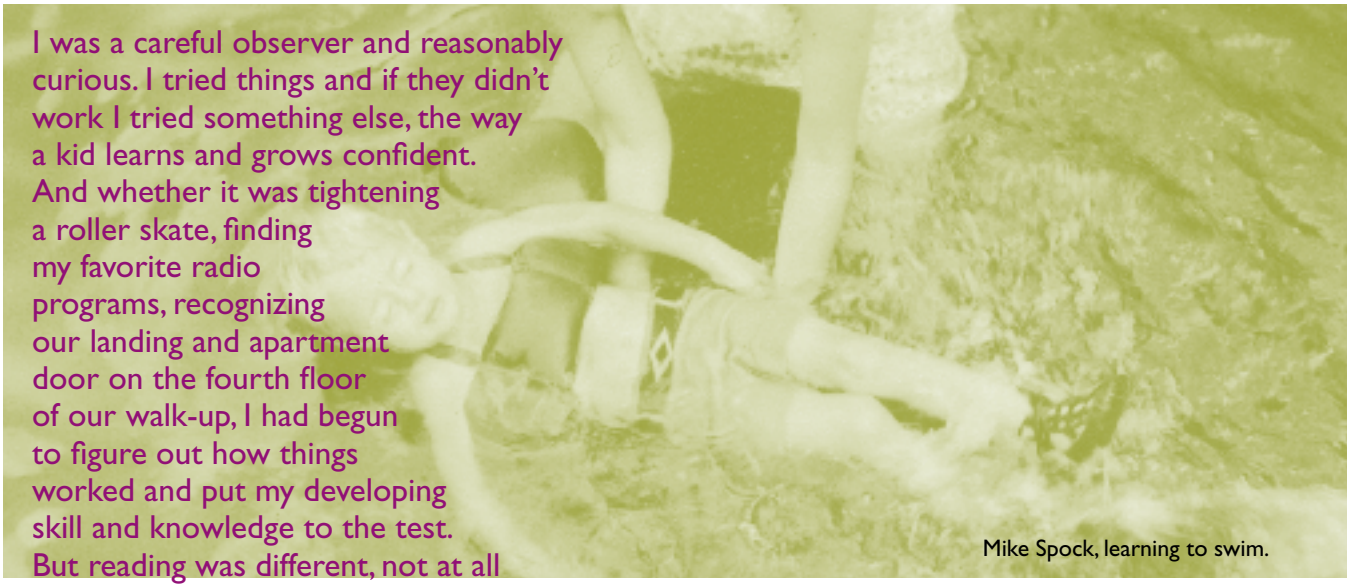
Education of a Dropout

Mike Spock

In the last couple of years, I made a discovery that I should have made 20, 30, 40 years ago, but I have to confess it's recent. And that was when we started to do stuff at The Children's Museum, there was no theoretical construct or underpinning. I wasn't paying attention to the literature of child development. I hadn't a good sense of how perceptual psychology works, even though I did some early and primitive research about how people learn in museums. All I thought was, "If you're going to run a children's museum, this is what you do."

The revelation came when I started to ask questions about my own education, particularly at Fieldston School where I was sent because I couldn't read. I was not a huge success at Fieldston, but I could manage in that educational environment. I couldn't have if I'd gone to a conventional school because I didn't read until the fifth grade. Even then, I couldn't read or write in any conventional way, so I chose being a nonreader as a way to be in the world.



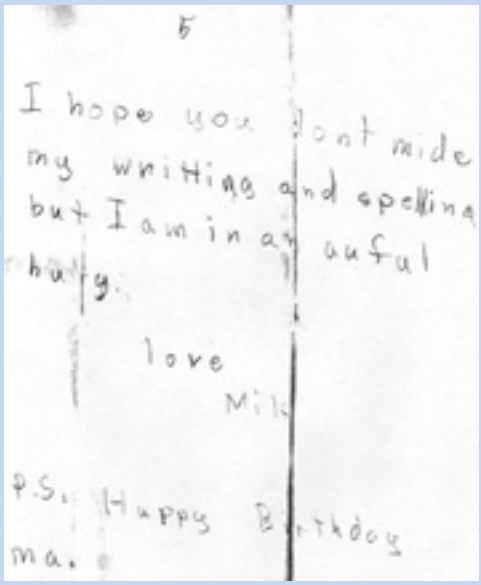
Mike Spock, learning to swim.

