SAN FRANCISCO, 1956-58

AFTER LESS THAN A YEAR in Thailand my father resigned his position there[1] and so, in the late spring of 1956, we returned to San Francisco. During the two following years, which were for me quite luminous, I became very attached to San Francisco, one of the world's most appealing[2] cities. Topographically, it is remarkable. With a fine disregard for the equipotential, its planners had simply superposed a Cartesian grid of streets on a map of the cluster of steep hills that was to become its downtown area, with the result that some of its principal thoroughfares, viewed in vertical cross-section, resemble nothing so much as graphs charting stock market volatilities. So the picturesque cable cars which first made their appearance in 1873 before the age of

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[1] I am uncertain as to the reasons for my father's resignation, but I retain a vague impression that he did not see eye-to-eye with his immediate superior in Bangkok, a certain Dr Zobel.

[2] In 1879, the philosopher Josiah Royce, bewitched by the landscape, described it in the following painterly words, which are worth quoting at length:

The high dark hills on the western shore of the Bay, the water at their feet, the Golden Gate that breaks through them and opens up to one the view of the sea beyond, the smoke-obscured city at the south of the Gate, and the barren ranges yet farther to the left, these are the permanent background whereon many passing shapes of light and shadow, of cloud and storm, of mist and of sunset glow are projected as I watch all from my station on the hillside. The seasons go by quietly, and without many great changes. The darkest days of what we call winter seem always to leave not wholly without brightness one part of the sky, that just above the Gate. When the rain storms are broken by the breezes from the far-off northern Sierras, one sees the departing clouds gather in threatening masses about the hilltops, while the Bay spreads out at one's feet, calm and restful after its little hour of tempest. When the time of great rains gives place to the showers of early spring one scarcely knows which to delight in the more, whether in the fair green fields, that slope gently down to the water, or in the sky of the west, continually filled with fantastic shapes of light and cloud – nor does even our long dry summer, with its parched meadows and its daily sea winds leave this spot without beauty. The ocean and the Bay are yet there; the high hills behind change not at all for any season; but are ever rugged and cold and stern; and the long lines of fog, borne in through the Gate of through the depressions of the range, stretch out over many miles of country like columns of an invading host, now shining in innocent whiteness as if their mission were but one of love, now becoming dark and dreadful, as when they smother the sun at evening.

John Steinbeck, in *Travels with Charley,* was moved to write:

I saw her across the bay, from the great road that bypasses Sausalito and enters the Golden Gate Bridge. The afternoon sun painted her white and gold – rising on her hills like a noble city in a happy dream…this gold-and-white acropolis rising wave on wave against the blue of the Pacific sky was a stunning thing, a painted thing like a picture of a medieval Italian city which can never have existed.

San Francisco has had a marked appeal to filmmakers. In *San Francisco* (1936), directed by W.S. van Dyke, the 1906 earthquake – which, together with the subsequent fire, levelled most of the city – furnishes the climax. Particularly evocative for me is Hitchcock's dreamlike *Vertigo* (1958), which was shot during the time I lived in San Francisco. The drivers in the superb car chase in Peter Yates' *Bullitt* (1968) take full advantage of the strikingly ramplike nature of San Francisco's streets.

the rubber tire, and which still grind their way anachronistically up and down the city's hills, were introduced by necessity: no ordinary train could have made the slightest headway against such gradients. San Francisco is also notable for its weather. Washed by the frigid Humboldt current (which makes ocean swimming in the region a spartan exercise at best), the summer daytime temperature in the city can differ from that of a few miles inland by as much as 20°F. In the early morning one often found the city shrouded in a sea-mist, through which could be heard the lugubrious but oddly comforting croak of the foghorns unflaggingly issuing their maritime warnings. But by midday mist and foghorn would be no more than distant memories in the brilliant sunshine.

On returning to the United States I was subjected to a battery of IQ and achievement tests to determine where I stood scholastically. My reading and efforts at mathematical self-instruction would seem to have paid off—and I must have shown unusual form on the occasion—because I later learned that these tests showed me at 11 to have a reading age of 18 and an IQ of 168. I am ashamed to admit that I took these numbers very seriously, so seriously, in fact, that I started to worry about coming across a 10 year old with a reading age of 19 and an IQ to match.[3] This obsession with linearity turned out to be doubly absurd, since later tests of my "intelligence" showed that, of the three figures (11, 18, 168), only the first had been entirely beyond question at the time. Subsequent assessments of my IQ were consistently, and dismayingly, lower[4], and I have tried vainly to live up to the initial inflation of my abilities ever since. In any event, my performance led to my being placed in the ninth grade (with tenth grade mathematics) at Drew College Preparatory[5], a small private high school situated at the intersection of California and Broderick Streets not far from the city center downtown. This school was somewhat unorthodox in that it catered both for aspiring prodigies and for erstwhile high school dropouts in search of scholastic redemption. Their most prominent alumnus in the former category was Fred Safier, a genuine child prodigy who had, at the tender age of 13, "left [Drew] for Harvard in a blaze of publicity" (his own words)[6] shortly before I arrived. Although we had never met, I was greatly impressed by his talent and

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[3] The fact that I had in some way already accepted the inevitability of failure in competition with others helped me to cope with the pain—soon to be experienced—of actually being confronted with it.

[4] Even so, I took consolation from the fact that my Stanford-Binet score never actually fell below 147.

[5] Coeducational, it was founded by John S. Drew in 1908. Its Internet entry shows that it is still going strong.

[6] From a recent e-mail communication. He tells me that for the past twenty years he has been happily teaching mathematics at the City College of San Francisco.

achievement, and I strove to emulate him as best I could. I enjoyed my year at Drew: this was due in no small measure to the kindness and stimulating instruction of Mr. Spiess, my mathematics teacher, and Mr. Smith, my English teacher, both of whom I remember with affection. Mr. Spiess, large, avuncular, and usually attired in a rumpled brown suit, brought to his classes a joviality not customarily associated with the imparting of mathematical knowledge. Mr. Smith, nervous and intense, whose nails, like mine, were chewed to the quick, had a passion for literature with which he inspired his students: I recall that at his suggestion I read Hugo's *Les Misèrables* and Ainsworth's *Old St. Paul's.* I was saddened to learn that he had finally committed suicide.

We spent the first year of our return to San Francisco in a house at 266 Denslowe Drive, close to the State College in the south of the city. Across the street lived the Squeri family. The eldest daughter Marcia, intelligent and competitive, must have been irritated from the beginning of our acquaintance by the fact that I attended a private[7] school—rather than the local public school, or the Catholic parochial school which I believe she went to. We often argued over games of Scrabble, so much so that "Squabble" became the name of the game. I recall on one occasion putting down the word *orb*. This word was new to her, and, refusing to be upstaged, she claimed that I had confused it with *alb,* a word new to me, but which her intelligence and Catholic upbringing had made familiar to her. A consultation of the dictionary unfortunately confirmed the correctness of my word. While Marcia probably never forgave me for this episode, it was at least a civilized questioning of my "credentials" as a *soi-disant* "intellectual." I was subjected to a somewhat less refined examination by her younger brother Robert, who continually held me up to ridicule for my stated ambition of becoming a "physicist". Finally I could stand no more of his teasing, and we started to scuffle. As luck would have it, I managed to get a grip on his neck which I thought might induce him to surrender. But instead of saying "uncle" all he produced were some alarming strangulated sounds. At once I let go, to find him in the grip of an attack of asthma brought on, presumably, by my squeezing. After a few minutes he recovered, and I apologized, telling him truthfully that I had had no idea that he was an asthmatic. I cannot now recall whether he accepted my apology, but I have the impression that at least the teasing ceased.

