including cases that no one else has thought of, because that's somehow how my mind works.

**Weber:** When the Lisa group came in (when they ceased to be), can you talk— Is that in the right order chronologically?

**Rose:** A lot of them didn't have programming experience. I can't remember if they moved on or if I wanted them to move on, or both. There are a lot of credits in *Inside Macintosh* but not many that are people from the Lisa group; if it took too much time for me to edit them, then it wasn't working out. I remember the best one was Steve Chernicoff. He was the one from the Lisa group that really worked out and was a great contributor. The other ones were able to help, but it wasn't always a good match. I think by then that whole rivalry thing was over—but maybe it wasn't. I can't recall. It had been so strong; let's just say the taste of it was probably still in their mouths, because they were definitely [treated] second to us in many ways. So when they were offered the opportunity to go into the Mac group, I think it probably still didn't feel very comfortable. I liked them all very much, but I also didn't want a lot of writers, because it would be more for me to have to control. I just wanted some super-productive writers that didn't need a lot of editing.

**Weber:** You had come back to being a Tech Pubs manager, whether you wanted to or not, right?

**Rose:** Not really. I was in charge of *Inside Macintosh* but I wasn't officially a manager. After Steve left, I was told that I was going to work in a Tech Pubs group that was headed by Chris's mother, Sue, at the highest level, and I became an Inside Mac "project supervisor." I oversaw Volume IV, the first volume after the magnum opus of 1400 pages. Again, supervising or managing—managing's even worse, because you have to do reviews of people and all that—took me too far away from the work, and I didn't want to do that. At least when I was in charge of Inside Mac [Volumes I through III] I was writing most of the time, and when I wasn't writing I was overseeing the work of the other writers and didn't have to do any managerial things.

**Weber:** How many other writers helped with Inside Mac?

**Rose:** It was amorphous, because of the Lisa people who came and went. The core group was maybe six: a couple of hardware writers and three or four good software writers. There may be ten listed in *Inside Macintosh*, but toward the end of the list they contributed a lot less. (I think they were all ready to move on anyway, just taking that as an interim job before they would move on.) Still, I wasn't officially a manager. I was kind of a supervisor [for Volumes I through III], but a lead writer and editor is what I call it; officially, that's all I was. It was going to be done my way <laughs>, so in that sense I was managing it, but I wasn't a manager.

When I became the project supervisor and oversaw Volume IV, I lost so many things. One of the things was my connection with the Mac programmers; many of them left when Steve left. I didn't like being in a writing group that wasn't part of a software group. (I think that when you're writing technical

documentation, you should be “embedded” <laughs> in the software group.) It felt like a demotion to me. And so I followed Steve to NeXT. That’s what I wanted to do: to get out of there.

**Hsu:** That was nineteen-eighty-?

**Weber:** Well, in '85 you became supervisor of Mac technical documentation.

**Rose:** Yes, so I left in '86 and became the manager of Publications [at NeXT]. But it was “manager” in name only; there were only 13<sup>3</sup> people in the company at that point. I thought, “Well, it’s just going to be me for a while, and one or two other people; how bad can it get?” I did learn how bad it could get. But yes, I left in '86, and I was there [at NeXT] for five years.

**Weber:** Sandy Miranda came through the Lisa group, right?

**Rose:** She must have. I don’t remember. I didn’t work with her for that long, but I think she might be in the credits of *Inside Mac*<sup>4</sup>. I knew her more just to yak with and be friends with; I don’t remember her contribution so much, or which group she came from.

**Weber:** But you knew her at Tymshare, obviously.

**Rose:** Yes. I met her through Doug’s group. I kind of became close with all those people. In fact, Dirk knew me so well because we shared a darkroom at his house (I’ve always been an avid photographer).

**Weber:** When you were on the peak of the *Inside Macintosh* effort, these six or ten people, were you all physically working together on Apple IIIs? Or how tightly linked were you, day to day?

**Rose:** Tightly, working together in person, on Apple IIIs, with me looking over their shoulders. It was a tight group; it had to be to get it done. There was a lot of pressure.

**Weber:** And physically close to the programmers?

**Rose:** Yes. I was right in the middle of them. That’s how it has to be. You can’t just occasionally walk over. If there’s physical distance, it’s going to discourage you from checking on how something works, and that was more important to me than anything; Chris understood that. I can’t remember so much about the later years, but we must’ve all been physically close to the programmers and working in a tight-knit group. It was the only way we could get it done because, again, the software was changing so much, and it was not a stable product until after the Mac shipped; all the software—every single “manager”—still needed tweaking and work. You had to ask a lot of questions and stay up to date and meet with the programmers a lot. And they were great; they never complained about that. They never thought we were

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<sup>3</sup> There were 15 people in the company at that point.

<sup>4</sup> Sandy Miranda is not one of the ten writers who are listed in the credits of *Inside Mac*.

bothering them, as long as we kept asking good questions and not wasting their time with stupid questions. (They don't like that, of course; I wouldn't.)

**Hsu:** Talk about working at NeXT, and developing the documentation there.

**Weber:** And going there, making the decision, or being recruited, or whatever.

**Rose:** I asked to join his group [NeXT] and went through an interview process. Steve Jobs does this thing (he might've even done it the first time he hired me at Apple): "Are you the best?" That's how he interviews. "Are you the best at what you do?" By then I could confidently say, "Yes, you know that. You've seen *Inside Macintosh*." <laughs> I guess I bowled him over with that attitude; that's what he liked to hear. But I also thought it was true; I thought I was pretty good. One of the reasons he gave me the job so early, when there was nothing to write about for the NeXT computer yet, is that he wanted to hire these two really good programmers who were working on WriteNow For Macintosh.

**Hsu:** It's a good program.

**Rose:** Yes, it was a great program. I loved it. They were writing that as contractors, and they had to finish it up before they could start working on the NeXT software. The idea was that WriteNow would eventually be ported to the NeXT computer, but the Macintosh product had to be finished completely before they could turn their attention to NeXT. So that's the first thing I did there: write a Macintosh document, the WriteNow manual, which I really liked doing.

