

GENIUS WITHOUT GENIUS:

The Autobiography of John Franklin

Vol. 3 (cont): Working at Hewlett-Packard — HP Labs

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Programs for Making Integrated Circuits

The Deer Creek Rd. Plant

I transferred to HP Labs in the late 70s, when I was approaching my mid-forties. Here as elsewhere in the company, we worked in individual cubicles designed and manufactured, I think, by the Herman Miller Co.¹ They measured roughly ten feet on a side, the walls about five feet high and covered with a rough, beige material. You were always supplied with a sticky-back name tag, which you put on the metal frame at the top of the cubicle on the outside, so that people could find you.

When it became clear that I was going to fail to live up to expectations in the Labs, I tried to mollify the contempt of my co-workers by pinning New Yorker cartoons on the outside of my cubicle. Over the years, I accumulated a thick manilla folder of these, and would sometimes recycle them, especially after moving to a new location.

Inside each cubicle was a desk, with phone and computer terminal. Sometimes there was an additional work table. In any case, there were always two chairs, one for you, and one for “visitors”. Over the desk might be a bookshelf, with another standing on the floor.

Kevin R —

My immediate boss was Kevin R —, a tall, handsome, amiable guy, who must be given credit for his patience once he realized the misfit he had in his employ. The Lab where I worked was called “DTL” (“Design Technology Lab”) and was located in a building on Deer Creek Road, in the rolling hills halfway between the main offices at 1501 Page Mill Road and Rte. 280. The Lab’s project was to develop software to aid in the design and testing of integrated circuits.

The group under R — was assigned the task of designing software that would take a logic circuit schematic as input, and figure out the best placement of the various logic gates on a silicon chip so as to minimize the size of the chip while maximizing the speed at which the chip carried out its logical function. This was called the “placement and routing problem”. It was made difficult by the fact that not only the logic gates had to be positioned, but also the wires connecting their inputs and outputs. These wires could not, for example, cross each other, since that would have resulted in an unwanted connection between the wires.

The programming language that had been selected to work on this problem was IBM’s APL (“A Programming Language”), which had been designed by Ken Iverson, and which was essentially a language for performing matrix calculations. Since a chip can be regarded as a kind of matrix, with the logic elements as the elements of the matrix, APL had been chosen as an ideal language to begin trying out algorithms (programs). But I detested the language from the moment I was introduced to it, because it seemed the direct opposite of LISP². If LISP was the ultimate in a structured language, the structure being the simplest possible, namely, that of a binary tree — everything (except for numbers) had two parts, and each of these parts had two parts, and each of those had two, and so forth — APL was the ultimate in a structure-less language. To me it was the equivalent of having to communicate in Egyptian hieroglyphics. The entire language had been designed to be, above all, concise, and indeed you could define rather elaborate matrix functions with only a few symbols. But once you had done so, unless you were extremely proficient with the language, it was a major effort for another programmer to figure out how even a short, half-page program worked, and the same applied to you, the original programmer, if you came

1. “The Herman Miller Co. is credited with inventing the business cubicle system in the early 1960s.” — J.S.

2. The acronym is derived from “LISt Processing”.

back to the program after being away from it for a few days. I seem to recall that there wasn't even a provision for comments in the original language.

R — was extremely proficient in APL, and when he saw me struggling, he would sit down, and with a few keystrokes, come up with the short, incomprehensible program that would accomplish the job. He said at one point that he had only a doctor of engineering degree from MIT — not a PhD. The degree was essentially a PhD without research. And although I admired, and was deeply envious, of his easy competence at programming in APL, I also came to the conclusion, over the years I worked for him, that he was not an original thinker.

He put up with me, never losing his temper, always giving me far better performance reviews than I deserved. After listening to me complain about the absence of structure in APL, he revealed that an Algol-like¹ structuring facility had been added to the language, and using this, I was able to make a little progress.

Each year, there was a national Design Technology Conference in some major city, where engineers and PhDs from throughout the country would meet for a week or so to hear papers and discuss progress. One of these was held in Las Vegas, and as a member of the Lab, I was expected to go. We stayed in Caesar's Palace. From the very start, I hated the town and everything in it, including the Conference. I remember arguing half-heartedly to one or two members of the Lab, including R — , that the Conference could almost as well be held by phone (I don't recall if we had email then): every participant would receive a list of all participants, with phone numbers, and type of project the participant was working on. Then each participant could simply call those with whom he wanted to exchange papers or discuss work in progress — much cheaper and more efficient than getting into a plane and traveling to another state and staying in an expensive hotel. But no one agreed with me.

After the Vegas Conference, I told R — that that would be my last Conference, and that if it meant I would receive no more raises, well, then so be it.

Suppes's Course in Automata Theory

I was determined to learn as much as I could about computer theory, and so when I heard that Patrick Suppes, who had invented a shape-recognition program called the Perceptron, was teaching a course on automata theory at Stanford, I wrote to ask him if I could sit in without credit, provided I didn't hand in any homework or take any exams. Either he said yes, or he never replied to my letter, I don't remember, but in any case I began sitting in on the class. As it turned out, Suppes did very little teaching, since he was usually away working on one of his consulting jobs (one of them was with United Airlines in Texas, I believe). Once in a while, he would fly in, ask the long-suffering teaching assistant where he (Suppes) had left off last time, and resume the rambling account of machine theory that was officially called a "lecture". I remember being surprised one time, given his obvious complete grasp of his subject area, when, as he was discussing non-computable functions, that is, functions that could not be computed by any computer (not because we are not smart enough to write the programs, but because such programs simply do not exist), he stumbled during the process of naming the three classic problems² of antiquity that went unsolved until the 19th century, and had to turn to his teaching assistant and ask what one or two of them was.³

1. The acronym is derived from "ALGO^rithmic Language".

2. Squaring the circle, doubling the cube, and trisecting the angle (using straightedge and compass only)

He was a confident, good-looking man, and he wore sharp clothes. But all the real work was done by the teaching assistant, who in the class sections each week explained difficult concepts, answered questions, collected homework, always with a firm grasp of the subject, and always with good sense of humor. Early on in the course, while walking with him prior to or after class, I asked some of the questions that had been bothering me. Several times I mentioned *Gödel's* incompleteness theorems, and the TA looked at me somewhat perplexed. He said something like, “I’m sorry, I don’t think I’ve heard of him.” Then there was a pause, and he said, “You wouldn’t be referring to *Gödel*, by any chance.” I was embarrassed: “G, ö, d, e, l?” He: “Yes.” I: “I’m sorry. I only know him from studying on my own. I’ve never heard his name pronounced!”¹

Suppes had founded his own company to develop educational software. Eventually it had its own building in Stanford Industrial Park. Years later, Michael J — (to be introduced below) told me that questions had been raised about the accuracy of some of the data his company had published on the effectiveness of their software in the classroom.

A Young Computer Genius

In that class was a young Jewish genius (but then, every Jewish kid who was studying computer science at Stanford considered himself a genius) who sat next to me and whom I would talk to sometimes before class. Once, I brought up the subject of going to the dentist, and of how much I needed nitrous oxide to get through the ordeal. He then told me the following story. He had gone to the dentist, had had nitrous oxide, and afterward, as usual, had been asked to sit in the waiting room for several minutes to be sure the nitrous had worn off. But apparently they allowed him to leave too early, because when he walked out to the sidewalk and stepped into the street, he did not take care to look for oncoming traffic, with the result that he stepped right in front of a truck. For a moment, he said, he knew he was going to die, but at the same time he suddenly felt that he knew the reason for all things, and was filled with a sense of tranquillity. So complete was the feeling that he made no move to save himself, and probably would have been killed if a passerby had not snatched him from the path of the truck. Having had an experience like that, he said, apparently in all seriousness, “What else do I have to look forward to in this life?”

Later on, I heard that he lived like the genius that people said he was, spending most of his free time in a little office he had somehow acquired, and sleeping on an old mattress on the floor.

I should mention that it wasn’t only the Jewish computer science students who regarded themselves as geniuses. Some of the Jewish professors did, too. One of them, Terry Winograd, adopted a woolly hair style and moustache that made it impossible not to think that he was consciously attempting to look like Albert Einstein. I always wanted to go up to him and say, “Christ, man, aren’t you embarrassed to even *suggest* to the world that there might be the slightest comparison between your modest innovation in artificial intelligence, and the world-shaking ideas of the greatest physicist of the 20th century?”

His modest innovation was a programming language he called SHRDLU.

3. These problems are: squaring the circle (constructing a square that has exactly the same area as any given circle), doubling the cube (constructing a cube that has exactly twice the volume of a given cube), and trisecting the angle (dividing an angle into exactly three equal parts), all three to be done using straightedge and compass only .

1. Kurt Gödel (1906-1978) was one of the 20th century’s leading logicians and mathematicians. His famed incompleteness theorems proved that, in any mathematical system large enough to be “interesting”, there will be truths that are impossible to prove — not because mathematicians (with or without computers) are not smart enough, but because the proofs simply do not exist.

“SHRDLU was written as a PhD thesis at MIT in the years from 1968-70. In making the program Winograd was concerned with the problem of providing a computer with sufficient ‘understanding’ to be able to use natural language. Winograd built a blocks world, restricting the program’s intellectual world to a simulated ‘world of toy blocks’. The program could accept commands such as, ‘Find a block which is taller than the one you are holding and put it into the box’ and carry out the requested action using a simulated block-moving arm. The program could also respond verbally, for example, ‘I do not know which block you mean.’ The SHRDLU program can be viewed historically as one of the classic examples of how difficult it is for a programmer to build up a computer’s semantic memory by hand and how limited or ‘brittle’ such programs are.” — Wikipedia, “Terry Winograd”, 5/5/12.

Bruce Nordman

Bruce was only a high school student, yet he was working at HP Labs — a signal honor, and surely indicative of a great future for him. He was introduced to new employees as “our high school student”. He was a friend of Michael J —’s, and was an unassuming guy. Later I learned that his father was a long-time employee of HP. His parents had a charming house in old Palo Alto — Michael J (to be introduced below) pointed it out to me one time. Bruce was the first young person I heard speak in the question tonality that was becoming universal among the young. Each statement, each reply to a question, had a rising tone at the end, making it a question. Clearly this was a habit developed by those who have had to spend too much time in classrooms: “And now, Bill, can you tell us who the first president of the United States was?” “Uh, George Washington?” The question tonality was the mark of the overworked student, always being called upon, always in doubt that he knew what the teacher was seeking.

Bruce went on to become a student at UC Berkeley, where he wound up studying environmental science. (Once, while walking or running without looking where he was going, he ran into a tree near his dorm, breaking his leg.) He then got a job at Lawrence Berkeley Labs, doing studies of, among other things, the reduction in energy consumption resulting from insulating houses and office buildings in the Northwest. He was the complete, environmentally-oriented, young person. He always rode a bike, which was a little fold-up model that could be brought onto buses. I don’t think he ever owned a car. He bought a little house in North Berkeley and began cultivating, if that is the right term, a garden in his back yard. It had a little fountain, and was always crowded with unpruned greenery. He was handsome — Yolanda (who will be introduced later) always called him “the hunk” — with curly hair, and always seemed ready to enjoy talking about whatever you wanted to talk about, although he was not at all well-read (and wasn’t bothered by that fact). Michael J — found out, for example, that he had never heard of Kafka, and so he and I considered it our job to guide him into that author’s work. Bruce smiled in that way that said, “Well, I’ll have to read some of his books,” and then, as far as I know, never did. He was without question the most well-adjusted human being I have ever known. Later he married a tall, beautiful dark-haired woman. I attended their wedding, which was held in the Brazilian Room at the edge of the woods in Tilden Park, behind Berkeley.

Bob Feldman

The Labs hired new PhDs from Stanford and MIT and other leading engineering schools. One of these was Bob Feldman, a recent PhD in Artificial Intelligence from Stanford. To him, I am sure, I was, as a man in his early forties, already “old”, or, at least middle-aged. He was short, and

had most of the mannerisms of young, Jewish PhDs in computer fields: a knowledge of all the jargon, of what the important lines of research were, and a wary eye for those who were not in the Club. But since he knew a lot about things I wanted to know about, I would ask him questions sometimes, and broach some of my ideas. His response in the second case was always the same: a condescending smile, palms turned outward, and the question that destroys all amateurs: “*But where are your results?*” At first, I thought that “results” meant computations, literally — a print-out of some of the calculations that would lend credibility to my speculations. But gradually I learned that, in the academic world, they meant proofs: theorems and lemmas. He seemed to be almost beside himself with anxiety at being asked to consider matters that had not been published in a refereed journal.

One day I told him about my idea that there might be a way of proving the correctness of programs by testing. This idea is invalid in the general case, since one can only make a finite number of tests of a program, whereas, in theory, the program must be able to compute the correct answer for an infinite number of inputs. (Actually, I was interested in the largest subset of programs that would have the property of being able to be proved correct by a finite number of tests.) He said, “If you want to work on hard problems, why don’t you try this one?” And he sat down at a terminal and typed, I think in LISP, a program which, in English, was the following: if the input (which had to be a positive integer, for example, 1, 2, 3, ...) is 1, then stop. If it is not 1, then multiply the input by 3, add 1, then keep dividing by 2 until you get another odd number. If that odd number is 1, then stop, otherwise keep repeating the process. Thus, for example, by this process 5 yields 16, which yields 8, which yields 4, which yields 2, which yields 1. 13 yields 40, which yields 20, which yields 10, which yields 5, which, as we have just seen, eventually yields 1. “The question is,” he said, “does the program *always* eventually stop at 1, no matter what input you give it?” He said the problem was known as the Syracuse Problem, and that no one had been able to solve it. It was to consume a major part of my life.

First Efforts at the Syracuse Problem

I began working on the problem immediately. I wrote a little program to print out, for various inputs, the sequence of numbers that the program generated on the way to yielding 1. By a stroke of luck, this printout revealed a remarkable order in the sequences. With great effort — not because it was hard, but because of my mathematical ignorance — I was able to prove that this order in fact applied no matter how large the inputs were; then that a particular kind of sequence could never occur. I sent the paper in to I don’t know how many journals. One editor asked that I go over it with Danny Dolev, who was on the journal’s staff and worked for IBM in San Jose. So I called him and made an appointment. Naturally, I simply took time off from work. I remember thinking, with a cold sweat on my forehead, “At last I have done something worthwhile. This guy is smart. He’ll see what I’m getting at.” I found his cubicle in the typical IBM labyrinth of corridors. He had received a copy of the paper from the editor. He was kind, indulgent, explained some of the misgivings he and the editor had, asked a few questions, and let me make my pitch. Every once in a while, his computer would beep, indicating email had arrived, and he would turn in his chair, quickly read the message, sometimes type a few keystrokes, then return to the subject at hand. After a while, I could see he wasn’t convinced I had anything. I kept trying to bend what was to what I desperately wanted to be, but it didn’t work. At one point he said, “John, you have good ideas but you are no mathematician.” Strangely enough, that remark didn’t destroy me. In fact, ever since, I have thought, “I’ll settle for ideas any day.”

Somehow I learned of a recent PhD back East who had worked on the problem. I called him, we talked. He too was cordial but distant. He warned me about falling in love with hobby horses that don't go anywhere, said he had done it himself once. That depressed me far more than Danny's remark, because I couldn't (and still can't) get it out of my head that the way the numbers line up is nice. You don't turn away from order like that in the midst of the chaos which the numbers otherwise seem to be.

Steve G—

A guy who seemed to want to hang out with me was Steve G—, a rather overweight, New York Jew with thick glasses and a New York accent you could cut with a knife. He and his wife, Adele, also a programmer, but not at HP, invited me several times to their expensive townhouse in the gated community known as Rinconada Hills, near Los Gatos. In his late twenties, he was already on his way to being a wealthy man. I think he was interested in me because of my interest in computer theory. He lost no opportunity to express his contempt for the mere plodders among the programmers, and liked my terms “Oldthink” and “Newthink” to contrast Them vs. Us. He often called the plodders “dumb-shits”.

I think he also considered me worthy of his time because I liked classical music. He prided himself not only on his extensive knowledge of the music itself, and of the names of the star performers, but also on his knowledge of some of the insiders' lingo: he always referred to the New York Philharmonic as “the New York Phil”. He was also proud of his expensive stereo system. When he bought a new one, he gave me the equipment shelf he was replacing, and it houses my stereo equipment and tapes and CDs to this day. Once, when I was visiting him and his wife at their townhouse, he motioned me over, said, “Hey, listen to this,” and played the Sanctus from Bach's *Mass in B Minor*. Suddenly the room was filled with the glorious noise of voices and high-pitched trumpets. Oh my God. I was so overwhelmed that I was afraid he would see me blushing, my hair prickling, the tears starting to my eyes. That got me to start listening to this extraordinary work. When I left HP Labs years later to start working in the Stanford Park Division, he was apparently assigned the task of buying me the traditional goodbye gift, and came up with an LP set containing the complete Bach's *St. Matthew Passion*.

And, I must add that I am forever indebted to him for having introduced me to PDQ Bach, the composer Peter Schickele's hilarious fictional 21st son of Johann Sebastian.

Steve's wife underwent an operation which gave me a first-hand realization of what modern medicine could accomplish for those who could afford to pay for it. A tumor was diagnosed on her pituitary gland. Only a few years earlier, it would have been declared inoperable, since the pituitary is located just below the brain. But Stanford surgeons had devised a technique which involved passing a fiber optic tube and miniature cutting device through a nostril, up through the sinus passages, and somehow from there to the pituitary itself. They removed the tumor (which turned out to be benign) and she was restored to health.

Despite the wealthy townhouse complex where they lived, they had troubles with their neighbors, who deliberately played their stereo loud, and, after Steve and Adele complained to them, sought revenge by putting the stereo speakers right up against their common wall. Unfortunately, the rules and regulations of the complex provided no means for owners to put a stop to such antics, and so their life at home was largely occupied in the battle with their neighbors. Lawyers they consulted said there wasn't much that could be done.

Steve had a dirty old man's attitude toward sex, whereas Adele was a good Jewish girl who simply wanted to live in an expensive home with a loving husband. Steve liked to watch a por-

nographic video once in a while, or at least some soft-core porn, and Adele was clearly not at ease with this predilection of her husband. Eventually, they divorced, she apparently having grown to hate him.

I enjoyed his company, his contempt for those who weren't interested in theory, his at times foul language, and his sense of humor as reflected not only in his enjoyment of PDQ Bach but also in his occasional witticisms (he referred to going through orange/yellow traffic lights as “squeezing the orange”). But it was all I could do not to break with him over his cruelty toward secretaries who didn't meet his standards for efficiency and intelligence. He would insult them and, I think, in at least one case, went to the boss of one of them and demanded she be fired.

I lost track of him after I left the Labs, though I heard he had bought another townhouse, this one in Cupertino, on a road that I occasionally biked on, and was living with another woman, the two of them having gone into some sort of computer business on their own.

John Allen

Steve and I were instrumental in getting John Allen hired at HP Labs. I forget where he had been working before, but he had been fired, and so he asked Steve and me if we could help him get a job at HP. We were honored that he asked us. We approached Jim Duley, the head of our Lab, and eventually John was hired to work on a couple of Labs projects. He was now the author of a soon-to-be important book, *The Anatomy of LISP*. The publisher's editor was Prof. Edward A. Feigenbaum, Dean of the Computer Science Dept. at Stanford. John had asked me to read and comment on a draft, which I did, and so, possibly by way of a reward, he invited me to accompany him on a visit to Feigenbaum. I remember his large, sunny office, and the aura of Jewish con man that surrounded him. He was clearly a man on the lookout for opportunities. (Later, he founded the Artificial Intelligence company Techknowledge.)

John's cubicle was near the door at one end of the department. Like everyone else, he had a desk and a worktable, only in his case they were both stacked high with copies of journal papers. More boxes of the same were on the floor. In the center of his worktable was the desk-top computer he was modifying.

Some of the papers and manuscripts in his office were written by crackpots. If he decided that you were on his side in the battle against the Philistines, he would, every once in a while, during a pause in conversation, hand you one of these papers without comment, the subject of the paper having nothing to do with the subject of the conversation. Some were mad escapades in topology, logic, and cosmology; others were disproofs of Einstein's theories of special and general relativity. His attitude toward these oddities was that they offered superb opportunities for him, and for those he saw fit to consider as colleagues, to exercise their critical faculties, in other words, to overlook eccentric writing styles and an author's lack of credentials, and discover the real flaws in an argument. Of course, he also enjoyed the flaws themselves, the magnificent leaps of irrationality. I suspect he also considered these curiosities as possible sources of good ideas.

He was soon engaged in an ongoing battle with management over what he should be spending his time on. In those years, there was an anti-LISP attitude in the Labs. I heard that Paul Stoft, Jim Duley's boss, and even Barney Oliver, the director of the Labs, considered Fortran all the programming language anyone needed in order to do useful work. This infuriated John. It equally infuriated him when people talked about languages in which users were prevented from making certain types of errors, for example, languages in which you had to declare the type of each variable when you defined it — integer, real number, string, Boolean — so that the compiler could give you an error when you attempted to assign the wrong type of number to a given variable, for

example, a Boolean to an integer. He used to say that a good language, like LISP, gives you sharp knives, and it's up to you not to cut your fingers. After weeks of wrangling, the managers made him an offer similar to that which had been made to the rebellious technical writer in the Cupertino Division: if he would spend two-thirds of his time on Labs projects, they would let him spend one-third on his LISP project. He turned them down and, in conversations with Steve and me, made no secret of what he regarded as the laughable ineptitude of Jim Duley and Paul Stoft. He used to express to us his attitude toward their view of computing in general, and his proposed product in particular: "You do it your way, and I'll do it mine, then I'll race you around the block." When news of a new company product began to circulate, he would say, after finding out a little about it, "Same old hamburger stand."

The battle raged for more weeks, but eventually they fired him. Steve and I were both outraged that the company couldn't find something for a man of John's talent to do in the Labs. But privately I felt that he should have taken the company's offer, since being paid a high salary to work on your own project one-third of the time seemed far preferable to being able to work full time on it for no pay at all.

In any case, I will always remember him with fondness and appreciation. He was my mentor in computer science, and gave me the supreme gift of telling me what was important.

Ben Wong

Another guy in our group was Ben Wong, who had recently been a graduate student at Stanford. His parents lived in Canada, his father having been a successful Hong Kong businessman. I assume Ben was born in Hong Kong because he spoke with a slight Chinese accent. He had a remarkably fast mind, was always a step or two ahead of what you were saying, and was sometimes not altogether successful at concealing his impatience at having to wait for you to actually finish saying the words. When we went over to the main building for lunch in the cafeteria, he always walked ten yards ahead of us, turning his head every once in a while to participate in the conversation. I used to say to the others, loud enough for him to hear, because I knew he wouldn't be offended, "A walk with Ben is a walk alone." Yet, for all that, he had a sunny, happy-go-lucky personality and was only too ready to laugh at the comic aspects of the world he and you lived in.

He was at the Labs from 1980 to '84, initially writing design automation programs in Pascal and later, possibly, in C. Then he worked on a project aimed at bringing new IBM technology to HP, the so-called PA RISC project (which I think stood for "Precision Architecture Rapid Intermediate Source Code"), under Bill Woolley. Several other ex-HP Labs employees were on it with him, including Alan Baum and Terry Miller. The project as a whole was directed by Joel Birnbaum, who had been hired away from IBM by HP just for this purpose. After considerable struggle, the project was completed. It led to profitable HP products, and Joel went on to become the head of HP Labs.

For those who have an interest in the kinds of things that can go wrong in development projects, let me briefly mention a source of major trouble on the RISC project, one that was similar to a major source of trouble in the Vietnam War, namely, that of the lower echelons reporting only the information that they thought the upper echelons wanted to hear. In both cases, this behavior was fully justified, since the upper echelons directly or indirectly made it clear that, in the language of the programmers, "If you were a Team Player, you didn't give your boss bad news." And so, estimates of the speed at which the software would run were always optimistic, even when tests (and theory) indicated otherwise. When it came time to start demonstrating the prototypes (in 1986), the shocking disparity between what had been promised and what was the fact

immediately caught the attention of HP's highest management. Packard, in particular, was known to be very angry about the poor performance after all that had been promised. Joel wasn't fired, and I don't know exactly who was, but the lesson had been learned in the nick of time, and thereafter, a truth-in-reporting policy went into effect. RISC went on to make a lot of money for the company.

After HP, Ben went to Palentier to write programs to improve the speed of chips. Then he became the manager of software support at the University of California at Berkeley, taking over the job of Fritz Kunze, who left to start the company cleverly named Franz Lisp — a company I later worked for, as described in the first file of Vol. 4. Then he went back to Hong Kong to work as a consultant for a university there, after which he took over one of his family's businesses, I think concerned with printing. He returned to San Francisco in 1998 to try to start a company, Educasia, aimed at providing online education in computer and software subjects for Asia. He asked me to help him write some of the proposals, and I did.

Veronica Blaine

To me, Veronica was in the force-of-Nature category: a tall, attractive young woman with shoulder-length black hair, a leggy, striding, walk, and a manner that left no doubt about her self-confidence. She was the Carmen du Sautoy¹ of the Labs. She had recently graduated from Cal Tech, the West Coast MIT, a formidable accomplishment for anyone, but especially for a woman in those days. Rumor had it she was famous as an undergraduate for walking around campus, and to classes, with a parrot on her shoulder. There was something about her lips that reminded me of Donald West in primary school. It was as though there was some — just a little — extra lip tissue, so that she had to worry it every now and then with her tongue. Very sexy. She told jokes which always seemed to be the latest — hardly even into circulation yet. She had a way of looking at me that said, or at least that I interpreted as saying, “I don't know, John, do you really belong here with people of our caliber?”

Her father had been a track star — I think he had been in the Olympics — and afterward went into the running shoes business. She had a torrid affair with Anne P—, another young programmer, then later she married Steve Rosenberg. I was invited to their wedding party, which took place in a little house in Los Altos. Later, they divorced. She became a protégé of Prof. Knuth at Stanford, and eventually got her PhD under him, then went on to become a professor of computer science at UC Santa Cruz. She co-authored a book on mathematical writing with Knuth, a book that I found insufferably pedantic.

I never saw any of her programs, so I have no idea how good a programmer she really was. But I remember her telling me that, in her senior year at Cal Tech, she had asked her advisor if she should take a certain difficult course in a subject she was interested in, at the risk of not getting an A, or if she should stick to easier courses that she was confident she could get an A in. He told her to take the easier courses, because anything less than an A in any course would jeopardize her chances of getting into a top graduate school like Stanford. I remember my anger on hearing this story. My contempt for the university system increased even more. I thought, “I spit on any academic system which discourages motivated, talented students from taking risks that might result — not in failure, but in even the slightest deviation from the fictional perfection that the highest grades supposedly indicate.”

1. British actress known for her roles as imperious upper-class women.

Other than the feeling of inferiority, even of being intimidated, that she gave me, I remember little else about her. I do remember her remarking to us that her dentist had told her that one way to tell if you have incipient decay is by smelling your dental floss. If it smells like garbage, then that's a warning sign. Perhaps the reason I remember this is that it was the only time I ever saw her slightly embarrassed.

Alan Snyder

Without question the smartest member of our group was Alan Snyder, a recent PhD from MIT, who as a graduate student had worked on the creation of an important new programming language of the time called CLU, and done his PhD thesis on it.

CLU is a programming language created at MIT by Barbara Liskov and her students between 1974 and 1975. It was notable for its use of constructors for abstract data types that included the code that operated on them, a key step in the direction of object oriented programming (OOP). However many of the other features of OOP are missing or incomplete, notably inheritance, and the language is also hindered by a sometimes frustrating syntax. CLU and Alphas both seem to get as close as possible to being a full OO language without actually being one.¹

Snyder had that kind of formidable technical intelligence that is usually in evidence already in high school, and that leaves all and sundry — teachers and fellow students alike — with not a shadow of a doubt that this person is going on to MIT or Cal Tech or Carnegie Mellon (probably the three best engineering and science schools in the second half of the 20th century), get a PhD, and become a professor or be hired by one of the top electronics firms and in any case accomplish important things in this life.