Nowadays no memoir can be considered complete without a description of an encounter with—or at least a sighting of—an unidentified flying object, and I am pleased to affirm that at about this time I was witness to a curious phenomenon of the kind. While

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[7] In my first draft I used the word "special"— but on reflection I realize that was an unconscious euphemism for "private." Looking back, I was shocked into the awareness that, after the age of 8, I—a convinced socialist and egalitarian—had, characteristically, attended only private schools.

standing in the street near our house at sunset I saw a number of bright dots in the sky moving rapidly in what appeared to be impossible trajectories: several seemed to execute right-angled turns, one even splitting into three. After a few minutes the dots vanished. Was all this mere hallucination? If so, then it must have been of the mass variety since a number of other people in the street at the time also witnessed the phenomenon. In any event, the episode was sufficiently factual to be reported in the following day's paper. While I remain skeptical about reports of alien visitors, etc., I must admit that this experience, very much out of the ordinary, still makes me wonder.

An odd event of a wholly terrestrial nature occurred during the afternoon bus ride home from school. Glancing out of the window, I was surprised to see the pedestrians on the sidewalk standing stock-still. I could come up with no explanation for this singular incident until I got home to find that one of the many minor earthquakes for which that region of California is noted had apparently taken place while I was in the moving bus. Entirely undetected by the bus's passengers, the tremors had nevertheless been of sufficient intensity not only to cause everybody in the street to freeze in their tracks, but also, as I found on my return home, to crack the arch between our living and dining rooms.

Living in the Bay Area enabled me to get to know my paternal grandfather, "Granddad Oakland." He was born Jan Anton Balsaitis near Vilna, the capital of Lithuania, probably in the last decade of the 19th century, when the country was under Tsarist rule. It seems that he had fled Lithuania as a teenager to avoid the general conscription of males 17 years and over at the order of Tsarina Alexandra, who favoured blond, blue-eyed specimens over six feet in height, a description fitting my grandfather exactly[8]. Family legend always had it that he was admitted into the United States through Ellis Island by an immigration officer uttering the immortal words: "Balsaitis? Sounds like a disease to me, so I'm gonna do you a favor and put you down as 'Bell'." But I have recently learned that it is likely that he voluntarily changed his surname in Germany before embarking for the New World, and that instead of passing through Ellis Island he sailed to Halifax, Nova Scotia. Like many Polish and Lithuanian immigrants, he made his way to Chicago, but the harshness of the conditions there (graphically portrayed by Upton Sinclair in his novel *The Jungle*, whose protagonist is in fact a Lithuanian immigrant) eventually forced him to journey further westward to California. It was there he met his future wife, Ethel Summers, my father's mother, who had a son, Alfred (whom I dimly recall meeting some years later) from a previous marriage. They

[8] Thus, when in 1968 I renounced American nationality to avoid the Vietnam war, it seems that I was merely following in the family footsteps.

settled in the small town of Hayward not far from San Francisco, where Granddad O. found employment as a car builder on the Southern Pacific railroad. (During Prohibition, he found a useful additional source of income in the distillation of apricot brandy and its sale to the local police force.) In 1918 my father was born, to be followed two years later by his twin brothers Richard and George. When my father was eight years old his mother died (of a self-induced abortion, it was rumored), leaving him—for Granddad O. was never to remarry—with much of the responsibility for raising his younger brothers, both of whom came to resent the fact bitterly.

By the time I came to know him Granddad O. had retired and was leading a solitary existence in the basement apartment of my uncle George's house in Oakland[9] across the Bay. I came to love the old man, a rough-hewn, unassimilated immigrant with a sentimental streak and a fondness for whiskey. Occasionally he would invite me to spend the night at his place, an experience I always enjoyed. After cooking us a tasty meal of fried chicken and potatoes in a heavy black iron skillet, he would pack his pipe with Prince Albert tobacco from a capacious tin, and break out the checkers board, along with a bottle of the aptly named "Old Granddad", from which he would pour himself liberal measures as he proceeded to win game after game. "Checkers," he would say to me in his strong Slavic accent, "is an easy game because you only need to think four moves ahead, but chess is hard because it needs eight." I remember his seamed face, with the pronounced epicanthic folds which reduced his faded blue eyes to triangular slits behind the wire-rimmed glasses he habitually wore. I was curious to know what Lithuanian sounded like but he could only be persuaded to use his mother tongue after most of the contents of the bottle had been consumed. Under its influence he would begin to sing in his hoarse voice. One of his favorites was *The Big Rock Candy Mountain,*

> *where you never wash your socks,*
> *and the little streams of alcohol come trickling down the rocks,*
> *where the cops have wooden legs,*
> *the bulldogs all have rubber teeth*
> *and the hens lay soft-boiled eggs.*

He would also sing a curious, sad, and moving song, one line of which—*I want to be by myself, where the mountains meet the sky*—I was to recall years later on reading Han Shan's "Cold Mountain" poems.

[9] Gertrude Stein, who grew up in Oakland, immortalized the place in a backhanded way through her oft-quoted remark that, in travelling to Oakland, "when you get there, there's no 'there' there."

Granddad's song was the lay of a lonely man who, like most of us, cannot (or will not) express his emotions under normal social constraints. After many years in the United States he had lost the ability to read his native language: I recall that the services of a professor from the Department of Slavonic Languages at Berkeley had to be engaged to decipher a letter from one of Granddad's sisters who had remained in the old country, and from whom he had not heard in decades. Like the majority of the Lithuanian population, Granddad had been raised a Catholic, but, as sometimes happens, his upbringing had had the opposite effect to that (presumably) intended—it turned him into an atheist. My father inherited his atheism, even on occasion expressing outright scorn for religious belief. But they both had the American immigrant's faith in individual progress: Granddad O., a man of high native intelligence but little formal education, saw his sons get university degrees, and I recall being told by my father that "just as he had gone beyond his father, so I would go beyond him." It was only much later that I came to realize that this was a coded form of the injunction: "get a Ph.D!".

Like my father, my Uncle George had studied engineering at Berkeley and had later spent a considerable time abroad. As I have already indicated, George had resented my father since childhood, when, as the eldest son, the latter had been placed in a position of authority over his younger brothers. This resentment was compounded by the fact that my father had been old enough to have completed ROTC training at college, so enabling him to breeze through World War II as a technical officer without firing so much as a shot, winding up a lieutenant-colonel, while the younger George, unceremoniously drafted, had slogged through the war as a regular GI. There seemed to be few occasions when the two brothers wished to see each other, and as a result I never came to know George and his family very well.

With my Uncle Richard ("Dick"), on the other hand, I was later to become firm friends. At 6' 8"—dwarfing my father's noteworthy 6' 4"—he was the tallest man I have ever known personally, too tall, indeed, as he once told me with a certain pride, to be drafted for combat in World War II. For many years he shared an apartment in San Francisco with his friend Eddie Bagdonas (Lynette's godfather) and Eddie's elderly mother, who had emigrated from Lithuania at about the same time as Granddad O. Without actually being told anything explicitly, I got the impression from my parents that Uncle Dick's height was not his only unusual feature. Some years were to pass before I came to realize that both he and Eddie were gay. They kept the fact very private—this was, after all, long before it was legally possible for gays to emerge from the closet. Dick also held a respectable job as an accountant at the Crocker-Anglo Bank that he did not wish to jeopardize. When I enjoyed their hospitality on occasional visits to San Francisco during my Oxford

years—later accompanied by my wife Mimi—it was simply taken for granted that we knew, and accepted, their relationship. Tragically, Dick was to die in a traffic accident at the age of 70.

Meanwhile I led a curious double life, that of a more or less normal fun-loving 11- or 12- year old kid on the one hand, and, absurdly, that of an aspiring "physicist" and "intellectual" on the other. The kid was hooked on ice cream, candy, popcorn, automobiles, electric trains, TV programs, stamp collecting, and science fiction movies. The "intellectual" was addicted to science, mathematics, classical music, and science fiction stories. Let me recall a few of these passions.