**Weber:** Did you write it in WriteNow?

**Rose:** I can't remember. I may have, because it was pretty far along.

**Hsu:** But it was written on a Mac?

**Rose:** Yes. By then, for sure. So I probably did use WriteNow. I was crazy about WriteNow, and I was kind of the project manager, because there was no one else [to do that]. You're almost like a project manager if you're doing documentation correctly: you're not only finding problems with the code, but, because of the time pressure, at some point you want to say, "Can we stop now? Do we really have to add all these features?" <laughter> So I felt like I was project-managing it. I wanted it to be done so I could move on to NeXT [work].

I've got to say, honestly, I wasn't that excited about the direction that NeXT was going to take; I was just excited about working in a new company founded by Steve Jobs—and I knew all the best people were going there, and I thought that would be really exciting. But I didn't get his goal all that much; I just had faith that it would be exciting and pay off.

**Hsu:** What was the goal at that point? Because I know it changed.



**Rose:** I may not be aware of the change. I just remember that it was supposed to be for higher education, and it wasn't going to be a very personal computer <laughs> because it was going to be very expensive (I kind of knew that from the beginning), because it was going to be very high-powered, and because it was going to be for the sciences—like a tiny supercomputer. Definitely education-oriented, which isn't something I particularly got, but then, not being a big picture person, I thought, "Maybe I'm just missing that this is going to be the next big thing." <laughs> But I knew it wasn't going to be the next big thing with ordinary people; that was not the target audience. It was educational institutions, is what I remember hearing about it. I don't remember that changing, but maybe it did. I always had my head down at the lower level.

**Weber:** Maybe you weren't thinking about it, but there were other workstations at the time: Sun and Apollo, and [others]. The differentiation was the better graphics, the education—?

**Rose:** I guess. That wasn't clear to me. I mean, that would be what people would mention when I would tell them what NeXT was, during conversations with other people I knew in the industry. They'd say, "How does that compete with—" I never knew those answers. I just trusted that the Marketing department knew, but it was never clear to me. I guess better graphics, and just better because Steve had all this influence: he could get anything he wanted, it seemed, and I thought whatever anybody else was doing, he could do better, through cajoling or whatever. It was more like blind faith in him that I had.

**Hsu:** At what point did object-oriented programming become the main focus for the NeXT platform?

**Rose:** I don't know. I remember that being the way it was; I don't recall it being any different. Maybe by the time I was done with the WriteNow project, there was enough software written that that [object-oriented] is just the way it was. I can't recall when it particularly hit; I just know that's how it was and that's what I had to document and understand. I'd had some experience with that [object-oriented programming] before, so I was ready for it. (But it was a much different [working] environment than all my past ones; it wasn't quite as sweet as working in the Mac group, I must say.)

**Hsu:** So then right after the WriteNow project, you were documenting the AppKit and other sorts of kits in the system?

**Rose:** Yes, and hiring people. That's when I realized, "Oh: management." That was a real burden. I had to hire first just people to write the developer documentation, then the user documentation, and manage them and write their performance reviews and do a whole lot of other stuff besides writing the documentation myself. It was very different. There would be a lot of meetings of the software group—I was in the software group, and that important quality of being embedded with them was there—but I didn't have much of a voice, and it wasn't the same kind of chummy rapport as in the Mac group. I would be sitting in these meetings listening to them talking about how to do things, and mostly just taking it in. I'm not sure what else to say about that. I can say why I left, but we're not there yet, I suppose, if you have more questions <laughs> about what it was like to work at NeXT.

**Hsu:** What was the culture like?

**Rose:** That's what I'm trying to say. Very driven, very hard-working people, brilliant. I personally didn't have the same feeling of camaraderie that I did in the Mac group. I'm not sure why; I don't think it's anything against the people. I mean, they were working hard. But I didn't get the sense that it was quite as playful. And I don't think the enthusiasm for the product was as high. I remember some retreats where even Joanna Hoffman, as I recall, would be questioning what they were doing, whereas with the Mac, it was all just joy and excitement. I didn't feel that in the NeXT group, yet there was still pressure, so there was nothing to balance it—for me, anyway. I think everybody just was working very hard and was very serious, and something about the environment there didn't work for me quite as well from the beginning, and certainly not toward the end.

**Hsu:** How would you compare and contrast the NeXT developer system from the Macintosh?

**Rose:** I had so many traumatic things happen at NeXT, especially toward the end, that I don't remember much about writing that documentation. It's funny, the Macintosh documentation was so much earlier yet I remember so much about it. But I don't recall how writing the NeXT documentation was different from writing the Mac documentation. I just know that the same excitement wasn't there for me; even though it was different in a way, it wasn't as new.

**Hsu:** Who did you work closely with?

**Rose:** The programmers. My manager was the software manager, Bud Tribble, and I didn't work with him at all; he was just my manager. So it was like in the Mac group: deciding what to do—how it should be written—on my own, and trying to get the information from the programmers. They were very cooperative.

**Hsu:** Any particular programmers you remember working with?

**Rose:** All of them. There weren't that many: Leo Horovitz, John Anderson, Bill Tschumy, another one that I can see and can't recall his name.

It was very similar to working in the Mac group; they were happy to answer my questions. But I don't think they needed adult supervision as much as the Mac group did. There used to be this expression about it [the Mac group]: it was like a Boy Scout troop, but without adult supervision. I felt that way sometimes when I was trying to get them to call these routines by the same name that all did the same thing. The [NeXT] programmers seemed more together and organized, doing what they were doing and just passing it on to me. It was a pretty simple documentation process.

**Hsu:** Was it partly because more of the programmers had research backgrounds, or academic backgrounds, or had worked for larger companies before?

**Rose:** They all came from Apple, except for John Anderson and Bill Tschumy, who were the ones who were contractors writing WriteNow For Macintosh when they came—the WriteNow people who then joined the NeXT team. As far as I recall, everyone else came from Apple, from the Mac group.