He must have been aware of how far above the rest of us he was, and yet he didn't display the kind of arrogance that often went with such gifts, although he clearly had limited patience with those who he felt were wasting his time. He would try to laugh — a quick, efficient laugh — when something amusing occurred or was said.

The gods had been kind to him in all respects except one: he had become bald in his twenties. When he first arrived at HP, he wore a toupee — he had black hair, at least on the sides and back of his head, black eyebrows, and wore black-rimmed glasses — and, like virtually all toupees, it looked like what it was, or, even worse, had you devoting half your attention, while talking with him, in trying to figure out if he simply combed his hair the same way every morning, or if ... At the time I was rapidly completing the last stages of balding, and in desperation had begun wearing a ridiculous light-brown corduroy workman's cap with a big corduroy button on top. The hat was too small and sat on my head like a lid, proclaiming as loudly as a toupee, "This man is going bald!" But then Snyder suddenly got rid of his toupee, and after I had left the department, I called him and asked him why he had done so. He gave that quick laugh of his and said words to the effect, "I'm a nice person with or without hair, and so I got rid of it." I had to admire his courage.

Ben Wong, whom I introduced above, told me later that Snyder eventually left HP and went to Sun Microsystems.

1. *Wikipedia*, 4/4/07

Natalie W —

My boss, Kevin R —, was a handsome man, and so he attracted beautiful women. One them was a programmer named Natalie W — (She may later have been a project manager.) With her bright eyes and sexy tossing of her hair, all the men were hot for her. She had perfected a manner that said, “I know I’m beautiful, and very intelligent, but, being a superior person, I also know how to be kind to those who do not have looks and brains”. You were not inclined to dislike her, despite her flouncing manner and batting of eyelashes. It was never clear exactly what her relationship was with Kevin R —. Most people assumed, I think, that they had a Special Arrangement while they pursued permanent relationships.

Several years later, although as far as I know she only had a master’s degree, she was put in charge of a group in the Labs researching human factors and documentation. I thought: here’s my chance! I will get her to hire me to test and perfect my method for doing computer documentation! I talked to her, she said that first I should read some of the papers that members of her group were publishing. I did, and found that they were all virtually incomprehensible, full of big words and intimidating concepts. They were papers written by PhDs to impress other PhDs. The fact that it was as difficult for people to use HP computers and software *after* all these papers had been published, as before, was irrelevant. But she granted me an interview, and I made my pitch: I told her that I had developed a method, based on elementary programming concepts, that guaranteed that users could find the instructions they wanted in less than 30 seconds at least 75% of the time. I showed her how the method was rigorous, could be applied to any piece of software, that the user could learn the rule for finding instructions in just a few seconds, and that all my claims could easily be tested by anyone with a second hand on his wrist watch. She listened attentively, asked appropriate questions, and a few days later called me. She thanked me for my presentation, but said she didn’t feel my work fit in with the current research schedule. I thought: it is extremely unlikely that anything your group produces will ever arouse the slightest interest from the HP technical writers, not the least reason being that it is way too difficult to understand. I thought: if my method were as difficult to understand, she might have hired me.

Tim Eldredge

One of the most amusing characters in the Labs was Tim Eldredge, who was in charge of the computer room. He was a big guy with, at least in memory, a kind of pigeon-toed walk. His job was guaranteed to drive even the most tranquil soul to distraction, since whenever something went wrong with the hardware or the software, desperate, falling-behind programmers descended on him. I was among the worst, because I knew so little about the software, hence about how to intelligently attempt to fix problems I encountered. (I detested having to keep in mind all the arcane knowledge that required.) So I would brace myself, and go find Tim. In the clearest, briefest possible terms, I would attempt to describe the problem to him. He, on his way to putting out someone else’s fire, would listen impatiently, then for several moments make no response, and then he would place his hands on his hips and say, “John... Jahhhhhn.....”, which managed to convey not only “Why do you bother me just at this time, when I am so busy?” but also “Why do you bother me with problems that have such an obvious solution?” I would grow smaller and smaller with each repetition of my name, then apologize and tell him that I would be glad to try out whatever fixes he recommended, and would be perfectly willing to wait until he had time to spend on problems as trivial and unimportant as mine. I wasn’t the only one to be the recipient of his withering response to a plea for help. In fact, several of the programmers learned to do a

pretty good imitation of the name repetition with hands on hips. I think it is fair to say that all of us, except the top programmers who had memorized the entire system, lived in fear of him.

A Blind Programmer

Tim was not able to handle all the work associated with keeping the computers running and the programmers at bay, and so he had as assistant one of the most remarkable programmers I ever came across. I no longer remember his name, only that he was blind, and had memorized an enormous quantity of technical facts associated with the computers. He reminded me of Pat Mulraney, the HP programmer I described in the first file of Vol. 3. But almost certainly this programmer, out of necessity, had memorized even more than Pat. He was slim, with long hair, and walked with, or rather carried, the usual long, foldable stick, but he did so in a manner that was so casual he seemed almost not to need the stick at all. I think he had some sort of device attached to his computer terminal that translated the text on the screen into audio that he could hear through headphones. Such technology existed in the eighties. Or maybe the device simply translated the text into Braille. In any case, I never heard anyone complain about his ability. Many were in awe of it. I knew beyond the shadow of a doubt that if glaucoma made me blind, I would never in a million years have been able to attain the skill level he had. Nor would I have wanted to. I would have spent the eternal dark hours reading via Braille, or listening to, books.

Working on the Most Difficult Problems I Could Find

Realizing I would never be able to program satisfactorily in APL, not even in structured APL, and that the engineers hadn't the slightest interest in any documentation, much less in my ideas about a much better kind of documentation, and that my ideas on placement and routing algorithms meant absolutely nothing to them because they came from one who was clearly not an engineer¹ (and the algorithms may not have been much good anyway), I began to grow even more desperate. I wanted to do something that would show them once and for all that I wasn't as dumb as they thought. But I had always hated working on problems that other people knew how to solve, first of all, because it always took me much longer to solve the problems than the other people thought it should, second of all, because it meant my task was somehow to guess how to think like these people, and, third of all, because I detested spending time working on things whose answers were already known.

What is one to do with the millions of facts that bear witness that man *knowingly*, that is, fully understanding his own interests, has left them in the background and rushed along a different path to take a risk, to try his luck, without in any way being compelled to do it by anyone or anything, but just as though he deliberately refused to follow the appointed path, and obstinately, wilfully, opened up a new, a difficult, and an utterly preposterous path, groping for it almost in the dark. Well, what does it mean but that to man this obstinacy and wilfulness is pleasanter than any advantage...Advantage! What is advantage? Can you possibly give an exact definition of advantage?" — Dostoevsky, Fyodor, *Notes from the Underground*, in *Great Short Works of Fyodor Dostoevsky*, Harper & Row, Publishers, N.Y., 1968, p. 279.

1. Strangely, I took as a sure sign of my fundamental inability to be an engineer that I could never figure out how to open boxes containing hardware products, especially after molded-plastic containers became common. But this anger at never knowing how to open boxes other than the ones with the simplest cardboard cover with a flap went back to my childhood. I was, and still am, convinced that real engineers know instinctively how to do this, and that this knowledge alone can be used to separate the engineering material from the rest of humanity.

If I worked on unsolved problems, no one could look down on me for my slowness. It took away that feeling of smug PhDs looking over my shoulder, shaking their heads and clucking their tongues at my slowness. When I heard about an unsolved problem, I suddenly became self-confident, full of energy, full of ideas, even though this self-confidence usually disappeared, at least temporarily, under the contempt of mathematicians to whom I showed my work. But when I was on my own, as when I had to land off-field during my soaring days, I felt, “Now, at last, it’s all up to me. No one can criticize what I do because no one knows better. I may be slow, but you fuckers haven’t gotten the answer either.” Of course, in order to get anywhere, I had to study, but since I was working on my own, I could study on my own terms — only solve sufficiently many textbook problems to understand the concepts, browse for potentially-useful theorems and lemmas without necessarily bothering to learn the proofs.

No one was more obsessed with originality, more disdainful of authority, or more jealous of independence. ...he joined no school, became no one’s disciple, got along largely without guides or followers. In almost everything he did...he thumbed his nose at the received wisdom, current fashions, established methods. He almost always worked alone, in his head, usually walking, often whistling Bach. ...he was always on the lookout for the really big problems. When he focused on some new puzzle, he saw dimensions that people who really knew the subject (he never did) initially dismissed as naive or wrong-headed... — Nasar, Sylvia, *A Beautiful Mind* [biography of John Forbes Nash, Jr.], Simon & Schuster, N.Y., 1998, p. 12.

I had already begun working on the Syracuse Problem. I had also become curious whether the validity of the famous rule in science known as “Occam’s Razor” — a rule that says that if you have two theories that both seem to explain the same set of phenomena, you should choose the shorter, the simpler one, as most likely to be correct (often summarized as “simplest is best”) — if the validity of this rule could actually be proved mathematically. I was partial to Occam’s Razor because it seemed to provide me with a reason not to be altogether humiliated by the fact that I never could understand the complex programs that the programmers and engineers produced.¹ “Maybe there is a simpler way” was for me a face-saving motto to live by. A natural vehicle for approaching a proof of the validity of Occam’s Razor was computer programs. A program was analogous to a theory, the outputs of the program were analogous to the results predicted by the theory in the “circumstances” of the inputs, and the length (number of instructions) in the program was a measure of the length of the theory. It turned out that a stunningly original discovery relating program length to what the program computed had been made in the late sixties by Greg Chaitin, who at the time was a teenage student at City College of New York, and then later worked for IBM. I first came across an article about his work, written by him, in *Scientific American*, and I was irresistibly drawn to his fundamental idea, which was that the complexity of a string of symbols, say, a string of 1’s and 0’s, can be measured by the length of the smallest computer program that can generate the string. A string with a pattern, for example, “10” repeated a million times,

1. Whenever the subject of the difficulty of understanding their programs came up, you could be fairly certain that one of the engineers and programmers would sooner or later quote the acronym “KISS”, which stood for “Keep It Simple, Stupid”. This was always done with a contemptuous shrug of the shoulders that said, “Anyone who doesn’t know enough to live and work by that rule, well, they have no business collecting a paycheck.” Of course, none of the engineers and programmers actually followed the rule in practice.

can be generated by a program that is very short compared with the length of the string; a string with no pattern, such as you typically get by flipping a coin (allowing heads to equal 1, tails to equal 0), requires that the program be about as long as the string itself. In the course of the years I worked on my proof, I wrote Chaitin several letters, and he always responded with a brief but courteous reply. His ideas were often on my mind: when President Clinton's (and his wife's) proposed plan for a national health program failed in the mid-nineties because, among other things, it was far too complex, I thought: just apply Chaitin's idea! put a low limit on the number of words that can be used to describe the plan and the simplicity will follow! The same could be done for any law.

No scientific theory can ever be proved correct, because it is not possible to test it against every possible set of circumstances to which it supposedly applies, in the entire universe. After a certain number of tests in which the theory turns out to be correct, scientists assume, tentatively, that it will also be correct in the future, and proceed on that basis until the theory proves to be wrong. But in a computer program context, it *was* possible to talk about the correctness, over every possible input (that is, the “entire universe”), of the program, and program proving — the proving, mathematically, of the correctness (or incorrectness) of a program over every possible input — over an infinite number of inputs — was indeed possible, because a program is a mathematical construct, and rules exist in mathematics for proving things about an infinity of related cases (the rules govern what are called “inductive proofs”). The intriguing question was: could a program be proved correct merely by testing. In other words, could you say that if the program gave the correct results for a certain *finite* number of inputs, then it was guaranteed to give correct results for the *infinite* number of possible inputs? This was an entirely different matter from an inductive proof. There was a class of programs for which this was known to be possible, namely, those programs that only used a finite amount of memory: if you tested sufficiently many inputs, you would exhaust all possible contents of the memory, and then if you continued testing, you would only be repeating what you had already done, since the memory was finite. So you could know the behavior of the program over an infinite number of inputs after you had tested merely some finite number of them.

It had been proved, also, that there was a limited class of programs with *infinite* memory that could also be proved correct by testing. This class allowed the programmer perfect freedom in the kinds of statements he used in his program, with one exception, the so-called “loop” statements, which are the backbone of most programs, and which most programmers want to use freely. (A loop statement says, for example, “Keep repeating the following sequence of steps until condition x occurs.”) It is highly desirable to be allowed to put a loop statement inside a loop statement, and a loop statement inside that loop statement, and so forth (“nesting” of loop statements), but this was not allowed for more than three levels of nesting in the limited class of programs. The question that I began asking myself was: could I place certain other constraints on the statements that the programmer could use and in so doing (1) remove the constraints on the number of levels of nesting of loop statements, thus including many practical programs in my class, and (2) wind up with a class of programs in which correctness could be determined by testing? It seemed to me this might be possible because what had come to seem to me more and more remarkable about real-life programs was that, after the errors had been fixed following a relatively few tests, the programs ran very well over many inputs that had not been tested. Perhaps the constraints that programmers placed on their programs — some of these a result of the technique called “structured programming” — resulted in programs that revealed any errors they contained early in the testing process.

So I was not only attempting to prove the validity of the time-honored principle known as Occam's Razor, I was also attempting to find a large class of programs that included practical programs, in which the correctness of the program over the infinity of its possible inputs could be determined via a finite number of tests. My fundamental idea was inspired by Chaitin's work, and consisted of requiring certain behavior of the program over the set of input strings whose length was equal to the number of steps in the program.

In 1984, I got a paper describing the class of programs, accepted by a refereed journal — the only paper I have ever had published. It took three years from the time I submitted the paper until the time it appeared in print, and during that long meticulous perusal of it by who knows how many academic experts, not one saw a fatal error in the proof that Michael J — (a co-worker at the Labs, to be introduced below, who didn't even have a Master's degree) pointed out to me soon after the paper was published. But I have kept working to perfect this proof over the years, and now, at the time of this writing (Mar., 2012) I believe I have at the very least the right approach.

Somehow or other, like most amateurs in mathematics, I had heard of Fermat's Last Theorem, which was still unproved after 300 years! I thought, like countless others before me: if this problem hasn't been solved, it's because I haven't worked on it. So I began teaching myself number theory out of whatever textbooks I came across that seemed remotely capable of giving me a chance to learn something about the subject. Niven and Zuckerman's *An Introduction to the Theory of Numbers*¹ was my core text. At first I found congruence theory all but impenetrable. (Roughly speaking this theory deals with the division properties of the positive integers, that is, of the numbers 0, 1, 2, ...) So I tried to figure out a way to represent some of the ideas pictorially. The obvious way seemed to draw a circle and then have m spokes radiating outward from it, one spoke for each possible remainder when you divided any integer by m , which was called the *modulus*. Each and every integer occupied exactly one place on one spoke. Thus, for example, 17 was said to be *congruent* to $2 \bmod 5$ because 17 was on the 2-spoke for the modulus 5, or, in other words, 17 divided by 5 had remainder 2.

This "wheel-and-spokes" model seemed to bring a whole new light to the subject. I felt at once that I could make the subject my own in this way. Number theory seemed far more accessible than calculus because, at least at the elementary level, you didn't have to keep track of so many subtleties (many of them never mentioned in the texts). Number theory proceeded by theorem, proof, theorem, proof, which I felt far more comfortable with than calculus's theorem, proof, tricky calculations, more tricky calculations, theorem, proof, ... Number theory lent itself far more readily to my Environmental method than calculus did.

Just as I had been a musician who played by ear, and found the reading of music difficult and tedious, and just as, in philosophy and other liberal arts disciplines, I wanted to know, wanted to *get to*, the basic ideas, and had little patience with long drawn-out academic presentations, so in mathematics I needed pictures and diagrams, and found the working with equations and symbols *alone* to be difficult and tedious. What I liked about mathematics was the *ideas* — ideas like those underlying Cantor's great proofs about the infinities, or the idea underlying fractal geometry, or the idea of congruence in number theory once I could represent it pictorially. As in intellectual matters in general, I was convinced that I could smell a good idea in mathematics a mile away, and this had nothing to do with proofs. I had no particular ability or interest in calculation — I am certainly below average in this skill. But I cannot resist classifying things — concepts, technical terms, lemmas, theorems, problems... I had always been unusually slow at deduction, laboring far

1. John Wiley & Sons, N.Y., 1980.

longer than the vast majority of students over textbook proofs. But given a picture, I felt I could suddenly get to the heart of the matter, see all sorts of possibilities. On the other hand, never missing an opportunity to despise myself, I realized, soon after beginning my study of congruence, that the way we made decisions in childhood using *eenie meenie mynie moe* was just modular arithmetic. I despised myself for not having realized that something that simple underlay the verse we recited, just as I despised myself for believing, in childhood, that there was nothing to think about if I merely contemplated empty air, empty space. The verse was:

“Eenie, meenie, mynie, moe,
Catch a tiger (sometimes we said “nigger”) by the toe.
If he hollers let him go,
My mother said that you are It.”

(I am not sure about the last line. Also, some kids would vary it in order to make the result come out to be what they wanted.) With each emphasized syllable (for example, *Catch a tiger by the toe*”, the reciter moved his finger to the next person in the assembled group. The person the finger was pointing to at the last syllable of the verse was It.

But, for example, assume the number of emphasized syllables was even, and assume there were only two persons, the reciter and another person. Then if the reciter began with his finger pointing at himself, his finger would always wind up pointing at the other person. If he began with his finger pointing at the other, his finger would always wind up pointing at himself. The actual number of emphasized syllables was irrelevant, provided only that the number was even. If the number of syllables was odd, the finger would always wind up pointing at the first person it had pointed to. Purely a matter of arithmetic mod 2. Similar reasoning applied if the number of participants was three, or four, or five, or ... in which case you had to apply arithmetic mod 3, or 4, or 5, or ... to the number of syllables in the verse.

Once in a while, I would allow myself to feel proud that I was now actually proving, or attempting to prove, lemmas and theorems of my own devising. (A theorem is a significant mathematical statement. A lemma is a less important, a subordinate, theorem, typically one that is used to help prove another theorem.) I was doing something that, throughout my formal schooling, I had considered so far out of reach it was not even worth thinking about. Proving lemmas or theorems was what mathematicians—the ancient Greeks—did, not ordinary people. No teacher, no professor, had ever bothered to explain what the terms meant, what the etymology of “lemma” and “theorem” was, because, I assumed, it was so beyond the comprehension of ordinary people. Only mathematicians could understand such things.

And then, every few months or so, I would allow myself to believe that I had solved the Syracuse Problem, or proved Fermat’s Last Theorem, or proved the validity of Occam’s Razor in a computer programming context. For a day or two I would walk around feeling, “I am a human being, too! I belong in this world after all!” Then, like the creature in Kafka’s burrow, I would hear the Beast gnawing at my logic, I would sense that one of the cards in the house of cards I had just constructed was starting to move, and then another, and then, with droplets of sweat breaking out on my forehead, I would realize the argument didn’t hold.

“He thought he saw an argument
That proved he was the Pope:
He looked again and found it was

A Bar of Mottled Soap.”

— Carroll, Lewis, *Sylvie and Bruno*, quoted in Gardner, Martin, *The Annotated Alice*, New American Library, N.Y., 1960, “Introduction”.

And I would plunge back into the old despair. So great was my dread of that downward fall that I developed the bad habit of only superficially checking my work, so that at least I would have a few days of feeling that I had a right to live.

Eric T —

After a few years, Kevin understandably wanted to have as little as possible to do with me. But since, in the HP culture of that time, I effectively had tenure, his only option was to have me report to someone else, and that turned out to be Eric T —, who ostensibly managed the group of some seven programmers whose cubicles were next to mine, and whose job was to maintain the HARP system (“*Hewlett-Packard Automatic Routing and Placement*”).

Eric had a B.S. in Electrical Engineering from MIT and a PhD from Stanford, where he had done a thesis on placement and routing. But despite his advanced degree, he had, as far as I could tell, not the slightest interest in theory. (He had been asked — I think by a reputable journal — to write a paper on the subject of his thesis and daily work, but never started it because he felt it had to be perfect and he had no time for that.) He was, instead, the epitome of an R & D¹ engineer. Each day he schlepped back and forth between his cubicle next to the window and the computer room, always with a kind of sheepish grin that reminded me of the Bank of England employee played by Alec Guinness in the 1950s film, *The Lavender Hill Mob*. Unlike the Guinness character, Eric wasn’t planning a robbery; but he had a secret, nevertheless, and that was his complete indifference to the task of managing the people he was being paid to manage. I remember him boasting, whenever he was forced, with other lower level managers, to attend a company seminar on management, how he always took an engineering book to the classes, and ignored everything that was said.

Yet this indifference was not based on his possessing superior management knowledge, because, as his exasperated employees complained again and again to any and all who would listen, he hadn’t the slightest interest in, or the vaguest idea of how to go about, dividing up a task, assigning priorities, selecting the best qualified programmers for the subordinate tasks, and checking progress.

Once every week or two there was a meeting of some of the HARP staff — Eric, Kevin, a few programmers, and sometimes even me, for reasons I no longer remember. A combination microphone and speaker was placed in the center of the table so that Marc Clarke (to be introduced below) could participate, via phone, from his Colorado division. But the microphone was too directional, and so, unless the person spoke directly into it, Marc sometimes couldn’t hear what was being said. People got used to moving the microphone around the conference table. When someone wanted to speak he would say, “Here, pass me Marc’s ear”, and then after the microphone had been slid over to him, he would make his point. Eric certainly cannot be said to have led the meeting, since there was never any agenda or pre-established goal. The engineers talked about current problems with the software, what caused them, various ways to fix them, in endless detail.

I never heard Eric remark about any idea in computer science. He was a prime example of

1. Research and Development

“the compulsive programmer ‘with sunken glowing eyes’ who Weizenbaum¹ says ‘has only technique, not knowledge’.”² (Virtually every programmer I had ever known fit this description.) It goes without saying that, as far as I could tell, Eric had no interest in literature or any of the other arts or in philosophy or world history or politics. (But I could say the same of virtually every engineer I ever met in industry).

On the other hand, he knew an incredible amount about the Pascal programs that constituted HARP — many thousands of lines of code. He spent as much of each day as he could at the computer, and, let there be no doubt, he and Marc Clarke were really the forces that kept the huge program running and producing chips.

“And we realized that this imbecile was a clinical genius.” — narrator, speaking of the physician Dr. Cottard, in Proust, Marcel, *Within a Budding Grove*, vol. 3 of *Remembrance of Things Past*, Vintage Books, N.Y., 1971, p. 53.

I never saw any of his programs, but I am sure they were typical engineer’s programs, incomprehensible to anyone but the man who wrote them, but which, as long as he was around, would run and get the job done.

He had no interest in recording any of his knowledge, and so, since by then I had more or less been relegated to be the department technical writer, he never paid me the slightest notice. I had literally nothing to do (for the company) for months on end.

His wife, Stephanie, was a woman to be feared. The programmers knew that instinctively, and would retreat and joke among themselves, calling her “Brunhilda” when she came to visit. Once, she and her husband invited the HARP group to dinner at their house. Surprisingly, at least to me, it was a rather ordinary tract house in South Palo. (There was money in Eric’s family — I remember being a passenger one day (why, I no longer remember) as he drove to drop off a package at a grand old house in the Los Altos Hills that I think he said was his grandmother’s). There was no wine, the meat was undercooked. We ate dutifully and listened to Stephanie rage against the latest antics of the liberals. She was clearly a woman who had no doubts about anything. Like her husband, she was a hard-core right-wing Republican — a Mme. LaFarge just waiting for the Revolution that would at last put the country in the right hands. Their son, then about five or so years old, had already learned how to be a promising little engineer — a promising future MIT student — and amused himself on the floor playing with various mechanical devices while the adults talked.

Marc Clarke

Marc Clarke was one of the most extraordinary engineer/programmers I came across in my years in industry. He and Eric kept HARP running, and the only way that was possible was for each to have memorized countless details in the many thousands of lines that made up the HARP program. Marc worked in the Loveland, Colo. division and had a copy of HARP running on computers there. He was responsible for generating chips for the Loveland engineers. That was more than a full-time job in itself, given that the HARP system needed constant adjustment and repair, but in addition he put me utterly to shame by writing a thick HARP manual, the first ever written

1. Weizenbaum, Joseph, *Computer Power and Human Reason*, W. H. Freeman, San Francisco, 1976.

2. Poston, Tim, “Purity in Applications”, in *Mathematics Tomorrow*, ed. Steen, Lynn Arthur, Springer-Verlag, N.Y., 1981, p.

for the system, while he was “resting”. It was an extraordinary piece of work even though it was only understandable — was only *useful* — to someone who already knew a good deal about the system to begin with. Given Marc’s obvious skill at writing technical prose, and given the fact that he was apparently willing to devote day and night to working on HARP, the truth is it was far more efficient for him to write the manual than it would have been for him to relay all that information to a technical writer. And despite the fact that his work made it abundantly clear to Eric that I was an utterly useless member of the HARP team, I nevertheless made a point of expressing to Marc my admiration for the manual.

He was a tall, blond, handsome young man with a deep voice— Jason (to be introduced below) and I sometimes remarked to each other that perhaps his voice was a bit *too* deep and resonant, a bit too studied. In any case, Jason routinely referred to him as The Great Blond Beast, but he admired his extraordinary memory and skill as much as I did.

Ian McGregor

For some reason, the managers decided that it might be a good idea if there were a mathematician on the team. And so they hired a professor from UC Santa Cruz named Ian McGregor. He turned out to be the best mathematician I ever personally knew.

He had done original work on an important project called “the classification of the finite simple groups”, which was begun, and completed, in the remarkably short time of less than 30 years, and furthermore was that rarest of things in mathematics, a successful committee project, with mathematicians all over the world working on it. What drove him out of the academic life was, I suspect, impatience with the slowness of most of the students he had to teach. In any case, he said that he knew it was time to quit when, after he had spent the better part of a class hour carefully explaining a proof, a student stuck his hand up and asked, “Professor McGregor, is any of this important or is it just mathematics?”

I don’t know how much he knew about programming when he first joined the department, but I’m sure he had no worries about his ability to rapidly pick up whatever language he was asked to program in. Actually, he regarded the computer with mild contempt, usually referring to it as the “confuser”. “The computer is a calculator, nothing more,” he would say, with that laugh of his that expressed his incredulity at how easily ordinary mortals could be led astray by trivial things. As might be expected, he also didn’t have much respect for programmers. And yet, Jason told me that, despite Ian’s being a malcontent almost from the start, or maybe because of it, he always knew the latest rumors before anyone else, or at least before Jason or I did.

In our many conversations he revealed a little, but only a little, about himself. He had been born and raised in a seacoast town near Seattle, and had apparently shown mathematical talent at an early age. One day, when I remarked that I was reviewing linear algebra, he said that soon after he began studying the subject, he had intuited a theorem about a certain type of matrix, and he said it in a way that indicated he was clearly proud of himself for this early accomplishment.

I asked him if he liked classical music. He shrugged, said yes, some pieces. He had played piano once, but had lost interest in it. Then he alluded to the Nobel physicist Richard Feynman’s well-known contempt for cultural matters, the clear implication being that he, Ian, was on the side of the greats in his indifference to music. It was only years later that I found that some of the very best minds in physics and mathematics had a deep love for the arts (for example, Fermat himself was an expert on ancient Greek and Latin poetry, and Einstein loved classical music, especially Mozart, and played the violin). I brought up the subject of games, including Scrabble. A flash of anger crossed his face, and then came that laugh. He said he had friends who were extremely

good at it, but that he wasn't, and didn't much care, since it was about words. I got the distinct impression that this was his excuse to himself for what he considered privately to be a humiliating failing.