What American of my generation can fail to recall the line *I scream, you scream, we all scream for ice cream?* We ate it until it flowed from our ears— popsicles, Eskimo pies, ice cream sandwiches, drumsticks, sherbet (always pronounced "sherbert"), triple-decker cones, floats and sundaes. And the flavors: not just commonplace vanilla, strawberry, and chocolate, but Rocky Road, Marble Fudge, and Butterscotch Crunch. The most delicious ice cream I can recall tasting was to be had in Berkeley at Bott's, an old fashioned ice cream parlor which Peter Riswold and I frequented when I visited him across the Bay. Rivaling ice cream flavors in range were the candy bars on which I continually munched and with which, to my mother's chagrin, I regularly "spoiled" my appetite for dinner. These rejoiced in such evocative names as Milky Way, Three Musketeers, Snickers, Tootsie Roll, Almond Joy, Hartz Mountain, Crunch, Butterfinger, Baby Ruth. In its quintessential Americanness rivaled only by peanut butter and hamburgers, *popcorn* was a sine qua non of every visit to the movies. It was also, as far as Lynette and I were concerned, an essential accompaniment to the watching of television. We would prepare a large bowl of the stuff—drenched, of course, in melted butter—through which to munch our way during the evening's viewing. I developed the reprehensible trick of extracting kernels of unusual shapes and presenting them for her inspection, thereby distracting her attention sufficiently so as to enable me to scoff most of the remaining contents of the bowl.

The period 1955-65 was the Age of Excess of the American car industry. The typical wheeled behemoth then rolling off the production lines had an engine capable of propelling a destroyer, a fuel consumption reckoned in gallons per mile, and a front grille resembling a set of chromium-plated teeth. Studded with lights of every description—quadruple headlights, foglights, movable spotlights, backup lights—it also boasted power brakes, power steering, power windows, power seats and power ashtrays. White sidewall tires, rear wheel covers, and aerodynamic fins were *de rigueur.* Some models were even furnished with a pair of large mammary-like rubber-tipped conical bumpers and a klaxon horn capable of belting out "Yankee Doodle Dandy." It lacked nothing—apart, that is, from seatbelts. My father's

car, a 1956 DeSoto, known to the family as “the Pink Monster,” being shorter than a city block in length and equipped with a horn of disappointing monotonicity, I considered a less than impressive vehicle. But by way of compensation it was equipped with pushbutton automatic transmission, in my estimation the pinnacle of ingenuity. Unfortunately, the pleasure of tooling along in a genuine dreamboat was diminished somewhat by my awareness of its almost insatiable thirst for gasoline: I could not suppress a nagging worry that the tank would run dry, stranding us in the middle of nowhere. Every five minutes I would scrutinize the fuel gauge. If it indicated that the tank was less than three-quarters full, I would bombard my father with remarks of the sort “Hey Dad, have we got enough gas?” or, with scarcely more subtlety, “Dad, could you stop at the next gas station, I’ve got to go to the toilet. While you’re about it, why don’t you fill up the tank?” Despite the fact that my father usually ignored my entreaties, I cannot recall that we ever ran out of gas.

Electric trains were all the rage at that time, and, although the circumstance is now beyond recall, I must have possessed a set of American Lionel O-gauge trains before we left for Europe. My parents had bought me a Märklin HO-gauge layout in Holland which had probably remained in storage in San Francisco during our time in Bangkok (since I cannot recall its presence there). At any rate, on moving to Denslowe Drive I was able to assemble the whole layout—which now also incorporated some Lionel stock possibly also retrieved from storage—on a plywood table in a small windowed workshop in the back yard of the house. There I would spend many happy hours messing around—rearranging the layout, staging collisions, and, on occasion, rewiring the whole setup. More than once my efforts were rewarded by electric shock, fortunately only of 110 volts, the American standard. Stimulated by the memory of Mijnheer Bastet’s maze of parallels and by my less exact recollection of the intricate switching systems[10] of the marshaling yards traversed on my family’s many European rail trips, I strove to arrange the limited (but by no means negligible) HO resources at my command in as convoluted a manner as possible, concatenating the switches in such a way as to induce a pleasing sinuousity in the motion of long trains passing over them. Setting up the overhead wiring for this network was a delicate matter and tried my patience somewhat, but the results, in my view at least, were well worth the effort. Using three transformers, I was able to run a corresponding number of trains simultaneously and independently—two Märklin by third rail and overhead wire, and one Lionel by third rail. I still recall the thrill I felt at being the master of a small

[10] My fascination with these networks affected even my doodling: I recall covering, in idle moments, sheet after sheet with useless designs for imaginary rail marshaling yards.

mechanical universe of my own design. Although the delicacy and precision of the Märklin models made the larger Lionel trains appear somewhat clumsy, I never lost my affection for those lumbering giants, particularly the "steam" locomotives, which could be induced to whistle by pulling a handle on the transformer, and into whose smokestacks one could drop specially designed pellets which generated quite realistic puffs of smoke.

In messing around with electric trains I had learned how to use a soldering iron for simple jobs. One day my father proposed that we build a radio together. He ordered a kit through the mail, and as soon as it arrived we began its construction, I soldering the connections under his supervision. After a week or so, the job was nearly done. I decided to surprise (and, I hoped, impress) him by finishing it on my own. I got up in the middle of the night and soldered away mightily, following the kit's instructions as best I could. The next day I proudly presented him with the finished product. On being switched on, the contraption emitted one forlorn squawk and fell forever silent. I can still hear my father exclaiming "son of a *bitch*!" when he opened up the thing to find that my efforts at soldering had fused the interior into a near-solid block of lead!

The phrase "son of a bitch" was one of a number of my father's expressions that have stuck in my mind. He would often warn Lynette and me that he would "lower the boom" if we did not cease squabbling. Going to bed was "hitting the sack"; when he saw that my room was in a mess he would invariably remark that I was "living like an Okie." Sultry summer days were "hotter than a pistol". And when he retired, he said, it would be to a country retreat called "Belly Acres."

In common with most American kids, Lynette and I spent quite a lot of time glued to the "boob tube" or "one-eyed monster." I recall that our television, a 24 inch black and white model, had been purchased from an appliance store run by a character with the unlikely monicker "Madman Muntz." I liked crime and police programs: *M-Squad*, with Lee Marvin; *Crusader*, with Brian Keith, *The Vise*, with (I think) Stephen Boyd; *The Four Just Men,* with Jack Hawkins, Richard Conte, Dan Dailey, and (of all people) Vittorio de Sica; *The Thin Man*, with Peter Lawford and Phyllis Kirk; *The Lineup*, with Warner Anderson and Tom Tully; *Alfred Hitchcock Presents*, with its quirky signature tune and droll introductions by the master himself; and *Dragnet*, whose four-note signature phrase (dum-da-*dum*-dum) [11] and immortal lines such as "Just the facts, ma'am"—delivered in Jack Webb's patented deadpan manner—have been endlessly parodied. Also memorable, and the subject of later parody, was *Highway Patrol*, a low-budget but long-

[11] Earlier, it appeared as a leitmotif in Miklos Rozsa's score for Siodmak's *The Killers* (1946).

running production featuring Broderick Crawford, who would rattle off his dialogue in machine-gun fashion, apparently quite indifferent to what he was he actually saying, Each program ended with a few helpful words of advice to drivers from the granite-faced Mr. Crawford. Like the rest of his lines, these were spat out with such rapidity as to be largely unintelligible, but their general drift was something like: "Leave your blood at the blood bank, not on the highway" and "After an accident, it doesn't matter who's right, only who's left."