**Hsu:** Right, initially.

**Rose:** Yes, so they were used to working together, and they all worked very well together as a unit.

**Weber:** Dan'l Lewin, you remember him from then?

**Rose:** Yes. I didn't work with him, because he was in Marketing. But he was always a good friend. We share swimming in common, so we used to talk about swimming a lot <laughter>.

**Weber:** You knew him at Apple as well?

**Rose:** Yes. He's a great guy.

**Hsu:** Was Steve different at NeXT, or was he similar?

**Rose:** I didn't work as closely with him, for some reason. I don't think he was any different. One of the differences at NeXT was that we had a building in Redwood Shores that had [individual] offices, which I was really happy for, but it did create a different feeling. I could write better in an office, but there wasn't that same spirit of us all working together in the same room that we had in the Mac group. Steve himself, I think, never seemed to mature a whole lot in terms of the berating and the ways he would put people down if they didn't do what he wanted to do. But you get used to it after a while, and you kind of expect it. The programmers didn't even seem to mind that much. They just saw that that was Steve doing his thing. He exaggerated, I think, both his negativity and his positivity at times. So, I think he was pretty much the same.

**Weber:** So it didn't change one way or another at NeXT?

**Rose:** Not that I can recall. But then it got worse for me personally, because I got a physical problem after working there very hard for three years. I got a repetitive strain injury, and he wasn't patient with that—as patient as I would've liked him to be. He was for a while, and then he couldn't take it anymore, which is why I ended up leaving. I was kind of like him in some ways: I didn't suffer fools gladly, <laughs> and I also complained when things weren't going right. I would complain to him about needing more help with this problem I was having, and he wanted me to rest and go away and have somebody else take over, I guess, and we clashed a lot. I got to see a side of him I hadn't seen before and having more conversations with him that were very serious, about what to do about this problem. Mind you, he wasn't my manager, but he never paid much attention to hierarchies, so it wouldn't be Bud that I would be talking to about this; it would be Steve.

Repetitive strain injuries were hardly heard of by then. The word "ergonomics" was hardly in anyone's vocabulary. I had been using a computer unergonomically since 1967, writing. By the way, I don't type; I hunt and peck, because when I went to school, if you weren't going to be a secretary you didn't learn how to type. I don't know if that made it worse or better for me but, eventually, using a computer at desk height caught up with me. This is why it's most of what I remember at NeXT (other than hiring a couple of really

good writers). I had a burning sensation in my hands<sup>5</sup> after a while when I was typing, and I probably should've rested it more than I did, but instead I talked Steve into hiring someone to type for me, and that didn't work very well. She ended up not liking doing it. Then we hired someone else to do that; she worked out better, but still it was untenable, and Steve didn't want to deal with it anymore. He hired someone to replace me and asked me to leave.

**Weber:** So, you left on bad terms with him?

**Rose:** Yes. There was no Americans with Disabilities Act then, so he could get rid of me because of my physical problem. He said that wasn't why; he said something about not liking the direction that the documentation was going. But I had just gotten a really good review from Bud about the direction the documentation was going, so I didn't believe that—although the user documentation could have used someone with a less conventional approach to documentation than mine. It ended up being reshaped to be super-chatty, and pretty. I'm a more serious writer for user documentation. So it did take a good direction after I left; I'm not complaining about that so much as the fact that it wasn't all done aboveboard. He didn't say, "We don't want to deal with this problem anymore." He said, "We're not happy with your work," <laughs> and I had never been told that in my life.

Even though there was no Americans with Disabilities Act, I felt that it wasn't right, and I talked to a lawyer about it. He said, "It's probably illegal and you could probably prove it, because you have this review that says you were doing good work, and he was lying." He said, "But he can afford to pay his lawyers way more than you can afford to pay me. So I suggest you go—it's probably a good change—but you have stock that vests in a few months; tell him you want that stock." That was the best \$3000 I ever spent, to that lawyer, because I did say that [to Steve], and he did say OK." He [the lawyer] had said, "He will say OK because he knows that what he's doing is not right." So, I walked away with the NeXT stock that later became Apple stock. It [leaving] was a great move in the end (for reasons I can get into), but at the time I was devastated.

**Weber:** You'd never been told that before.

**Rose:** I was so crushed, being told he wasn't happy with my work, but also: "What am I going to do now? I can't use my hands and I'm a writer." I had started a repetitive strain injury support group, which was so novel that it was actually televised—it was on a local TV station—like, "Whoa, look at this new thing that people have." They also called them cumulative trauma disorders, CTDs, though I think it's more known as RSIs [now]. I gathered a lot of research, and I knew there were things I could do that were more ergonomic, but I thought, mistakenly, that it was too late for me to recover, and that my life was over. I was so depressed.

It was also the first chronic pain I'd ever had in my life. It couldn't be fixed, they told me at Stanford [Hospital], and they connected me up with the pain clinic they have at Stanford. Part of what they do there, which was the most helpful thing for me, is they have you see a psychologist who specializes in

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<sup>5</sup> The burning sensation was actually in the forearms.

people with chronic pain. I remember going in there really depressed, because I was only in my 40s then and I thought this was way too soon to be having chronic pain. He said, “Do you know how many people are walking around with chronic pain—what percentage of people?” It was something like 80%, and I was floored. I said, “Oh; really?” because I had just been kind of a kid <laughs> before that—I felt like I was—with no chronic pains, no real serious health issues.

The other thing he said (and this is where it was good that I had been a statistician) was, “Tell me what you think is the worst-case probability for—” and he went through this whole scenario. He said, “What’s your biggest fear?” and I said, “That I’ll become a bag lady.” He said, “OK; what would it take for you to become a bag lady?” He went through all the steps, and [for each one] he said, “Give me your most pessimistic percentage of probability that this will happen.” Then he multiplied them all together, and it came out to be a very small percentage that I would ever be a bag lady. <laughter> It worked on me! In fact, I’d walked in there saying, “I don’t want any touchy-feely stuff. I don’t want ‘Hug this pillow.’ This is the end of my life and I know it is.” <laughs> Again, that’s something Steve and I had in common—I do exaggerate in a positive or negative direction—and I was emphasizing the negative then. But I walked out thinking, “Oh, probably I’m not going to be a bag lady.”