He had no use for the study of symbolic logic and the foundations of mathematics. (The reader will recall that they had been what had inspired me to return to mathematics, or perhaps I should say, to begin studying it on my own.) He said that being interested in foundations was like being interested in the gravel under your feet. I later learned, through readings in the history of mathematics, that he was pretty much following the Party line in this view, since many, perhaps most, professional mathematicians looked down on the study of logic and foundations. I recall that, when Bertrand Russell died in 1970, a professional mathematician who was asked to comment on his life's work said, in a radio interview, that "he had solved no significant problems", thus apparently regarding Russell and Whitehead's towering achievement, *Principia Mathematica* (1910-1913), which showed, for the first time, that all of mathematics could be derived from a few well-defined axioms and inference rules in symbolic logic, as having no significance.

Ian also had nothing but contempt for fractals and chaos theory — because the proofs were too short. He, like many other mathematicians, considered fractals nothing but the mathematics of certain types of computer-produced graphics.

He never gave any sign that he had any doubts about his views. We almost never talked about politics, but on the one or two occasions we did, he said that if he had to choose a political philosophy, it would be libertarianism. Not only did he have no use for governments in general, but he couldn't see the point of cities — not even little towns like Los Altos, where he lived — even having fire departments or police departments: each neighborhood should simply have its own fire and police departments. I may have made a half-hearted attempt to point out the disadvantages of such a scheme, but if I did, it made no impression on him. I met only one other libertarian while I was at HP Labs — an engineer who was convinced, among other things, that there should be no government agencies overseeing the safety of food, industrial machinery, public transportation, and so forth. I told him that surely it was better to have laws governing the safe design of, say, elevators, than to have people killed when the cables failed. Not at all, he said: if a company made accident-prone elevators, construction firms wouldn't install them, and that company would be driven out of business. I asked him if he was seriously willing to have hundreds of people killed in airline accidents just so that the public could learn which airlines had poor maintenance practices. Absolutely, he said. I asked him if he had any children. He didn't. I was amazed that a guy with a bachelor's, and possibly a master's, degree in electrical engineering from one of the nation's best schools, could seriously believe such nonsense¹.

He was losing his hair in the way that Wally Utz had, namely, via a uniform thinning, as opposed to a thinning only at the top of the scalp ("male-pattern baldness"). It clearly bothered him, because, as we would walk over to the Building 3 cafeteria for lunch on a sunny day, he would frequently toss his head back and look up, as though trying to see just how much sunlight was filtering through the remaining strands, or, perhaps, to see if just one or two strands were still long enough to fall forward over his forehead.

I no longer remember what exactly he had been hired to do. But I do remember that, in his frustration at the sloppy mathematics underlying what the other programmers were doing, he produced a long paper on the affine space which, technically, was what the surface of every inte-

1. On the other hand, the Nobel committee saw fit to give the economist Milton Friedman the highest award that could be bestowed on a member of his profession for, among other things, advocating the same ideas.

grated circuit chip was. I knew enough linear algebra to be duly impressed by the points — stated as theorems and lemmas, of course — he brought out in the paper. As far as I know, the paper made not the slightest impression on any of the other programmers.

Inevitably, having this goldmine of mathematical knowledge sitting only a few cubicles away from me, I tried to get him to help me with Fermat's Last Theorem, although initially I didn't tell him that was what I was working on. Instead, I told him I was trying to teach myself a little number theory out of the popular undergraduate text by Niven and Zuckerman. It soon became clear that he was willing to answer my questions if he believed they arose out of systematic study of the text, and it was soon clear that he had the entire undergraduate through Master's curriculum in mathematics at his fingertips. He would write down theorems and proofs quickly as I stood next to him. He never drew a picture or a diagram, never mentioned an underlying idea or intuition. When I admitted I had a little difficulty understanding one of his proofs, he said good-naturedly that a guy he had worked with on the classification of finite groups had remarked that he wrote mathematics "without using verbs". I must say that he seemed not to be bothered about explaining the steps I didn't understand. But unlike him, I relied on pictures or diagrams to understand mathematical concepts, and so for years after I first knew him, I was filled with even greater self-contempt over this need. It was only in the late nineties that I found out that a number of first-rate mathematicians, for example, Littlewood, had no hesitation in using pictures, and in fact considered them often to be of far more value than long sequences of equations alone. I also came across Einstein's remark, "If I can't picture it, I can't understand it."

But if I asked a question that was clearly not related to the text — as many of my questions were not, as they arose out of my ideas on a possible way to prove Fermat's Last Theorem — he would reply, and I remember his words to this day, "You don't know enough yet to ask that question." Since I had been working on my Environment idea already for ten years, and since the very essence of that idea was that it shouldn't always be necessary to know how the watch is built if you simply want to tell the time, I was appalled at such a reply coming from a man of his extraordinary intelligence.

But I bit my tongue, and continued trying to wheedle theorems out of him, rather than embark on the much more time-consuming task of trying to hunt them down in difficult-to-find textbooks. It took me a year to get him to answer certain questions about sequences of prime power moduli¹ (that is, sequences of numbers like $5^1, 5^2, 5^3, 5^4, \dots$), but eventually he relented and told me what I wanted to know.

Having accomplished that breakthrough, I decided to take the plunge and tell him what I was working on. He smiled that smile of his and said that the world is full of people who believe that the only reason Fermat's Last Theorem hasn't been proved is because they haven't worked on it. He said that every professional mathematician he had ever known made no secret of the fact that, when a paper on this problem arrived on his desk, and it was clear that it had not been written by a professional mathematician, it went into the wastebasket unread, Ian holding the imaginary paper at arm's length between thumb and index finger and wrinkling his nose, as though in response to the bad smell, and dropping it into an imaginary wastebasket. I may have remarked

1. A prime number is a number whose only factors are itself and 1. Thus, for example, 2, 3, 5, 7, 11, 13, ... are prime numbers; 6, 10, 33, for example, are not.

A prime power is a prime number multiplied by itself the number of times indicated by its superscript. Thus, for example, 5 is a prime, and so 5^4 (5 multiplied by itself 4 times) is a prime power.

Modulus is explained in the sub-section "Working on the Most Difficult Problems I Could Find" on page 821.

that Fermat himself had not been a professional mathematician by our standards, having worked all his life as a provincial judge, and only pursuing mathematics as a hobby. Ian wasn't impressed.

He left the Labs to join a startup company. It was profitable at first, but did not make him financially independent. In the early 2000s, his wife divorced him, and then he was laid off, and according to Jason, he plunged into a deep, nearly-paralyzing depression.

Jason and I occasionally discussed why Ian had allowed his mathematical talent to go to waste, especially given a remark he once made to me to the effect that essentially there are only two types of people: (1) those who are determined to achieve something in this life, by which he meant something creative, of lasting importance, in mathematics or science (he said a friend of his was in this category), and (2) everyone else. My own belief is that he, like so many other young mathematicians, bought hook, line and sinker the utterly destructive academic Party line that either you are among the very best, obtaining tenure at an early age in one of the nation's two or three outstanding mathematics departments, then turning out original papers at a steady pace year after year, or else you are worthless.

Annette L—

One of the programmers was a neurotic young woman who always seemed to regard the duties associated with working for a living as something of a nuisance. She was intense, nervous, always preoccupied, though not with her work. We could hear her half-way across the lab in endless phone conversations with her psychotherapist.

Helen A —

Duley (our department manager)'s secretary was a plain (some would even say ugly) woman whom you had to admire for her pluck in dealing with the bad hand that Fate had dealt her. She was a poor soul, slow as molasses mentally; but loyal to her boss and thoroughly conscientious about her duties. When the history of Silicon Valley comes to be written, some pages must be given to these sad creatures on the periphery who toiled away without love in their lives (except, possibly, for that of a few relatives), without hope for advancement, living until the day they could retire and spend their final days keeping up with their far-flung families, taking care of the violets in the living room and feeding the dog.

Jason

I made two friends in the ten years I spent at HP Labs: one was Michael J —, to be introduced below, and the other was Jason P— .

His Previous Job

Jason came to the Labs in '84, and worked under Louis Chu developing programs to test the logical correctness of the integrated circuits that the circuit designers designed — in other words, to test that each circuit computed the logical function that it was supposed to. He had previously been at Philco Ford (Ford Aerospace). He said it was a good company in which to “retire in place” (as he later described what I had managed to do at the Labs); many at Ford Aerospace had done the same: some ran real estate businesses from their desks, others spent the day in conversations on every subject but the work at hand. He said the company offered good benefits but mediocre pay.

Physical and Personality Description

He was about six feet tall, slim, good-looking, with black hair. A bald patch was just starting to grow in back. He had a quiet nature, and seemed to enjoy talking to me. I got the impression that politically he was leaning toward the right — that he was coming to the conclusion that liberalism had significant faults. In the subtlest, most unobtrusive way, he seemed to want to get me to think critically about my own liberal beliefs. I thought of him as a patient proselytizer. It soon became evident that he was a student of history, and that he had a phenomenal memory for historical facts and details.

His Sense of Humor

He had a good sense of humor, especially regarding the comic aspects of our jobs and of some of the managers. We both came up with the idea of doing “uh” and “basically” counts on Duley’s talks at department meetings. (“This new product, uh, will basically be an enhancement of ... which, uh, Bill’s team will basically be wrapping up and, uh, handing over by the first of the month, along with, uh, well, basically, ...”) Duley’s record, I think, was 62 “uh”s in the space of 20 minutes. I don’t remember his record for “basically”s. Jason was also the first person from whom I heard the term “physics envy” (not original with him, however) to describe the obsession with theory that then prevailed in university English departments. Later, after his marriage, when he invited me to come over to his house for dinner, he would always qualify his invitation with “— if your dance card isn’t already full.”

His Work

Although I never actually saw his programs in operation, there is no doubt in my mind that he was completely competent at his job. He had the calm, methodical, manner of the PhD who has read all the literature, learned the necessary languages to carry out his assignment, and the brains to make the programs do what they were supposed to. Once in a while I would ask him how some things in logic that I came across in my reading applied to his work, and he would patiently try to explain the answer to me.

His Girlfriend and Family

He had a girlfriend named Mindy who was on her way to becoming one of those lost souls that lived in the cracks of the Silicon Valley citadel. She sang with the Schola Cantorum and, I think, did elder care in order to scratch out a living. In the late eighties, Jason broke with her and married an attractive young woman named Joanna who worked as a tax preparer. She was from a large family of farmers in the Buffalo, N.Y. area. They bought a nice house in an upscale development in the hills above San Carlos. Within the space of ten years, they had three sons. But for the first few years of the marriage, he continued to maintain contact with Mindy and, I think, for a while gave her money to live on when she was unable to find work (and was forced to live above a garage).

Barney Oliver

The director of the Labs in those years was Barney Oliver, a living legend at HP. He had worked with Claude Shannon when the latter was discovering information theory at Bell Labs in the late forties, and among many other things, he had invented the phase-locked loop, which soon became an indispensable item in the repertoire of electronic engineers. Despite the fact that he was a PhD, and internationally known for his accomplishments, all the employees at HP always

referred to him as “Barney”, although I assume that, unless they knew him well, they would call him “Dr. Oliver” in person. But the informality was part of the HP culture. We referred to the founders as “Bill” and “Dave” even though in person I’m sure most HP employees addressed them as “Mr. Hewlett” and “Mr. Packard”, as Amy and I did when we demonstrated our Help program to them.

Oliver — in this memoir it seems more appropriate to use his last name — was, in addition to everything else, a natural public speaker. He had a resonant voice, pronounced every word clearly, he was a good-looking man, with hair combed back and parted near the center, so that he looked prosperous, like someone you’d meet on the golf course. Or you might have mistaken him for a well-off European. An example of his ability as a public speaker was his presentation, on video tape, of a new desk-top computer. The tape was meant to be used for training of salesmen and was broadcast on HP’s worldwide TV network. The story from those in the company’s TV studio, one of whom I knew personally, was that they had given him the manual and sales brochures the night before, along with, presumably, an outline of what he was to do in the tape, how long the presentation was to be, and so forth. The next morning, he arrived at the studio, they set up the computer and the lighting. Scene 1, Take 1. He went through the whole thing flawlessly. I saw the tape, and was amazed at how easy he made the operation of the new machine appear to be, how at ease he was, as though he had been using it and teaching the use of it for months.

The only negative thing I ever heard about him was that, like all the old-time engineers, regardless of how advanced their education was, he regarded the computer as simply a tool for helping engineers do their work. He had no interest in, or appreciation of, so I heard, software as a thing in itself, much less of the to me inherently interesting questions that computers gave rise to, for example, what could and could not be theoretically computed, how programs could be proved correct, whether and to what degree programs could be written to prove mathematical theorems. Paul Stoft, Oliver’s successor, was known to feel that there was no need for any programming language beyond Fortran, which had been invented in the late fifties, and which, in the minds of computer scientists and thinking programmers, had long since been rendered obsolete except for the most routine, and therefore uninteresting, engineering calculations.

Joel Birnbaum

As near as I can recall, the directors of HP Labs were, in chronological order, Barney Oliver, Paul Stoft, Joel Birnbaum, Frank Carruba, then Joel again, then Dick Lamping.

Joel was a tall, genial sort. He had a PhD in nuclear physics I think, and was married to an opera singer, even though he was bald. Somehow or other (not directly from me) he heard about a book I had published (to be described below), and once, in a speech about a new product, he mentioned it because the title fit in with a point he was making about the importance of simplicity. So, for a few hours, I was famous among some of the others in my Lab. Not a one of them, needless to say, showed the slightest interest in reading the book.

A Visit From a Famous Programmer

At some time during the eighties, our department was invited to attend a short talk by a woman named Grace Hopper. I had never heard of her, except that prior to the talk, someone said she was an “early programmer”. I see her standing at the blackboard in one of our meeting rooms, a pleasant, unassuming woman with a soft blue-and-white cap and a several brass buttons on her lapels. I assumed she worked for the Navy. I don’t remember the subject or her talk but she had the manner of a professor at an elite liberal arts college and seemed to answer effortlessly all the

questions that were put to her. I suppose it was assumed we knew who she was. I didn't bother to try to find out more about her, although I heard later that she had been programming some of the early computers in the forties. (At the time of her talk, she was in her late seventies or early eighties.) In the course of writing this book, I found out what an exceptional person we had been listening to. I quote from the 12/09 Wikipedia article, "Grace Hopper":

"Rear Admiral Grace Murray Hopper (December 9, 1906 – January 1, 1992) was an American computer scientist and United States Naval officer. A pioneer in the field, she was one of the first programmers of the Harvard Mark I computer [during World War II], and she developed the first compiler for a computer programming language. She conceptualized and led the development of COBOL, one of the first modern programming languages. She is also credited with popularizing the term "debugging" for fixing computer glitches (motivated by an actual moth removed from the computer). Because of the breadth of her accomplishments and her naval rank, she is sometimes referred to as "Amazing Grace". The U.S. Navy destroyer USS *Hopper* (DDG-70) was named for her.

"Hopper ... graduated Phi Beta Kappa from Vassar College with a bachelor's degree in mathematics and physics in 1928 and pursued her graduate education at Yale University, where she received a Master's degree in those subjects in 1930... In 1934, she earned a Ph.D. in mathematics from Yale. Her dissertation was titled *New Types of Irreducibility Criteria*. Hopper began teaching mathematics at Vassar in 1931, and by 1941 she was an associate professor.

"In 1943, Hopper obtained a leave of absence from Vassar and was sworn in to the United States Navy Reserve, one of many women to volunteer to serve in the WAVES. She reported in December and trained at the Naval Reserve Midshipmen's School at Smith College in Northampton, Massachusetts. Hopper graduated first in her class in 1944, and was assigned to the Bureau of Ships Computation Project at Harvard University as a Lieutenant, junior grade. She served on the Mark I computer programming staff headed by Howard H. Aiken. Hopper and Aiken coauthored three papers on the Mark I, ... also known as the Automatic Sequence Controlled Calculator....

"In 1949, Hopper became an employee of the Eckert-Mauchly Computer Corporation as a senior mathematician and joined the team developing the UNIVAC I. In the early 1950s the company was taken over by the Remington Rand corporation and it was while she was working for them that her original compiler work was done...."

I should not fail to point out that virtually all the early computer programmers were women, beginning with Ada Lovelace, the only legitimate daughter of the poet Lord Byron, who is generally regarded as history's first programmer, writing a program for computing a series of Bernoulli numbers on Charles Babbage's Analytical Engine, the first stored-program computer, in the 1840s. The Engine was never built, but later computer scientists determined that her program would have run correctly on it.

"Six women programmers worked on [the] secret machine, the ENIAC [developed by John Mauchly and J. Presper Eckert], to calculate the ballistics firing tables for the new guns developed for world war effort by the Army in 1945. The ENIAC, the first all-programmable computer was described as 80 feet long, 8 feet tall, black, and with 3000 switches." — West, Donna, "ENIAC Is Prominent in Computer History", suite101.com, 12/20/09.

I Try to Join a Commune

If you can't live in the place you want to live all the time, then live there part of the time. So ran my engineering logic toward the end of the seventies. I would join a Berkeley commune of intellectuals, spend an afternoon and evening with them on the weekend, then go back to Silicon Valley renewed, refreshed. The commune movement was flourishing at the time. In a newsletter I subscribed to, communes advertised for new members. Some of the houses had names: Harwood House, Alvarado House. You called the number listed in the ad, described yourself and your interests, and then, if you seemed to be a worthy candidate, were invited for an interview in front of all the members of the group.

One of these took place in a grand old house at the foot of Arlington Ave. in Berkeley. A skinny, middle-aged woman answered the door. There was a little hallway leading to a huge living room decorated tastefully in Spanish style, one entire wall being a window with a view of the Bay. Oddly, there was a small kitchen immediately to the left of the hall near the front door. The woman gave me a tour as we talked. She said the house had been built in the twenties by a doctor. There was a ballroom in the basement which had been cut up into separate living spaces. Something like ten people currently lived in the house. The woman and her husband had bought the house, but unfortunately he had died. A suicide. Her first husband had been killed in an accident. On the second floor were spacious bedrooms. She said that one room was about to be free because a woman was moving out. This was necessary because she had attempted to stab one of the men whom she suspected had a girlfriend in Washington, D.C., where he went on business trips. I told the woman I'd get back to her, which, of course, I never did.

I had another interview in a communal house in the Claremont area, occupied by several young men and women and an older man who was the father of one of the women. All the members sat in a circle, addressing questions to me. One young woman pressed me about what I liked to do. I said, well, I like to study and read.

“What subjects?”

“Computer science, math, but also history and philosophy.”

Pause. She looked intently, curiously, at me, and then asked, “But what do you do *for fun*?” I decided the house was not for me.

There was a Commune Association connected to the newsletter I subscribed to. It held periodic meetings in various houses. I attended a couple of these. At one, in a dark living room with little furniture I spoke with a guy who belonged to a house in which each member was supposed to write on the bulletin board what his sexual preferences for that week were. He said there were 13 categories to choose from: single-partner heterosexual, single-partner homosexual, threesomes in all combinations of genders (for a total of eight), celibate, and I forget the other two: possibly varieties of foursomes.

I think it was on a commune visit that I and one or two other prospective members were shown something uniquely Berkeley, at least in those days. During the usual house tour, our host opened a bedroom closet door and gestured proudly with open palm. Inside the closet was a bright, purple, fluorescent lamp, and growing in the center of the floor, a tall potted plant with spiky leaves. I nodded, smiled, said “Very nice”, and privately thought it rather odd that someone would find pleasure in growing plants with artificial light in his bedroom closet. It wasn't till several weeks later, when I mentioned this to someone, that I learned what the plant was.

But in my visits, I found no intellectuals, no artists, just the intelligent poor. An engineer at HP Labs, hearing of my search, gave me the number of the house where his aunt lived. It was in the Claremont hills. She was gray-haired, Jewish, and shared a room with a retired Army guy

who was writing a play which he had been working on for years. He showed me the garden he was making on one side of the house: a few ragged flowers growing in the midst of lush weeds and grass. He had tramped down a path through the grass, and had placed a couple of stones next to a tree, so he could come out and sit and meditate. There were a couple of graduate students, young scientists getting their PhD's, a woman who worked part time teaching in nursery schools, and the beautiful Sonia, whom I fell desperately in love with. She gave me the tour of the house once they had decided to take me on as a part-time member. She had a way of standing a little closer than most people did — she put her hand on my arm once in a while when talking. She was between jobs or professions or whatever: a beautiful woman waiting for her next lover, bored but not taking it out on others. They gave me a tiny room in the basement to sleep in. It had a bunk against the cement wall. I tried not to think of the truth: a middle-aged man so lonely he was willing to sleep in a basement in order to have a little companionship once a week.

One Saturday, when I arrived, someone called out that everyone was on the patio. I went to the back of the house, and saw, besides the others sitting in chairs, a stark naked beautiful woman lying on a blanket. It was Sonia. She may have said something, or waved a casual hand, I don't remember, but it was clear that this was a sight that members of the house were supposed to take for granted. Later she got up and went into the house. This happened several weeks in a row.

Then, one weekend, someone mentioned that Sonia had met a wealthy doctor and had gone to the Caribbean to visit him. I lost all interest in the place.

I decided I would start my own commune, in the Palo Alto area. I may have placed an ad in the newsletter, I don't recall, but soon I had two of life's rejects, both women, who were willing to give the commune a try. One of them, Linda Bomberger, a frowzy, not-bright, but uncomplaining woman, was pregnant by a local policeman or military guy who had made it clear he wanted nothing to do with babies, much less with women who had babies by him. She wanted to do natural childbirth but it didn't work and they had to race her to Stanford Hospital. I felt I had to stick by her, but in truth I wanted no part of this being immersed with life's losers. She knitted me a bulky green-and-red coverlet by way of thanks. She later moved to Mt. Shasta, and sent me pictures of the baby.

Shopping at the Co-op

I did my best to keep one foot in the left wing even though I lived in Silicon Valley. One way of doing this was by shopping at the Co-op, which had a store at the corner of El Camino Real and San Antonio Rd. in Los Altos — just a few blocks from what had been our home before the divorce. Like many, perhaps most, other liberals, I shopped there because it was for a good cause, not because the prices were particularly low, or the quality of the food was particularly high.

Each summer, the Co-op ran a camp in the Sierra, and one summer I took Jeff. Like all vacations, it required a superhuman exercise of will to hide the black depression I experienced. More than a week with no music, and with only the few books I had packed in my suitcase. Hot weather. Lectures every couple of days in a tiny amphitheater about the co-op movement, its struggles, what needed to be done. (The long and short of it was that the movement had been founded during the Depression and was now rapidly becoming an anachronism as the old-time socialists died off and their children moved on to other social causes.)

But one thing I remember was the extraordinary cooling effect that the redwood trees had. In the sun, all you could do was concentrate on getting to where you were going; you certainly couldn't read, must less study or think. But once you were among the redwoods, the temperature

dropped who knows how many degrees and was cool and comfortable. You could have installed a large office there and the workers would have had no problem attending to business.

Another Co-op memory has its source outside the Los Altos store. I was coming out one sunny day with my bags of groceries when a young woman seated behind a card table asked me if I would like to attend a meeting of some mystical or Eastern religious association whose name I have long since forgotten. I said No, perhaps uttered a sentence or two why I couldn't believe in such things, and started to walk past. She accepted my response, but then asked, somewhat shyly, if I had thought about the possibility of coming back in the next life as a cockroach. I stopped and asked her if a cockroach really knows that it is a cockroach. If it doesn't, then it is pointless to worry about coming back as one, and equally pointless for a religion to hold out the prospect as a kind of punishment to be avoided by adhering to the religion. She was a little taken aback by this barrage of logic, but she maintained polite demeanor of the ever-hopefull proselytizer. I don't remember her reply.

Emil's Death

Once every year or so, my mother and Emil would go to Switzerland. They stayed at an expensive hotel in Berne, the Hotel Bären ("the Bears Hotel"), and my mother would visit, or, rather, be visited by, the dwindling number of her relatives. She made war on all those who displeased her. Janet L —, the wife of Fred, Emil's son, told me many years later that one day, Uncle Sigmund took Emil on a day's outing. This forced my mother to have to rely on herself during those hours. According to Janet, when they got back, she said to them, "Goddamnit, you screwed up my whole day!" I doubt whether she used those precise words, although Janet claimed she wrote down in her diary exactly what my mother had said. But I have no doubt the words express the venom of my mother's response to my uncle's leaving her without companionship for the day.

On one of these trips, in 1980, when Emil was 95, he suddenly became sick and was taken to the hospital. I don't know the details, except that my mother told me that he was terrified of dying, and, as the end neared, kept crying out from his hospital bed. He died on Nov. 15, 1980.

It is no exaggeration to say that he died a broken man, thanks to my mother. Under the terms of his will, the house in San Francisco was placed in a trust managed by Wells Fargo. My mother had the right to stay there until her death, provided she paid the real estate taxes and insurance on the house.

My mother had hoped, or had been led to believe, that she would inherit Emil's Wells Fargo pension. When she found that this was not the case, she got it into her head that Emil's son, Fred, had deprived her of it. She confronted him several times, including at least once in his office, on which occasion she told him words to the effect that he was a disgrace to his father's memory. Years later, Fred told me that she was the only person in his professional or personal life who had ever been able to enrage him to a point that he was close to tears. After that, it was war between the two of them. During countless visits to her, I had to listen to the same tale of Fred's treachery, and view again and again the same photostatic copies of letters that supposedly revealed Fred's machinations. As when my father died, my mother again made clear that she wouldn't be on the verge of poverty if she had received the pension she deserved.

Fred, of course, wanted to keep an eye on his eventual inheritance, and yet he wanted nothing to do with my mother, and so I became his go-between. Every month or two there would be a phone call: "Hello, John, Fred L— [giving his full name], just checking in." The greeting was always in the same tones, which said, "just a routine call, nothing important." Like a little boy I

would hasten to assure him that all was well with the house, that the plaster that had fallen from the ceiling in the upstairs den had been replaced and painted, that the dry rot under the front windows outside would be repaired by Mr.—, that the plumbing leak in the basement had been fixed (I having reported the problem in a previous conversation). Sometimes my mother would refuse to have the work done on the grounds that Fred should pay for it, and then I had the dual job of convincing her that it really was her responsibility in accordance with Emil's will, and of assuring Fred that I would get her to have the work done. He listened, and then, if he was satisfied, would sometimes ask, "And Jeffrey?" and I would tell him the latest. But I could sense that when this took more than a sentence or two, I had a bored, impatient person on my hands. And then, suddenly, without any preamble, he would say, "Well, sounds good." and hang up. No goodbye, No "talk to you soon", No "thanks for doing such a good job with your mother." His termination of the conversation was so abrupt that the first couple of times, I thought his phone had gone dead. And these calls went on year after year, until my mother died.

Jeff in Jr. High School

Around age 12 or so, Jeff told me, with some seriousness, that he no longer wanted to be called a "kid". From now on, he wanted to be referred to as "a young adult". I tried to respect this preference, though I was unable to refrain from kidding him occasionally, for example, when he had some of his friends over: "OK: how many young adults in this room would like to... *go-out-and-get-an-ice-cream?*" (Much later, when he was in his late twenties, he didn't mind when I referred to him as "my kid" in talking to my friends. He: "I know, I'll always be your kid.")

I made every effort to conceal from him that I was usually in a state of fearsome depression, and thought I had been successful at it. But Kathy (to be introduced below) told me that he had once asked her if his father was depressed, so I wasn't as successful as I thought. I definitely remembering slipping once. I had picked him up for one of our mid-week times together. We were driving up Wolfe Rd. in Cupertino, not far from the HP plant, when he asked me something. I was short with him in my reply. I looked over and saw a shadow cross his face as though I had struck him. I immediately apologized, but his reaction — his sudden lowering of his head, the look of sadness and incomprehension on his face — made me realize the galactic distance between my treatment of him, and my mother's treatment of me, she routinely inflicting cruelties and insults a thousand times worse several times a day since my early childhood, and throughout my life.