Then, as now, American television bristled with commercials, whose very inanity caused them to stick in the memory like burrs: *Drive a Chevrolet through the USA*; *You'll wonder where the yellow*[12] *went/When you brush your teeth with Pepsodent*; *For the first time in your life feel* really *clean—use Zest*; *Pepsi-Cola hits the spot*; *Put a rose in your glass with Italian Swiss Colony wine*; *Johnson and Johnson shampoo means No More Tears*; *Let's have another cup of coffee, let's have a cup of Nescafé*; *Maxwell House—good to the last drop*; *Take tea and see!* Cigarette commercials of course abounded: after more than forty years I can still hear *Call for Philip Morris*; *Have a* real *cigarette, have a Camel*; *Pall Mall famous cigarettes—Outstanding, and they are* mild; *Light up a Lucky—it's light up time/ For the taste that you like/Light up a Lucky Strike/ It's light up time*; *You get a lot to like with a Marlboro—filter, flavor, flip-top box;* and of course that red rag to grammarians: *Winston tastes good like a cigarette should.*[13] These commercials (and the above-mentioned programs) were filmed, but one saw the occasional live ad whose proceedings would spin out of control, as if to underscore the essential risibility of the whole commercial enterprise. A particularly hilarious example was enacted one evening on a live program sponsored by Timex watches. To demonstrate the robustness of their product, the Timex "people" had the memorably ludicrous idea of attaching a watch by its strap to the propeller of an outboard motor. This was then immersed in a tank on the stage and the motor started. After letting it run for a minute or so, it was stopped, and, with a roll of drums, the propeller lifted out of the tank—to reveal that the watch had disintegrated!

I recall that my mother was concerned that Lynette and I might be addling our brains by spending too much time in front of the tube. While this is moot, there is no question that my habit of nail-chewing (which, regrettably, I have never lost) was considerably exacerbated thereby. Once the TV dinner (a frozen meal on a foil plate to be warmed in the oven) was consumed and the popcorn exhausted, I would gnaw what little remained of my nails until my fingertips were bloody. In an

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[12] Wags of the day substituted "your girlfriend" for "the yellow".

[13] The title of the recent movie *Honey, I Shrunk the kids* occasioned a similar elevation of grammarians' eyebrows.

attempt to prevent this my mother bought me a pair of white cloth gloves—naturally coming to be known as my "TV gloves"—which she insisted I wear while watching. I was happy to oblige, but after I had chewed my way through the fingers of several pairs she finally had to admit defeat.

I had a gargantuan stamp album—the "Master Global"—which despite my most strenuous efforts I never came close to filling. I was also the proud possessor of a copy of the philatelist's *vade mecum*—the Stanley Gibbons stamp catalogue in which the current values of all the world's stamps were compiled (and recorded in the quaint British predecimal currency of pounds, shillings and pence). I recall being intrigued by overprinted stamps, for example German stamps of the 1920s whose values had continually to be changed with the rampant inflation of the time (a concept I only came to understand long afterwards): thus a 50 pfennig stamp would be overprinted with an enormous value such as 5000000 marks. Even more remarkable in this respect were Hungarian stamps whose overprinting reflected the astronomical inflation of their unit of currency, the *pengö*. I learned that the dimensions and gaudiness of a country's stamps were in rough inverse proportion to its national influence: those of Ecuador and Afghanistan, for instance, were large and gorgeous, while Britain's were modest in size and drab to the point of self-effacement[14]. From stamps I also learned of countries such as Tannu Tuva and the South Moluccas of whose existence I would otherwise have had not the slightest inkling (not, I admit, that such knowledge has proved particularly useful). My first encounter with the Greek alphabet (which probably occurred when we were living in Rome) came from attempts to decipher "ΕΛΛΑΣ" on stamps of that country. While British stamps were themselves drab, this was not the case for their colonial issues, which were often most attractive: the pride and joy of my collection was the complete series of British colonial stamps—from Antigua to Zanzibar—commemorating the 1937 coronation of George VI. I am sorry to say that the whole collection vanished long ago—I still mourn its loss.

In the 1950s San Francisco's Market Street was crowded with movie theaters whose modest price of admission—a mere four bits—more than compensated for their shabbiness. There one could sit through the films, which ran continuously, for as many times as one had eyes (and lungs) to. On Saturday afternoons (or on any afternoon during the summer vacation) I could usually be found in one of these establishments crunching popcorn and peering through the cigarette

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[14] To this day only British stamps fail to display their country of issue. This is apparently in recognition of the fact that postage stamps first made their appearance in Britain with Rowland Hill's introduction of the Penny Post in the 1840s. I recall being told by "Granddad England" that he was related to Rowland Hill, but I cannot recall exactly in what way.

smoke exhaled by my fellow patrons in clouds of sufficient density to reduce the presence of a screen to a superfluity. Along with most of my contemporaries, as a kid I must have inhaled enough second-hand smoke to render my lungs insensitive to the later—in my generation almost universal—transition to the real McCoy! It was in those murky caverns along Market Street that I was first exposed to the science fiction movies whose atmosphere of creepy excitement warped my young mind beyond hope of redemption. Usually screened in double or even triple bills, those I saw during that period included the retrospectively absurd (but God! how impressive at the time) *It Conquered the World, I was a Teenage Werewolf, I was a Teenage Frankenstein, The Monster that Challenged the World* and *Invaders from Mars*. Of greater substance were *Tarantula, The Magnetic Monster, Kronos, This Island Earth*, *The War of the Worlds, The 27th Day*, *It Came from Outer Space,* and *The Beast from 20000 Fathoms.* A few were (in my view) masterpieces: *Forbidden Planet*, *The Incredible Shrinking Man, The Thing, The Day the Earth Stood Still,* and, greatest of all, *Invasion of the Body Snatchers.* I quickly came to recognize the faces of the reliable, if unsung, actors in these mostly monochrome films, but their names only became familiar to me much later: King Donovan, Richard Carlson, Hugh Marlowe, Whit Bissell (star of both "Teenage" movies), Kenneth Tobey, Morris Ankrum, Faith Domergue, Julie Adams, Beverly Garland. Of course, these films had their ludicrous moments: for instance (my favorite example) when, in *The Beast from 20000 Fathoms,* King Donovan[15], playing a psychiatrist, starts to pontificate about the "Loch Lomond monster." But they often contained interesting (and occasionally frightening) touches, such as the one—in *Invaders from Mars*—in which formerly friendly adults are sucked into the sand dunes and re-emerge as affectless zombies with scars on the backs of their necks. When Peter Riswold and I went to see this film (probably in 1957), I recall that the neck of the first person we came across after leaving the theater bore a similar scar—a chilling instance of life imitating film. *Forbidden Planet*[16], filmed in glorious Eastmancolor, was particularly rich in images and ideas. Indelibly imprinted in my memory—and doubtless in that of every fan of SF movies—are the marvelous machines (including Robby the robot)[17] of the vanished Krel, the attack on the spaceship by the invisible monster from Morbius's id, the climactic scene in which the monster attempts to burn its way

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[15] He was later to redeem himself by an excellent performance in the brilliant *Invasion of the Body Snatchers.* This, incidentally, was one of the select handful of films to be remade with real success (in the 1970s).

[16] Made in 1956, directed by Fred M. Wilcox and starring Walter Pidgeon, Leslie Nielsen, and Anne Francis, its plot was supposedly derived from Shakespeare's *The Tempest.*

[17] Introduced by Walter Pidgeon with the deathless line "Prepare yourselves, gentlemen, for a new scale of physical scientific values."

through a door fashioned of solid Krel metal, and, to cap it all, an electronic soundtrack[18], full of weird plops, whoops, and shrieks. *Invasion of the Body Snatchers*[19], its title of near lapidary silliness notwithstanding, remains one of the most disturbing movies ever made. From Kevin McCarthy's initial flashback line "For me, it began last Thursday," one is gripped right to the final scene in which—all the principal characters, apart from McCarthy himself, having been "taken over" by alien pods—he attempts desperately to flag down cars on the highway, hysterically yelling "You're next! You're next!"