And then a miracle happened: word got out that I was looking for work, and I got a call from Apple—the second time <laughs> I got asked to be interviewed at Apple—from the woman, Louella Pizzuti, whom I had hired to convert *Inside Macintosh* from the Apple III to the Mac. She had become the manager of Tech Support and had started a technical journal called *develop*. She had done a few issues, and she said, “I hear you’re available, and I think you’d be perfect for this job.” So it wasn’t the end of my life, and I got through it all. But that’s why it’s like a cloud over my whole career: I can tell you details about pretty much everything else, but what I remember at NeXT is never feeling totally comfortable, or that I fit, or that it was the same wonderful experience that working in the Mac group was—and the departure was hell.

**Weber:** How did you write after that? How could you write?

**Rose:** Before we get to that, let me mention one more thing I just remembered that I didn’t say. Steve at the end—three times, because I remember thinking of the cock crowing three times—said, because of my long history with him, “You were there for us when we needed you. We’ll be there for you now that you need us.” And that’s what hurt even more. I shouldn’t have been surprised, because I knew about his history with Daniel Kottke and other people that he’d kind of screwed over. He didn’t really mean that, and that [betrayal] hurt.

How I wrote after that was that, through this repetitive strain injury group that I started and through talking with Louella about what the job would entail, I realized it could be done. The first thing that would have to be done would be that I’d have to have an ergonomic workstation, so I got a platform that would be putting my hands at the right height. Also, since I was the editor-in-chief, I was not writing articles; I was getting programmers to write articles and I was editing, which is much less typing. And I was not a manager. When I was a manager at NeXT, I was floored by the amount of time it took just to manage, to write performance reviews (that was a lot of typing), but I didn’t have to do any of that [for *develop*]. It

wasn't a management job, but I was in charge: perfect for Caroline! <laughs> So, I had three people who worked with me but not *for* me: one was responsible for the production; one was the Technical Buckstopper; and the other one was kind of an administrative assistant to me, a big help.

Louella was a lovely person, but not super-organized; she said she would actually sleep in the office when it was time for this quarterly magazine to come out. The first thing I did, to make sure that everything would be organized and that there wouldn't be too much pressure on me—because pressure doesn't help when you already have something that's caused by your body being really tense here <indicates her forearms>—was that I created a <laughs> spreadsheet, with the goal date, and everything had to be done before that. Everybody would tease me about it. It was six or eight pages taped together. It would be on my wall, and it had deadlines for every single step, and she [the assistant] would ensure that all those deadlines were met. I couldn't have done it without her. All I had to do was create the spreadsheet, and then I just made sure to do what an editor-in-chief is supposed to do; that was the job. I loved it because I also have a sense of how I want things to look—the color and graphics, and the cover, and all that. It couldn't have been a better job for me. It was a fantastic fit. It was, except for working on *Inside Macintosh*, the best job I'd ever had; I loved it, and I loved working with these people.

One of the reasons I hesitated to take the job, at first, was that I knew it wasn't critical to the company, the way everything I'd ever done before was, where you have to have the documentation. It was a gorgeous piece of work. We hired an artist to do the cover. It was top-notch; I think it won some awards<sup>6</sup>. It was highly regarded—but totally unnecessary. <laughs> That's why I did it for five<sup>7</sup> years, and only five years, because that was when Steve came back to Apple. There was a rumor that he would get rid of all unnecessary projects and everyone who worked on them. That was on everyone's lips before it happened. It was said more than once, and I said, "OK, well, *develop*, the technical journal, is clearly an unnecessary project." But even though he had, in my mind, betrayed me before, I thought, "Come on. I wrote *Inside Macintosh* for him, I was the manager of documentation at NeXT, and he was happy with what I did. We have a history; he's not going to get rid of me." But he did—the whole team. I didn't take it personally. There were many, many layoffs when he came back. As you may know, Apple wasn't doing well, which was, I guess, why he got called back in.

So, I did it [the *develop* job] for about five glorious years and knew it would die [if things got tight at Apple], and when it did I was not as freaked out as I was the first time I'd lost a job, because I'd always thought about being self-employed, and that was my next step.

**Hsu:** Before we get to that, could you contrast what Apple was like, and what it was like to work there, in the '90s versus the '80s?

**Rose:** I was really lucky, I think, where I was working [on *develop*]. It was in the Tech Support group, and they were a great bunch of people, not as stressed out as the programmers.

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<sup>6</sup> *develop* won eight awards from the Society for Technical Communication.

<sup>7</sup> It was actually six years.

**Hsu:** That was Developer Tech Support?

**Rose:** Yes, that's where Louella had started it. She was, I think, managing the group at the time. Or she had been, at least, and maybe she was going to stop then; I can't recall. And they were great, because it [tech support] is not as stressful as having to write the code, and they were all wonderful people. It was a much different environment, but it was no less satisfying and fun, than being in the Mac group. In fact, it was a little more fun, because it was less stressful. With my huge spreadsheet, I made sure that I wasn't going to have to sleep in the office. In fact, I insisted on taking a week's vacation after every issue shipped. (I'd asked Louella ahead of time if I could get four weeks' vacation as part of the condition for the job, and take a week off after finishing each issue, and she said "Sure.")

So, it was easier, and fun, and I think it's because I was in the Tech Support group. I don't know what it would've been like to work in the programming group at the time.

**Weber:** When you say "knew" that it might not be forever: people didn't see it [Apple] as going down until the midnight—

**Rose:** No, but I thought it was a wonder that *develop* existed at all.

**Weber:** So it's not about the company as a whole—

**Rose:** No.

**Weber:** —just that it was an expensive luxury?

**Rose:** I recognized it as, "Gee, they have a technical journal where anybody can write articles, and they can be about any old thing?" And it had humor; it was fun! I thought, "This seems like an odd thing to even exist." I felt that way from the beginning. And Louella was fun. My title [formerly her title] was Editor-in-Cheek, for example. And Dave Johnson, who was responsible for the technical accuracy of everything, came up with his title, Technical Buckstopper. We had humor throughout, and the developers loved it— but they didn't really have to have it.