I was a careful observer and reasonably curious. I tried things and if they didn't work I tried something else, the way a kid learns and grows confident. And whether it was tightening a roller skate, finding my favorite radio programs, recognizing our landing and apartment door on the fourth floor of our walk-up, I had begun to figure out how things worked and put my developing skill and knowledge to the test. But reading was different, not at all like the way other things were yielding up their secrets and becoming mine.

I still have a strong memory of my anticipation about learning to read. My mother was an enthusiastic, avid reader. She and I would settle happily into a book curled up in the corner of the couch, side by side, touching. *The Land of Green Ginger, The King's Stilts, Mr. Small's Auto, The House at Pooh Corner.* It seemed perfectly reasonable that I would become a reader too. Why wouldn't I? At the end of the summer, just before the start of school, we went to the bookstore to buy our first reader. *Sailor Sam.* Soon it would be mine, read and owned.

But when I started school nothing happened. We took out our books and got down to work and nothing happened. At least for me, the words were impenetrable, undecipherable. My classmates seemed to catch on. If you studied the words—carefully—patterns would come into focus, familiar sounds and ideas would emerge—magically. In fact, what was happening or not happening seemed so obscure that magic was the only reasonable explanation. I noticed that some kids were scanning the pages using their hand as a pointer, keeping place as they worked their way across the lines of type. Maybe the finger and arm were the route from word to understanding; a prehensile sensory organ with some sort of functional connection. This seemed reasonable. I pushed down harder on the page. Nothing. I experimented with a lighter touch, barely grazing the page. Nothing. Nothing seemed to do the trick.

I wasn't particularly concerned if a little baffled. It would probably work itself out like learning how to ride a bike. But a visiting master teacher *was* concerned. She noted that I seemed bright and engaged but not reading



5

I hope you dont mide my writing and spelling but I am in an awful hurry.

love

Mik

P.S. Happy Birthday ma.

Mike Spock, front row, right, Fieldston School, 1944; right, page five of a letter to his parents from summer camp, July 8, 1943.

...Fieldston didn't seem able to help me figure out how to read...When everyone in the class had to read a passage from a real book during visiting Fathers' Day, I had to pick my way through my homemade three-letter reader. For the first time I really felt incompetent.

To begin with, the school was frankly built on the kindergarten foundation. It was "an attempt to leaven the whole lump of education by means of the same principle which has given birth to the kindergarten—to apply throughout the fundamental role of 'learning by doing'." And here Dr. Adler seized upon the one greatest contribution of that day to what we now call modern education—the new and revolutionary point of view that learning comes through the activity of the learner in harmony with his natural interests.

—Mabel R. Goodlander
(Founding principle of the Fieldston School)
The First Sixty Years: An Historical Sketch of the Ethical Culture Schools, 1878-79—1938-39

well into the year. She conferred with my classroom teacher and together they brought my parents into their orbit of concern. The experienced teacher knew of a diagnostician who specialized in reading problems. I was sent off for a consultation and tests. The word came back that I had something that in the days before dyslexia was called "strephosymbolia" (confused or transposed letters.) There wasn't much known about reading and problems of reading in the late thirties, but the Fieldston School had a remedial reading program and that might be a way to go.

New York: Fieldston School

I started Second Grade at Fieldston, commuting an hour each way from the Upper East Side to the suburban edge of the Bronx, in Riverdale. It was a sympathetic place with a reassuring emphasis on crafts, projects, cooperation, play and alternative routes to learning and success. Every year had a theme: Indians in second grade, New York Colonial period in third grade, Medieval Times in fifth. Everything was derived from the theme. In third grade we visited Dutch colonial sites throughout the city. We used tallow and ashes to make soap. We gathered bayberries, extracted their wax and dipped fragrant candles. There were woods to explore and hide in. Workshops were to learn skills. There were multiplication tables to memorize. There were weekly ethical problems that were put before us and discussed. Each class, in addition to its organizing theme, was responsible for a key function of the school community: the newspaper, the store, the bank. Fieldston, one of the schools that was part of the Ethical Culture Society's school system founded by Felix Adler, was a learning community that engaged everyone, that taught everyone, that welcomed everyone, that challenged everyone.

But Fieldston didn't seem able to help me figure out how to read. I was separated out regularly for one-on-one sessions with a special teacher. She had a moustache.

Hanging Out in New York Museums

Every few seconds I watched another steel ball pop out of a hole in the wall of a small exhibit case. With exquisite precision the ball arced onto a polished metal plate, then caromed off its plate twin on the other side of the case and disappeared into a second tiny hole in the wall. The ball bearings made a satisfying "tap, tap, tap." They never missed: precision in an imprecise world.