Science fiction films of the day usually included as a stock character a tame "scientist" whose office would typically contain a blackboard covered with mathematical symbols, or with scribbles posing as such. In *The Day the Earth Stood Still*[20], for instance, Professor Sam Jaffe (memorable as the High Lama in *Lost Horizon*) returns to his study to find that the alien Klaatu (imperturbably played by Michael Rennie) has "corrected" some of the equations with which the blackboard is inscribed. Klaatu places check marks next to the signs *O!, O!!, O!!!!*, which must surely have been a sly joke on someone's part, since the factorial sign "!" would naturally be read by the nonmathematical viewer as an ordinary exclamation mark. (Another possibility would have been for Klaatu, shaking his head sadly at the ignorance of earthlings, to change the exponent in the chalked equation $E = mc^2$ from "2" to "3".) I wonder still who actually furnished the mathematical symbols in SF movies. Whoever these unsung inscribers were, they must have had at least a nodding acquaintance with the use of mathematical symbolism, since their equations often made some kind of sense. Did Hollywood studios employ consultant mathematicians to chalk their blackboards?

I first saw *The War of the Worlds*[21], based roughly on H.G. Wells's novel, with Peter Sherwood, a classmate at Lick-Wilmerding, the high school I attended the following year (see below). The remarkable special effects in this movie—among which the manta-like Martian war machines stand out—so impressed us that we resolved to mount a presentation of our own. In the SF section of the S.F. public library I had come across the script of Orson Welles's ("Orson Buggy", as my father punningly called him) notorious adaptation of Wells' novel which, in a 1938 radio broadcast, had caused widespread panic among the

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[18] This soundtrack, "Electronic Tonalities" by Louis and Bebe Barron was the first of its kind. The composers had apparently been erstwhile collaborators of John Cage.

[19] Directed by Don Siegel, it was released in 1956 and starred Kevin McCarthy, Dana Wynter and King Donovan (the indispensable Whit Bissell also appears in a minor role). Siegel himself has been quoted as saying that he regards it as his best film.

[20] Directed by Robert Wise and released in 1951, it starred Michael Rennie and Patricia Neal, who will be remembered by every SF fan for delivering the immortal command *Klaatu barada nikto* to the robot Gort in the final reel.

[21] Released in 1953 and directed by Byron Haskin.

American listening public—ideal material, I thought, for taped dramatization on my parents' recently acquired reel-to-reel recording machine. So one afternoon the two of us got down to business and taped the whole script, trying our best, by distributing the voices between us, to create the atmosphere of a radio broadcast. For sound effects we employed a number of devices such as crumpling paper and kicking over piles of tin cans—and one device in particular that was to get me into hot water with my parents. I had what seemed at the time the bright idea of holding down the pickup of my parents' record player (a Columbia 360 portable) on the fibrous surface of its turntable as it revolved, so producing a hollow scraping sound which I fancied would evoke the impression of a Martian dragging itself along the ground. When I later played the tape to my parents it was a veritable triumph—until they heard that sound, whose source, to my dismay, they identified instantly. I had no choice but to admit to abusing the "family" record player and as a result I found myself banished to the doghouse for the rest of the week.

I saw the (first) movie version of *1984*[22], in all its unrelieved monochrome grittiness, at a theater in the Sunset district of the city. I recall that, while one side of the theater's marquee displayed the correct title, the other bore the number "1983." When I saw the film again a few years later at school in England I remember being nagged by the feeling that the version I had seen in San Francisco had ended differently—while the English version had finished up, as in Orwell's novel, with Winston Smith capitulating to the Party, in the final scene of the American version (as I remembered it) Smith rebels and is shot down with his lover Julia. I was convinced that my memory was playing tricks on me[23] until many years later when a consultation of a book on SF film confirmed that *1984* had indeed been released initially with alternative endings. The film's distributors had apparently taken Orwell's original conclusion as representing the ultimate triumph of the Red Menace, which—in addition to its ideological unacceptability—would have meant box-office death on the American circuit.

Sometime in 1957 my parents decided to try to get me admitted to Lick-Wilmerding, one of San Francisco's most prestigious private high schools. The school had been the result of an amalgamation, in 1900, of the California School of Mechanical Arts with the Wilmerding School of Industrial Arts and, unlike Drew, was tuition-free, being funded by endowment—an excellent reason in itself to seek admission there. Somehow I scrambled through their entrance examinations—the Stanford Achievement Tests—and in September of that year I entered

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[22] Released in 1955, directed by Michael Anderson, with Michael Redgrave, Edmond O'Brien, and Jan Sterling.

[23] If only it had been! -- at least that would have indicated the presence of genuine imagination, rather than boringly imperfect recall.

as a sophomore (10th grade), with junior (11th grade) placement in mathematics. As the youngest, and very likely the smallest student in the place I was subjected to a certain amount of ribbing by my fellows, but, by and large, the year I spent at “Lick” was a happy one, during the course of which I made a number of friends. Art Tollefson, a large (in my eyes) and affable (in everybody’s) fourteen- or fifteen- year-old junior, was already an accomplished pianist[24] and also probably the best all-round scholar in the school, consistently at the top of the Honor Roll. Attending the same algebra class with him led to friendly rivalry for the highest mark: I recall one occasion when, having obtained a 98 in a test, I was chagrined to learn that Art had scored a 99! Another musical friend was Joel Zimmerman (also a junior) whose elder brother Mark I had known at Drew. Both played the violin, Mark I believe later taking it up professionally. Unconsciously juxtaposing their initials, Joel, Art and Mark would sometimes “jam” together: I cherish the memory of the three of them giving a joyous rendition of Bach’s D minor double concerto in the Zimmerman’s apartment. Joel’s hands, I recall, were afflicted with psoriasis, and to protect them he often wore a pair of white gloves—a rather more serious reason than I had for wearing them. Had it not been for this affliction I believe he would have been inclined to pursue the career of violinist—his professed intention was to study naval architecture at MIT. I also remember my fellow-sophomores Keith Clemens and Fred Cahn for their sharp intelligence. Fred had a pungently irreverent attitude to authority which he would continually ventilate through remarks of the kind “J. Edgar [Hoover] is watching *you*.” During one of our mathematical discussions (probably sparked by a reading of George Gamow’s *One Two Three…Infinity* – see below) I recall being tremendously impressed by his observation that since any three coplanar but noncollinear points determine a unique circle, and there are precisely as many triples of points in the plane as there are points, there must be, correspondingly, just as many circles in the plane as there are points. I do not know what Fred did in later life, but he was a natural mathematician. I recall Mark Hein, very bright and quick, only a few months older than me, and Bruce Jordan, who had perfected the technique of mirror-writing and would customarily employ that conceit in signing his name. Also Bob Young, a big friendly football-playing junior, who, in return for a little help with his algebra homework acted as my “protector” against school bullies—thereby, as I was later to joke, liberating me from the briefcase behind which I had formerly cowered. I recall that on his photograph in my copy of the school year-book (which

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[24] Now Dean of the Faculty of Music at the University of North Carolina. Many years later I was to come across his splendid recording of Virgil Thomson’s piano music in the music library at the University of Western Ontario.

has, alas, vanished into oblivion along with my stamp album) he inscribed the "proportion" *Bell/Young = Brains/Brawn.*

Of all the instructors at Lick the one who stands out in my recollection—and doubtless in that of most of my contemporaries—was Tony Ochoa, who brought to the teaching of Latin a flamboyance and sense of fun which made learning the subject a delight. Usually attired in sharp blue suit, crisp white shirt and gaudy tie, he gave one the impression of being a *bon vivant*, rather than a high school Latin instructor: he was in fact a singular amalgam of both. He would continually wisecrack with his students. On one occasion, I remember him calling on one of us to produce an oral translation of some English sentence into Latin with the remark "Now that you are beyond the *O filii mi boni belli* stage you should have no trouble." But he was also an excellent scholar and under his tutelage I developed a real enthusiasm for Latin. He encouraged me to read Latin texts outside the official curriculum: of these all I can recall are a few lines of Cicero's Catilinian orations: *Quousque tandem abutere, Catilina, patientia nostra?* and of course *O tempora, O mores!* Towards the end of my year at the school he presented me with a copy of Bennett's *New Latin Grammar*, which I still treasure for its inscription, quickly penned before my eyes in his florid handwriting:

Joanni Tintinnabulo, alumno erudito et amico carissimo. "Intende, prospere, procede et regna!" <u>*Antonius G. Ochoa*</u>*. Die IV° ante Nonas Martias anno salutis MCMLVIII.*

.Wherever you may be, *Antonius, te saluto!*

Another instructor I recall with affection was "Joe" Perse, who taught General Science. Unlike Tony Ochoa, who was always several steps ahead of his class, Joe invariably gave the impression of being an equal number of steps behind. It was his habit to give us oral quizzes in which we were asked to supply the correct word in statements of the sort "Jupiter is the ____th planet from the sun", "Light travels at ____ miles per second", and the like: I recall some joker playing to the gallery on one such occasion by identifying water as the "international" (rather than the "universal") solvent. But Joe's good nature proved impervious to such facetiousness, and he remained popular with everybody. On his photograph in my lost year-book he inscribed the phrase: "When you can sum all the numbers from one to infinity, you can take over my class" (or something similar). I then quickly wrote "= ∞", but I did not show him what I had written for fear of being regarded as a "wise guy."