**Weber:** It was distributed to all the third-party developers?

**Rose:** Yes, probably all the developers.

**Weber:** I remember those Developer CDs that came out.

**Rose:** It came with a CD with the code that they [the articles] were describing on it.

**Hsu:** So you had to be a member of the Apple Developer program to receive it?

**Rose:** Yes, probably. I wasn't responsible for that end of it.

**Weber:** But it was part of that package of Developer Relations?

**Rose:** I think so. So you probably had to be a registered developer. It was significant, for when I became self-employed, that some [articles] were written internally, but many, if not most, were from developers outside the company. That gave me a lot of contacts for the future. I didn't think of it that way at the time; I just thought, "Wow, this is such a cool job."

I'd had a long career, up until then, only doing necessary things, so it hit me about it right away that "This could be something that someday they'll think they don't need anymore." In fact, I argued for having it become online only before we got killed. Especially when I found out it was going to get killed, I said, "Why don't you make it online only instead?" But they were desperate; they had to get rid of anything they could. Actually, it went over to *MacTech* magazine, and they put it online. I don't even know if they did future versions<sup>8</sup>; they might have, but it wouldn't have the same quality, for sure.

**Weber:** You were taking a lot of those articles by developers, but you would select, obviously, right? I mean, I presume some of them were just trying to give you their press releases.

**Rose:** We wouldn't let that happen. It had to be seriously technical. That's where Dave stepped in. He made sure that it was something worth publishing. I would solicit them, and Dave would check them out, and if they passed, it was a go.

**Hsu:** Do you remember what technologies were written about in the magazine?

**Rose:** I have all the issues at home, and I could tell you, but <laughter> no. There was a lot of graphics stuff—<laughs> I remember that—but it was all over the map. And there was no sense of having a particular theme; it was just whatever happened to come in, which is partly why I can't recall. It was everything and anything; as long as it was valid and something that possibly other programmers could learn from, then it was a go. But I can't say much more about what the topics were, offhand.

**Hsu:** So most of the articles were written by third-party developers, not internal Apple developers?

**Rose:** It was some of both. Maybe it was even half and half. And there were regular columns—and Q&As (we'd answer questions from developers), which there had to be, because it had to always work out to be the same number of pages, and that was the filler that we could make shorter or longer as needed. We had that all figured out. What a great experience, putting together a magazine; I loved it. In fact, when I was a kid, very young, I had put together—in Queens Village, on 218th Street, which is where I lived—a little one-page newspaper, <laughs> and here I was doing it for 120 pages, I think it was<sup>9</sup>, for the Macintosh developers. It was very exciting having all that control and being able to work on the layout, and so on.

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<sup>8</sup> *MacTech* did not create issues of *develop* beyond the last one created at Apple.

<sup>9</sup> It was 128 pages.



**Hsu:** All right, so we were talking about *develop* magazine, and the various technologies that were featured in it. So you don't remember exactly which ones?

**Weber:** The early part of that is sort of the pen era with Newton, and a lot of that stuff.

**Rose:** There wasn't any of that [in *develop*]<sup>10</sup>.

**Hsu:** Was it all Mac-focused?

**Rose:** It was technically "The *Apple* Technical Journal," but I don't remember anything other than Mac focus.

**Weber:** Got it.

**Hsu:** You mentioned graphics, so QuickDraw-type stuff?

**Rose:** Oh, yes.

**Hsu:** OpenDoc, was that covered?

**Rose:** I don't remember. But I do know it was always very esoteric. The programmers didn't want to write about anything other than some serious problem they had discovered that they knew the answer to. That was kind of the bent of it: "If you're having this same problem, you'll be happy to see this answer here." Some were, some weren't, but they all seemed to like the magazine well enough.

**Hsu:** So after that you worked on *MacTech* magazine?

**Rose:** No. After I left, *develop* no longer existed [at Apple]; *MacTech* had it online on their website instead. I went on to become self-employed and I stopped looking back at that, but they may have even added to it a bit<sup>11</sup>.

**Hsu:** *MacTech* was a third-party magazine, though, right? It was not Apple.

**Rose:** Right, but the *MacTech* site has, or had<sup>12</sup>, all the *develops* online.

**Hsu:** Apple just let them put them online?

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<sup>10</sup> Issue 17 of *develop* (March 1994) contained an article about Newton.

<sup>11</sup> *MacTech* did not add issues of *develop* beyond those that had been created at Apple.

<sup>12</sup> The *MacTech* site still has all the *develop* issues on it.

**Rose:** Yes; they must've made some kind of deal. No sense in killing it all. Again, that's what I had wanted to do, to have it just be an online journal, so I could keep my job. But it's better that it worked out the way it did, in retrospect.

**Weber:** Before we move to your freelance career, a couple of things. QA, was that tied at all to the documentation, either at Apple or NeXT?

**Rose:** No, not that I can recall.

**Weber:** And I don't think this necessarily concerned you, but: Tymshare was all about connection and networking (Engelbart's group, obviously); at Apple, Raskin had had a connected vision (that got changed to a much more standalone "Everything you need is in the box"); and NeXT went back to a connected vision. You went through a number of big paradigm shifts. Did you have any particular opinion on any of this, or did you think about it?

**Rose:** I never did. I just followed it, learned it, and documented it—again, because of not looking at the big picture. I was excited about the idea of the Macintosh being, as Steve used to say, like an appliance, like a toaster—I thought that was a good idea—but usually I just thought whatever I was working on was the coolest thing. Except that when it came to NeXT, I had a few doubts; because of the education bent there, I wasn't so sure. I wasn't as excited about that. But I went with the flow; whatever they were doing, I was happy with. I didn't really have an opinion about it. <laughs> I suppose I should have.