It was the early '40s and I was a kid with dyslexia in grade school growing up in New York City. In the spirit of the 1939 World's Fair, the Museum of Science and Industry at Rockefeller Center was an art moderne reflection of the optimism felt about science and technology. From the entrance a sweeping staircase descended into a grand hall that did a Busby Berkeley steamship nightclub set proud. Banks of operating models—pistons, connecting rods, gears (one pair actually *square*)—hypnotically danced the translation of one strange form of motion into another. During the "Good War" they had military training simulators with which a boy, who despaired at the war passing him by, could shoot down a Zero or Stuka.

A section of the gear wall, Museum of Science and Industry

Living in Yorkville on the Upper East Side, the Metropolitan was my neighborhood museum. They displayed real mummies and several chapel rooms from Egyptian mastabas that stimulated long thoughts about death. (I was sure it would happen to me sooner rather than later.) Why would they build an immovable stone false door to let the spirit of the mummy pass through? Was the mummy entombed behind the door? Is it still there?

On a flat plaza south of the Metropolitan there was a great place to roller skate, and beyond that, the best sledding, body-rolling, and lying-in-the-grass hill in Central Park.

My friend, Bob Levine, lived across the park. His neighbor was the American Museum of Natural History, a vast, dark, suffocating place. Bob and I played *Monopoly*, visited the museum and hung out. Animal dioramas, giant insect models that seemed a lot creepier than the dinosaurs, Peruvian mummies, a ceiling-mounted orrery, planetarium and meteorites, each had their appeal.

My most vivid encounter was with a small diorama in a hall of animal behavior. It showed an old-fashion checkerboard-floored kitchen with a small dog sitting in the foreground, his back to the viewer. At the push of a button the scene dissolved into the transformed perspective of the dog. The converging

continued on next page

Hanging Out in New York Museums

lines of the linoleum, table, stove, sink dropped to a dog's-eye level. The room was now rendered entirely in blacks, grays and whites. Dogs are colorblind!

Surprisingly, my favorite haunt was the Museum of Modern Art. With its old movies in the basement, accompanied by a piano and the rumble of the passing subway. There were, however, two landmark special exhibitions.

Sand painters at Indian Art of the United States.

Indian Art of the United States treated everyday, ceremonial and decorative crafts as an art form. (Something of a new notion then.) Accompanying cased artifacts, real Indians cast and hammered silver; coiled and shaped clay; card, spun and wove wool; painted with colored sand. Hours melted away watching real grownups engaged in serious, beautiful work. I still have the catalogue.

The other exhibit was an exhaustive exploration of the aesthetics, science and politics of maps. Everyone followed the course of the war through newspaper and magazine maps. The exhibit was experiential. I could make 3-D landscape images pop out of two slightly different photographs with a stereoscope. I could fly over a city by walking across a bridge suspended across a room-sized aerial photo. I could stretch a string across a globe between New York and London to discover, counter-intuitively, that the shortest route was a curved line over Newfoundland on a Mercator Projection. I learned that conic and cylindrical projections were literally the projection of spherical images onto plane surfaces by slipping translucent plastic cones and cylinders over small, internally lit globes.

There were other illustrative models that showed how you could peel and flatten out the skins of oranges to get other, more or less distorted, map forms; and there was an enormous version of Bucky Fuller's brand new Dymaxion Globe on display that could be bought as a kit to cut out and assemble at home. But the most elegant exhibit was a transparent outlined globe that had a pin head suspended at its middle so that you could see, by lining the pin head up with New York, whether you would come out in China if you dug a hole down through the center of the Earth.

I had to become a member (actually MoMA's first junior member) because my allowance couldn't keep pace with the 25-cent cost of admission to one of the few New York museums that charged.

Not only were the fascinating museums of my dyslexic childhood pivotal experiences in my informal education, but they became the seedbed of my life's professional preoccupation with the museum world.

The Nine Tables

Some Sundays I would go with my father on house calls. Waiting in the car while he attended to a patient, I remember discovering the thrilling regularity of the 9s tables.

09
18
27
36
45
54
63
72
81
90

Zero to nine ascending, one at a time, in the left column. Nine to zero descending in order in the right column. Every pair of digits adding up to nine. Complementary numbers, working out from the center in both directions, invariably being the reciprocals of each other. Magic! I couldn't wait to show off my discovery when Ben returned to the car. I realized I didn't even have to commit the tricky 9s to memory, I could reconstruct them from scratch any time I needed to.

Mike, second from right, in the summer of 1943.