My other instructors included Mrs. Ungaretti ("Dot") for English, Mr. Berlin for Algebra, Mr. Harris for Electric Shop, and Mr. Sleeper for Mechanical Drawing. I recall the latter particularly because, despite bending every effort to explode views and trace cross-sections, I never

managed better than a "B" in his course (and was occasionally awarded no more than a humiliating "C"), marring the unbroken series of "A"s that, as a born "swot" (to borrow a British term that I was later to learn) I managed in my other courses. And on reflection even that "B" was almost certainly the result of indulgence on Mr. Sleeper's part rather than achievement on mine: unlike my father, I lack developed visual intuition in three dimensions, that necessary prerequisite for success as architect, draftsman, or topologist. I have always found it difficult to visualize the appearance of a physical object after it has undergone just two successive rotations about normal axes! This shortcoming may be related to my unfortunate tendency, the result, perhaps, of latent left-handedness, to assign the terms "right" and "left" incorrectly, typically when giving directions. Whenever I furnish a passerby with instructions charitably intended to lead him safely to his destination, the glow of pleasure at having been of assistance is quickly extinguished by the apprehension that I might unwittingly have misguided him, and so, fearing to meet his accusing eye, I march off briskly in the opposite direction. The ideal cicerone I never was, nor will be.

What really appealed to me in Mechanical Drawing was the use of precise handwritten lettering—that is, mimicking the discrete form of the printed letter by means of manual continuity. I had long preferred the appearance of certain printed letters to their cursive versions as taught in school—from the start I disliked the loopiness of the small "*f*", and was irritated also by the cursive capital "I" and "G", both of which in my eyes resembled badly sketched sailboats. My exposure to mechanical drawing stimulated me to convert my own handwriting into a form of printing. I wrote in this style until, a few years later, my inborn narcissism pricked me into rejecting straight "printing" as lacking the individual touch, so that my handwriting underwent a further, and final, metamorphosis into an amalgam of cursive and "printing" styles.

I recall a few members of the administrative staff at Lick: Edwin Rich, the school's principal, a dapper man with crew-cut and bow tie; Joseph A. Pivernetz, the Vice-Principal, whose remark "We don't want anybody like *that* at Lick," accompanied by an emphatic horizontal wave of his hand, has stuck in my mind (who he meant I do not recall); and Miss Scott, his secretary, who took a shine to me, saying that I possessed "humility"—a compliment (so I took it) which, while undeserved, I treasure. The "humility" she fancied she saw may perhaps have been connected in some way with what I called my "principle of universality", a notion I conceived around that time to the effect (as I would now put it) that in my essential being I was no different from anybody else. It only dawned on me long afterwards that the very possibility of being able to hold such a view with sincerity—

which I do still—depends on the conditions of one's upbringing. Perhaps it is atypical to regard oneself as typical.

While it is doubtful that I ever possessed true humility, I was to become acquainted with humiliation through my lacklustre performance in the National Merit Award tests. These had been devised by the U.S. educational authorities to identify scientific and mathematical talent, the fostering of which had come to be viewed as a matter of urgency following the sharpened competition with the Soviet Union provoked by the successful launch of Sputnik I in 1957. Each test took the form of a long series of multiple-choice mathematical questions, ranging from elementary to quite advanced, with wrong answers penalized by negative marks. When the results were announced, I recall feeling quite aggrieved at learning that not only had I failed to shine in an absolute sense, but also that I had been outdone by one of my classmates who claimed to have waltzed through the exam ticking answers at random!

An equally humiliating incident occurred one evening at dinner when an engineer friend of my father's—having apparently been informed of my mathematical "attainments"—decided to put this to the test by asking me the value of 0^0. Now of course I knew that any nonzero number raised to the zeroth power is 1, but for some reason I thought that this was not the case for zero itself. So I blurted out the wrong answer "zero" (the correct answer being indeed 1), and observed with chagrin the speedy collapse of my reputation as a "math whiz".

It was established policy at Lick to encourage students to develop extracurricular interests and engage in "practical" activity. In this spirit Mr. Pivernetz, learning that I had been assisting some of my classmates in algebra, suggested that I do some private tutoring in mathematics, charging so much per hour. Gripped by the idea that my intellectual exhibitionism might lead to gainful employment, I agreed with alacrity. I can recall only one pupil engaging my "services" (a girl whose surname was, I think, Kappos); nevertheless I developed a taste for performance which, despite its blunting through more than thirty years of university teaching, has still not been completely extinguished. On a more mundane level I manned the cash register in the school cafeteria at lunchtime and was further entrusted by the powers-that-were to convey the proceeds in a brown paper bag to the local branch of the Bank of America. At the register I tried (but in all likelihood failed) to remain calm when offered a fifty-dollar bill in payment for a two-bit packet of peanuts, or when presented with a mass of pennies in payment for a three-course lunch. I took my position as cashier so seriously that at one point I refused to accept a two-dollar bill—I had never come across this denomination before and thought it might be counterfeit. I was not reassured when its profferer opened his wallet and pulled out a wad of bills of the same denomination—who knew,

maybe the ink hadn't had time to dry on any of them! But it turned out that they were indeed legal tender, only scarce, and the guy had actually gone to the bank and changed a fifty-dollar bill into the rarely issued twos. If I had been familiar with the phrase "as phony as a *three*-dollar bill," the hassle could have been avoided.

At Lick I also played basketball, but, while reasonably nimble around the court, my shortness of stature at that age prevented me from rising above the lowly "C" squad. Basketball could be quite a dangerous sport: I recall that on one occasion, during a scuffle for possession of the ball, a teammate collided with an opponent and had his front teeth pushed right through his lower lip, blood spurting everywhere. A few years later in England I was to suffer a broken nose in a similar incident on the court.

Sometime in 1957 we moved across the Golden Gate to Mill Valley[25], a small town under the shadow of Mt. Tamalpais in Marin County some twenty miles from San Francisco. Our house at 307 Tennessee Avenue was a rambling woodframe affair with a creek running in front of it, set in a quarter-acre or so of rolling grassland. When my parents bought the place it was in a somewhat poor state of repair, and its foundations required considerable shoring up to correct distinct lists here and there. But its bucolic charm was undeniable. My mother was particularly taken with the poplar trees which ringed the property. These lent the whole an air of seclusion, occluding the sun to such an extent as to reduce the house's interior to a mass of shadows. The only room in the house I remember with any distinctness is my mother's dressing-room whose walls were lined from floor to ceiling with mirrors which opened to reveal a series of deep closets.