**Weber:** Why? And then, let's see, I was involved as jobs coordinator for the Society for Technical Communication, late '80s and the early '90s. Apple, I don't think, was involved in any professional organization?

**Rose:** No. Some of us, including myself, were members [of the STC], and they did give some nice awards to *Inside Macintosh* and I think maybe even *develop*<sup>13</sup>. But I didn't have time to be involved with the group. I was too busy with work and trying to have a life outside of work. So I didn't participate much, but I was a member. Apple didn't pay any attention to it. They didn't encourage us to join it.

**Weber:** It's a period when the field professionalized from nobody having a certificate; by the early '90s, they were starting to have certificate programs, and it became really a field.

**Rose:** I don't know what your opinion was of the certificate program, but I hired a bunch of writers, and I never found the ones who had *learned* how to do technical writing to be the best writers. I don't want to put down the program, because I'm sure there were some really good ones out there—people who did learn from it—but the people that I observed and hired who were the best writers did not study technical writing or get any certificate. I don't even know if any of them [with certificates] ever worked for me; they [the ones hired] were usually just smart people with college degrees in other fields, like philosophy or something, and they could write, and they could think well. The most important thing always for me was

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<sup>13</sup> The STC gave one award to *Inside Macintosh* and eight to *develop*.

that they would respond well to what some would call criticism but what I would call feedback. I hired a woman at NeXT, who I think is [now] one of the best writers in the Valley, based on her interview of a musician we were both fond of—no technical writing experience at all. My test that I would give prospective writers was to critique something they'd written. I didn't care what the field was, so I critiqued her interview, and she was so responsive, never once defensive. That was the most important thing to me. She would say, "Ah, I see what you're saying; that could be done better." As I said, I think she's one of the best now, and those skills aren't things I think you can particularly learn by getting some kind of certificate. I guess you're saying that was what the STC was about a lot?

**Weber:** No. (By the way, I did it: I got into it the field] because you didn't need a degree; you could do it based on interest and ability.) I'm saying that's the period when it really professionalized, for better or worse. I would probably say for worse, for a lot of it. But maybe there's other instances. I'm saying that when you started, it was barely even a thing, and by the time you started your own business in it, it was already established. Any thoughts on that evolution? Or maybe you've just given them?

**Rose:** You're asking a big-picture question. <laughter> Well, I think it's finally well understood that you need to have people who can program to write developer documentation. I think Apple came to that realization. From what I understand, they have had—maybe even still have—people of that nature doing the technical documentation. I think that was part of the evolution that was really important.

What else about the evolution of it? I don't know what to say other than I think it's no longer considered a glorified secretarial role. I think we actually have the respect we deserve now, and I think it comes from having, over the years, developers especially (not users so much) realize how important it is to have really good documentation. Users don't feel they need documentation at all anymore, so that's kind of a dying art, sad to say.

**Weber:** For tools, what did you actually use at Apple the first time for documentation? I mean, this is before the LaserWriter. Were you doing color separations directly, or were you sending that all out? How were you creating *Inside Macintosh*?

**Rose:** I was using an Apple III, and there was a Production group that took it from there. There was no color separation. They printed it out in black and white and handed it out [in preliminary form], and eventually Addison-Wesley published it. So the production was pretty simple. It was mostly just somehow printing it out; I'm not sure how, but I didn't worry about that. I just used the Apple III, and then I switched to the Mac.

**Hsu:** What software did you use for *develop*?

**Rose:** That's a good question. I can't remember, but I know I did a lot of layout in it. I tweaked every single page.

**Hsu:** So you were using a page layout application?

**Rose:** Yes. I know there was a while there where I used FrameMaker.

**Weber:** Frame was big for a while. You could actually do camera-ready stuff on it.

**Rose:** I think that might be what we used. I don't recall.

**Hsu:** One question about NeXT: was there any connection between your group writing documentation and the developer training group, like their teaching classes in how to write NeXT software?

**Rose:** There never was, not even at Apple, much connection between those two groups, though I think that would've been a good thing. We could've worked closely together and maybe benefited from that. Again, there was always a lot of time pressure, and we didn't have that luxury. It would've been a good idea, but it didn't happen that way.

**Weber:** So then you started your own consultancy, and you still do that now?

**Rose:** Yes, and I have the best boss ever, <laughter> I like to say. I was actually at first unsure whether I could do it. I had always thought of it hypothetically, but I was unsure, so I spoke to some people who used to work at Apple and had become self-employed, and to other friends—Andy Hertzfeld, specifically, was very helpful—and to a person they said, “If anyone can do it, you can.” I was worried about all I would have to be responsible for, but one of the reasons Louella had hired me to work on *develop*, she said, was, “It involves making hundreds of decisions for every issue, and I know you can do that. You're very good at making decisions.” And that's also what being self-employed is all about. There's so much you have to take care of, and you can't dilly-dally over it. You just have to decide to do your accounting [for example], and get it done, and be on top of it, and be on schedule. That's what I was known for, but I had to have other people tell me, “You'll stay on top of it, you'll be able to do it. You can do it all. Go for it.” Andy was especially supportive; that's why I'm `crose@differnet.com`, which I always have to spell out for everybody and say, “It's not 'different.' It's different <laughs> from 'different.’” He hosted me and said he was sure I could do it.

I was fortunate enough to work with Steve Chernicoff, a fabulous writer, on my first two [freelance] jobs, which were very big. They were for Adobe, and they were upgrading the *PostScript Reference Manual* and the *PDF Reference Manual*, working side by side with the brilliant, fantastic writer and brilliant programmer Ed Taft of Adobe. I thought “Wow!” I was making about what I had been making at Apple, and it was fabulous. And it stayed that way, largely because of all the contacts I had made at Apple when I was the editor of *develop*: when they needed a writer, they thought of me. Maybe I solicited work, but I don't recall that ever happening. I recall that somehow word would get out and I'd be called. So I was always fully employed until I didn't want to be anymore—but I'm still working a little bit.