In keeping with his ongoing interest in money, I told him that, when I was a boy, tough guys would not look at the money when they paid someone off: they'd either look furtively from side to side or over the person's shoulder, or deeply into the person's eyes as they folded the bills into his hand. He and I often joked about this, I often imitating this behavior when I had occasion to give him some change or a few dollars.

For some reason, I felt no compunction about casually discussing crime with him. I always told him that, if you're going to commit a crime, you need to do your homework regarding the penalties, then figure out how much you can hope to get from the crime, then divide the amount by the number of years in prison if you're caught, so that you can figure out your yearly income and see if it would be better just to get a job. I told him that bank robbery was a poor choice of crime, since the penalties are so stiff — at least twelve years. Embezzlement is much better.

The Young Collector

During these years, he collected coins, beer cans, and baseball cards. Every once in a while, I drove him to a store called “The Dugout” in the Old Mill Shopping Center in Mountain View, where he could buy (and, possibly, trade) cards. I also drove him to several trading card conventions in the area — big rooms full of tables displaying the cards. He had considerable expertise in this subject. He even published a small magazine, “Sports Collectors Mini Mart”, in which people could list cards wanted and cards for sale. I still have copies of the first and second issues (March, April, 1982 — he had just turned 14). Here is his introduction to the second issue:

“Welcome to the second issue of the Sports Collectors Mini Mart, sports collecting’s newest magazine. This issue is much larger and neater than the last issue. It contains more ads, articles, and so forth. Recently, we hired a staff writer, Jeff Stebel, who will have an article in each monthly issue. This issue is better looking thanks to the help of an expensive computer system. I would like to thank the people and companies that have helped considerably towards our magazine, with their words of encouragement and support.

“Briefly, we’ll review the advertising pages. Two full pages in large advertising per issue, and 100 words in classified ads per issue, to all subscribers. Advertising rates for non-subscribers and subscribers which need more space are: \$5.00 for a full page, \$2.75 for a half page, \$1.50 for a quarter page, and 2 cents per word in classified ads.

“Again, the subscription rates are \$6.95 for one year, \$4.35 for a half year, and \$.75 for a single copy. Dealers wishing to sell the SCMM, can receive [sic] copies at a substantial discount if 15 or more copies are purchased.

“Let’s get involved in the Sports Collectors Mini Mart, and make it #1 in the nation. We are doing everything in our power, but we need your support. Thanks.

Jeff Franklin — Editor & Founder

John Franklin — Publisher

Jeff Stebel — Staff writer”

Titles of the sections were: “Fan Reaction”, “Save \$”, “Sale”, “Wanted”, “For Sale”, “Sale”, “Card Sleeves”, “Paying \$”, “Sale”, “Hey!”, “News”, “Classified Ads”, “Wanted”.

I don’t know what he meant in his Introduction by “an expensive computer system”. I may have had my first computer by then, I am not sure. I doubt if I would have been willing to type up an entire 15-page issue. The pages were 4¼ in. by 5 in. — ordinary 8½ in. × 11 in. folded in half, turned sideways, and then four pages, front and back, printed on each sheet. Binding was two staples. (I think the term for this format was “saddle-stitched”.) There were pictures of cards on the front cover, with the faces of the ball players, so some sort of half-tone printing must have been involved.

He opened a Wells Fargo bank account for the magazine, which in turn required that he get a business license, which he did.

Shooting Pool

I saw him once in the middle of the week, and then once on the weekend. There was never any conflict with Marcella. On the mid-week day, we invariably had dinner at Wendy’s or McDonald’s. He would sometimes ask afterward, “Do I have to pay you back?” I have no idea what prompted this question, unless it might have been his remembering my telling Marcella that

my mother's father kept a list of all the money he spent for candy for his children, telling them that when they were grown up, they would be expected to pay him back.

For a while, on the mid-week day I saw him, he wanted to play pool. After dinner at Wendy's or McDonald's, we would go to the Golden— pool hall in Cupertino. This was shortly after the time that pool became respectable, and these new, family-oriented pool halls were found in many suburban towns. I was no good at this game either. I would go through long verbal arguments in my head as to why this, rather than that, way of lining up and hitting the ball was best: "Now, remember, hit it a little below center, so it doesn't slide across the top. Hit it smartly, but don't kill it. Line it up That's it. Remember: don't think about it, simply do it. Line it up, line it up. Head down! Now sweep your eyes back and forth, faster and faster, from ball to hole, ball to hole, ball to hole, now, not too hard, *hit it!*" The ball would miss the hole. I hated the game, but my creativity at figuring out ways to play it was boundless: "Don't aim and don't think! Hit it very lightly! Hit it hard! Let yourself become one with the cue and the ball and the hole, turn off the mind! Play as though you were a gangster, as though you had a cigarette dangling from a corner of your mouth! Nothing matters! Do a visual calculation using the cue stick to establish the line from the cue ball to the ball you're trying to hit, then from that ball to the hole. Reason it out!" I tried impossible shots, long shots down the length of the table which were to hit the opposite cushion and then come back and just tap the side of a ball so that it would skid sideways toward the hole. I tried thinking and non-thinking and everything in between. Once in a blue moon, I would get a ball in a hole.

Meanwhile, at the next table, members of the working class, who never read a book or listened to decent music or saw a good film, walked up and down the length of the table, chalking the tips of their cues, and sinking three and four in a row.¹

I comforted myself with the same ideas I had used on the golf course, namely, that one thing I knew I could do was design a machine that would play perfect pool, since, after all, given the weight and size of the balls and of the cue, the coefficient of friction of the table surface, and a few Newtonian equations relating mass and velocity, it was just a matter of calculation. It was just physics. Why not build a light-weight apparatus that suspended the cue and guided it so that you only needed to measure the distance to the hole? Then you would pull back the cue stick to the distance as marked on a scale, and let it go. The stick would be stopped, by the apparatus, a fraction of an inch after it hit the ball. True, you couldn't put English on the ball with such a simple device — couldn't give the ball any spin — but you could at least make all your straight-line shots without worrying about the human element. If you could measure angles, maybe you could have another scale as to how hard to hit a ball that would then hit another at an angle. This seemed to me the right way to go about playing pool. Jeff, on the other hand, began by doing the best imitation he could of how the others (and possibly I) held the cue stick. He placed his left hand flat on the top of the table, thumb sticking up, and then rested the stick at the base of the thumb. His hand wobbled, the cue stick slid up his hand. I showed him how you make a kind of flexible tripod out of your last three fingers, then curl the index finger so it touches your thumb, then slide the cue stick through the opening. He would try, be unable to control that many different parts of himself simultaneously, lapse into his own method. I never insisted he do it my way. As when he learned baseball, he would just keep trying, often becoming frustrated and showing

1. "It's true we expect working-class types to be good at pool, however deficient they might be in geometry, but in my neighborhood the pool sharks were the rich Jewish kids on Soundview Ave [White Plains, N.Y.], who all had pool tables in their rec rooms. They were good at ping pong for the same reason." — J.S.

his anger. I would try to soothe him. Sometimes he would watch players at the other tables. Eventually, he became better than I was, and would look at me in that way he had when I continued to miss even the simple shots: “My poor old man: he reads all those books but he’s no good at sports.” But his self-confidence increased not only as a result of his increasing skill but also as a result of his seeing how much better he was than his father.

Challenging Each Other

Before the divorce, he and I would pass the time waiting to be served in restaurants by playing endless games of Hangman and, once in a while, I Spy (“I spy, with my little eye, something that is ... *red and green!*”) Then the other person had to look around the room and try to figure out what he was referring to). Years later, he would sometimes do the Jumble in the *San Francisco Chronicle*.

“**Jumble** is a word puzzle with a clue, a drawing illustrating the clue, and a set of words, each of which is “jumbled” by permuting its letters to make an anagram. A solver reconstructs the words, then arranges letters at marked positions in the words to spell the answer to the clue. The clue and illustration are often designed to mislead the solver.” — “Jumble”, Wikipedia, 1/11.

From the very beginning, he had, unlike his father, a healthy attitude toward puzzles. If he could solve them, he was happy, if not, well, he would try again later. This extended far into his adulthood, when, at around the age of 42, he began working *The New York Times* crosswords. If I happened to be visiting him, he would call out some of the clues to me. I would always tell him, when we started, that I was no good at crosswords, but he would still tell me about clues he was having trouble with. Once in a while I was able to supply a word he probably wouldn’t have gotten, e.g., “ukase”. He sometimes worked on a puzzle for several days, sitting, pencil in hand, the page before him, slowly, patiently, filling in the squares.

I remember a question he posed one day as we were driving: Sometimes, in residential streets, you see a blue dot (actually, a square blue reflector) in the middle of the road. What is it for? I thought for a while, trying to reason my way to an answer, finally came up with: “So the Fire Dept. can tell where the fire hydrants are, in case the firemen can’t see them at night because a car is illegally parked in front, or trees are hanging down, or whatever.” He: “Right!” In memory, I see Marcella standing in the background, or sitting in the back seat of the car as we are driving at night, remarking on what a nice, challenging question it was, and I think remarking that other people she had asked didn’t know the answer.

After the divorce, when we sometimes went to Mexican restaurants at his request, I came up with the Hot Sauce Challenge: each of us had to pour the hot sauce that was at each table, into a teaspoon, then swallow it, without taking a drink of anything afterward, and without showing any emotion. This was easy at some of the Mexican places, but not at all. Sometimes I could feel the sweat breaking out on my forehead and cheeks as I sat calmly, face immobile, and tried to continue talking about whatever we had been discussing. Here, too, he was usually better than me.

Before he was of drinking age I would let him take a sip of my wine or beer in restaurants. We learned to keep an eye out for waiters and waitresses while giving no sign that we were doing so. We never got caught.

At Marriott’s Great America, we challenged each other to rides. We alternated in deciding on

the next ride, which could be a repeat of the one we had just taken, the only condition being that there could be no resting time in between. Whoever gave up first lost. I think the combination that did me in was a series of consecutive Tidal Waves (a then-new roller coaster in which you went backwards as well as forwards, and went completely around a loop, so that for a few moments you were upside down), immediately followed by the Octopus, which spun you around while you went around, and up and down, a central axis. After the Octopus, I admitted defeat, and the two of us sat on a cement wall, trying to laugh while looking distinctly green.

Watching the Sailplanes from Mission Peak

In the mid-seventies I gradually gave up flying. I had done most of what Sky Sailing had to offer. If I had wanted variety, I would have had to rent planes at the airport in Calistoga, in the Napa Valley, perhaps sixty miles away, or buy my own sailplane, which meant also buying a trailer, and then traveling to the Sierras, all of which was far too expensive for me.

But I returned to the airport every once in a while, and a couple of times I took Jeff for a hike up Mission Peak, driving up the narrow, winding farm road on the north side, along stone walls and fields that it seemed were known to no one but the farmer. Then we set out through the grass, working our way up to the top of the Peak, I keeping up a steady conversation so he wouldn't get bored. Then, at the top, among the boulders and grass, we watched the sailplanes from a vantage point I had never seen them from before. We were on the top of the ridge, and they went by just a few arm's lengths away, it seemed, cruising back and forth, the whispering slipstream audible. On a cloudy day, the sun, hanging in the sky in the West, beyond the Bay and the Peninsula, looked like the sun of another planetary system, and I thought that he and I must resemble the tiny figures in one of Chesley Bonestell's paintings. He watched the planes excitedly for a while, but then wanted to go off and do something else, so we climbed back over the top of the ridge and made our way down to the car.

He got a kick out of watching the odometer in my Opel roll over after it had reached 99,999 miles. He had pointed out for several days or weeks that the event was about to occur. We were up by Skyline Drive, on the west side of the Peninsula when it happened — at night I think. The light from the dashboard illuminated the speedometer. He leaned over, talked excitedly as the tenths-of-a-mile indicator slowly turned past 9. I remember slowing down so he could see it happen.

Visiting Grandma

My mother demanded visits. I postponed them as long as possible, but the only way to stop her relentless phone calls for a few days was eventually to give in. (I made a point of trying not to allow my son to know the full degree of my contempt and hatred of the woman.) I knew, from past observation, that these visits were largely a duty for him, as they were for me, so I would say, before we left, "OK, now, this might get boring, so bring your boredom fighters." That meant: bring whatever toy trucks, cars, balls you would like to play with while we are there.

He and I had an ongoing competition to see who could endure the longest visit with my mother. I was never able to beat his record of 2 hrs., 11 min. By then my heart would be palpitating, I could hardly breathe from the unbearableness of it all, the impatience to leave.

Among the promises I made to myself before he was born was that I would never criticize his music. (Don't do anything that was done to you.) But "criticize" is too mild a term for what my parents — mainly my mother — did: "show unbridled contempt for" is better. And although I

detest popular music (except for the popular music of the sixties) and in particular rock 'n roll, which is loser's music, I kept that promise with Jeff. So on trips to visit grandmother in San Francisco, we would negotiate an agreement: he would get to listen to his music on the radio one way, I got my classical the other way. Of course, when I turned on the classical, he promptly put his head against the window and went to sleep, but that was his privilege, and I never criticized him for it. I usually let him choose which direction would be the one for his music. There was never an argument because the agreement was made before we began. Sometimes, out of genuine curiosity, I would ask him who was singing, what school of rock they belonged to. Once, in the eighties, he gave me a chart showing how all the schools were related: soft rock, easy rock, hard rock, heavy metal, punk rock, acid rock, and so forth

On one of these trips to San Francisco, we had a disagreement that I thought was quite interesting. A car that was smaller than my Toyota Celica overtook us and stayed even with us for a stretch on the Route 280 freeway. I may have expressed surprise that a car that small was able to maintain the same speed as ours. With great confidence, he replied that the small car was going faster than we were. I, naturally, pointed out that we were side-by-side so we must be going at the same speed. But he looked out the window at it, shook his head, and said, "It's going faster, Weeter."

I puzzled over his opinion for a long time after that, and then it occurred to me that it must have been based on his comparing the *speed of rotation of the other car's wheels* relative to ours. (He couldn't see our wheels, of course, but he must have just assumed that ours were rotating at a slower rate.) And this was certainly correct, because, since the other car's wheels were smaller, they had to turn faster to achieve the same over-the-ground speed.

Years later I came across the following:

"A common housefly is faster than a jet airplane — in one manner of speaking. The fly moves 300 times its body length in one second. The jet at the speed of sound travels 100 times its body length in one second." — Boyd, L. M., "The Grab Bag", *San Francisco Chronicle*, Oct. 5, 1980.

So I thought it might have been that my son was basing his judgement on car lengths per unit time. In late 2007 I brought up our discussion with him for the first time. He had no memory of it, but thought that the reason why he said the smaller car was faster was simply that it had to be faster in order to catch up with us in the first place.

Humor

I tried to keep a sense of humor alive in our interactions. In reply to something he might say, I would say: "You can't say that!"

He, casually: "I just did."

I: "Oh, yes..."

Or, when I picked him up, or at idle moments during our time together, I would ask, imitating the thick New York accent of a middle-aged guy in a film who had a habit of asking those around him, "So...what's the story?" After a while, it was clear he had grown tired of the question. He would look down with an expression that clearly indicated he was thinking, "What a dumb greeting" and reply, quietly, "There is no story." But I found it hard to give up the question.

Another bit of humor that I soon wore out, but couldn't stop repeating, was prompted whenever we passed a sign, "Garage Sale". I: "Look, Jeff, there's another garage for sale!" He eventu-

ally no longer even bothered to respond except with a facial expression that clearly indicated the joke was no longer funny.

Grace Under Fire

He played in Little League into his teens. I attended virtually every game, but, as with AYSO soccer, I always brought a book to read during the slow parts. And sometimes into the fast parts. He sensed it, I'm sure: "My father doesn't really like to come and watch these games." I tried to become adept at putting the book down when there was action on the field, and especially when he was at the center of it. But I didn't always succeed.

The one game I do remember, though, was his last one. His team was vying for the league championship; this was the second-to-last game; if they won both, they would get to play a regional championship, an honor which, as I understood it, came with a fully-paid trip to another part of the state.

He was pitching. It was the bottom of the ninth inning, with his team ahead by one run; bases were loaded, two outs. Marcella and I were in the bleachers. I think we were both holding our breath. All eyes were upon him. He did the stretch, brought the ball to his chest. He was taking his time. Then he leaned back, his arm came around and he hurled the ball at the plate. Strike three! The parents went wild. He was a little embarrassed at the applause. Marcella and I went up to him afterward, congratulated him. He seemed to consider it as nothing exceptional. I was enormously proud of him. I think I was on the verge of tears.

Unfortunately, his team lost the next game, and so they never got to the regional championship.

Skiing

I took him skiing, even though I knew those days would be among my worst: I hated the daily evidence of my mediocrity as a skier, the fact that, although I had been skiing since childhood, I still was just barely an intermediate; I hated the showoffs, I hated not being able to ski with both skis close together as they did; I hated the effort that making turns was for me; hated the fact that I couldn't get it right by thinking. I hated the crowds, the getting in and out of cars, the having to wait for a few moments in the morning when he could go off by himself and I could have a few minutes in the lodge with a book. But most of all I hated the not being any good at it.

As far as I know, I managed to conceal all this from him, sometimes with a little humor. He told me years later that, on first entering a dimly-lit motel room I had rented for us, which I am sure I found unbearably depressing, I half-mumbled, "There's not even enough light to write a suicide note." He considered this rather funny, both at the time and when he told me the story many years later.

He kept on improving in his skiing. It wasn't so much that he set himself the goal of becoming a good skier, it was rather that, as with baseball and other sports, it was *annoying* to him *not* to be good at it, and so he kept trying until he was. Soon he was challenging me to races from the top of the lift to the bottom of the slope, and soon it was all I could do to keep up with him. He had the same coolness that he had showed in that last Little League game: he seemed to study the slope, make up his mind how he would approach it, then go. He always seemed to ski just on the edge of daring: you could never call him crazy, but you certainly also had to admit he had no fear.

Once, at Heavenly Valley, we were going along a trail that led from the top of the lift, and came upon a cornice. (A cornice means that initially, the slope goes backward *into* the mountain: it is "steeper than vertical"!) He adjusted his gloves, made sure his hands were properly posi-

tioned on the grips of his poles, all the while looking at the edge, sliding his skis back and forth in the snow, then, a little hesitantly, he said, “Let’s go”, and off he went, suddenly disappearing over the edge. I cautiously slid forward, looked down, and there he was, zig-zagging down the wall of snow.

Another time, at Aspen, where I took him for a week’s ski vacation, Kirkwood, we were racing down the open slopes and I managed to get ahead of him. I was skiing absolutely as fast as I could, and certainly beyond my ability. But the slopes were wide, and there was little ice. Suddenly — and this is precisely the sequence of events as I experienced them — I was sliding on my back and realized I had fallen and was wondering if my skis were breaking; then I heard a crack and realized it was the sound of my head hitting the ice, then I felt a sharp pain and knew it was my back hitting the ice. The actual sequence of events was just the reverse. It was a repeat of the same phenomenon that had occurred when the gas in the oven had exploded in my face in childhood. But in childhood one of the heroic ideas that I had made my own was the importance of falling properly, and so I relaxed as I went flying along down the slope, let my legs go where they would, did nothing to prevent the forward movement, and so eventually came to a stop. I found that nothing was broken or even bruised or sprained. I had a mild ache in the back of my head. The tip of one of the skis was broken. Jeff came skiing up, asking with obvious concern how I was. I told him. He said he heard several people say that it was the worst fall they had ever seen. We finished the run together, no longer racing¹.

Once we were exploring the backside of Heavenly Valley. At the end of a firetrail through the trees, we suddenly came upon an enormous, wide, slope bathed in sunshine and covered with deep, thick, corn snow.² The slope was very steep, but we decided to try it anyway. I was confident that I could ski *across* it — you can ski across almost any slope — but making the turn at the end to go back the other way — that meant, for a second, falling straight down while your skis turned in midair. He went first, I followed. We went across, he expertly snapped around, so that he was going back directly below me as I got ready for the turn. The snow rolled down below our skis, the fragments of ice in it hissing as they slid over the snow beneath, little balls of snow tumbling pell-mell over each other. We, and in particular Jeff, who was below, were in effect skiing down an avalanche made by me — he was skiing on a mountain that was moving down a mountain. Back and forth we went in a ridiculous abundance of firm, soft snow. Far below a few skiers were coming to a halt at the bottom of a rope tow leading up another hill: little dots in the blinding white. We (or at least I) had to stop every minute or so to catch our breath. It is hard work skiing down a wall! Then we would resume, and sometimes I got the rhythm right, so that I could imagine doing this controlled crashing through the white surf all day long, could imagine it becoming the only thing I ever did besides sleep and eat. I kept wondering how this could possibly be, how there could possibly be a mountain slope this wide open, with this much snow, that I could ski this well.

We skied it several times over a period of two or three days, even though it was illegal to do so because, someone told us, the corn snow was dangerous. I never really understood why.

1. I should add that, in my own memory, the incident occurred at Kirkwood, a modest ski resort near Lake Tahoe, but that Jeff is convinced it occurred at Aspen. He also remembers that he was ahead of me at the time of the fall, not behind, and that he waited for me at the bottom of the hill, and was a little shocked at the dishevelled old man making his way haltingly down the slope on foot, carrying his skis.

2. This is a granular, as opposed to fluffy, type of snow that is the result of partial melting during the day, then freezing at night.

Usually we ate at local restaurants, but once we went to a really good one: Petit Pierre. I no longer remember which town it was in, but I distinctly remember seeing it ahead in the darkness as we bumped a narrow road in a pine forest, deep snow everywhere, the restaurant a low building of dark wood with a single yellow electric light on top. “I think that’s it!” The service was the ultimate in breathless propriety. We were each given a small white towel and a white container of warm water. I didn’t know if we were supposed to drink the water or what, but Jeff guessed that it was for washing our hands. Then, after the appetizer and prior to the main course, the waiter, bowing as usual, gave each of us a small plate containing what looked like a small helping of gray sherbet of some sort. We thanked him and I shyly asked him why he was serving this now as opposed to with dessert. He explained that it was a sorbet and its purpose was “to cleanse the palate” prior to the main course. I think it was at this restaurant that I had escargot for the first time, I thinking, and correctly, as it turned out, that nothing served in a place as high-class as this could possibly not taste good.

By high school, Jeff was skiing with his friends, and I didn’t have to endure the ordeal of ski trips any more. By college age, he was an advanced skier, and by the age of 26, he had skied many of the great resorts of the world, including St. Moritz and Zermat. He told me once about a close call he had had while skiing with a friend. They were nearing the end of the ride on the chair lift and trying to decide whether, in effect to take the run that led off from the left at the summit or the one that led off from the right. They finally decided, for no good reason, to take the one on the right. Later, when they reached the bottom of the hill, they heard that there had been an avalanche on the slope on the left and that, I think, at least one person had been killed.

Promoting the Revolution

Around this time I briefly dated a young woman named Meredith H — whom I will always remember because of something she told me about her father, who was a Communist. But more of that in a moment.

I don’t remember how we met, but I do remember that she was a technical writer working for a small start-up company in Santa Clara. I visited her office once with her and talked with the two owners. They had been with IBM, but their hatred of the regimentation in the company had led them to start their own company. Meredith told me later that so determined were they to avoid the evils of their former company, that they all but dispensed with planning and budgeting. The company went under after a couple of years.

I got the impression that she would not have been opposed to our having a sexual relationship, but even though she was rather attractive she was too neurotic even for me. For example, if we arranged to meet for dinner at a local restaurant, she would invariably be three-quarters of an hour late. When I eventually asked her why she couldn’t be on time, she flew into a rage. She invited me for a Thanksgiving dinner, just the two of us, and soon revealed that she was in a frenzy over the preparation. At one point she opened a can of vegetables of some sort. There was a soft hiss as the can opener penetrated the tin. She immediately assumed that the food was contaminated and called the National Center for Disease Control and demanded to speak to an expert on food poisoning. I think the expert told her, in so many words, that it was probably nothing, but if she was worried, she should simply throw out the contents of the can. But she immediately started washing every pot and dish and piece of silverware in sight. Throughout the dinner, such as it was,

the only topic of conversation was how we had both narrowly escaped death.

As I said, her father was a Communist. I don't recall what exactly he did for a living — something not high-paying, she indicated; perhaps he worked as a union representative. He lived in a city on the New England coast. At the end of a dinner with Meredith, I brought up the subject of tips, perhaps wondering what she considered a fair percentage to leave. She said she didn't know, because her father, in an effort to do whatever he could to drive the workers to revolution as soon as possible, made a point of never tipping waiters. I found out years later that the tactic was apparently not original with him:

“He seems to be in very bad temper.”

‘Not really. He’s always like that to waiters. You see, he’s a communist. Most of the staff on the *Twopence* are — they’re University men, you see. Pappenhacker says that every time you are polite to a proletarian you are helping bolster up the capitalist system.’”¹

Kathy

And now it is time to introduce Kathy. When people ask me how we met, I always tell them that we met in the back of a garbage truck. The story begins in 1982, when there was an initiative on the ballot that would force consumers to pay a deposit on bottles they bought, the deposit to be redeemed when they turned in the bottles. A similar initiative had become law in Oregon. Somehow, I suppose because I was on most of the pro-environment mailing lists, I got a phone call asking if I would do volunteer work for the campaign. The woman introduced herself and asked if this was a convenient time to talk. I said I was half naked, having just stepped out of the shower, but (slapping my firm tummy loudly enough so she could hear it), “looking pretty good, though!” She laughed, called out to others in the office what I had said, and they laughed too. She asked if I would be willing to join volunteers on an upcoming Saturday to ride around in trucks and pick up bottles from the side of the road. The idea was to bring them back to a central location, pile them up, and then have the papers take a picture to show how much trash the initiative would remove from the city streets.

So on the appointed day, wearing my flat English workman's cap to hide my baldness, I appeared at the appointed place. I got to talking to one of the volunteers. She had red hair, freckles, seemed in her late twenties, and had a tomboyish, let's-get-in-and-fix-this-problem manner that I liked. We decided to ride in the same truck. Up we climbed, both now wearing gloves, and soon we were bouncing along the roads of southern Santa Clara. She seemed to know who was who in the organization: she said that the two guys in the cab were gay and currently living together. Somehow the subject of jokes came up, possibly because I mentioned some of the raunchy ones that were going around the Labs at the time. She immediately started telling some that were at least as bad.

She: “How do you tell if a Polack woman is on the rag?”

I: “How?”

She: “Because she's only wearing one sweat sock.”

She: “What's the difference between a pit bull and a bull dyke?”

I: “I give up.”

1. Waugh, Evelyn, *Scoop*, Penguin Books, N.Y., 1943, pp. 31-32.

She: “About 100 pounds, some lipstick, and a windbreaker.”

She: “What’s the difference between a Polack woman and a bowling ball?”

I: “I don’t know.”

She: “Well, if worse came to worst, you could always *eat* a bowling ball.”

She: “How can you tell a Polack woman has been doing splits?”

I: “I give up.”

She: “Because there are snail tracks all over the floor.”

She told them fast and with perfect timing, free of all the hesitations and unnecessary details that make it such a chore to listen to most people tell a joke: “Let’s see — oh, wait: I forgot to tell you that — OK, so where was I, oh yeah, well, and so — did I mention — ? I guess I did. Anyway...” She had none of this maddening ineptitude. She seemed to have an unlimited supply of jokes at the ready, and she told them in her tomboy voice with the skill of an expert. She clearly had learned this skill from her father, who, as I found out later, had the same dead-pan manner and perfect timing when he told a joke. (Her parents lived just a few blocks from my townhouse; a friendly, unpretentious, middle-class, middle-aged couple¹.)