The house's garden provided a pleasant setting for the meals which on sunny days we would eat alfresco on a picnic table set up under the trees. I recall with pleasure the afternoon on which we sat around this table with my Drew School teachers Messrs. Spiess and Smith, who had been invited to lunch—an invitation they had been gracious enough to accept despite being warned that I would be doing the cooking. On this occasion the *pièce de résistance,* if such it can be termed, was my favorite, fried chicken, which for some obscure reason I had since early childhood called "chicken in the rough." Bursting with pride in having learned how to prepare the dish, I made like a future Colonel Sanders, enthusiastically coating the pieces of chicken in seasoned flour, deep frying and then baking them in the proper sequence. The sole drawback was that my efforts left the kitchen looking as if it had been visited by a tornado. And I must admit that I cannot recall actually cleaning up the mess.

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[25] Interestingly, it provided the setting for the novel (by Jack Finney) on which *The Invasion of the Body Snatchers* is based.

My mother was very fond of cats (as were we all) and the house on Tennessee Avenue, with its spacious grounds and remoteness from traffic, was the ideal site on which to found a true *ailurotopia*. Our female tabby, "Mother Cat," had several kittens, of which "Whitenose" and "Ginger" are the only ones I can remember. Some of my happiest memories are of the "cat races" that Lynette and I would stage, in which one of us would restrain the kittens and the other, some distance away, would dangle or roll an object such as a ball of wool; on being released the kittens would rush forward helter-skelter, eager to sink their claws into something so attractive. But I also recall with a pain that has scarcely diminished these forty years that terrible day in 1958 when Mother Cat was taken away. My father had been offered a job in Tripoli, Libya, which meant that once again we were to pack our bags and move on. What to do with our beloved cats? We could not take them with us. Suitable homes had been found for the kittens but not for the older cat, and so my mother had to face the painful decision of whether to leave her to roam wild, or to send her to the pound where, rather than being put down, there was at least a small chance of adoption by some kind soul. After much agonizing my mother decided that the latter alternative was the lesser of the two evils, since domestic cats are ill-equipped to live in the wild and in any case the idea of simply abandoning an animal for which we felt such affection must have seemed both callous and irresponsible. The decision having been made, we awaited with dread the day that the men from the pound would arrive to take Mother Cat away. And when that awful day dawned, we broke down and wept as the poor creature ran back and forth, with piteous cries and accusing eyes, in a vain attempt to escape her captors. But what else could my mother have done?

Describing the painful episode of the cats has lent me the courage to broach another episode, still more painful to me , since in this case it is I who bear the weight of guilt. In the evenings my parents drank quite heavily, which inevitably led to arguments, and, on occasion, to the exchange of blows. Just a couple of drinks sufficed to expose my mother's deep unhappiness, the reasons for which I could not understand at that age (but does one truly understand another's pain at any age?). I remember her saying on these occasions that she would not live to be forty—a prophecy that, alas, turned out to be only too true! I loved my mother dearly, but I was both disturbed and irritated by the effect that alcohol had on her—in my eyes she seemed to become a different person, dangerous and unpredictable. But none of this, to my deep and abiding shame, exculpates me for making up in response the cruel ditty—a nasty variation on an advertising jingle—*Pour some bottles of beer and wine down Mum's throat/ Add a little whisky for a drunkard's float.* Mea culpa! Were my mother only alive today so that I could beg her forgiveness!

I return to less distressing memories. Our move to Marin County meant that I had to make a twenty mile trip to school each weekday. Occasionally my mother would travel into town and give me a ride in her white Chevvy, which she drove with some abandon: we would barrel along over the Golden Gate Bridge at a fast clip, the bridge's vertical pairs of suspending cables flicking by like the strings of a vast harp. But normally I would take the Greyhound bus to the S.F. downtown depot on 7th Street, and then a "Muni" bus from there to Lick. It was on one of these latter trips that I became involved in a series of curious incidents. One morning the bus was boarded by a pair of tough-looking Mexican-American "pachuco" types, each wearing a greasy cap. Timidly clutching my briefcase in the back seat, I presented an easy target, and the two young heavies zeroed in for the kill. Depositing themselves on either side of me, the duo's apparent leader removed his cap, thrust it in my face, and ordered me to hold it for him. Lacking the courage to refuse, I meekly did as I was told and held the thing with trembling fingers until being ordered to return it when the two got off. I had thankfully dismissed the incident from my mind until the following day when, to my dismay, the pair again boarded the bus and I was, predictably, subjected to a routine similar to that of the previous morning. Obviously this was also their route to school so that I could expect humiliation on a daily basis. But after a few more of these incidents, like Popeye I had taken all I could stand, and on being handed the cap I threw it down, telling its owner to hold it himself. He was so startled at this—as was I at my own temerity—that, instead of punching me in the nose as I fully expected, he merely picked up his cap, stuck it back on his head with a scowl, and, without molesting me further, sat stolidly alongside his companion until they alighted at their regular stop. Not surprisingly, my new-found fortitude did not extend to facing the revenge that my rebellion would almost certainly have provoked on future trips, and to avoid further encounters with the two I changed my bus route, even though this involved a considerable lengthening of my daily journey. I am glad to say that I never set eyes on the rogues again.

I have a vague recollection of my mother suggesting that I join the local Cub Scout troop. With this organization my association was to be very brief. For at my very first meeting, on being asked what should be done to staunch a bleeding wound, I made the facetious suggestion that a massive dose of vitamin K be administered. It being obvious that I did not take the proceedings very seriously, I was not encouraged to attend any further meetings.

In leafing through my father's engineering manuals, whose compactness and flexible covers had always appealed to me, I puzzled over the curious notations "$\mathrm{d}y/\mathrm{d}x$" and "$\int f(x)\mathrm{d}x$", and wondered in particular what prevents one from simply canceling the "d"s in the

former. On asking him what these signs meant, I received the reply that they were symbols from an advanced mathematical discipline called the "calculus." Seized with the urge to penetrate its mysteries, I got hold of a calculus textbook—it was, as I recall, G. B. Thomas' red-bound *Calculus and Analytic Geometry*—and began to work my way through it. My enthusiasm for the subject grew so quickly that I felt I had to share it with some of my fellow-students at Lick and to this end I launched a "Calculus Club" whose membership came to include Art Tollefson and Fred Cahn. We would meet each week to discuss the problems in Thomas' book, dishing out Δx's and Δy's, Σ's and $\int$'s with gusto, if (in my case, at least) with less than perfect understanding.

In addition to some of my father's books, I had also come to covet the slide rule—the engineer's "slipstick"—which he had kept since his student days. Clad in ivory, this pretty device was equipped with a leather case which could be attached to one's belt: given the number of Westerns I had seen, I found it impossible to avoid thinking of the case as a holster and the slipstick as a kind of calculating pistol, from which cube roots, rather than bullets, would issue. I had learned how to use the instrument and had bought one of my own, but in my eyes no contemporary plastic slide rule could match the faded ivory elegance of my father's. This object had an unfortunate history. He "lent" it to me when I left for school in England, and several years after that I returned it to him. Three decades later he offered it to me on a permanent basis, but by this time he could no longer recall its whereabouts. Sadly, it was never to be found.

My father had it in mind for me to attend Stanford after graduating from high school and accordingly arranged a visit to the Physics Department there. I recall being shown round the nuclear physics installation (at that time I had my heart set on becoming a nuclear physicist) by a friendly member of the faculty. I also recall hearing the mathematical term "matrix" for the first time and—my ignorance of the word causing me to feel instantly inadequate—thirsting to know its meaning: as a future mathematician I was later to learn what it meant, but by the time I did its actual meaning seemed prosaic, a signified disappointing in comparison with its signifier. On leaving the laboratory I was given a splendid chart of the nuclides (no longer, alas!, in my possession) on which was displayed all the isotopes of the elements with their decay patterns. This I proudly mounted on my bedroom wall.