**Weber:** The list on your LinkedIn, I think, was Adobe, Apple—and Genentech, which is pretty different.

**Rose:** Yes, that was fun. I always like learning new things, and that was completely new. Some of it I couldn't understand, but when you're a technical writer and you're writing about heavily technical things,

you develop a skill for understanding stuff just as much as you have to in order to write about it, but no more deeply. That's what I was doing at Genentech. They had these long, long names of drugs; it wasn't 1400 pages, but still, I would pride myself on being able to tell when they had misspelled a drug name from one page to the next, and they would always say "Wow!" I guess I made other good improvements, because the people there, who were doctors and I don't know what—they were in a whole different field—were very happy with my work.

What I learned about being a contractor—mainly at Genentech I learned this—was that they don't want you to be better than the people they have on staff; at least, the people on staff don't want you to be better than them. It causes conflict. More than once, I was dropped as a contractor for that reason. Which reminds me of my first job at 16, when I worked for my aunt who ran a dressmaking business, and I would be belting and snipping and tagging, and I was told by people who worked there full-time (I was only working there in the summer) to slow down. That's what they wanted me to do at Genentech and other places, because I was making them look bad. So they'd get rid of me. But that was OK; I would just go on to another job.

That's what I loved about being self-employed, and still love: all the new things you learn. Genentech was very exciting for that reason. Also, I love the fact that quite a few companies by then (this is part of the evolution, now that I think of it) wanted me to write style guides for them. Anything I edit, I insist on—for my own purposes, if not for them—writing at least a style *sheet*. "This is how we're going to spell this word." If nothing else, you have to have a list [of style conventions], so I would make it into a style sheet, and then they'd say, "We'd like a style *guide*." I wrote quite a few style guides, and that would never have happened in the past, because it wasn't considered enough of a science, or an art, or— I'm not sure what to call it, but that wasn't considered a thing, and then suddenly it was, and I was asked to write a few. I love doing that, because of my decision-making bent <laughs>: "This is how it's going to be." That's my favorite thing to do, really.

**Weber:** But is it fair to say Apple documentation was sort of the gold standard in the field? I mean, some of that is because of what Apple did, that established a distinct style that requires a guide.

**Rose:** Yes, and they have a really good style guide, and I would get some of my ideas [from it]; if I didn't know "Should I go this way or that way?" I'd go to their style guide. And they make it easily available. That was a good thing that they did, to formalize it; they knew the need was there, and that's the best style guide I've ever seen.

**Weber:** Any particular comment on Netscape, Nokia, Rational Software, Sony Computer? Netscape must've been of the period; what did you do there?

**Rose:** I worked for Netscape because someone that I worked with when I was in Tech Support doing *develop* went to Netscape; he was in Marketing, and he had me write some marketing material for them. As I said, all my connections came from people I already knew from Apple, or from when I was working on *develop*. I did really like that Marimba wanted a style guide.

**Weber:** Kim Polese?

**Rose:** I don't know that name. I worked for Craig [Sherod] there. But I don't have anecdotes about any of those companies. I worked a long time for Sony Computer Entertainment America, SCEA; they were great.

**Hsu:** Is that the PlayStation group?

**Rose:** Yes. But there's no fun story other than at Genentech getting the long names correct from one page to the next—unpronounceable words. Everything else is pretty much just what I do. Again, I enjoyed it because I would learn something new and get to meet new people. And by then I wasn't quite so introverted anymore <laughs>; I was able to meet people face-to-face and live through it <laughs>.

**Hsu:** So for the PlayStation, was that also developer documentation for game developers?

**Rose:** Yes, and it was tricky, because they're based in Japan, and there were a lot of rules you had to follow because of the Japanese influence and how they wanted things done.

**Weber:** Very precise?

**Rose:** In certain ways. But it was OK, and I made a really good friend there, too—another very persnickety editor. The more persnickety they were, the better we got along <laughs>.

**Weber:** I believe you met Adam Engst and TidBITS?

**Rose:** Oh, yes; that's still going on, in a way. Adam and Tonya turned over [to someone else] their Take Control manuals, which I did a lot of editing on. Do you know about that? They started a book thing on the side from TidBITS; it was connected to it, but it was a separate thing called Take Control. It'd be *Take Control of* whatever it was they were writing about.

**Hsu:** These are print books?

**Rose:** Yes.

**Hsu:** TidBITS is an online magazine.

**Rose:** Right; [I meant to say] no. The Take Control books were online. I don't think they were ever printed. They [Adam and Tonya] knew some really good writers; these [books] were at the user level and extraordinarily well written—and very much the way I like to see technical writing, which is colloquial. It's very approachable, very easy, enjoyable to read, and yet you learn a lot from it. I worked with them for many years as a contract editor. (As I got more and more into my profession, I preferred editing to writing, because you could move more quickly from one thing to the next; I never wanted to be stuck too much on

one project.) Their best writer, in my opinion, Joe Kissell, ended up taking over the Take Control end of things.

**Weber:** He took control of Take Control?

**Rose:** <laughs> Yes, he took control of Take Control. *Take Control of Take Control*, exactly. Very good!

**Weber:** *Steal This Book*.

**Rose:** <laughs> I like that; he should've written a book about it. Actually, one of the books he wrote was *Take Control of Your Thanksgiving Dinner*. <laughter> I love Joe, and he is such a good writer— incredible. I love editing him, because he's so good. Yet he still needs editing. So, I'm still working for him. He's one of my three remaining clients. Saying I "love" him— I say that about my last three remaining clients; in other words, it's a joy to work with them.

**Weber:** That's why they're your remaining <laughs> clients.

**Rose:** That's right. I didn't have to work anymore, but I thought, "As long as it's not taking too much time away from the rest of my life, and I enjoy working with them, and they're lovely people to work with, then I will." Joe is one of them. So, I still have a TidBITS connection. For many, many years, I worked for them, and for a while—this was the only time this ever happened in my tech writing career—they were doing the extraordinary thing of giving you royalties on the books. You didn't get much from royalties, but it motivated you to do a good job. I never needed that kind of motivation, but I thought it was exciting. There's quite a few Take Control books now, thanks to Joe. He writes them, or he gets other people to write them. I think it's a thriving business, and I have my hand in it still.