Every once in a while the truck would stop and we would climb off and scramble around in the undergrowth by the side of the road. One of the guys in the cab would join us. We filled sacks with bottles and cans. Once, however, while we were wrestling with an old box full of stuff whose exact nature you didn’t like to think about too long, the box suddenly broke open and I was covered with what once was probably beer. So some kind of pants removal and drying had to take place. She turned her back and continued our conversation with the tolerant obedience of a woman who had grown up with a brother.

She used the expression “dirt-bag” to describe the losers she had to deal with in the Public Defender’s office where she worked. “So this dirt-bag comes in and asks if it’s possible to get a postponement of a hearing on a — (she would give the three-digit number) with aggravating circumstances and I have to tell him” — she giving her hearty laugh — “no, Charley, it’s not possible. You is in here at the time it says or you is in *big* trouble.”

She liked to talk about some of the amusing characters in the office: lawyers who were famous for being impossible to get along with; others who were having affairs. And then there was an old black man named Cal who was a courier between the various Public Defender offices, and who always referred to his girl friend as “muh main *squeeze*”.

Needless to say, she knew lots of lawyer jokes. Three I remember are the following:

“What do you call a lawyer buried up to his neck in sand?” “Not enough sand.”

1. Many years later she told me a little about her parents’ history: her father had begun in construction in Ohio, then moved to the West and worked for many years in Building and Plumbing Supplies at Sears in Mountain View. In the late sixties he went into real estate, stayed with it for 8-10 years, but was not very successful, mainly because he was not aggressive enough. “My parents began selling at the Santa Clara Flea Market on weekends when I was in college, then at the Berryessa Flea Market, then they opened a store at the corner of Steven’s Creek and Highway 9. They had that for about six years until they were asked to move because the building was to be torn down. They moved down the street to 1035 DeAnza Blvd (Highway 9), had the store there until they retired in 1990, soon after [Kathy’s brother] Jim died.”

“How can you tell if your lawyer is lying to you?” “His lips are moving.”

“What’s the difference between a dead skunk lying in the street and a dead lawyer lying in the street?” “There are skid marks in front of the skunk.”

(Many years later, in one of our rare but affectionate phone calls, she told me the following one (she was still working in a Public Defender’s office)):

“Guy goes into a bar, orders a drink, starts talking to the bartender. At one point the subject of lawyers comes up. The guy proclaims loudly, ‘All lawyers are ass-holes!’

“A guy sitting at the end of the bar shouts back, ‘Hey! I resent that!’

First guy: “Why? Are you a lawyer?”

Second guy: ‘No. I’m an asshole.’”

Despite her tomboyish ways, I thought she looked kind of sexy: nice young breasts, ass tight in her jeans as she bent over her work.

When we had unloaded our bags and boxes, and offered token assistance at building the pile for the photo, we parted, but first exchanged phone numbers. She seemed to be inviting me to call her. By that time I was already well on the way to never trusting my instincts about these things. But a week or so later, I called her and asked her if she would like to go out to dinner. She would.

I picked her up at her apartment in San Jose. It was a seedy old building not far from the campus. I wore my English cap and a dark turtleneck sweater. She said years later that she thought I looked very French. She wore a long beige dress that gave her a kind of 19th-century country-girl look. She showed me around the building. The place was too warm, smelled stuffy and old. She said that several retired professors lived there, and that seemed to me utterly depressing: after a life of useless teaching and research (if any) that no one would remember, to wind up in a building like this, with carports at the back, spending your time reading books you have read and taught far too often, waiting to die.

I took her to the Pot Au Feu in Menlo Park. We had a table along one of the walls. She sat on the inside. I would have preferred it the other way round, because then I wouldn’t have to keep trying not to see my face and my bald head in the mirrors that ran along the wall. But after a while I got used to just looking down at the table or at her and never raising my eyes. We had salmon and puffed pastry. We talked and laughed and I felt at ease with her. I complimented her on the dress several times. In memory (although she doesn’t have any recollection of this) when we left, it was raining, and somehow her dress got wet. I invited her to come to my place to let it dry. Then, when we were there, I invited her to sleep over, saying (truthfully) that I had no intention of touching her. She asked if I had any extra pajamas. I did, and so she stayed. I don’t remember the details, but soon we were lovers.

At the time she had just turned 30. She had graduated magna cum laude in Art History from San Jose State but despite her education, she had a completely unpretentious love of art. When we went to the San Francisco Museum of Modern Art, she would always make sure that we stopped at Matisse’s “The Girl with Green Eyes”, one of her favorites.

After college, she had worked at the college box-office for a while, then at the library, then part-time for the registrar of voters before getting a full-time job in May 1979 as a clerk in the Public Defender’s office, where she was working when we met, and where she worked until after

2006.

She was not an intellectual, but she had a genuine love for modern drama, especially *Waiting for Godot* and Pinter's plays. She also carried on a personal crusade — what originally motivated it, I don't know — to show that Richard III was not the monster that Shakespeare made him out to be.¹ She also loved good films, for example, Bergman's. But she had never acquired any of the polish we normally expect in persons with these interests. We went to see *Das Boot* together, and she was deeply moved by it (as I was), but she always pronounced "Boot" the same as the item of footwear.

Later in our relationship we went to see a performance by the Mark Morris dance company. Both of us loved it, and we both admitted we had the same reaction when we first saw him come onto the stage and take his first few steps: "My God, there's a fat kid who can't dance!" His heavy build and the way he executed the steps were that strikingly different from those of the usual ballet dancer. We quickly changed our minds, of course, and went to see his group perform several times.

She seemed eager to move into my townhouse. My impression was that it was because she saw a chance to live in a nice house and she didn't want to lose it. I consented. So one day she rented a truck, got one of her friends to join us, and we trudded back and forth with her stuff. I was deeply depressed, not only over the prospect of giving up some of my house, but also, strangely enough, by the thought of those professors living out their worthless lives in those shabby surroundings, and by the heat in her building, and by her little collection of second-hand furniture and mementoes which meant so much to her. I felt I was getting too close to the worthless life of ordinary humanity.

She was extraordinarily thrifty, but never in a mean, grasping way. She was simply proud of her ability to save money. She was always cutting out coupons, always shopping in used clothing stores. She would come home on a Saturday afternoon, unpack several boxes of dresses on the kitchen table, and ask me how much I thought they had all cost. I would say, truthfully, I had no idea — \$100? She would laugh and reply with something like \$17. Holding up a blouse, she would say, "I got this for \$4 over at —" and mention the name of the used clothing store in the shopping mall next to our house. By the time she was 55, she owned her own townhouse in San Jose, not far from the one we shared, and was financially independent despite having lost several hundred thousand dollars through a crooked real estate investment trust that we both had large amounts invested in (see "I Almost Lose My Life's Savings" on page 1251). All this on a clerk's salary. She became for me a permanent proof of the stupidity of the American middle and lower-middle class, with its constant blaming of the credit card companies and greedy corporations for its inability to save for old age.

Since 1972 she had been the manager of the Cupertino Recycling Center, where she worked

1. "Shakespeare's portrait of this much maligned king (wonderfully done by Olivier in the 1955 movie version) is generally considered Tudor propaganda. Richard was the last Plantagenet king and the last English king to die in battle (Bosworth Field). Henry Tudor, victor at Bosworth, subsequently became Henry VII, grandfather of Queen Elizabeth I. Richard was regent (Lord Protector) for the infant King Edward V, who died mysteriously along with his cousin in the Tower of London, presumably murdered by order of Richard, who then took the throne. Some historians have doubted this sequence, as well as the extent of Richard's "crookback" deformity. I would bet that Kathy's interest stemmed from reading British mystery writer Josephine Tey's wonderful novel *Daughter of Time*, first published in 1951 but eternally popular. Tey was pro-Richard." — J.S.

Saturdays and sometimes part of Sunday. With her thick gloves, and her friendly, Peppermint Patty manner, she was ideally suited to the job. She worked constantly, breaking bottles, sweeping, piling stuff, explaining to customers which bin they should use, and supervising her motley crew of employees, which included the eternally lazy Jim and various young offenders — drunk drivers, petty thieves, drug sellers, the occasional felon — doing court-ordered sentencing alternatives. Sometimes she got a volunteer from a local junior college class in ecology or a related subject. I have never met a person more dedicated (not addicted) to work, needing it as though it were something you did to give thanks to the world. In the winter, she would give up part of her vacation to work on the Food Basket Program.¹

One day a bird flew up and landed on the edge of one of the bins at the Recycling Center. Kathy went up to it, held out her finger, and he hopped on. She got a box or a brown bag and brought it home. When no one replied to the announcement she placed in the paper, we decided to keep it. Her friend Sue said we should name it “Romin”, though I never understood why. Either it was a deliberate and unaccountable misspelling of “Roman”, or else it was a misspelling, deliberate or not, of “Roamin’”, because when Kathy found him he was roamin’ around the area. In any case, he became a part of our family.

He was a small, light-blue parakeet and he had a distinct personality. For some reason, probably the close quarters, he didn’t like to fly. He even walked — or, rather, hopped — up stairs, but when he got to the top, you could see he was panting, his little chest heaving in and out. When I came home at the end of the day, and sank down onto the couch, you would hear the rapid click-click-click of tiny bird claws on the kitchen floor, then he would come running across the carpet, hop up on the sofa, climb up onto the back, walk along it, and hop onto my shoulder. He would quickly sidle over next to my head and begin chirping loudly in my ear as though he had all sorts of important things to tell me about his day in his cage and as though I were hard of hearing. “And then I saw that pussy cat outside the glass door and I shouted at him and told him to get away and besides he couldn’t get me because I was in my cage and then...”

At this point, fairly grimacing from the shrillness of his chirping, I would, in mock chiding school-teacher tones, say, “Romin...no one likes a *loud* bird, Romin...we like a *quiet* bird...”

But he would ignore my words completely, and go on with his frenzied narrative, “...the cat went away and I ate some seed and then I flew down and drank some water and then I heard a noise and I thought I saw another bird outside but he didn’t see me so I decided it was time to hop onto the other perch and ...”

He would sit on my finger, but wouldn’t let me kiss the top of his head. His beak, when I put my nose near it, smelled like bird seed and toasty grass. If I looked him in the eye, he looked right back. He was a real person.

In addition to working part-time at the Recycling Center, Kathy also put in a couple of nights a week as a waitress at a restaurant called “The Spaghetti Factory”. She was proud of her competence, and liked to use some of the restaurant jargon: “The other night I was working a couple of four-tops [tables that seat four persons] and ...” I took Jeff there for dinner once or twice. Kathy liked to show off her skill with the kind of cork-puller known as an “Ah-So”. It had two flat metal prongs that she worked down between the side of the cork and the bottle. Then, holding the bottle and biting her lip, her fingers inside the ring at the top of the device, she wiggled it from side-to-side, pulling out all the while, and grimacing. Then she gave it a yank and out popped the cork.

1. She remained manager of the Recycling Center until Feb. ’91, when they closed it down.

We got along very well, although one day when I came home from work after Kathy did, I found on the bannister post, in the front hall, my mail, which she had opened for me. It was meant as a gesture of affection toward me, but it made me angry, and so I told her, somewhat sternly, not to do it again.

On Sunday mornings she came with me when I bought a *New York Times* at A Clean Well-Lighted Place for Books in the Oaks Shopping Center on Stevens Creek Blvd., across from De Anza College.

A major reason we stayed together was that we enjoyed spending time with each other. I remember one weekend we went to a classical music recital in Los Gatos. It turned out to be in a wealthy home owned by a very attractive, black-haired woman lawyer. I thought: if you manage to get one like this in bed, you damn well better perform. There was a little music room with glass doors in the rear that opened onto the garden with a solid wall of trees behind it. An amateur string group played a wheezy version of the first movement of Boyce's Symphony No. 1, and then a few movements of a Marcello clarinet or oboe concerto, and other pieces that I have forgotten.

Another time we went to Napa to visit a young woman friend of Kathy's whom she had met through her friend Sue. The woman's name was Pat Dreyer; she was an attractive blonde whose grandfather, Kathy told me many years later, had been one of the founders of Dreyer's Ice Cream, he having invented the flavor known as "Rocky Road". She worked at Napa State Hospital, an institution for adults with serious mental illnesses. Her hobby was collecting knives and swords; she had some of them on display on the dark red walls of her living room. Her boyfriend, later to become her husband, was a guy named Mark Fuhman (I am not sure of the spelling). He was apparently a highly-skilled designer of the tools used by dental technicians who make artificial teeth. Without question, he was the most right-wing person Kathy and I had ever known. Sometimes we thought he was kidding, but he wasn't. I was curious what their love-making was like — a woman with an interest in weapons and a man whose political views were somewhere to the right of the John Birch Society. At the time Pat wasn't working because of an injury she had suffered on the job: the Hospital rules were that inmates had to sit down on the floor whenever a staff member walked by. But one day an inmate suddenly jumped up, grabbed her, raised her over his head and threw her down the corridor. She suffered severe back injuries that kept her out of work for several months.

Sometimes, on a weekend day, Kathy and I would go to Berkeley, where we would have hamburgers at Fat Apple's¹ and then take a walk, I of course talking most of the time about the houses we would see, and casually prodding her to consider moving to Berkeley with me. But she didn't want to leave her job, in which she already had invested several years. A special treat for her was to be allowed to do some shopping at the Canned Foods Warehouse on San Pablo Ave.

Sometimes we would go to a party at Egl's, a guy she felt I had to meet because we had a lot in common. The parties would be in a little two-unit cottage behind the main house at 1817 Delaware Street, between Martin Luther King Way and Grant St. in North Berkeley. Theirs was the unit on the right as you approached along the little alleyway at the side of the main house. It consisted of a front room, then a kitchen, then a small, low-roofed bedroom behind the kitchen, with

1. At the time, it might still have had its original name, "Fat Albert's", after the Bill Cosby character. The story went that the couple that owned the place had divorced, and that part of the settlement was that the wife would get the restaurant, but that the husband could open another restaurant by the original name. So she changed the name to "Fat Apple's".

the bathroom off to the side of the kitchen. Egl's wife Barb, who worked as a waitress at a restaurant near Route 80, would do the cooking while the rest of us stood around on the bouncy floor of the front room, drinking and talking and arguing. Egl was about six feet tall, with a thick head of dark red hair which he wore long, and the intense look of a Viking. I never found out the source of his unusual name, but it might as well have been something like Erik Njorl, or Thorvald Nlodvisson¹. He seemed always to be leaning forward, wanting to press you into the conversation (or the harangue he was delivering).

Egl believed that every social gathering required continual classical music played at top volume, and so we would stand on the uneven floor of the living room with Rachmaninoff or Mahler or Bruckner playing and shout at the top of our lungs to be heard over the music. Every once in a while, in the middle of a sentence, Egl would suddenly say, "Listen to this!" and raise his hands and begin conducting and singing along with the music. "Isn't that fucking great? Hah? *Ho-ho!*" and on he would go, conducting with grand gestures, bringing out the strings with little toward-himself motions of the fingers of his upturned hand, cueing the brass with the other.

Various interesting characters would show up at these parties: musicians, teachers, graduate students, sometimes the woman who lived in the front house. Her name was Doris Richards. She had suffered an injury (I think of her back) years before and had been awarded some kind of lifetime disability benefit, so she was able to live, just barely, without working. Her main interest in life was fighting for animal rights. She was particularly concerned about dogs, and was instrumental in the establishment of the Ohlone Dog Park in Berkeley, the first in the nation. The City wanted to reward her, and asked her what kind of a commemorative plaque she wanted. She said what would please her most would be to have a fire hydrant named after her. People immediately pointed out that dogs piss on fire hydrants. She said she knew that, but what better gift could she give dogs than one of their favorite places to relieve themselves?² When she retired in 2002, members of the Park had a blue fire hydrant with a plaque in her honor installed at the Park.

After one of these parties, Kathy said, as we got into the car and gave me a kiss, "You know who was the handsomest man there?" I: "No." She: "You." (Somewhat sheepishly I must also record the fact that during another party, they decided to have a Nice Legs contest for the men, and I won.) Throughout our time together, I was enormously proud that I, a balding man in his mid forties-early fifties, was found attractive, or at least worth living with, by this sunny, young woman fifteen years younger than me.

Not all the parties were held at night. On at least one occasion, there was an afternoon gathering, and during it Egl introduced us to something he called "Killer Croquet". This was the traditional game of croquet, but played in a public park, and with no boundaries, so that you could hit your opponent's ball into the tall grass, under a park bench, even onto the sidewalk or down the street, and he would have to hit it from wherever it stopped. No mercy. Which produced great laughter among the participants.

It was on one of these weekend trips to Berkeley — Sunday, Aug. 17, 1986 — that I had the worst car accident in my life. (In fact, I have only had two, the other very minor.) I was driving my '78 Datsun. (Kathy called the manufacturer "Datsund" like dachshund.) She had named the car "Stanley". When we first met, she had a Datsun of the same vintage, but, as she was the first to admit, she was constitutionally uncomfortable at the wheel and had had numerous accidents, so

1. Names courtesy of *Monty Python's Flying Circus*, episode 27.

2. This was told to me by her on Sat., Feb. 7, 2004.

she drove as little as possible. We were on our way to Berkeley in late afternoon to hear the architect Christopher Alexander speak at Black Oak Books. The weather was clear, the sunlight just starting to turn yellow-red as evening approached. We were driving past the Route 85 onramp to Route 280. The following is taken from notes I made later that same evening.

Suddenly the Datsun was spinning around, I saw something white, and then I realized I had just heard two very loud thumps, metal on metal. I heard myself say, “What the fuck...?!” as I attempted to turn the wheel to stop the spinning. Round and round we went until we finally stopped in the dirt center divider, facing the oncoming traffic. I was in control of myself throughout, foot on the brake, merely puzzled how the car could keep going around so long. Both of us were wearing seat belts, and neither of us was hurt. I got out, Kathy crawled out after me on the driver’s side since she couldn’t open the door on her side. In the center lane of 280 was a white Porsche (a ’59 356, I learned later), the right front and much of the right side smashed. I walked around to the right side of my car, saw two huge dents. Neither one was in the door, otherwise Kathy would probably have been injured. Air was slowly escaping from the right rear tire.

A white rescue squad truck had been driving along 280 behind us. The driver parked it blocking the center lane to protect the Porsche from oncoming traffic. The rescue squad men come over, asked us if we were hurt. We said no. I now noticed a young guy and his girl standing near the Porsche, he holding her. She was barefoot. I walked up to them. “*How in fucking hell could such a thing happen?*” I said to them both. The girl said she had been speeding and lost control. One of the rescue squad guys remarked that since the *right* side of the Porsche was bashed in, she had already made a 180-degree spin when she hit us! The rescue squad guys tried to bend the metal away from the Porsche’s tire so it could be moved, but they couldn’t. I talked to them, comforted Kathy.

Later the California Highway Patrol (CHP) arrived. Eventually they were able to roll the Porsche onto the center divider. The two officers were amazed that no one had been seriously injured. (The girl occasionally rubbed her back with one hand; Kathy had a bump on her elbow.) I remained calm, but asked about the CHP report: will it attempt to fix the blame? Oh, yes. Kathy told me what the girl had said to her (the girl was sorry, she had been speeding, lost control, brakes failed), wrote it down on my suggestion.

The CHP officers said they would be glad to tow the car away, but suggested I first try changing the tire, which I did, though I had to ask one of them where to put the jack, as I had never changed a tire on this car. I started to put the nuts on. CHP officer: “You’ve got it backwards.” I thought he meant the tire; I took it off, turned it around. He: “No, the nuts.” I put the tire back on, started to put the nuts on the wrong way again, he corrected me.

The officers were in good humor, still a little incredulous at the lack of injuries. I overheard one tell Kathy that the reason he looked overweight was that he was wearing a bullet-proof vest. I asked him why that’s necessary for highway patrol duty. He: “Because you never know who you’re talking to. The guy you stop for speeding may just have held up a bank.”

I was able to drive the car back home. (The girl was able to drive the Porsche away, too.) The gear shift handle on the Datsun had been bent way over to the right — it was difficult to shift into the high gears. The engine ran a little rough. There was a smell of burning rubber at times. But no gas leaks. Later I realized that the gear shift handle had probably been bent by the force of my own hand during the spinning. I had no idea I was putting that much force on it. I doubt very much that I could have bent it that far under normal circumstances no matter how hard I tried.

The previous Friday, I had made an appointment with Kurt, my auto mechanic, to have shocks put on the front and the wheels aligned, since they were pulling to the right. On the way home

after the accident, I noticed that the alignment was now perfect.

Through it all, my consolation was the thought of beating the girl to death. She couldn't have been much older than 20. I saw myself with a fireplace poker in my hand, smashing it down on her upraised arms, then on her head. I saw myself bashing in her teeth with my fist, saw the warm, dark red, gooey blood flowing past the stumps of her teeth, saw the expression of terror in her eyes. Then I was hitting her neck with rabbit chops, then using the poker again. When I was finished, I saw myself carry her to one of the 280 overpasses and toss her over.

The day after the accident I asked Kathy how many accidents she had been in. She: "One, two, three, — seven. Three of them major." In one, at the corner of Blaney and Bollinger in Cupertino, just a block or so from her parents' house, her car was hit on the side, rolled over, and stopped with her hanging upside down from her seatbelt. "I'm a jinx," she said. "No, you're not," I said.

Once in a while we went to San Francisco. I clearly remember (though she has no recollection of it) that we went several times to a place that I think was called Le Petite Cafe. It was out in the avenues, part way up a hill, on a corner. I can see the sea of pastel houses stretching away below to the blue haze of the ocean. We sometimes had difficulty finding the place, after we had parked the car, and I remember the happiness I always felt when we finally saw it up ahead on the sidewalk. The first room, when you entered, was an intimate bar, the next room a little restaurant. There were book shelves on the wall, and you could take down a volume and browse through it while you waited for your order. I remember I looked through one that belonged to the 19th century genre of memoirs of India by British military officers who had served there. I still can see the unvarnished dark wood of the shelves I think we called the place, with mock excess affection, "our place". And yet, the fact that she no longer remembers it, leads me to wonder if I didn't go there with another woman. But the warm good humor I remember in whomever I was with, makes it hard for me to believe it wasn't her.

And the truth is that if anything kept us together it was our enjoyment of each other's sense of humor. For example I don't know who first started it, but somehow we began imitating the Lily Tomlin character, Edith Anne. "You know what happened today? I got called into the boss's office and was given [lowered, ashamed voice] a reprimand." Whereupon the speaker would lower his or her head, extend his jaw downward in an exaggerated moue, make the corners of his mouth go down as far as he could, and look up through his brows in a caricature of the child who is telling about something bad he got caught at in school. Or, "I got bored at work and you know what?" "What?" "I left an hour early." The same expression, just like Edith Anne.

Sometimes we would imitate the way kids disagree. One of us would say something, the other would reply "Un *unh*" [no], the tone of the second syllable higher than that of the first to suggest "Sorry, but I'm afraid you're wrong". Then the other would reply, firmly, insistently, "Un *hunh*" [yes]. Then the other would reply equally firmly, separating and emphasizing each syllable, "Un *Unh*." [no]. And on it would go, until we lost interest.

I did a lot of deliberate mis-applying of British upper-class phrases: She: "What's it like outside?" I: "Well, it's ...as it were...so to speak...raining." Or, when I came home from work, "Well, my dear, I am...not to put too fine a point on it...totally, completely, one hundred percent exhausted." We also incorporated Tom Smothers's hesitating, half-stuttering speech. "Could — could — could I have a little more — mashed potatoes?"

We would lie together on the living room floor and watch British comedies — *Fawlty Towers*,

Monty Python. From the latter, we got into the habit of saying “nudge nudge wink wink” whenever we reported on sexual antics at the office. She would say, after describing the frequent luncheon meetings that seemed to be necessary between a member of the staff and his very attractive secretary, her voice dropping into an exaggerated lower-register whisper, “Somethin’ goin’ on there, Charlie...”, and I would say, “Then you mean...nudge nudge wink wink?” And she would reply, “You got it.” Or I might say, after another report about amorous goings-on in her office, “We don’t say ‘getting it on’, we say, ‘getting to know each other on a more personal basis’.”

She would point at my clothes lying on the bed and on the floor and say (hand on hip) “What’s this?” and I would reply, after pretending to be desperately searching for an excuse, “They’re... *airing*.” She would laugh but I still would have to pick them up. The next time: “What’s this? — and don’t tell me they’re airing.” I: “No, of course they’re not.” And then, in a tone of voice as though taking her into my confidence, “Actually, they’re some soft sculpture I’m working on.” Again she would laugh, but of course the clothes still had to be picked up.

When we were preparing to go somewhere, I would sometimes say, “Let’s see: do I need to take a shower?” I would then raise my arm and ask “Can you smell anything?” If she said no, which she always did, I would say, “OK, no need for a shower.” Sometimes, when we were parting for a few hours, I would say, “But I will be thinking of you *constantly*...” in the tone of voice one would use when piling up positive things that might compensate for a big negative thing (“I’m thrifty...and I don’t smoke too much...and I go to church on Sunday... and I have good table manners ... and...”) each with the middle word at a higher pitch than the others, then the rest tapering down. She (in a girlish voice, as though she could hardly believe such a nice thing was going to happen to her): “*Constantly*?” I: “Every moment.”

She had a way of calling me, affectionately, “You old goat.”

I would sometimes say to her, as an expression of affection, in the tone of voice of “at least there is one thing positive about me” : “Well, I don’t hate you totally *all* the time...” Sometimes, if she seemed to be distant and preoccupied, and through gentle probing I found out that she was thinking about something at work, I would say, “I’m glad you told me, because for a while there I thought that Total Hate had set in.” (We pretended that Total Hate could set in at any time, without warning.)

She had a natural gift for malapropisms (she was unaware of them). Here are a few examples that I wrote down over the years.

“She’s always doing as she seems fit.”

“Now, it’s true that at this point an interesting party might inquire...”

“I’m sure it would scare the pants out of him.”

“OK, she finally got her degree. I don’t see why she has to go around taunting it every five minutes.”

“If it’s outside my parameters, then there’s nothing I can do about it.”

“Our relationship endeared for many years.”

“I’d like to give you another antidote to show that he was not the liar people say he was.”

“The dog was running all over the house, peeing on all the furniture, and, as you know, dog urine is extremely pervasive.”

“If you remove the [car radiator] cap while the water is hot, it can scold you.”

“From time immortal”

“I shutter to think about the colds of the future.” (referring to seeming increasing severity of the common cold)

She would say that something she had come across, or a book she was reading, was “inneresting.”

She was the only woman I was ever happy living with (well, I have lived with only two in my life). She was the only woman I ever loved without feeling that I had to be on my hands and knees most of the time. But the happiness lasted only two years or so, after which my lack of interest in sex and my increasing depressions began to weigh on her.

If any single factor can be said to have broken up our relationship, it was certainly my boredom on the job. I usually came home from work before she did. When she arrived, she would find me on the bed, curled up in a ball in despair. Once, I woke up from a nap so ferociously depressed that I decided to end it then and there by throwing myself head-first off the top of the stairs and into the landing wall. I was standing there in the upper hallway, next to the wall cabinets. I stepped backward to get a running start. And then, next to the cabinets, I suddenly heard in my mind’s ear, a chorus of three or four women’s voices, telling me not to do it. They seemed to be members of a cell of some sort. But I heard the voices very clearly, and somehow crawled back to bed, putting off the suicide attempt for the time being.

Eventually even Kathy was unable to control her anger at having to put up with the sight of me curled up on the bed day after day. She suggested, then all but insisted, that I look into drug therapy. I somehow found a guy with an office near Stanford. After two visits involving his putting various questions to me, written and on paper, he announced that yes, I might be a candidate for Prozac. How much will that cost? I asked. Well, he said, it takes a while to find the right dosage, but he was quite confident that, with a visit a week, the dosage should be pretty much nailed down within a year, year-and-a-half. I thought of Fritz Perls’s remark about Zen: “That’s not a cure, that’s a way of life.”