On my twelfth birthday my father gave me the four-volume set (happily still occupying a place on my shelves) *The World of Mathematics*, edited by James R. Newman. The many hours I spent engrossed in this wide-ranging compilation of mathematical articles must surely have had a significant effect in turning me into the eclectic I was to become. It was from its pages that I first learned how Archimedes estimated the number of grains of sand needed to fill the

visible universe; that Ramanujan had instantly identified 1729 as the first number expressible as the sum of two cubes in two different ways; that Gauss, at 10, had summed at sight the series of numbers from 1 to 99, writing down a single figure on his slate. There I learned of googols and googolplexes, of space-filling curves and continuity, of the paradoxes of Zeno and Russell. It was within its covers that I first encountered the writings of Aldous Huxley (who was quickly to become one of my favorite writers) in the form of his early short story *Young Archimedes*, concerning the short tragic life of an Italian mathematical prodigy. Also to be found there was Russell Maloney's *Inflexible Logic* in which a number of chimpanzees defy the laws of probability and produce works of literature by random pounding on typewriters.

A scientific writer whose works I came greatly to enjoy at that time was the physicist George Gamow. I found all his popular books—*The Birth and Death of the Sun, Biography of the Earth, The Creation of the Universe*—entertaining and informative. But his *One, Two, Three, …Infinity,* positively enthralled me. In this, his most delightful and stimulating work, adorned with his own whimsical illustrations, he speculates on everything from the infinitesimal to the infinite. Rereading this amazing book, I am still astonished by the amount of exotic information Gamow conveyed with such verve: nobody but he had the *chutzpah* to pack descriptions of Möbius strips and topology, Hilbert's hotel and Cantor's alephs into a paperback book of lay science. I lapped these up. I was also intrigued by the idea—which I must have first come across in Gamow's book—that the universe could be finite, unbounded, and yet at the same time "expanding." My father, who read the book at about the same time I did, was, as a practical engineer, rather less impressed than I with some of its author's speculations: I distinctly recall him writing "Tripe!" in the margin next to Gamow's remark that "it isn't at all impossible that astronomical space is closed on itself and in addition twisted in the Möbius way."[26]

Like most aspiring intellectuals I had fallen under the spell of Einstein, to whose theories I had also been introduced in *One, Two, Three,…Infinity.* Einstein's combination of genius and unorthodoxy I found irresistible, and I resolved to penetrate the mysteries of his greatest creation, the theory of relativity. To this end my father bought me two Dover paperbacks, Max Born's *The Restless Universe* and Ernst Cassirer's *Substance and Function and Einstein's Theory of Relativity.* I

[26] It isn't impossible, just somewhat unlikely. Actually, as I was later to note, Gamow only overstates his case when he claims in his section on "Big Numbers" that the number of points on a line is $\aleph_1$, since this depends on the continuum hypothesis, which is independent of the fundamental principles on which set theory is built; and when he claims that the number of possible curves in a plane is larger than the number of points, since if by "curve" he means *continuous* curve the number is the same, $2^{\aleph_0}$ in both cases. But his beautiful handwritten alephs more than redeem these tiny lapses.

was captivated by Born's book with its kinetographic illustrations which could be animated by riffling the pages; Cassirer's, a dense philosophical work, I was unable to understand at that age. (While Cassirer is still on my shelves, Born's book is regrettably no longer in my possession.) It was from Einstein's own "popular" book *Relativity: The Special and General Theory,* first published in the 1920s, that I gained the first glimmerings of a technical understanding of the subject. This wonderful work is a model of clarity and at the same time stimulated one to learn more. Attracted as always by arcane symbols and terms I was intrigued by "tensors" and inscrutable mathematical expressions such as $ds^2 = g_{\mu\nu}dx_\mu dx_\nu$. (More Greek letters!) What meaning lay behind these exquisite formulas? It was to be some time before I found out.

My interest in physics was also stimulated by seeing the series of lectures by Edward Teller—the "father of the H-bomb"—on KQED, the Bay Area public television channel. Delivered by the beetle-browed Teller in forceful style, the lectures provided an initiation into the subtleties of modern physics. I recall being very enthusiastic about Teller's presentations. But I came later to be repelled by Teller's strident defense of nuclear weapons.

I was fascinated by tables and lists of facts and had assembled a small library of relevant volumes. These included several numbers of the *Information Please!* almanac and the *Handbook of Chemistry and Physics,* a 1500 page india-paper tome crammed with every conceivable chemical or physical fact known to man. It was from this latter that I learned the names of all the chemical elements and the values of the mathematical constants—to this day I have retained the useless accomplishment of being able to rattle off the value of *e* to twenty decimal places (2.71828 18284 59045 23536), and I still occasionally check my memory for signs of decay (or impending "Belzheimer's") by attempting to write down all 92 elements (not, of course, in order of atomic number—that feat was always beyond me). The last time I tried this, after several hours I had recalled all but one—no, not praseodymium or thulium, lanthanum or thallium, but lowly tin!

It was at this time that I first began to read science fiction, much of which I borrowed from the main branch of the San Francisco public library. I consumed anthology after anthology of SF stories. The themes of these stories—time travel, the far future, parallel worlds, thinking machines, ESP—wondrous ideas all, I found irresistible, and addiction to the genre was inevitable. Tales I read at that time and which still echo in my memory include Alfred Bester's *Disappearing Act* and *Star Light, Star Bright*, A.J. Deutsch's *A Subway Named Möbius*, Philip Latham's *The Xi Effect*, Theodore Sturgeon's *The Golden Egg*, A.E. van Vogt's *Fulfillment*, Ray Bradbury's collection *The Illustrated Man*, Philip K. Dick's collection *The Variable Man,* and the stories of H.G. Wells.

From there I went on to read SF novels: Olaf Stapledon's *Last and First Men*, Arthur C. Clarke's *Childhood's End* and *The City and the Stars*, Bester's *The Demolished Man* and *The Stars My Destination*, van Vogt's *The World of Null-A* are some of the titles I recall. I read George Orwell's *1984* with fascination and horror, Winston Smith's final capitulation to Big Brother evoking in me the feeling that there is no escape. The startling conceits ("I'm so glad I'm a beta," etc.) of Aldous Huxley's *Brave New World* so impressed me that I resolved to read all its author's writings (an ambition I have not quite fulfilled). I distinctly recall my well-thumbed American paperback edition of the novel with its misleading—but characteristically SF—cover showing a man (the "Savage", presumably) leading a scantily-clad woman to freedom through a breach in the wall surrounding a futuristic city.

I was captivated by my mother's collection of record albums, repeated listenings to which formed my musical taste at that age. Over and over again I would play Stravinsky's *Petrushka* (in the Ansermet version) and *Rite of Spring,* Borodin's *Second Symphony* and *Polovtsian Dances*, Rimsky-Korsakov's *Scheherazade* and *Coq d'Or*, Shostakovitch's *Piano Quintet*, Prokofiev's *"Classical" Symphony*, Falla's *El Amor Brujo*, Chabrier's *España* and *Marche Joyeuse*, Turina's *La Procesion del Rocio*, Tchaikovsky's *Aurora's Wedding*, Rossini-Respighi's *La Boutique Fantasque*, Glière's *Red Poppy Suite*, Bruch's *Scottish Fantasy* with the immortal Jascha Heifetz, Bach's *Fifth Brandenburg Concerto* in the Fritz Reiner version, Villa-Lobos' *Prole do Bebe* in the version by José Echaniz (linked in my mind to this day with *Brave New World* which I was reading at the time), excerpts from *Cirandas* in the version by Ellen Ballon, Albéniz's *Iberia* and *Cantos de España* (also in the Echaniz version), Ravel's *Sonatine* and *Tombeau de Couperin* (in the version by Kathleen Long), *Rapsodie Espagnole* and *Pavane pour une infante défunte,* Latin-American guitar music played by Laurindo Almeida. It will be seen from this list that my mother's taste in recorded music, like her preferences at the keyboard, tended to the exotic. So as a child I heard virtually no Mozart or Beethoven (the latter being the only composer for whose music my mother expressed an active dislike), and a mere handful of compositions of Bach. It was to be a few years before the glorious music of the central European classical tradition made a real impact on me.