We went over and over painfully obvious exercises. The tasks became simpler, more boring, and ultimately, just as baffling and humiliating as last year's *Sailor Sam*. "P" was indistinguishable from "b" or "q" or "d." The special teacher constructed three-letter words illustrated by stick figures: "boy," "cat," "run." The exercises were crafted into personal books just for me. When everyone in the class had to read a passage from a real book during visiting Fathers' Day, I had to pick my way through my homemade three-letter reader. For the first time I really felt incompetent.

Outside school I managed by deflection and substitution. I listed to the radio, particularly the fifteen-minute afternoon kids' serials, and when I was sick, the daytime soaps. (Before antibiotics and immunology we were sick a lot and the recovery was long.) Nights, past bedtime, I sweated under the covers as I tried not to be caught listening to "I Love a Mystery," "The Shadow,"

"Dr. IQ," "The Lux Radio Theater." Comic books, aside from the telegraphic Nancy and Sluggo and the wordless Little King, were beyond me. I went to movies a lot: Saturday-afternoon-long double features, complete with a newsreel, coming attractions, cartoon and this week's serial. And just hanging out day dreaming, riding the subways, wandering museums, looking in store windows, discovering unfamiliar places. The street life observed from our apartment windows included traveling knife sharpeners, organ grinders, "cashpayed" old clothes collectors, chain-driven package delivery and coal trucks, with clever compartmentalized beds that rationed out their tipped up loads through troughs set up across the sidewalk to shoot the oily coal into our basements.

My father—Ben as I was encouraged to call him—was struggling to make a living from his pediatric practice, launched during the Great Depression. He seemed to be on call or on the phone all the time. There were calls waiting to be returned when he got home, late, for dinner. He seemed tired and distracted. But my morning baths, while he shaved, were unhurried and companionable. I found I could hold my breath under water and he timed me. We practiced my multiplication tables. We discussed the mysteries of the world and life. Military parades excited both of us—especially the impossibly uniform West Point cadets.

I have no real idea how I finally began to decode words. Trying to reconstruct those painful years, I think I began to read store signs: the words were illustrated with products displayed in the windows. But who knows whether the drills, or maturation, or something else allowed me to break through. By the Fifth Grade, as near as I can figure out, I had grasped the rudiments of reading. I still avoided writing with all my energy and self-preserving instincts, but from that point I could get along.

Bookbinding Guild

An unexpected break occurred in that pivotal fifth grade year when I finally learned to read, a way to understand how it was possible to get on top of things and have them become your own. We were studying the Middle Ages. During the three or four hours of arts and crafts every week, each of us had to join as apprentices to a guild. Dave Lang and I chose bookbinding. For the next year and a half we learned how to make and marble papers, sew registers, bind covers to folios. We visited Scribners where books were printed and bound. The gold leaf titles pressed into the covers seemed especially exotic. Ironically, I began to make the books I could barely read. I *had* the books even if I could not possess their content. The next fall we learned that there would be a journeymen's examination. A problem would be presented and our portfolios reviewed. I passed the exam, and Dave didn't. For the first time there was a glimpse of the notion of mastery and what it took to work hard and see things begin to fall into place, to own something as your own, as *Sailor Sam* never had been. I still have some of the work we created.

Minnesota: Rochester Senior High School

The hotel operator cheerfully embellished her morning wakeup call: "Good morning. It's eight o'clock and 20 degrees below zero!" We were in Rochester, Minnesota. My father was being wooed by the Mayo Clinic—but my deeply skeptical mother was unenthusiastic. *Baby and Child Care* was out but fame had not yet overtaken Ben Spock. Not only was it frighteningly cold, but the town seemed provincial and single-minded—at least to my mother. Rochester was a one-horse town dominated by the clinic and its legions of medical people. There were even signs in Holland's Cafeteria, a favorite hangout among clinic staff, "We know your operation was perfectly fascinating, but please don't share it with your fellow diners." My father was intrigued by the opportunity to do longitudinal research on newborns, all of who were neatly folded into the closed shop of the clinic's practice. My mother knew it would be a comedown for her and from life in sophisticated New York. She loved being on top of things. I thought Rochester might be just fine: low-key, manageable, less challenging. We moved.

After a lonely adolescent spring with the prairie wind moaning though our storm door, I began to get the hang of Rochester and school. The summer of the first year I was tutored by the principal, finishing up a course left behind in the interrupted Fieldston year. There was no Ancient History offered in the curriculum at Rochester Junior High. The makeup sessions felt collegial. I appreciated the deescalated demands of a medium-sized public school about equally divided among the children of doctors (there were 500 MDs in a community of 30,000), children whose parents attended to the needs of the clinic and its patients, and the

kids from black-soiled farms that grew peas and sweet corn for the Libby cannery at the south edge of town. I walked or rode my bike. We lived in a neighborhood of medium-sized houses. Everyone was so normal, so uncomplicated! There wasn't a hint of cynicism or ill health to be detected, anywhere.