She grew more and more desperate. She made it clear that if we were going to stay together, I would have to do something about the depressions. One day, in her frustration at again seeing me in the usual position in bed when she came home, she shouted at me and gave me an ultimatum. I suddenly lost all self control, leaped up from the bed, grabbed her, threw her down on the bed and started to choke her. She tried to pull my hands away but couldn’t. I kept pressing both thumbs as deep as I could into her throat. It was all too clear she couldn’t breathe. Her eyes were bugging wide, her hands trying to to break my grip. I kept pressing. The pleasure was almost irresistible. Why not kill her? At least it would bring a change into my life.

But after a few more seconds, I pulled my hands away, the main reason being that it suddenly occurred to me that, among the many human beings that needed choking to death, she was not

one. She got up, staggered to the door, crying. Later she called her mother and told her what had happened.

One evening in October of 1987, she asked me to sit down with her at the kitchen table. She said, with obvious reluctance, that she had decided she wanted to start making some new friends, and it soon became clear that that included men friends. “I’m not saying I’m going to leave. I’ve just been feeling kind of in a rut.”

We sat there, she at one side of the table, I at the adjacent side, and the blow was so great to me that I broke into a sweat. I could feel the droplets on my forehead. I took out my handkerchief and mopped my brow as she spoke. I suppose I made some feeble protest, but it was clear that she had made up her mind, and it was also clear that our relationship was finished.

But I let her continue to live in the house. I remember a walk in the little town of Saratoga one weekend day. We passed the Victorian Dining Room, where we had had several dinners, went down some steep driveways, came upon a couple of quaint stores, went in one. A peridot ring caught her eye (nice egg-shaped stone with a dark yellow-green color; it reminded me of marsh grass in a pond on a cold, fall day, not a soul in sight). I think the ring cost less than \$50 so I bought it for her, hoping it would remind her of our times together when she looked at in future years.

Around this time, her brother was diagnosed with cancer. He had had a melanoma on his upper left arm. His wife, Odette, kept urging him to see a doctor, he kept putting it off. The doctors removed it, along with a considerable amount of muscle. His recovery went well, but a year later when he went back for a checkup, the doctors found that the cancer had spread throughout his body. He died four months later, in April of 1989, at the age of 42. He was survived by his wife, a daughter Sabrina, who later became an oncology nurse, then gave it up and just lived on welfare, and a son Zack, who became a high-paid software expert. Although she needed the money, Odette never got around to working, instead living on the meager amount Jim had left her¹, plus what she got from Social Security and handouts from Kathy’s parents — in fact they paid off the one Jim had bought.

Her first friend was a bus driver she rode with every day. She apparently slept with him once or twice. He would call, and I would answer the phone, having a good idea who the male voice belonged to, and then I would have to call her to the phone. There may have been a couple of others. She wasn’t a tramp, and no man can fault her for wanting sex after years of my failing to deliver.

A month or so later, she met a guy at the Recycling Center. He was so shy she had to help him go about the task of asking her for a date. He was an apprentice metalworker, trying to earn his journeyman’s rating: but the union had managed to drag what amounted to a few months’ training into a five-year program, with the requirement that the apprentices work for near minimum wage the entire time while the union, of course, charged the contractors the maximum wage they could get away with. When the training period neared completion, the union somehow suddenly found more subject matter that the apprentices needed to know. The guy, whose name was Herb, had been working and hoping for years. The job was worst in the summer, when he had to crawl around on baking hot roofs putting in air conditioning pipes.

1. He had been a carpenter initially, then worked for the carpenters’ union in negotiations with the state, then switched sides and worked for the state in negotiations with the union. Prior to his death, he had been selling laser-assisted surveying equipment.

But he was Kathy's age and he soon became devoted to her. Furthermore, he was not inclined to choke her, or be curled up in a ball when she came home from work, and so, less than a year after her announcement to me, they were married (September 1988)¹, and lived contentedly together until 2004, when a genetic brain disease began altering Herb's behavior. He started an affair with a Mexican woman. He and Kathy were divorced I think around the end of 2006. Once again I had done my great service to women: after a relationship with me they found a guy to marry and settle down with and live happily with for at least a few years.

Kathy and I remained friends. I asked her if I could call her when I was on the verge of suicide, and she said yes. Several times, in the nineties, she loaned me money — as much as \$15,000 — which I always repaid. Once in a while, after I moved to Berkeley, I would drive over to Palo Alto, pick her up at the courthouse and take her out for lunch at Fresh Taste, a nearby vegetarian Chinese restaurant she liked. She was one of those rare women who never age. Twenty years after we first met, she had the same slim body, the same girlish looks as when we first met. I was always proud that she had chosen to live with me for those five years.

Jeff in High School

Jeff went to two different high schools: Archbishop Mitty, a Catholic private school near the house that Marcella and Bill had bought just across the border from Cupertino in San Jose, and Prospect in Cupertino: two years at Mitty, then a year at Prospect, then his senior year at Mitty. While he was in Mitty, Marcella and I of course continued to pay taxes for public schools without complaint. I felt we owed it to the others who couldn't afford to send their children to private school.

The only comment I recall him making about Prospect was that he hated biology, which consisted of memorizing names of plants and animals and their genera and species. I didn't blame him, and I told him so. I may have added that real biologists go around looking for new species of plants and animals that no one has discovered before.

He was busy with school and sports, still under the rule we had agreed to: get all A's and B's and you can play all the sports you want; get a C and we start cutting back on sports.

His mind was not idle about other matters, however. One day he showed me a way he had discovered to send mail without a stamp. He would address the envelope to a non-existent address, and then, as a return address, put the address to which he actually wanted to send the letter. He mailed the envelope without a stamp. The Post Office, naturally, would return the envelope to the indicated return address, or, in other words, deliver it as Jeff intended. He made the first test and then dropped off the envelope in my mailbox in the townhouse at Queensbrook with a note, "It worked!"

At some time during these years, I heard a tape recording of him speaking, and was struck by his New York accent, which he obviously had picked up from me, despite my attempt ever since I had come to California to get rid of it. And in fact people commented that he and I spoke the same way. (The more emotional I was, the stronger my New York accent became. Someone told me that a New Yorker pronounces the words "Mary", "merry", and "marry" differently, whereas a

1. Romin died the day before the wedding.

Californian, along with residents of most other states, pronounces them all the same.) He spoke quickly, sometimes with a slight stutter, and although I don't recall him making excessive use of the ubiquitous "like" among young people his age ("so, like, we decided to go to the game, and, like, have a couple of beers afterward..."), he frequently allowed descriptions to trail off into "and stuff" ("so, Jim and I were skiing in the morning and stuff...")

He didn't often ask me, but sometimes I would go over to his house on Happy Valley Ave. (less than a mile from my townhouse) and try to help him with his math and physics homework.

Like most bookish fathers, I waxed entirely too enthusiastic about what he was studying. Clearly impatient to get done with this annoying labor, he would ask me a physics question, and I would respond with something like, "Oh, this is one of Newton's laws, which he discovered when he was only 25. See, the plague had struck Cambridge, where he was studying, and so they sent all the students home. And so he happened to wonder if maybe perhaps what made the moon go around the earth might be the same thing as what made an apple fall from a tree. This something we call "gravity". And so ..." He would patiently listen, but then, tapping his pencil on his paper, he would say, trying hard not to hurt my feelings, "but all I need to know is what formula we're supposed to use ...". Or he would show me a trigonometry problem, and I would tell him about how the beginnings of trigonometry, at least the kind he was studying, went back to around 150 bc, when Hipparchus compiled tables of values of the sine, and that this was only about 60 years after the death of Archimedes, who was one of the greatest mathematicians ever, and whose ideas anticipated the discovery of the calculus by more than 1800 years, and..." And he, patiently, looking off into the distance, would say, "John, I got a lot of problems to do, and I'm a little short of time, so ..."

I think it was around this time that he showed me a way of telling if someone was young or old. You got the person to pinch the skin on the back of his or her hand, pull it up tight, then let it go. If it rapidly returned to its normal, smooth form — say, in a second or so — the person was young. If it took longer than that, the person was old. So sometimes, in a restaurant, he would have me make the test, then, laughing, point his finger at me and say, "Old!" Then he would perform the same test on himself, and say, "Young!" and we would have a humorous argument, I always insisting that *my* skin fairly *snapped* back into place, whereas his took forever.

When he was 14-15, I drove him and one or two friends to several rock concerts, including one heavy-metal concert at the Cow Palace, and one in Salinas, south of San Jose; his friend Ben was with him for this one. I would bring books (and pencil and notepaper), and read in the car, or at a nearby Denny's, until the concert was over. During the writing of this book, he told me how impressed he had been by my willingness to do that for him and his friends. I told him I couldn't imagine a father *not* being willing.

Teaching Jeff to Drive

Like all boys his age, he wanted to learn to drive as soon as possible. I did not enjoy the task of teaching him, but I felt it was my duty to do the best job of it I could. We practiced in the Hewlett-Packard parking lot during off-hours, and he seemed to enjoy it. Then, when he got his learner's permit, we practiced out on the roads. I remember repeatedly warning him not to follow too closely behind the driver in front. "You want time to react if he suddenly slams on his brakes. You want time to think." I told him about the one-car-length rule: you should be one car-length

behind the other fellow for each 10 mph of your speed. Another thing I worried aloud about was falling asleep at the wheel, I of course remembering the experience in the Studebaker on the road in North Carolina when I hitchhiked to Florida in my sophomore year at RPI. “If you feel tired, then you pull off the road, lock the doors and windows, and get some sleep. Even if you’re on 280 or 101 (two main highways out of San Francisco), it doesn’t matter: you pull off, and find a residential street and park and get some sleep.” I probably repeated it too often.

In December 2001, during a discussion of the Arab oil crisis, he said that I had always turned the car engine off at stop lights, sometimes even before stopping. He also said I taught him about coasting to save gas, something I have always done with every shift car I have owned.

He Is the Victim of a Holdup

He got a job after school working as a clerk at a liquor store — I think the Liquor Barn. Quite casually — during a phone conversation, or when I picked him up for our bi-weekly times together — he told me he had been held up. He had been rummaging in some boxes below the cash register, and when he looked up, he was staring at the barrel of a gun. The guy demanded all the money in the cash register, which Jeff promptly gave him. Apparently the guy then went on to the next store in the Liquor Barn chain, and robbed it also. I don’t recall if he was ever caught. I had never thought to tell Jeff that if he is ever held up, the best thing is to hand the money over, but his coolness in tight spots once again showed itself.

Disciplinary Problems

The only disciplinary problems I recall having with him were over his not coming home on evenings out at the time we had agreed on (usually around 11). I thought I had devised a wonderfully rational incentive for him: a rule that, for each half hour he was late, he would have to be home half an hour earlier the next evening out. Unfortunately, he sometimes came home an hour-and-a-half late — he would knock on our bedroom door, Kathy and I unable to sleep, to announce his return — and this would mean that, under the rule, he would have to come home so early the next time that it wouldn’t even be worthwhile going out. That seemed too harsh, and so I wound up giving him one more chance, without penalty — which would result in his coming home, say, three-quarters of an hour late, which in turn would result in further negotiations. He was certainly not deliberately taking advantage of me, and so in the end I just hoped for the best.

But he had several strong disagreements, perhaps they can legitimately be called “fights”, with Marcella. I never knew exactly what they were about, except that I know he was caught smoking one time at Archbishop Mitty school. The worst incident, without question, was when he had some friends over while Marcella and Bill weren’t home. They got into the liquor cabinet. Marcella called me, said that he was so drunk he couldn’t stand. I hurried over to their house, she showed me our son, curled up on his side in the bathtub, unconscious.

In later years, when I discussed his difficulties during high school, he would always remark, “Marcella is a general type”, referring, of course, to the military meaning of the term. But there was never any doubt in my mind about her love for him (she called him “Punkin”) or of his for her.

I find In my notes the following, written to Marcella but apparently never sent.

“Despite Jeff’s high school years, I want you to know I think you were, and are, a super mother. It has gotten me through more than one sleepless night to remember that at least, *at least*, my son will not be another lifetime victim of the mother that raised him. Looking at him now, and recalling what I was going through at his age, I think we both did a good job. You remember my

telling you that, in my teens, I swore an oath to myself that never would any child of mine be raised as I was. I feel I kept that promise, and the results are before us. In fact, I often have to remind myself that I am not a total failure, because, together with a good woman, I raised a boy into a reasonably happy, self-confident, unneurotic young man — in this day and age, no mean accomplishment.”

Graduation

For the life of me, I can't remember attending his graduation. But I do remember telling him afterward that now his contract was completed, and he was free to decide if he wanted to go to work, or go on to college.

I Self-Publish a Book

By 1983 or so, it was clear that no one was going to publish the collection of ideas I had, so I decided to publish them myself, fully aware of what a loser's act that was. It would destroy any hope of gaining attention from an academic researcher. But I couldn't stand the stifling loneliness of working on these ideas without even the hope that someone might read them. So I went through the agony of having a book typeset.

In order to preserve my anonymity, I will not give the title here. The designer, Randall Goodall of Oakland, did exactly what I wanted for the cover. Several bookstores were willing to carry the book on consignment, including Computer Literacy, then just starting out, as well as Kepler's in Menlo Park, Stanford Bookstore (amazingly enough), and Cody's in Berkeley. In the first few weeks after publication, I received a call from a programmer who said he had bought a copy, and felt that it was exactly what was needed. That is the only response I have ever received from the readers. In the ten years following publication, I would imagine something like 200 to 300 copies of the book were sold or given away. Every once in a while I would get an order from a bookstore in Indonesia or Canada. Sometimes, I am sure, they were confusing it with a book on theology published about the same time by a New York minister who called his press by a name similar to that of mine. For several years, Stanford Bookstore sold five or ten copies a year.

I Attempt to Make a Contribution on the Job

The placement and routing problems (as described under “Kevin R —” above in this chapter) were interesting, but were smothered in engineering refinements by the born tinkerers I worked with.

Every once in a while, an interesting idea would emerge from the academy: for example, the idea of simulated annealing, in which you regarded the process of achieving an efficient placement and routing as similar to that which a molten metal undergoes in the process of cooling.

Since at the time I was reading Mandelbrot's *Fractals: Form, Chance, and Dimension*¹, and since some of his pictures looked like integrated circuits to me, the branching lines corresponding to the wires in the circuits, I wondered if a strictly recursive approach might not work. I talked to Mark Clarke (to be introduced below) and a few others about this, but aroused no interest, since they were always able to raise possible exceptions, and I simply didn't have the inclination to

1. Mandelbrot, Benoit B., *Fractals: Form, Chance, and Dimension*, W. H. Freeman and Company, San Francisco, 1977.

spend six months in the dead of night implementing the algorithm in secret on the gamble that it would work, especially as there was no way to obtain, without giving the game away, all the necessary knowledge about other software that had to be accessed. What appealed to me, as always, was the simplicity of the idea, the fact that one person could easily understand it and maintain the program that implemented it.

I also more than once raised the idea of placing and routing interactively, instead of just giving the whole job to the machine and letting the machine see how far it could get. A line I had thought up kept going through my head, “Not man alone I preach, nor machine alone, but man and machine working together.” I thought: humans are good at some things, for example, seeing overall patterns, that machines are not good at, so if the program, upon being unable to continue under the parameters it had been given, would stop and a representation of the chip at the point were to be displayed on the screen, then a human might very quickly be able to come up with some suggestions, for example, “Try to move some of the units in that area over here, go back and change your criteria in the following way”. But heads shook, and I never even found out if anyone else in the company or in the industry had attempted to make the job interactive.

In addition, throughout the eighties I continued to try to interest my boss and co-workers in the idea of an Environment. But I think it is fair to say that they didn’t even understand why anyone would not want to learn all about a product before using it. After all, they were engineers and the in-house users of their product were engineers.

Kevin’s Naiveté

In performance reviews, Kevin often criticized me, in the most understated way, for not “playing with” the software being developed in order to learn how it worked. I never revealed to him my unbridled contempt for that approach to learning software, which I considered a typical engineer’s approach, devoid of the slightest understanding of the reality of software use by persons who were not engineers. For all his kindness, he was unbelievably naive about user issues, not to mention documentation issues: once he seriously proposed that I write an entire manual from the uncommented code, an approach to documentation whose inefficiency is almost beyond estimation.

The TeX Frenzy

Prof. Donald Knuth at Stanford made a name for himself with a multi-volume work called *The Art of Computer Programming*, the first volume of which appeared in the late sixties. If John McCarthy, the creator of the programming language LISP, was the Stanford computer science professor I had the greatest admiration for, Knuth was the one I had the greatest contempt for. McCarthy’s language was an answer to the question, “How shall we structure computer programs?” In fact, it was the simplest answer because at every point in a program where you might want to “break things down” into smaller pieces, you simply broke them down into just *two* pieces, and then, if necessary, you broke one or both of those into two more pieces, and so on.. The reader may understandably find it hard to believe, but *any* structure can be reduced to this simple scheme. Knuth’s approach to programming, on the other hand, began with the question, “How shall we make computer programs more efficient?” That is, “How shall we make them run faster?” To the layman, the questions may seem to be of equal importance, but given that the control of complexity was of fundamental importance in programming, as Prof. Edsger Dijkstra prac-

tically made a career out of emphasizing, structure was of far greater importance than optimization for speed. Knuth's point of departure was, for me at least, the sign of a small, academic mind — a pedantic, fuss-budget mind. (He had a reputation for writing an impressive academic paper on just about anything that occurred to him. I remember one programmer (I think it was the young woman I worked with in Rick Pering's department) saying, "Every time Knuth stubs his toe, he writes a paper about it.")

I came to despise his book because it flew in the face of a warning that I think Knuth himself often issued, namely, a warning against what was called "premature optimization", that is, against spending time on making programs go faster until there was convincing evidence that the programs were correct. The evidence that they were correct could only be obtained if the structure of the programs was simple enough such that one could make an argument — not necessarily a formal proof — of the program's correctness. Of course, the busy engineering minds of most programmers wanted to do nothing more than make endless trivial changes in the programs themselves in pursuit of ever-faster speed. They wanted to spend their days tweaking their programs. Correctness was a side issue: if the program didn't show errors when it was run, then it was probably correct. End of story.

In order to write his tomes, Knuth was required to have extensive typesetting of mathematics done, and so he soon became interested in typesetting, because it was clear that it would be more efficient for him to set the type himself. (One or two primitive typesetting languages were already available, but they were inadequate for his needs.) Out of this interest grew a programming language designed for typesetting just about any mathematics at all. It was called "TeX". Actually, for reasons I have long since forgotten, and never cared to know in the first place, Knuth felt it was important to write the name with a capital "E" set lower than the other letters. Since this can't be done in normal word-processors, people began writing the name as I have it here, with a small "e". Along with this typographical affectation was one having to do with the pronunciation of the name itself: Knuth wanted the X pronounced with the German guttural "ch", as in "Bach". Someone said that the reason he gave was that "TeX" was derived from the stem "tech", and that stem went all the way back to ancient Greek, where it was pronounced with the guttural "ch". I had absolutely no interest in finding out if the story was correct. Virtually everyone ignored Knuth's desire here, and pronounced the name "Tek", but I remember that Mark Clarke (to be introduced below) in our group always made a point of pronouncing the name in Knuth's way.

Knuth wrote a textbook for his language, cleverly called *The TeXbook*¹. Since the cover was blue, it became known as "the Blue Book". It was a formidable work, a professor's textbook if there ever was one, with excruciating details about properties of typefonts, spacing, positioning on the line, letter widths, plus extensive exercises at the end of each chapter. I must give Knuth credit for having provided an index, but by that time I was already in the process of publishing my first book. It contained the rudiments of the Environment idea, namely, the idea (and a way to implement it) that you didn't have to learn everything in order to be able to do something, that look-up-ability should be the key concept behind any textbook. The thought of having to go through a textbook in order to typeset a document or a message or even just an equation, of having to *work the exercises* in order to find out how to do some trivial task, made me absolutely furious. (I spent many minutes, perhaps more than an hour, trying to figure out how to indent a paragraph or a block of text, poring over the pages of the Blue Book, trying now this, now that.) I thought, this is the kind of thing that university administrations and the deans of university departments

1. Addison-Wesley Publishing Company, Menlo Park, Calif., 1984.

just love: another mountain made out of a molehill. I thought: Thank God I'm a failure! And it became even clearer to me that what was needed to improve the learning of mathematical concepts was not more and better typesetting, more and better refinements of refinements of writing style, but a pencil-and-paper approach: diagrams, pictures, handwritten text — if possible, made possible on the computer. First and foremost, the idea — always!

To Knuth's credit, I must say that he made an exceptional effort to do a good job with the programming of TeX. (A program was needed to convert the commands in the TeX language that the user typed, into instructions that could be executed by the computer and that would produced the exact typeface and symbols the user wanted.) He published the text of the entire program and not only invited criticism but paid a nominal amount — a few dollars, I think — for each error that was reported to him. He did the same with his programming volumes. (I got \$2 for an error I discovered in one of the latter.) People who had gone through parts of his program said it was of exceptionally high quality.

In any case, soon after TeX became available, a frenzy of typesetting swept through our department. Executives and middle managers and project supervisors spent hours working on the typesetting of their memos, whereas no one had ever had any difficulty reading the typewritten or plain computer text memos that they had written up till then. In fact, the truth was that what the managers and supervisor had to say could have been said, and understood, in longhand which was then copied using an ordinary copying machine.

Ed Towster

Ed was that rarest of beings, a quiet, unassuming PhD in Computer Science. He had earned his PhD at the University of Indiana and had been a professor briefly at some southern university, possibly in St. Louis. His thesis had been on “chunking” in computer programming, which was simply another term for structuring. I think he showed me a paper he had published, and to me it seemed pretty much a rehash — a renaming — of existing ideas. One thing I remember about him is an expression he often used when describing how a part of a program worked: “...so it goes bompin' along here until the condition...occurs, and then...”

His wife had been suffering from what seemed to be an unending case of the flu. I told him that my physician, Dr. McKenna, might be able to help her. He reported that as soon as Dr. McKenna found out, during her appointment, that she had a cat, he immediately diagnosed her problem as an allergic reaction to cat fur. No ifs, ands, or buts: that's what it was. His wife didn't like hearing this, since it meant she would have to get rid of the cat. She suspected cat allergies were one of the doctor's hobby horses. But I think Ed told me later that, when they had gotten rid of the cat for a few days, her symptoms disappeared.

After several months he and his wife, who were both Jewish, decided to pull up stakes and move to Israel. He might even have said they were moving to a kibbutz. I admired their courage. He had had next to no impact in the department, and yet, over the years, I have remembered him for his decency — his complete lack of the competitive arrogance that was all too common among other PhDs in his field.

Michael J —

Probably my closest friend at HP during these years was a young man named Michael J — . I say “young man” because, first of all, he was in his early twenties whereas I was close to fifty, and

second of all, because he looked as if he wasn't a day over 17. He was short, thin, had boyish looks, a full head of red hair, and could easily have been mistaken for a high school senior. I think it is safe to say that he had more influence on me concerning business than any other person I ever knew.

He was Jewish, and a boy genius type: already in high school in La Jolla, in Southern California, he had started a little computer company with another student, a girl named Mary who later moved to Northern California as he did, and with whom he continued the business on the side. The company was called "Grow" and sold a piece of software that made it possible for children to write simple programs that would create graphics on the screen. It was written in a dialect of Basic. He majored in computer science and classics at UC Berkeley, certainly an unusual combination. And yet, he was not an intellectual in the sense of one who reads widely in the literature of the West, and thinks deeply about, say, philosophical or political questions. His forte was business, in particular the computer business, and in that area he was the best I ever knew. He had that extraordinary Jewish skill with money that I always marveled at, and still do. He was always on the alert for ways to make money. As one small example: he had discovered that if he withdrew money from a certain bank on Friday by a certain time, then immediately walked across the street and deposited it in another bank, the first bank (for a reason I never quite understood) would still pay him interest over the weekend, as, of course, did the second bank, so that for two days a week he was earning double interest on his money.

Throughout our friendship, I was impressed with how willing the Jews are to share some of their techniques for thinking intelligently about business matters with anyone they trust, gentiles as well as fellow Jews. I thought: if I were the leader of a struggling minority, I would tell my people again and again, "Stop complaining, stop blaming others. Learn from the Jews!" I had (and continue to have) nothing but contempt for Third World people who haven't the brains to do this.

At work, he had a healthy skepticism about the pompous declarations of management, and always considered it a good idea to check their statements and predictions with what he called a "back-of-the-envelope" calculation. And in fact whenever he would hear any claim, from whatever walk of life, he would reduce it to its simplest terms and then hold it up to the light, so to speak, and see if it really made sense. As a result, he was more often than not amused, rather than impressed, by management pronouncements. His example inspired the simple argument I later used in support of my new method of computer documentation. It enabled me to show how several billion dollars were being wasted each year in the U.S. because computer users were unable to find out more quickly how to perform the tasks they want to perform.

He was one of those people who is always ready to laugh, is always on the lookout for something humorous in what you said. His laugh was always subdued, always seemed to come from the back of his throat. I would call it a quiet, drawn-out chuckle. He was also what is technically called a paronomasiac, a compulsive punster, and sometimes I got a little tired of his always looking for an opportunity to pun on what I was saying.

Our senses of humor were not identical, but they definitely overlapped in certain areas. For example, we both enjoyed *New Yorker* cartoons, and one in particular delighted him. It was by the well-known *New Yorker* cartoonist Michael Maslin. A man is sitting in his living room, watching TV. A pot of some sort is being shown on the screen. Announcer's voice: "How much would you pay for all the secrets of the universe? Wait, don't answer yet. You also get this six-quart covered combination spaghetti pot and clam steamer. *Now* how much would you pay?" We both laughed over it, and applied it to situations we came across during our work day, especially

when management was trying to sell the workers on some new product idea, or some company benefit. When the presentation was met by silence and uncomfortable fidgeting on the part of the audience, one of us would elbow the other and whisper, “But wait! You will also get ...”

At the time, the doctrine that the very intelligent are children at heart was making its way through the higher levels of the computer industry. The characters in the children’s PBS TV program *Sesame Street* were familiar to many of the programmers. Two computers in one of the Cupertino divisions where I worked were called “Bert” and “Ernie”. I remember a Hallowe’en party held during the day in the Labs in which black plastic sheets were draped over some of the desks, the desks having been rearranged to form tunnels, creating a kind of haunted house. I think Michael and Nancy K. sang a couple of *Sesame Street* songs before the gathered geniuses-who-had-not-lost-touch-with-their-child.

As far as I know, he never had a girlfriend, although he was certainly a close friend of his business partners, both of whom were female: first Mary¹, then Joan Targ, whose husband, Russell, though a physicist at Lockheed (I don’t think he had a PhD, however) was an ESP researcher, and appears in a Nova program about ESP that was made in the seventies. Russell was also the author, with Keith Harary, of a 1984 book called *The Mind Race: Understanding and Using Psychic Abilities*.

Michael was skeptical of the results that Russell and his fellow researchers claimed, and he did not hesitate to tell him so. In our conversations, Michael said that the experimental techniques were not sufficiently rigorous — that it was easy to see places where the bias of the experimenters could influence the results. I, too, was skeptical, and felt that the psychic researchers should have aimed at going *beyond* the degree of rigor that skeptical scientists demanded. In fact, they shouldn’t have bothered conducting any experiment whose protocols had not been previously approved by a panel of scientists. In the seventies, Russell and Harold Puthoff conducted numerous tests on Uri Geller, an Israeli who claimed, among other things, to be able to bend spoons and start clocks by power of mind alone. The tests were conducted at Stanford Research Institute, and were featured in a Nova program on ESP. As James Randi makes clear in his book *Flim-Flam*², the test protocols afforded ample opportunities for Geller to dupe the testers. Elsewhere, I read that Geller’s assistant, Shipi Shtrang, was allowed free run of the Institute while the tests were taking place. On several occasions he was seen standing behind the experimenters as they questioned Geller and thus was able to signal information to Geller. The fact that Russell was legally blind also raised questions about how accurate the reported data was.