**Hsu:** You had met Adam Engst through *develop* as well?

**Rose:** Yes, right around that time, Adam and Tonya. I thought they were really, really good writers. <laughs> That's what got my attention, and then somehow, when I became self-employed, we established that professional relationship.

**Weber:** I found you were interviewed 12 years ago or something, and you were also working on an iPhone app at the time, or documenting it or something?

**Rose:** Yes, I threw that in. Somebody wrote an autoharp app. A developer I knew from Apple wrote an iPhone app and had me write the user documentation for it, which, <laughs> of course, wasn't very much. I put that into my resume to show that I could do anything you want <laughs>.

**Hsu:** What did the app do?

**Rose:** It was an autoharp.

**Weber:** To play?

**Rose:** Yes, it was a musical thing. I don't remember the details of it, but it did require a little bit of documentation.

**Hsu:** So it was like you blow into the microphone and it plays the harp?

**Rose:** Oh, no, no, no.

**Hsu:** Oh, you plucked strings on the screen?

**Rose:** I don't remember. It was the beginning of the iPhone days, so it was a long time ago, and I only spent a week on it. But there was no blowing, <laughter> and I don't think it was even as sophisticated as plucking strings. I don't recall. I'm not even sure why it needed documentation, but it did. So, that was fun. I put it down [in my résumé] as it was the only thing of that type that I did, and I wanted to make sure people knew that I could still write user doc and it could be on up-to-date things like the iPhone, <laughter> in case they didn't know that. I mean, I think a good technical writer can write about anything.

**Weber:** Now you need to put in something for AI.

I think I asked already about technical communication evolving. The continuous software development really changed the process, where you don't have big releases quite the same way in a lot of products. It used to be driven by the first release and beta—1.1, 1.2, or whatever.

**Rose:** It was [that way] for most of my career, though, because it was that way at NeXT, and then after that I didn't work for anyone [who was] doing software development anymore<sup>14</sup>. So, it was always that way for me. There was always a lot of pressure, and almost always deadlines slipping, which was hard to cope with, because we'd have so much pressure from Steve Jobs to get something done by a certain date that wasn't a real date. But it made everybody work really hard, and that was good, I suppose.

**Weber:** What suggestions can you offer to young people, particularly, maybe going into a related field, or young women?

**Rose:** Certainly if they're going to go into writing technical documentation, developer documentation, they need to learn how to program—not necessarily the most complicated imaginable stuff, but just get a feeling for what programming is like, and show that you can learn it. I think a lot of it, too, is psychological. Even I, <laughs> no matter how late in my career it was, would be intimidated by a new project, because the software does change so much, and I think there's a psychological aspect to it, that you can't become complacent. You have to be very confident in your ability to learn new things. That's one thing I would say to them.

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<sup>14</sup> When Rose worked on *develop* in Apple Tech Support, and then for herself as a contractor for some companies that were doing software development, her work was not tightly bound to software releases.



I would also emphasize how important it is, no matter how good you think you are at it, to accept all feedback with open arms and try to learn from it. I think that's extraordinarily important. It would bother me that we would send out review copies sometimes to our prospective audience and they would come back with feedback and writers would think it wasn't significant that only one reviewer had made a comment about something not being really clear. I would say, "That's one out of ten; that's 10%. This is eventually going to go out to so many more people, and you don't want all those people to be confused. So you need to redo it."

I don't know how they can know whether they have this or not, but the most important thing, other than some technical knowledge and confidence, is an understanding of going from step A, to step B, to step C, to step D, and not skipping any in between. It's like logic. It's like proving a theorem in geometry. <laughs> You can't skip anything, and you have to have that ability to sense when you know it but you didn't write it down. It has to all hang together from beginning to end, and the way you find out whether it does or not is you have someone who does have that skill tell you, and you really pay attention to that; that's where you're going to get your education and become a good technical writer.

That doesn't help them get their foot in the door, which I was once asked when I gave a talk at a school—I think it was aspiring technical writers. They really wanted to know that. I think I said a lot of what I just said about how to be a good technical writer, but not how to get a job as a technical writer; that's another story, and I have no idea, of course, about that. But I would love to mentor technical writers. I've often thought it would be a great thing to do. I wrote some tests at NeXT that I would give people that I might hire, because I was so frustrated that you can't tell from an interview how well they're going to work out, and you can't really tell from one writing sample. You have to see if they have that skill that I just mentioned. I would get so many bad drafts, for example, from developers who weren't writers but who were writing for *develop*, and I would save the original; this is how I created this test—from one of the originals where I thought, "Even someone who doesn't know this material inside and out could see that this isn't hanging together." So I had a before and an after, and I would test them on it. I think somehow those skills need to be picked up, and a mentor would probably be the best way to do it—not necessarily a course, but someone closely watching what you're doing and advising you; that's how to become better at it. How to get the jobs, though, I can't say. <laughs> That would be hard.

**Weber:** If you could only give one word of advice to a young person, what would it be? What one word of advice would you give to a young person entering tech?

**Rose:** Only one? You got me there. I don't know if one's enough. I don't know what it'd be. This is an ugly word: "mentorship"? That's not a good one, but I think that's the most important thing. "Confidence"? <laughs> I can't give one word, but: "Have no fear." <laughs>

**Hsu:** "Fearlessness."

**Rose:** And yet: "Don't expect it to be too easy." That's more than one word, sorry. I would have had to have been asked that ahead of time and give it some thought. <laughs>

**Weber:** This works best. That's pretty good, "fearlessness." What did you say? "Confidence."

**Rose:** Yes. Some people got into technical writing—and I know this for a fact—because they thought it would be an easy way to make money, and I would say, "Don't think of it as easy; you'll do a bad job—and hopefully then you wouldn't have the job anymore." I say "hopefully" because some managers don't even recognize when they're not getting good work out of their writers. It's a problem with managing: you're too far away from it.

END OF THE INTERVIEW