By the next fall and ninth grade I was let into a small circle of friends who observed gently that I wasn't obliged to compare Minnesota to New York, thanks just the same. I made a stab at football in the heat of late summer and tried not to feel dismissed by the bullying coaches. Although it had seemed like a reasonable ambition, I hated it and lasted only a week. Soon after in a physical education class the swimming teacher leaned over the edge of the pool and got my attention. Had I ever thought of trying out for the swimming team? Evar Silvernagle (that really was his name) had come that year after coaching a string of state champions in the nearby meat-packing town of Austin, Minnesota, home of Hormel Foods. He had his sights on creating a similar dynasty in Rochester and was recruiting prospects, wherever he could find them. That sounded interesting and a lot more appealing than being yelled at on a broiling practice field. I had passed Life Saving and could hold my breath underwater. Years later Silvernagle remembered me as having big feet, but it seems more reasonable that I had impressed him with my ape-like arms.

I took to him and the sport immediately. Although I was extraordinarily awkward and unpracticed at the start, I worked hard and improved. By the first meet I had the second backstroke position on the team. In a few weeks I was winning races and was moved up to the first lane. I also was given a role in the individual medley and relay teams. Next year I won the state backstroke title.

New Haven or Yellow Springs

By the end of my junior year I was inducted into the National Scholastic Society. Not bad for a dumb student and incompetent reader! But all was not well. I was completely stuck in completing my senior paper, actually the only sustained writing I was assigned in high school. My English teacher almost didn't let me graduate although I sat in her classroom after school for many days, paralyzed by the assignment. Although I had good aptitude and achievement scores, I avoided completing my college applications. And Yale said I should take an extra year at Andover, my father's school, as compensation for my demonstrably weak reading and writing skills. I was ashamed to admit it, but the future was clouded with uncertainty.

In the last year of high school the Antioch College catalog caught my eye. I had mixed feelings about college: it was an opportunity to get away, become more independent, but the expectation of doing a lot more writing was a cloud hanging over my horizon. I had to admit that at one level the question was already decided; it wouldn't have occurred to me *not* to go to college. Yale, my father's school, his first choice, and the home of a world-class swimming team, seemed the place for me. Without a trace of irony my father observed that Harvard probably wouldn't be. I got no comfort from the Yale catalog and the others shelved outside the guidance counselor's office. They seemed rule-bound and punitive. I assumed that all colleges and universities were like that. But then I discovered the Antioch College catalog. It was a revelation. It was refreshingly straightforward and expressed an unambiguous commitment to intellectual and personal growth and unconventional paths to

Evar Silvernagle

Evar Silvernagle, top row, center; Mike Spock, middle row, fourth from the right.

Evar Silvernagle was a masterful teacher, a coach in the deepest sense. He would pull me aside and quietly demonstrate an almost indistinguishable subtlety of motion. I would take the nuance into the water and practice it, polish it, over and over and over. I would incorporate it into my repertoire—make it mine. I still have a vivid, kinetic memory of doing endlessly refined repetitions of backstroke turns. Approach the end of the pool. Look over the left shoulder. Gauge the distance to the wall and adjust your trajectory. Follow the right hand down deeper into the wall. Touch the wall. Flip over your head and twist to the right reversing direction. Plant the feet in a tuck against the wall. Pause to gather momentum. Push and uncoil. Stiffen muscles, minimize resistance and coast. Begin the kick. Surface and start to breath. Lift the right arm and complete the first stroke. Less than a second in all. The same with starts and finishes and breathing and kicking and stroking. And in the practice sprint and distance laps I would always go for broke. Nothing was held back. Nothing was left unexamined. The water was my medium. Silvernagle was my mentor (although I never actually saw him swim). Like binding books, I again had the intense satisfaction of mastery.

learning. Layered into its fairly conventional liberal arts curriculum was an appealing mix of off-campus work experiences and a chance to be a part of a self-governing learning community.

During a dutiful spring visit and interview in New Haven, the Yale admissions officer said that he hadn't found my test scores convincing. In contrast to my public high school education he warned that college would demand a lot more and bring my weak reading and writing capacities into the foreground. He strongly advised a year at Andover (also my father's school) where I could really learn to read and write and continue to develop my interest in swimming competitively. When I was invited to show off my backstroke in the vast college pool the assistant swimming coach was also not convinced and kept shouting to me "Keep your pecker up! Keep you pecker up!" I never talked to a student. It was their spring vacation.