Michael laughed at the common excuse that Russell and, I am sure, his co-researchers, gave when tests failed, namely, that it was due to a “shyness response” on the part of test subjects. (Geller often explained his failures as being due to “negative vibrations” in the testing room.) But later I asked myself, “Suppose the tests had been of sexual performance. Isn’t it likely that many subjects would be unable to perform in front of a group of skeptical observers who were observing and filming every moment?” I thought of my own frequent inability to perform sexually in the presence of an audience of one. I thought of my near-paralysis in school exams, especially those in technical subjects, whereas when I am alone, I relish working on the hardest math prob-

1. After he and Mary closed down their company, Mary, who had been raised a good Catholic girl, moved to New England where she became an executive in a successful pornography company that specialized in phone sex.

2. Prometheus Books, Buffalo, N.Y., 1982.

lems I can find, and do so without inhibition. So I decided that the shyness response, and complaints about negative vibrations, cannot be dismissed outright.

Joan, Russell's wife, was the sister of the eccentric chess champion, Bobby Fisher. Michael and she started a company to teach computer skills to secondary school teachers. They held a camp at Stanford each summer and apparently made considerable money at it. Later, they invited me to become a member of the board of directors of the tiny company, about which more later.

Joan was an attractive middle-aged woman, slim, with an appealing warmth and softness and gracefulness of manner. Her gray-white hair was long, with bangs (still a girl!). She had a Master's degree in education from the College of Notre Dame in California. I think she had been a primary school teacher for several years, but I am not sure. She "founded a number of innovative programs to study the teaching of computer literacy, including programs in the Palo Alto Unified School District, as well as the Institute of Microcomputing in Education at Stanford University. Her educational techniques included the creation of systems whereby a student, trained by peers in a basic course in computer programming, would then tutor the next students."¹

She and Russell bought property in Palo Alto — two or three houses, I think— at a time, namely, the seventies and eighties, when property values were rising rapidly. When she and Russell sold the houses in the nineties, they made a sufficient profit to buy several acres on the top of a wooded hill in Portola Valley. They selected a plot with a glorious view of the entire San Francisco Bay and designed a beautiful house for it. I have the impression that Joan, working with an architect, did most of the design work. She told amusing stories about the challenge of working with an absent-minded architect who didn't have much use for schedules and deadlines. When the house had been built, and I couldn't stop admiring it, Michael said everything had turned out well except that positioning of the house was off by a couple of degrees (possibly through a moment of forgetfulness on the part of the architect), so that the view was somewhat curtailed from one upstairs window.

Since the road leading up to the property from the main road, Portola Road., was Hayfields Road, the house soon was referred to simply as "Hayfields".

Although he was legally blind, Russell commuted by motorcycle each day from the house. Usually he had no problem, but one day he was involved in a serious accident, from which he recovered.

At some point, perhaps even before they bought any of the land, the Targs conceived a plan to sell the other acreage to upper-class left-wing professionals like themselves who wanted to live up to not only political but also environmental ideals. The Targs planted a huge organic garden in the meadow behind the house. But their dream never materialized. Within a couple of years, they were embroiled in lawsuits with some of the people they had sold land to. (A number of them happened to be lawyers.) I don't know all the cases, but I do know that the owners living below their property sued them over the issue of drainage from the Targs' organic farm. For several years they had to fight legal battles — I remember attending one hearing with Michael .

The memories I cherish most are of the Fourth of July parties they always held: a potluck on the grounds, under the trees, in the afternoon, and then, in the evening, all of us standing on the balconies at the rear of the house and watching the fireworks from several cities on the Eastern side of the Bay. Part of the afternoon festivities included a shared reading from various patriotic texts written at the time of the founding of the nation. Joan would ask for volunteers, and then each would read a paragraph aloud and hand the book or paper to the next volunteer, who would

1. Wikipedia, May, 2009

read the next paragraph aloud. I was moved by this little ceremony: this prosperous Jewish family, entertaining at their beautiful house on a beautiful afternoon, who did not forget the reason for the holiday. In the evening, as we waited for darkness, there would be Russell, very tall, with a slight stoop, thick glasses, and a huge mop of curly hair, standing in the living room talking to the various distinguished guests — scientists, teachers, relatives, old friends.

And then, one day in June, 1998, Michael contacted me and said that Joan had died. She had invited friends over for dinner. During the conversation before everyone sat down at the table, she suddenly complained of a headache, and lay down on a couch. The headache got worse, an ambulance was called, and she was rushed to Stanford Hospital, where she died of a cerebral hemorrhage. She was 60.

The Targs had three children, two sons and a daughter. One son, became an anesthesiologist; the daughter, Elisabeth, who became a psychiatrist specializing in “psychic phenomena and the role of spirituality in health and healing”¹. She published research on remote healing — for example, healing by praying for an ill person who might be many miles away. Unfortunately, the technique didn’t work for the researcher herself, and Elisabeth died of Glioblastoma multiforme (GBM), a type of brain tumor, at the age of 40².

Despite Michael’s never having had (as far as I knew) a sexual relationship with a woman, I had no reason to believe he was gay — if forced to make a pronouncement on the subject, I would have said that he was probably asexual. And although he was certainly in touch with his playful side, he had a completely unrealistic, far too rational, view of love. I remember once meeting Bruce Nordman’s very attractive girlfriend, Stephanie, at Bruce’s apartment in South Berkeley. Michael knew her. She was studying some liberal arts subject at a university in San Francisco, and Michael or I commented that it would be difficult for her to find a job with a degree in the subject. Michael said that it was irresponsible for Bruce to condone her studying a subject at which she did not have good prospects for earning a living after graduation. I told him, “If she were my girlfriend, she could study *any damn thing* she wanted.” He faulted me for that attitude, saying that it was encouraging her in a delusion, as well as being condescending. But I felt he had no concept how a pretty girl could make a man be willing to cast aside all his, and other people’s, practical advice.

His parents were divorced. His mother had gone into real estate and owned at least one apartment building in the La Jolla area of Southern California. His brother, unfortunately, was a manic-depressive, and able to work — as a primary school teacher — only when the doctors got the drug dosages — lithium and others — right, which was not always. Michael, on the other hand, was one of the least neurotic, most content, persons I ever knew.

His father, a PhD in aeronautical engineering, had been a scientist with one of the aerospace companies for many years, and I always got the impression that Michael felt inferior because he didn’t have the mathematical ability his father did. And yet, he was always willing to read my math papers — he was in fact the only friend I ever had who was willing to do this. He discovered a fundamental error in my proposed proof of the validity of Occam’s Razor in a computer program context, shortly after my book was published. I had to put a notice of the error in an addendum sheet that had to be inserted into every copy I sold. He was always willing to read my Syracuse Problem papers, and I always considered his naive questions to be of value.

1. Wikipedia, May, 2009

2. This fact in itself did not invalidate her theories, of course, since validation would have to be statistical.

Over the years we had countless discussions about computers, the computer industry, education, and occasionally, I'm afraid, politics. He was staunchly liberal, but in part as a result of the influence of Jason I was starting to question that political philosophy. Certain things Michael said would make me angry. For example, once, when we were discussing the plight of the blacks, as we often did, I said words to the effect that it might be wrong to lay all the blame for black poverty in this country at the feet of the whites, since in Africa the blacks also seem backward. He immediately replied that that was entirely due to colonialism. I wanted to reply, but didn't dare, that any racial group that is that easily stopped in its tracks by other racial groups is perhaps inferior to those groups. I wanted to bring up the Jews, who, over their long history, have suffered far more than the blacks (and until 1948 never had a country, still less a continent, they ever could call their own), and yet the Jews managed not merely to survive but to flourish. He always gave the benefit of the doubt to the blacks, and was quick to point out, when I commented on poor performance by blacks in school, that the reason was that their schools never received as much money as schools of the affluent. Palo Alto High School was a frequent target of his scorn. He was extremely reluctant to accept any suggestion that blacks could do much more for themselves.

For many years he lived in a seedy apartment in South Palo Alto, most of the occupants being Latinos. It contained nothing but the bare essentials in furniture, and only the most inexpensive furniture at that. The rest of the place was filled with boxes of computer hardware. He didn't seem to mind the shabby surroundings at all. He told me that he was able to write off much of the rent as a business expense. Then he suddenly bought a house in one of the most beautiful and affluent parts of Palo Alto. This was in the late eighties or early nineties, and he had been able to get it for \$550,000, low even at that time. Within a couple of years it was worth \$750,000, and by the early 2000s I am sure it was worth close to \$3,000,000.

As far as I could tell, he had little interest in anything but computers, and he devoted virtually all his time to this field. He kept up with the computer magazines and newspapers and knew an astounding amount about the world of PCs. I could always be sure of a knowledgeable answer to my questions in this area. I had no interest whatsoever in this lore. For me, the computer was and is an anxiety-producing machine that, when it worked, could save you a great deal of time, for example, in writing, over the old-fashioned typewriter or handwriting, though I often felt that if I could have been a member of an intellectual community that was interested in the subjects I was, and which would read hand-circulated mss., I would gladly have given up the computer and gone back to handwriting and the machine copying of mss.

He had a strong interest in programs for the handicapped, for example programs that made it possible for a handicapped person to communicate with the computer by using a beam of light issuing from a small flashlight strapped to the person's head; he even worked on a program to enable the person to communicate with the computer through movements of his eyes.

He compensated for his lack of knowledge of other fields by stubbornly regarding as questionable whatever he didn't like or understand. It angered me at times that he was so unwilling to do his homework, to find out on his own what the answer was to a question that neither of us had enough knowledge to answer. A few examples: in the course of some discussion, the question of the acceleration of an object moving in a circle came up, for example, of an object at the end of a string being whirled about one's head. I recited the standard physics statement that the object accelerates toward the center of rotation. He was skeptical, arguing that if the object moves at a steady rotational speed, there is no acceleration. (He gave that little laugh of his which said, "How easily the world is led down the garden path by these physicists!") I told him that acceleration is a vector quantity and thus has *two* parameters, not one: speed *and* direction. If speed is

constant but direction is constantly changing, then there is still acceleration. He was not convinced. At home, I got out my physics books, made sure I understood what the authors were saying, and went back to him with an example: “Suppose there’s this person ice-skating on a pond. He is tied to a rope which you are holding. You are somehow fastened to one point on the pond. The person starts to skate in a straight line past you but then, at some point, you give the rope a yank, causing his direction to change. He continues in the new straight line that you put him on, and then, at some point, you give the rope another yank, his direction changes again, and so forth. Now those yanks on the rope are causing him to change direction, and are therefore causing an acceleration in him, by definition. Now suppose you keep decreasing the interval between the yanks, and suppose the force in each yank is always the same. The skater’s path will become a regular polygon of more and more sides and so, in the limit, it will be a circle. Your yanks constitute a constant acceleration toward the center of the circle.” But he was still skeptical: calling a change of direction an acceleration seemed to him exactly the kind of silliness that physicists were all too frequently up to.

Another time, this when we had gone to visit Bruce Nordman at his house in North Berkeley, I happened to mention heat engines. I said that a heat engine runs on a difference in temperature. No difference in temperature, no heat engine. He disagreed, arguing that if you put bullets in a furnace, the bullets soon become the same temperature as the surroundings, and yet when they explode, they still exert a force. I argued that the difference in temperature is that between room temperature and the temperature at which they explode, not between the temperature just a few moments before they explode and the temperature at which they explode. But he wouldn’t buy it. Yet he had no interest in looking up the correct answer in a textbook.

Another time we had been discussing the physical concept of work. I quoted the standard physics definition that work equals force times distance. I then remarked that this definition bothered me, because it certainly seems like one is doing a lot of work when one is merely holding a heavy object without moving it through any distance. Yet how is that work measured? He shrugged, admitted it was a good question, but as far as I know made no effort to find out the answer. Years later, I came up with one — I don’t know if it has any merit. It can be found under question 20 in the sub-section “Interesting Questions” of the chapter, “Additional Thoughts”, in my book, *Thoughts and Visions* on the web site www.thoughtsandvisions.com.

Another time he announced, categorically, that Galileo invented modern science. I disagreed, saying that some of the fundamental ideas underlying modern science were already in the heads of people like Roger Bacon (1214?-1294), Leonardo da Vinci (1452-1519), Johannes Kepler (1571-1630), and other thinkers before the 1600s. But he would not be moved. Galileo started the whole thing, period.

I considered it an amusing challenge to try to change his mind on some of these points, and I was, in fact, grateful that he was forcing me, at least for my own benefit, to go to the books and find out the right answers (or check that my answers were in fact right).

And yet we didn’t always disagree on technical matters. We both read Doug Hofstadter’s book *Gödel, Escher, Bach*, which at the time was considered to be practically a work of genius. But he was skeptical about all the hoopla. With that laugh of his, he said it was entirely too wordy, and that it was little more than a flamboyant intellectual exercise. I agreed. What was original in it wasn’t interesting, and what was interesting wasn’t original.¹

1. “Your manuscript is both good and original; but the part that is good is not original, and the part that is original is not good.” — Samuel Johnson

One thing that I found surprising, considering his left wing leanings, was what he said after a trip to Russia that he took with Joan in connection with some education research. He remarked on the miracle that is Safeway, that we can buy just about anything we want from an enormous range of choices at affordable prices, but that this is not at all the case in Russia.

He had a naive view of the arts, regarding as rather comical the notion that one could call something a painting or a sculpture that did not clearly represent something. He had taken piano lessons as a child, and could play simple melodies, but he always disparaged his ability. He pronounced Beethoven “*Beeduhv’n*”. I think he once remarked that he liked Tchaikovsky. But he never seemed to show any desire to expand his understanding and appreciation of classical music. I don’t recall him having any interest in film.

Once or twice we talked about God. I said to him on one occasion, “We must realize that the question, ‘Do you believe in God?’, is actually two questions: (1) ‘Do you believe that God exists?’ and (2) ‘Are you able to bring yourself to worship him?’. I am quite able to believe that God exists, but I cannot get down on my knees before a being who would create a world like this.”

He immediately made the very astute reply, “I’d say you’d *better* get down on your knees before a being who could create a world like this.”

Our friendship lasted almost twenty years. After I left HP and was living in Berkeley, we would arrange to get together for lunch or breakfast, and I would drive to Palo Alto. Then we would take a walk through some of Palo Alto’s beautiful streets, commenting on the houses, and bemoaning the modernist junk that was being put up in place of the stately old houses, which were being “scraped”, as the term had it: that is, simply bulldozed to make room for the huge new exercises in bad taste that Silicon Valley money in the wrong hands made possible.

Two things led to the ending of the friendship. First, I was becoming increasingly suspicious of what was really going on with their company. Michael ran the annual meetings of the board with meticulous attention to the details of protocol. (The meetings were usually held as a conference call on the phone.) But it seemed that after the first few years, very little new work was undertaken. There was a project with the San Jose School District to, I think, put all the computers in several schools onto a network. But political problems developed. When I made several proposals for projects that at least seemed interesting to me, he declined them — with the greatest respect and courtesy — as being not appropriate for the company. By then, the company had close to \$1 million in funds. This money, as I understood it, was accumulating interest and other income virtually tax-free because the company was a non-profit. I called a state agency and, without mentioning Michael’s name or that of his company, asked if non-profit organizations were required to do any work each year. The answer was a definite yes, and that a company that didn’t do this would lose its non-profit status. I never found out what, exactly, the company was reporting each year as to work it was supposedly doing, but I couldn’t avoid the suspicion that the real purpose of the company was to ensure the ongoing tax-free income from that money.

This bothered me, because Michael had all along taken a dim view of my son’s profession of currency trader. He argued that currency trading not only contributes nothing to the world’s economic wealth, but also could just as well be done by making the buy/sell decisions randomly. I think, but I am not sure, I made the following counterargument: Suppose you were the head of a multi-national corporation which decided that it would be good for business to build a plant in, say, France. You were reliably told by the French contractor that the plant would be completed in three years. Full payment would be due at that time, in French francs. Obviously, you would

want to convert your dollars into francs at a time when the exchange rate was most favorable to you, so you now must decide when that will be: now? six months from now? a year from now? ... three years from now? I argued that it was extremely doubtful that you would make your decision by choosing the time at random. I argued that instead you would try to find a person with a deep knowledge of current French politics and economics and currency, and current American politics and economics and currency, and ask for his advice — a person, for example, with a record of success as a currency trader. I don't recall his reply.

Second, not only was his liberalism getting on my nerves, but also what I regarded as his (and Joan's) insufferable hypocrisy regarding Joan's mother, Regina. This was a woman who, in her fifties or even sixties, had obtained a medical degree and then gone to one of the South American countries to help the left-wing rebels — at considerable risk to her own life, of course. She was a declared enemy of capitalism. And yet, when she returned from South America, Michael and Joan managed to find a way to get welfare to pay her rent in a comfortable apartment in Palo Alto, this despite the fact that her daughter and son-in-law were multi-millionaires.

I occasionally wrote emails to Jason about Michael, especially as I, like Jason many years earlier, was drifting away from liberalism, in my case as a result not only of conversations with Jason, but also as a result of seeing some of the consequences of thirty years of liberal policy in Berkeley. One day in January, 1999 I accidentally sent an email intended for Jason complaining about Michael — accidentally sent this email to Michael as well. As soon as I realized my error, I picked up the phone and called him. He wasn't there, so I left a message pleading with him to delete the email unread. He apparently didn't get my message, or didn't want to honor my request. I never heard from him again, and I never tried to resume the friendship.

“AI Spring”

During the mid-eighties, the HP auditoriums were packed with young AI(Artificial Intelligence)ers fresh from the universities. Yesterday LISP was out, today it was in. I was amazed at the suddenness of the change, at the power of a coterie of professors and computer consultants and business leaders to suddenly start a trend. Overnight, as if someone had turned a switch, history was revised: LISP was the best, the most powerful, language after all. Busy minds set to work creating baroque LISP programs that only other, similar, baroque minds could understand or use. Around this time, it also became the fashion to call groups of buildings where research or development was going on, a “campus”. Whatever you were doing, even if it was the most boring, low-level programming, suddenly became much more important when they decided your building was part of a *campus*. (It also became the fashion around this time — not only in the Labs, but in the divisions as well — not to return phone calls, because this let it be known to the caller just how important you had become. And it was definitely frowned upon to ask, when someone picked up the phone in response to your call, “Are you busy?” because this implied that there were times when the person was *not* busy. You were always supposed to say, “Are you interruptible?”) Yet, after all my years in industry, I was still remarkably naive. For example, I took it seriously when someone said, at the end of a brief conversation, “Hey, we should do lunch!” When I told Marcella that they never seemed to follow up on the invitation, or to be free when I suggested a day, she laughed, saying that people don't really *mean* it, it's just the way they end a conversation. (In the eighties she worked for a time at Apple, at a job that allowed her to observe Steve Jobs in action. She said he was brilliant at marketing, always bursting with ideas, but as a manager he was terrible.) The Labs hired an MIT professor, Ira Goldstein, to head the AI

research group at the Labs. His arrogance soon became all too well known. I heard him give talks several times, and to me, at least, he seemed to like complicated ideas implemented in complicated programs. When Bill Williams told me that Ira had built a house in Los Altos Hills, I suddenly came up with a theory: that the house a programmer builds is a reflection of the kinds of programs he writes. Since Bill had been invited to attend an open house party at the new house, I asked him to describe for me the basic size and structure of the house when he came back. He did, and it was just as I expected: Goldstein had built a huge, complex, ostentatious six-story house. (I encourage programmers to compare Bill Gates's sprawling house in Medina, Washington, with Microsoft Windows software.)

The story went that Ira suddenly, and for reasons no one ever found out, fired Anne P—, Veronica Blaine's former girlfriend: he apparently had marched up to her desk, told her to gather her personal belongings, then marched her straight to the door.

His arrogance as a manager eventually caught up with him, however. The company removed him from his position as head of AI research and, the story went, eased him into some harmless position back East.

Gerry —

Sometimes our department would take on a summer student — typically a PhD candidate at one of the country's leading engineering schools. One summer, a tall blond guy began working with us. His name was Gerry or Jerry Roynance, I think, and he was working on a PhD in placement and routing at MIT. He struck me as a typical brilliant doofus type, thoroughly at home in the PhD culture of his specialty, up on all the latest nuances in the technology, acquainted with some of the leading researchers in the field, and always ready to laugh with the others in our department on some inside joke. He also liked to confirm his low opinion of lesser beings like me, and so one day, while a group of us were walking to the cafeteria, which was in another building, he asked me what the strongest structure was that could be made with ordinary wooden matches. I struggled, came up with something that he immediately said was the wrong answer. With contempt he said something about tensile strength and then explained that the answer was any structure in which the matches are bunched tightly together and placed vertically on a stable surface. They could then support a very large weight placed across their tops. Actually, this is because the bunched matches have high *compressive strength*, not tensile strength (resistance to being pulled apart), so maybe his use of the latter word was in reference to my incorrect answer. In any case I was thoroughly ashamed, and thereafter made a point of having as little to do with the guy as possible.

Striking Out at Another Division

Even though Kevin and Eric were content to let me work only one or two months a year as long as the rest of the time I stayed quiet and out of the way in my cubicle (they had no idea I was studying number theory and Goethe and half a dozen other subjects, but if they had, they probably wouldn't have cared anyway), I decided to make another try at getting the Environment idea before an audience. Somehow or other, I heard about a job in the World Wide Response Center in Mountain View. This division was charged with the responsibility of responding to customer calls when software or hardware on the HP 3000 broke down. (This large computer was HP's main computer product at the time.) Since Artificial Intelligence was all the rage, the Center had embarked on writing an AI program in LISP that would automatically fix customers' machines

over the phone lines. The customer would call a specified number, then connect certain output terminals of his machine to his modem, after which the computer in Mountain View would take over and, in effect, interrogate the machine's software and hardware until it figured out what the problem was, and from that, look up the one or more recommended solutions and either fix the problem automatically over the phone line, or else print out the solution for the humans at the Center, or a Field Engineer at the customer site, to use in fixing the problem.

The LISP software was notoriously difficult to use: in fact no one had used it successfully except those who had participated in writing it. They needed a strong writer to make sense out of it, they said.

The head of the division was an interesting character: a handsome Israeli who, according to legend, had been a tank commander during one of the Israeli wars. He was one of the people who interviewed me, and I saw immediately that he had that natural Jewish interest in something that sounded like a new idea. I felt that at last I had found my opportunity.

The technical publications manager, however, was a plump, sexy, woman in her forties named Belinda, and a few seconds of conversation revealed that she was yet another of the empty-headed females who are put into these supervisory positions because they are willing to direct the work that every red-blooded programmer and engineer wants nothing to do with.

But the other women managers, most of them in Marketing and all young, didn't let you forget for a minute that they were on the cutting edge of the new technology. They dressed up-to-the-minute, cultivated foxy mannerisms designed to drive men wild, tossed their hair, and strode around like the most aggressive newly-minted female PhDs in the academy. (There was one in blue I couldn't take my eyes off of.) They all overpronounced their *s*'s, presumably as a result of some tribal telepathy that said that the *successful* young woman manager is above all (besides being beautiful) articulate. (Women who are not in positions of power sometimes overpronounce their *s*'s to make a present of them to you, just as they wear tight sweaters and blouses to make a present to you of the sight of their breasts.) In this new proto-politically-correct atmosphere, they could now say to each other and to the men and the world at large, "See? We had what it takes all along. And now we are going to be in charge."

I was assigned to work with a Texan named Snyder (no relation to Alan Snyder, introduced above), a man who was a cowboy in more ways than one: in his attire — he wore cowboy boots and jeans and shirts with rodeo star ornamental stitching — and in his firm belief that a good programmer is one who conforms to no rules except the syntactic rules of the programming language he is writing in, and thus whose programs are, and should be, incomprehensible to everyone else. He was obnoxious, and from the start showed his contempt for anyone who couldn't figure out how to use his programs just by reading the code. At times he would not even reply to my questions.

The chief architect of the LISP program was an Englishman whom the company kept flying back and forth to the HP plant in England, where there was apparently another attempt at getting the software into use at one of HP's labs. He was better educated and more reasonable. He did the training on the system.

One of my tasks was to help him create training materials. They had already begun video-taping his lectures on the use of the programs, but after they had six hours of his lectures on tape, they realized that some sort of written summary would be necessary. The truth was that the level of detail was hopeless. To use the programs successfully, a person had to, in effect, understand all or at least most of the LISP programs inside. Six-week to six-month training periods were being talked about.

In the group was a PhD in mathematics who was just the opposite of the Texan: a Jewish guy with a warm smile who always seemed to be on the look-out for the next humorous thing to happen. After further complaints from those members of the Response Center who actually had to answer customer calls, and who, of course, had been complaining steadily about how difficult the software was to use, this guy came up with a brilliant idea: he found out what were the most common problems that Response Center people were asked to solve; then, by talking to these people, he came up with the best solutions to each problem, and wrote them up and distributed the result to all the Response Center people. The whole write-up required no more than twenty or so pages and immediately resulted in something like a 20% or 30% increase in Response Center efficiency.

I Almost Murder a Fellow Employee

Management was amazed at such a brilliantly simple idea, but, since so many man-hours had been invested in the software, obviously work on it had to go on. My frustration at not being able to get any information out of Snyder grew. I detested the man, detested his stupid motorcycle manner, detested the fact such a beautiful programming language as LISP should wind up in the hands of such a rube. One day a shouting match developed: he had stated flatly he had no time to answer questions, I made some sort of counterargument to the effect that he couldn't seriously believe it was more efficient for me or any writer to try to figure out the use of the program by reading uncommented code, and he said something nasty in reply. It may have been the first time that I ever got into a shouting match on the job. I felt I had reached the end of the line; I was so remote from the thinking of those I worked for, and with, that it was hopeless to try to win them over. My future lay in being humiliated by fools like Snyder.

I went home, had lunch, then went upstairs, took the .38 out of the box, loaded it, and took it with me back to work. I put it inside a newspaper, got out of the car. I had gone over the scene for hours: first kill him, then kill a bitch in Marketing who was not only beautiful and haughty, but who seemed to make a point of never looking at me. I would shoot Snyder in the legs first, then in the groin, then finish him off, then walk along the desks until I found the bitch, would make her beg, then shoot her the same way, and finally, of course, kill myself.

I think I actually got as far as the cafeteria on the ground floor (I worked on the second floor) before deciding that maybe this wasn't such a good idea. Boredom, frustration, and humiliation seemed a slightly better alternative than murder and suicide, so, having maintained my lifelong practice of never burning bridges, I called Kevin and told him that it was time for me to transfer back, and he consented.

“AI Winter”

The new religion only lasted a few years. I suspect that the lack of concrete results, and perhaps the difficulty of teaching those who hadn't written the programs how to use them, might have been major reasons for its passing. In any case, by the late eighties, except among a few lone souls in the Labs, the old programming languages were back in favor.

My Mother The Battle for the Inheritance

Let me repeat: I remained in contact with my mother throughout my life for one and only one reason: to get my inheritance — to prevent her from giving my father's money away. Already in

the seventies I asked myself how hard I would have to work to save the amount I guessed I would inherit (she made a point of never telling me). The answer was at least fifty percent more time than I was then working. Which would have meant effectively no work on my own projects. I would be betting that I would live long enough to complete these projects after retirement. I felt that was not a good bet. So the inheritance meant “the difference between struggle and ease, the difference that counts to thinking people”. — Compton-Burnett, Ivy, *A House and its Head*, Penguin Books, N.Y., 1982, p. 266.

My mother had her squad of doctors to cater to her real and imagined illnesses. But she also needed legal advice, and after Emil’s death this was provided by a lawyer who, I think, was recommended by Fred, Emil’s son and a well-known San Francisco attorney. My mother liked this lawyer immediately because (a) he always sympathized with her, especially when she told him how much she had suffered in her life, and (b) he never charged her for his services (the reason why would eventually become all too clear). His name was Daniel Hoolihan — she always called him “Mr. Hoolihan”, as did I — and he was to play a major role in my battle for the inheritance.

My Mother’s Caretakers

After Emil’s death, my mother lived alone for a few years. She combatted her loneliness by making endless calls to her doctors, to Mr. Hoolihan, and to me. She also had weekly visits from her gardener and handyman and a woman who came to clean. Eventually, she decided to hire someone to share the house with her, and found an easy-going young woman in her thirties named Carol Hermenson. This good woman was able to endure my mother for over a year. Then my mother found, through her psychiatrist, Dr. Joseph Satten, a remarkable woman named Kay Summers, and for some ten years, from the early nineties until my mother’s death, she somehow managed to endure living with this whining, selfish, constantly fault-finding old woman, and to maintain a sense of humor in addition. I often thought, “Thank God for Christianity!”, which made a virtue, particularly among women, of the endurance of suffering and humiliation — a virtue with divine reward in the afterlife. Maybe the early Christian fathers had mothers like mine, and knew that only by finding long-suffering women to take care of them would they be able to get on with the business of their own lives.

Kay and I got along from the start. She was one of the very few people I have ever known who had a New York accent I liked. We would joke about the ordeal we both had to endure. When I would describe some act of orneriness of my mother, she would roll her eyes, sigh sympathetically and say, “Oh God.” My mother always made me wait downstairs after I arrived, while she tended to God-knows-what upstairs. I would make small talk with Kay while I waited. I would ask her how she was, go over the latest difficulties with my mother, but there wasn’t much else to talk about as she had no interests. Eventually, at the point of exasperation, I would say, with exaggerated resignation, “She takes forever”, and Kay would say, as though knowing all too well was I was going through, “Oh, God”.

She had wavy, neck-length blond hair, and often wore heavy white makeup. I used to think that her only pleasure in life was putting this stuff on, experimenting with different shades of it, seeing how amusingly spectral she could make herself look.

My mother told me she paid Kay \$500 a month, plus room and board. But in 1999, Kay told me that that wasn’t quite true: my mother forced her to pay for all her food out of that \$500. At the time, my mother was receiving at least \$600 a month in Social Security, plus income from at least \$500,000 in stocks, bonds, and other investments — about \$3,000 a month. She was paying

about \$225 a month for her own food, according to Kay, and another \$350 for taxes and insurance on the house (her only expense in connection with the house).

Phone Calls

The only way I could endure the ordeal of maintaining any kind of contact at all with my mother was to talk to her as little as possible, and to visit her seldom if ever. After calling her, I could be confident of three or four days of blessed silence, but then the torment began again. She would have Kay call and keep calling until I responded. Sometimes I could buy a few extra days of not hearing her voice if I sent her a card with beautiful flowers on it. (For the required annual birthday and Christmas and Mother's Day cards, I always selected the most elaborate, revoltingly sentimental card I could find on the rack at Long's Drugs in Berkeley.) If I simply could not drag myself across Berkeley to this store, I wrote her an obsequious letter, always slipping in a few words about how desperately low on money I was.

She in turn sent me cards and letters telling me that her arthritis was bothering her but that she still was managing to force herself to write, that she was exhausted from overwork in *settling things* (that phrase I hated more than any other in the language), that she was ill and near death. Sometimes she sent me a letter with a few dollars. One Easter she sent a dollar bill and a quarter with a note, "I wish I could do more". Or she would send me some tuna fish and a can of V8 and some semi-rotten tomatoes. Once she sent two certified letters, a day apart, requiring that I go to the Post Office to sign for them. Each envelope contained the same thing: a copy of a letter from her eye doctor, reminding her to come in and have a checkup, and a copy of a letter from Mt. Hermon School thanking her for a \$25 contribution.

I would put off responding to her calls — or rather, the ones she had Kay make — as long as possible. The calls would increase in frequency. I disconnected all the phones in the house except for the one whose ringing mechanism was broken, so that Kay was forced to leave a message: [in her New York accent] "John? It's Kay. This is Kay. The time is...two forty-five, no, two forty-six on Tuesday afternoon, October twelfth, nineteen ninety nine. Please call. Mummy is very sick. John, this is Kay. Please call. Mummy is sick. Thank you. Bye." Once, in my rage, I didn't reply for almost a week. Then, late one afternoon, there was a knock on my door. A guy from the Post Office, clearly embarrassed, said they had received a call from a woman named Elsy L —, who demanded that they investigate what had happened to me. Kay, who had no choice, would continue to do my mother's bidding. "Hi, John, it's Kay. Mother would like you to call her. It's Saturday afternoon, October...let's see,.. sixteenth, at...two...fifteen, no, two sixteen p.m. Mother is not well. Please call. It's Kay. Please call. Thank you." I once tried — when I eventually called back — giving the excuse that I had been away, but that didn't work at all: I must tell my mother when I went away for a day or more, and where I was going, and leave a phone number, because she was not feeling at all well, and must be able to reach me if something happened. Once, in my ongoing campaign to get money out of her, I told her — not entirely untruthfully — that I could no longer afford to live in the Bay Area, I would have to move to a place where the cost of living was less. That too didn't work: I must remain where she could reach me quickly, and where it would be only a short drive to visit her at the hospital.

If I didn't call back for a week or more, it would be my mother who left the messages. I could hear her aged hand fumbling at the phone after Kay had dialed the number and received my automatic asking the caller to leave a message.

My mother: "Is it him?"

Kay: “No, dear, you have to talk into the receiver. There. Just talk. He will get the message later.”

She: “Oh, I don’t know... John... It’s your mother... I want to talk to you... Oh where is he?”

I could hear Kay’s voice in the background. I would always erase the message without listening any further. Years after the answering machine had become a commonplace item, my mother still did not understand how it worked, or, rather, still pretended that she didn’t. Kay once told me that most of the time she believed that the automatic message was me, standing there, speaking.

On it went. Soon, my seething rage prevented me from doing any of my own work. The bitch had won again. I would give up and call her. Kay was always the one to answer, since my mother could barely walk: “John? Oh thank God you called. Mummy is very ill. We’ve been trying to reach you. How goes it?”

I: “Oh, you know.” I made sure the tone of my voice indicated I am never well, because I needed her to confirm this lie when she talked to my mother. I had a list of fake illnesses I used as excuses for not having returned the phone calls sooner, and for why I couldn’t come over for a visit. This ploy worked, because the one thing above all others that my mother respected and admired was illness.

Kay: “Your heart OK? What was it...?”

I: “Well, no change. They’ve given me new medicine. I have to go over there today to get some new anti-depressants. How are *you*? Still alive?”

She, with a laugh: “I have no choice.”

I: “Well, don’t forget, you will be rewarded. I understand No. 1 is going to ask You Know Who to vacate that seat on the — which side is it? the right? — and give it to you. I have it on good authority. Well, actually I don’t, because, as you know, He and I are estranged.”

Kay: “But He still loves you.”

I: “Well, I’m not too sure of that. But I know He loves *you* and that you will be rewarded.”

And so we would banter for a few minutes. In the background I could hear the croak, the howl, of my mother’s voice: “Who is it?”

Kay: “It’s John. He wants to talk to you.”

Kay and I would continue to talk until the howling became intolerable.

Kay: [To me] “Oh, God. Don’t go away.” Her voice would fade, there would be animated talking, she would return to the phone. “She is coming very slowly. She is not well. Please be patient with her. She is not well.”

Seconds, minutes would go by. I could hear my mother’s groans, the slow shuffle of her slippers on the floor. It was by no means certain that she had the difficulty in walking that she pretended to have. Sometimes I would get so impatient at this performance, I would tell Kay to tell her to call me back when my mother had finally arrived at the phone. In late 1998, I tried having Kay call to see if I was here, then, if I was, hanging up while my mother dragged herself to the phone, then calling me again. But we abandoned the plan, since I was forced to sit next to the phone anyway.

After an interminable wait, I would hear the phone being fumbled with, then labored breathing, then a hoarse, fearful, pain-ridden voice: “John?”

I: “Hello! How are you?”

She, after a long, all too deliberate, pause: “Not good. Not good at all.” Pause. “I have had setbacks. Oh yes.”

I [beginning a game of Solitaire on the computer]: “I’m sorry to hear that.”

She [after another pause]: “I am giving up hope. If only I could die.”

I: "Did you call the doctor?"

She: "Who?"

I: "The doctor. Did you call Dr. Beadner?"

She: "Who?" (He has been her doctor for at least fifteen years.)

I, very loudly: "*Dr. Beadner.*"

She after a long pause: "I saw him a few days ago."

I: "What did he say?"

She: "I don't like him." Pause. "He is short with me sometimes. He never calls. Never."

I: "Well, doctors aren't allowed to call patients for no reason at all. Otherwise it would look like they are trying to drum up business. Do you understand?"

She, after long pause: "What business?"

I [much louder]: "*Doctors are not allowed to call patients unless the patient has called them. Do you understand? You have to call them.*"

She: "I call them but they don't do much for me...They don't have the interest...Beadner has not been kind... With all the medications I take I should be better."

I: "If you don't like Beadner, why don't you get another doctor?"

She: "Oh, it's not that easy. At my age."

Long pause. I continue to play Solitaire.

I: "I tried to reach Jeffrey."

She: "Oh, yes. How is he?"

I: "He's fine, but he still doesn't have a phone." (He does, of course, but I have promised him never to give her his number.)

She: "Where is he?"

I: "He's in New York. Working at his job. I told you before." (Many times.)

She: "He never calls."

I: "He's very busy. I have told him to call you."

She: "I think it's Marcella."

I: "What is Marcella?"

She: "It's her influence."

I: "Marcella has nothing to do with it! What possible good would it do her to keep Jeffrey from calling you? What would be the *point*?"

She: "We were once very close. He used to say — I know you don't like to hear this — 'Grandmother, I have no home now.'" (She was referring to my divorce, twenty years previous. I do not believe he ever really said this.)

I: "Well, in my next letter I will ask him again to call you. But why don't you write him? I gave you his address."

She: "What did you say?"

I [near shouting]: "*I gave you his address! I sent you two copies. Did you write him?*"

She: "No, not yet."

(A day or two after she received his address, she had Kay call me to ask for the phone number and address of the company where he worked, so that he could be summoned to the phone in case she became ill. After my fury subsided, I told Kay to tell my mother that I wasn't sure of the name of the company, but would try to find out. Of course, I never followed up on this.)

Dead end in the Solitaire, I start another game, meantime groping for subjects to talk about.

I: "Did you hear from anyone in Switzerland?"

She: "What did you say?"

I: “Did you hear from anyone in Switzerland?”

Long pause. “What did you say about Switzerland?”

I, very loudly: “*Did you hear from anyone in Switzerland?*”

She, sadly: “No.”

Sometimes she asks how I am.

I: “I have a bad cold.”

She: “I have some wonderful lozenges. They come from Switzerland. I’ll send them.”

Once — I think it was around July 19, 2000, and I have to believe it was yet another attempt to arouse my pity for her — she fell off her chair during one of these conversations

She: “Wait a minute. I am falling. Please hold me. I am falling. Awwwh! Ohhhh!” (That howl quality in her voice.)

Kay dropped the extension phone at which I asked her to listen so she could translate what I said to my mother, and ran downstairs. “Elsy, move back. Move backwards. So you can land on the seat.”

My mother: “Oh, help me.”

Kay: “Move a little to the right.” Then she grabbed the phone, told me they would call back later. She did, to tell me that my mother was all right.

But sooner or later, in these conversations, she would say the words I dreaded more than any others. “We must go over things! You have no idea what you will have to do when I am gone. I don’t like to talk about it. There is so much for you to take care of.”

I: “I’ll come over as soon as I can get the car repaired. It is dangerous to drive now. As soon as I can save enough money...” I had to be careful about using the excuse of illness at this point, because she would then start wondering aloud if I will be able to put the estate in order after she died. “Maybe I should think about finding someone else...” and so forth

I: “I’ll be able to handle it, don’t worry. As long as they can keep giving me the right medicine.”

Then I would ask why we couldn’t go over things on the phone. She: “Oh, no, these are much too difficult. Oh, no.” She would laugh at the mere suggestion that something concerning her affairs could be discussed over the phone. Sometimes she would say that they were too confidential. It is entirely possible that she still imagined that the phone line was the party line we had had in my childhood, when other people could, in fact, listen in on your phone calls.

Perhaps, in a few weeks, she would send me \$100 to fix the car. I would try to find other excuses — the repair shop had discovered further problems — but the threat was clear, though never directly expressed: come over there or she calls Mr. Hoolihan. We set a time, usually on a weekend. She always wanted me to “spend the day”. I would tell her that I was still weak, the doctor had ordered me not to undergo any stress. She reluctantly agreed that I would stay for three hours.

Visits to My Mother

A visit to my mother was the enduring of a ritual going back so many years I can no longer say when it began. I once told her lawyer, it was like having to sit down at a table and eat a bowl of warm vomit.

I arrive on time, climb the steps, ring the clanging doorbell.

“I mount the stairs...
And feel as if I had mounted on my hands and knees.”

— Eliot, T. S., “Portrait of a Lady”

Excited, female voices. Sound of footsteps on a hardwood floor. A great fussing with chains and bolts, then the door opened a crack. Kay’s strangely white, powdered face appears. (Perhaps, like T. S. Eliot, she is trying to achieve a cadaverous look.) Bright red lipstick. She, with a slight laugh, as she pretends to shut the door again: “I’m sorry, we don’t want any.” or “John, as I live and breathe!”

I clump inside. She: “Mummy’s upstairs. She’ll be right down.” Then, in lowered voice, “She is not well.” I, with a resigned tone: “So what else is new.” I follow Kay into the kitchen. We talk, she agreeing with everything I say. I wander into the den at the back of the house — handsome room, fit for a banker: sofas against two adjacent walls; on the rear wall, light green floor-to-ceiling bookshelves with glass doors, Emil’s bound volumes of the English classics inside.

I sit down, find a Swiss magazine twenty or thirty years old, try to force myself to read. My mother is still upstairs. I get up, walk around, look in the bookshelves. Kay comes out of the kitchen. “Mummy is still upstairs. She’s coming.” As Kay goes about her business, she sings a nervous, non-song, something like “*dahn, dahn, dahn*,” repeated over and over — no melody, just an audible companion that she keeps around to get through the days: “Yes, Elsy, yes, Elsy,” (Might as well make the best of it. Just keep on going.) “Yes, Elsy, is there anything else?”, “*dahn, dahn, dahn*” (sing a little song to keep on going, *dahn, dahn, dahn*...)

I wait, try to find something else to read. Eventually, maybe half an hour later, when I can bear it no longer, when I am moments from walking out, I hear her voice from the top of the stairs. “Is that John?” Then her groans as she slowly, oh so slowly, makes her way down the carpeted stairs. “Oh, I don’t know...I am not well...Kay? Kay?” Kay rolls her eyes, “Oh, God,” and races off to help her.

Finally I hear my mother’s feet thump onto the first floor. I get up, walk through the dining room to greet her. She puts legs into halting motion, with a maximum of shuffling of slippers. I try to think of a theorem, a proof I can go over in my head. She comes toward me, bent forward, making a show of how difficult it is for her to move, eyes blinking, squinting, arms feebly raised. “Well, how are you? Don’t I get a ...?” She is wearing white tights, you can see the cunt pad through the material. She has overpowdered her face. Gritting my teeth, I bend down, give her a wooden embrace for the shortest possible time that will make it count as an embrace. I catch the stink of her body odor.

She: “Would you like some lunch?”

I: “Yes, that would be fine. Thank you.”

She: “Well, all right.” She lurches toward the kitchen. “You said you would like meat balls and spaghetti.”

I: “Yes, that would be fine.”

Now the two females busy themselves with preparing my feast. I ask for a beer, because it will help me get through the minutes. Sounds of pots, my mother’s sighs and “Oh, no”s. Endless female busyness. What would take the concentrated attention of any normal person a few minutes takes them a half, three-quarters of an hour. I continue to search for something to read. Improve my mind with knowledge of castles in the Canton —. For some reason, I never open Emil’s cabinet and read one of the classics. I read a Swiss journal lying on the desk. Look out the window.

Finally, at least half an hour later, mere moments before I am ready to bolt for the front door, I hear her halting steps as she tremblingly carries my plate to the table, making sure I see how bent and lame she is.

She: “You haven’t said how nice the flowers are.” (They are in a vase in the center of the table.)

I: “They’re very nice.”

She: “I picked them this morning. I can hardly go down the stairs any more. Dr. Beadner says I shouldn’t try to do so much.”

I don’t respond. After serving me, she goes back to the kitchen to do more struggling, so that I am left to start eating alone. Then she comes back and brings me some bread and butter or a salad or some stringbeans and carrots. She tells me how hard she worked to prepare the meal, how good it is, points at each item of food, sometimes using a knife, sometimes tries to cut it for me.

She, standing behind my chair. “Don’t you like the salad?”

I: “Yes, I am going to eat it in a minute. Right now I am eating the meat balls, which are very good.” I try to make it sound as wooden and unfelt as possible.

She: “The salad is fresh, you know. The tomatoes are from —’s. Would you like another beer?”

I: “No, this is fine, thank you. It’s very good.”

She: “I don’t think you eat properly. Do you?”

I: “Yes, I eat properly.”

She: “You have to have lots of fruit. I always have an apple or a grapefruit. Do you have grapefruit?”

After I am almost finished with my meal, she comes in, slippers shuffling, having sacrificed so much for her son, with a bowl containing half a grapefruit, sits down at the head of the table and starts to eat, slurping each spoonful. Her vulgarity drives me to the limits of self-control.

I say something, anything, to try to get a conversation going: did she see the broadcast of Mozart’s *Côsi Fan Tutte* on Channel 9 last week?

A long silence. Eyes blinking as she looks at me, trying to comprehend my question.

She: “You have to speak a little louder.”

I, much louder: “I said, ‘Did you see the broadcast of Mozart’s *Côsi Fan Tutte* on Channel 9 last week?’”

She: “Oh, yes.” Kay, standing near the sideboard, shakes her head, indicating she didn’t. My mother probably still has no idea what I asked her, and instead interpreted it as, “Do you like Mozart?” She: “It’s about time they bring something decent.”

Kay and I exchange a few words.

My mother: “You people speak too fast.”

Somehow or other, God knows how, the name of Carl Jung is mentioned. She says that she once met him in Zürich. “His daughter was very attached to me.” She has a habit of talking with her eyes closed when the subject is how much she has been loved by important people. She: “I need to be with interesting people.” (She hasn’t a friend in the world, and drives away those who make brief attempts at being friendly with her.)

I bring up the new operation for Parkinson’s disease which Fred Moore, Emil’s grandson, had (in 1996), and comment on what remarkable medical progress it represents. She: “I was the first one he called. He said, ‘Oh, Elsy, I’m so fond of you.’ Oh yes.”

Sooner or later, it is time to “go over things”. This begins with an item by item review of what

is to become of all the furniture and decorative objects in the living room and dining room and basement after she dies. Fred [Emil's son, not Fred Moore] is not to get his hands on anything. She absolutely insists. This plate is to go to Bobbi [Emil's granddaughter], who was always so thoughtful (she calls perhaps once a year, if that). This chair and the sofa is mine. It is not to be sold. Will I have enough room in the house? This pillow goes to Jeffrey. That crocheted blanket goes to Kathy [my former girlfriend]. These four plates are to be kept together and go to Mrs. Fasani.

She has dragged me through this same review for years. A few details change as this or that person falls out of favor. In order to fight the numbing, infuriating boredom of it, I began to take notes: "Jeff not to sell bird pictures in the master bedroom...Lamps in master bedroom: sell...Desk in den given by Emil's sister must stay in our family: not sell...I get shelves, cabinet in laundry room...Highboy in living room, leave it on floor to sell it...Dining room, sell cabinet with cups inside...the bronzed baby shoes..."

That I, as executor of her estate (she always pronounced the word, "executOR"), should keep track of such things was perfectly reasonable. But one would expect that she would go over the details once, write them down on a sheet of paper, and thereafter just change the items on the sheet that needed changing.

"We have to go upstairs," she says, and then begins her labored passage into the front hall and up the thickly carpeted stairs, one painful, groaning step after the other. On the landing she points out drawings, paintings, which she has been pointing out for thirty years. Up to the landing on the second floor. Pause for breath as she clutches the top railing. Now the halting shuffle through the middle bedroom, into the den at the rear of the house — a nice, sunny room, with blond wood cabinets, and wallpaper with a green-leaves-on-white-background pattern. She sinks into a chair, I, feeling as loose and impatient as a teenager, sink into another one.

She takes her time, even though we are repeating a ritual of who-knows-how-many years. She begins, with almost girlish shyness, because she knows she is about to reveal yet again something that the world, namely, me, doesn't want her to reveal. She gets up, slowly, oh so slowly, and goes to the green built-in drawers against the north wall of the room, opens one, takes out — there it has been lying, on the top of all the others in the drawer — an old-fashioned blueprint, or, more propely, blackprint of a letter from Fred L —. "This is Fred's letter. I don't want him to have this. I don't want you to ever have anything to do with him. He got Emil to change the will, so that I wouldn't get the pension. Here is the proof." She hands it to me. I glance at it, as I have glanced at it for years. I have no idea what it means or says and I don't care.

She opens another drawer, slowly, taking her time, knowing how much I hate this. "These are your father's papers."

I take the only revenge I can: automatic nodding, saying the same thing over and over: "Yes, I'll remember that, you've done a lot. Very nice."

"You never appreciate what your father did... And these are letters from David to me. I want them placed in the casket and burned." (Fat chance, woman.) She is coy, like a girl wanting some attention and affection. I don't give it to her.

I am to sit there as she talks, scuffles with her slippers, takes out now these papers, now those, with her trembling hand. Inevitably, we arrive at the subject of Pastor Schorer, a Swiss minister who had a radio program, "listened to by all the young in Switzerland". She repeats yet again how close she was to him, but of course it was "nothing like that. We were just friends. He was a wonderful man and we got along marvelously well. Children stopped him in the street and said, "Oh Pastor Schorer!"

In order to have something to talk about, I would mention a show on PBS. She would shake her head, uncomprehendingly, and say “They never bring anything good. We never watch.” She would comment on the violence, which I’m sure she had only heard about, never actually seen.

I got through these visits by imagining all sorts of tortures for her. But most of all, I imagined, on the day of her funeral, after she had been put into the ground, and the grave filled in, taking out a three-legged stool with a hole in the seat, placing it on top of her grave, lowering my pants, sitting down and taking a crap.

Her Friends

I heard my mother speak of only two friends: one was an elderly Swiss woman, Mrs. Fasani (Antoinette), who lived several blocks away on Stanyan St., and who my mother said was wealthy, the other was an elderly Jewish woman who had survived the camps, but whom my mother nevertheless burdened with her complaints until the day the woman died. Once in a while she had a letter from Florence, my childhood babysitter. Friendships were terminated summarily if the person failed to show the subservience my mother demanded. But whenever she received news that someone she had known in her childhood or early youth had died — in their eighties or nineties — my mother would adopt a somber expression, shake her head and say several times, “So young, so young...”

Her Doctors

For most of the eighties and nineties, her physician was Dr. Saul Beadner, who, at his retirement in 1999, was, I believe, close to ninety. She called him for the most minor problems. Kay told me that in May 1996, when my mother got a nosebleed, she not only called Dr. Beadner but demanded he come to the house. Apparently (per Kay and my mother) he told her, “Haven’t you ever had a nosebleed? Don’t you know what a nosebleed is?” She: “Oh, I know what a nosebleed is. And you don’t have to be so short with me, Dr. Beadner. But I have never had one before in my entire life.”

Dr. Beadner passed his practice on to Dr. Uhley, whom my mother took an immediate disliking to after he refused to come and personally pick up a urine specimen that had to be taken to a lab, and instead sent a lab technician, as he certainly should have, since not only wasn’t that the kind of work that doctors should do, but he was, in addition, the head of the cardiac unit at Mt. Zion Hospital. Another time she told me, with considerable indignation, that after she had insisted that Dr. Uhley come to the house and examine her, he said, as he was putting away his things, “And now I am going to visit some *sick* people.”

Later on, after another of these false alarms, Dr. Uhley warned her that if she continued to do this, one day he would perhaps not respond as quickly as he should, and that might be just when it was important that he be there as soon as possible. He reminded her of the story of the Boy Who Cried Wolf. I know that he told her this because he himself told me he had, after I had called him to find out just how sick she was. Almost always in phone conversations with me, she would make a point of telling me that she was “near death”. And in fact, she had been saying such things since I was fourteen. “Making such threats” is not quite the correct phrase here: “Building false hopes” in me is more accurate.

She had not always been critical of her doctors. Sometimes, in the past, she would say of one, “He is tops. Tops.” Meaning either that he was a Swiss or that he had a high reputation, but in any case that he was always obsequious to her.

Over the years, I learned to despise the squad of professionals who placed themselves at the beck and call of old bitches like this. Worst of all, I hated the mollifying voices of that corrupt profession, psychiatry. Countless times I called her psychiatrist, Dr. Satten, pleading with him to give her stronger drugs, or to tell me what to do to avoid the terrible phone calls I was forced to endure. In his deep, soothing voice, cultivated through decades of being in the soothing business, he would say that I had to understand, she was old and alone, and that perhaps if I sent her a card now and then, and perhaps just tried to be nice to her during a short phone conversation every few days, well... But I have to give him credit: one time, in response to my pleading with him to tell me if there was no other way to get out from under her, he said, — unfortunately, I don't remember his exact words — that I could always just give up the inheritance and walk out of her life.

Despite the good living Dr. Satten was making out of soothing these neurotic bitches, at times even his endurance was stretched to the limit. My mother said that once, during a visit to him, she asked him why he was always yawning and seemed hardly able to keep his eyes open. She said that he replied, “Because sometimes you are not very interesting.”

Another time, having been told many times by me, and apparently even by him, that she had a habit of repeating herself in conversations, she came up with a brilliant idea: whenever she started repeating herself, he was to raise his index finger. She apparently told this to Kay, and she certainly did to me, failing completely to realize that the gesture was of no use whatsoever in a phone conversation.

Despite her lifelong need of doctors, in things medical, as in all other things except psychology, her fundamental stupidity revealed itself. She had no interest in understanding what her various troubles were — no ability, is closer to the truth. She couldn't even begin to pronounce “transient event”, of which she had several during the eighties and nineties, much less understand what the term meant. Referring to her operation, in the early nineties, for cataracts, she would always speak of “my cardiac operation”.

Popular Music

Although I continued to despise popular music as I had since childhood, every once in a while a tune would come along that would stop me in my tracks. For example, “Nothing from Nothing” on Billy Preston's 1974 album *The Kids & Me*, with its hammering, primitive piano and rhythm section:

“Nothin' from nothin' leaves nothin',
You gotta have somethin'
If you gonna be with me...”

But truly overwhelming was Natalie Cole's “This Will Be” on her 1975 album *Inseparable*, especially the concluding chant of the words

“Love, love, love,....
From now on... From now on...”

with piercing high trumpets and pounding rhythm section including a bass part that climbed up your spine. I was sure that the studio band for this recording included many of the musicians on the Preston album — all black no doubt, playing an arrangement that came from the joyous depths

of the black soul. If tears don't come to your eyes as you listen to this music, then there is something wrong with you. I told Heim: "I would give all my money to be able to lead a band with a rhythm section like that for just one week."