I went home more than a touch discouraged and feeling trapped by the circle that was closing in on me, but the Yale trip had suggested another possible way out: an exploratory trip to Yellow Springs to take a look at Antioch College up close? Did the appealing rhetoric or their catalog match the reality of an Antioch education?

Antioch was a small liberal arts college; a progressive island in the southwestern corner of conservative Ohio. They seemed happy to see me. School was in session and I was given a bed in a scruffy surplus military barracks housing upper class students. There were hallway bull sessions. I sampled classes. This was the spring of 1950. Returning World War II vets set a mature and irreverent tone for the campus. Heady stuff! I was hooked.

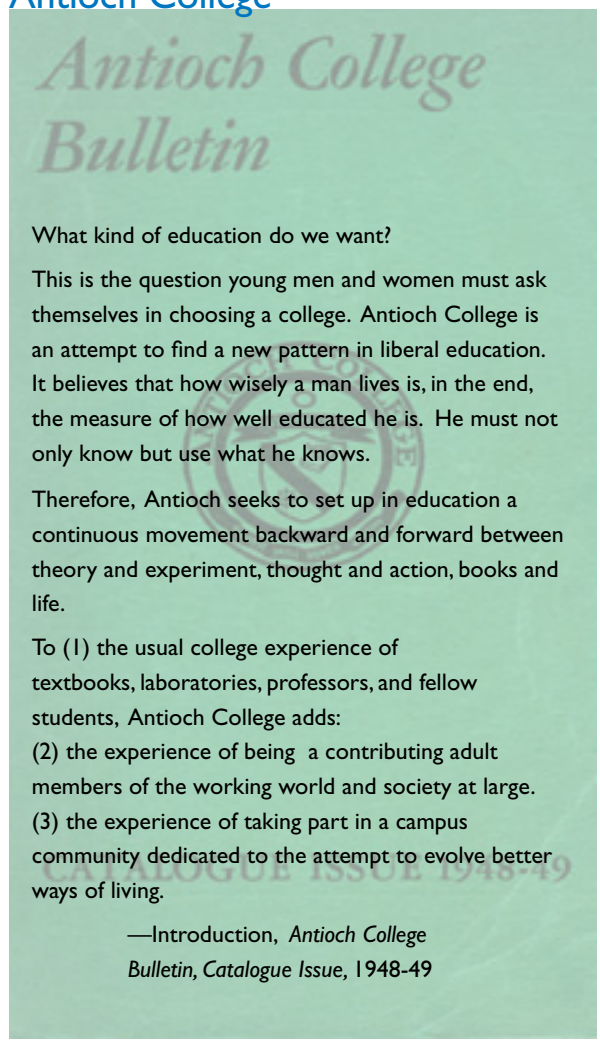
Back in Rochester my high school guidance counselor, who had not heard of Antioch, went to the back of the catalog and discovered that most of the faculty had advanced degrees, and from respectable schools. On the other hand my swimming coach couldn't believe that Antioch didn't have a pool—or a team. My father, a committed progressive educator, took the news of my defection from Yale philosophically.

I also had a vague notion of following my father into medicine, and took his advice that a full dose of premed would be wasting the deep possibilities of a liberal arts curriculum. This was the moment to spread out, not narrow down. There would be plenty of time to cover the basic sciences. I even tentatively decided to follow my father's undergraduate interest in history.

Antioch was everything I expected: worldly, egalitarian, informal. I was coming back to the sophistication of Fieldston without having to give up the comfortable spirit of Rochester High School. I especially loved being away from family. My roommate and I created a cozy study nest from two plywood bed boards and general issue bookcases, got to know our freshman hall mates and settled in. I went to classes, did labs and short exercises but looked helplessly on as more elaborate assignments drifted by, incomplete, sometimes not even started. True to *Sailor Sam* and my high school English paper, I sat frozen in the headlights stumped about how to begin. The readings seemed endless; research and note-taking and outlining were impenetrable. I knew what the endpoint looked like but not a clue about how to get there. I even made it more difficult by thinking I had to do everything seamlessly and perfectly, the first time.

Interestingly, I did very well in the early placement

Antioch College



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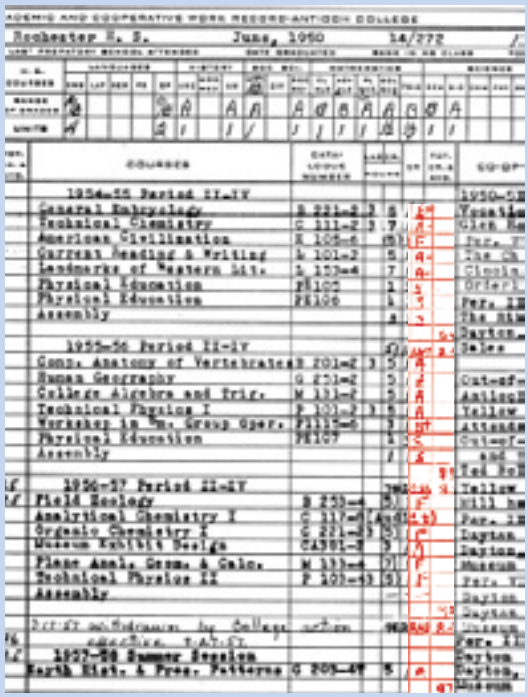
—Excerpted from an interview, January 2006

Antioch Ideology and Spock Reality



Each student plans his program individually with his faculty counselor. A new student may have a well-defined idea of what his major interest will be; or he may have almost no idea, or an idea that will change completely as he is introduced to new areas of knowledge with which he has not yet had experience. The Antioch curriculum is designed for flexibility; during one's education, not after it is done, is the time for changing one's mind, Antioch believes.

—*The Antioch Curriculum, Antioch College Catalogue, 1948-49*

and achievement tests but my standardized reading scores almost disappeared off the bottom of the scale and the essay portion of my achievement tests was scored below "low." This seemed an ominous hint that Yale's early doubts might be appropriate.

I discovered the wide-ranging periodical collection in the library where I could almost fool myself that I was truly engaged in real college work. I spent more and more time hanging out in the dormitory hall, the Coffee Shop, and the Old Trail Tavern. I stayed up late and slept a lot during the day.

It was possible to withdraw from tough courses or take "incompletes" rather than fail them outright. In six tries in the first period of my first year I only got credit for an "Introduction to Life Sciences." Touchingly, among the things left hanging were incompletes in "Reading and Study Workshop" and my "Life Aims Paper." I felt awful. I promised myself and my professors and advisors I would catch up and finish the incompletes in the next period. It never happened. The second period did seem to go better, but not much. As if compelled to sample the full range of success to failure, I had an A, a B, a C, a D, a Satisfactory (Physical Education), an Unsatisfactory (Budget Orientation), and a Withdrawn. By the middle of the second year it was clear that I wasn't going to make it; unfinished papers and undigested courses continued to pile up. I withdrew from all my courses and left school in June. I felt defeated and unworthy. Over nine years I withdrew or was withdrawn or flunked out and was readmitted three times. In one memorable two-year cycle I managed to get straight As, only to be followed immediately in the next semester by all Fs.

Cincinnati, Dayton: Work/Study

As both an enrolled and separated student during those difficult years I had a lot of work experiences. The Antioch catalog made a lot of the centrality of the work/study program, and of course while dropped out I had to earn a living. Jobs included helping with a study of squirrels in the thousand-acre natural area running along beside the campus, bird-dogging buyers to approve deadline-driven advertising page proofs for a department store, being the night attendant in the college infirmary, supervising recreational activities at a residential children's home, building and designing furniture in a small millwork shop, and being appointed a teaching assistant and the designer and supervisor for renovations to the Antioch biology department. But two jobs and one course turned out to be pivotal.

I moved down to Cincinnati to work at a hospital on my first college-arranged Antioch Co-op job experience. The thought was that as the on-call orderly I would get some feel for medical care as seen from the bottom up. While waiting for the job to open up I worked alone as the pump jockey at Cincinnati's busiest all-night gas station smelling the competing mix of gas fumes and the donut bakery across the street. The orderly's job—lowest rung of the hospital caretaking hierarchy—turned out to be an education in every sense of the word. I wrestled clunky oxygen tanks from storage to patients and back to storage again, moved frail and feather-light patients with fractured hips out of bed to chair and back to bed, and cleaned and jerked grossly obese patients and their beds into the air as a nurse scrambled to insert leg-extenders that raised the bed and immobile patients up to working height before my back collapsed in spasm. There were other tasks. I learning to assist doctors and nurses, including one grizzly procedure I abandoned in mid-operation before I passed out next the patient's bed. One time I was left to remove a dead patient's catheter, transfer him to a gurney, and wheel him to the hospital morgue. He was cool to the touch. But the work was not all unpleasant. You could flirt with student nurses in their fetching starched uniforms and caps.

Between reading in the solarium waiting for my number to appear on the call light, it was a pretty inter-

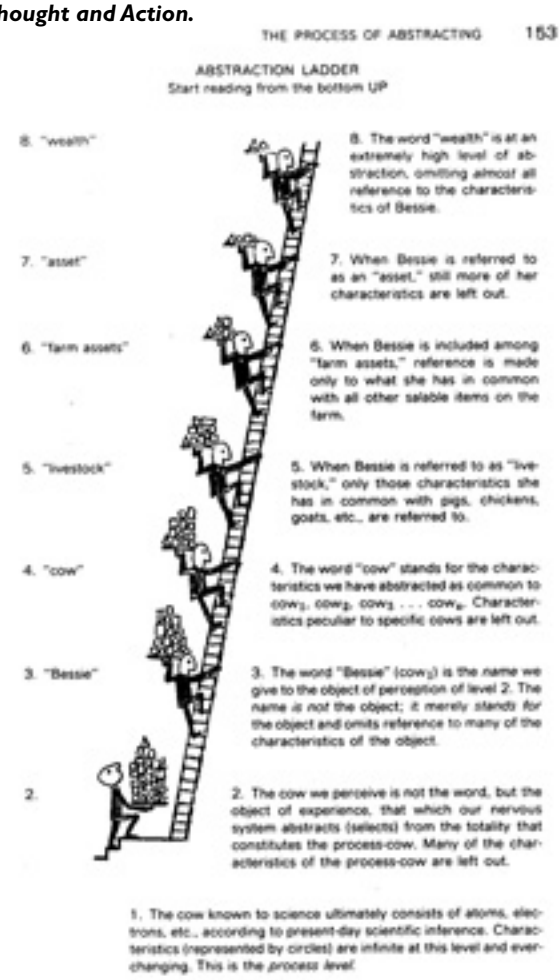
The Death of Mr. Montgomery

One desperately sick patient I got to know, help, and feel sorry for was dying of spinal cancer. Mr. Montgomery didn't seem to have friends or family, at least in the final pain-wracked months of his decline. He was immobilized in a canvas frame that allowed him to be turned and serviced, barbeque-like, by the staff. And he needed everything. Within the medical protocols of those times, relief from pain was withheld until the next four-hour when the medications were scheduled to arrive. After all, he might become addicted. Mr. Montgomery was desperate for companionship and for his next fix of morphine. We and the medications never came with the intensity or frequency that would give him real relief. While the morphine was working he asked us to light his cigarettes or give him a shave, but there seemed nothing more to do for or with him. I felt almost as impotent as he was. As his disease progressed it became harder for all of us to hear his groans and desperate calls for help, or even stop and spend time with this poor soul. One Monday I checked in after a weekend off to learn that Mr. Montgomery had finally died. I was grateful that I wasn't on call to take his body to the hospital morgue.

esting and sometimes demanding job. But the more the weeks passed the less I liked being a part of the hospital and my place within it. To me doctors seemed arrogant, uncaring, not likely to seek out and acknowledge either patients or staff. You could see nurses-in-training and medical students, caught between the hospital's hierarchical culture and needy patients, trying to hold onto their human feelings and values but ultimately developing a businesslike protective shell. It was that or burnout. I realized that this choice was not for me. Although I grew up in a doctor's family it never occurred to me that working at a hospital meant I would spend most of my time with sick people; and that the sick were different from the rest of us. Patients are by stages scared, demanding, powerless, depressed. Unless I had a special gift for the work, its demands and rewards, I probably would not be happy in medicine. How fortunate to understand this early in my journey. But now what?

Basil Pillard taught a course in applied semantics, the study of how language affects the way we see, talk about and understand things. The subject of the course and the exercises it was built around were fascinating, a revelation. The work was organized into a predictable rhythm. There were readings in S. I. Hayakawa's *Language in Thought and Action* and exercises to do at the end of each chapter. These activities, crafted by Pillard, were the real work of the course. You had to do the exercises, write up a few paragraphs exploring insights from the activity, and share a discussion with the class. The unusual feature of the course was that Pillard took time to write a response to each assignment you handed in. For every class and every student he wrote a personal commentary on our thoughts and insights, adding his own perspective on the content and activity, all in time for the next session. The exercises and writing were challenging but bite-sized and nonthreatening. I looked forward to the assignments and had no problem getting them done. Early in the course Pillard expressed surprised that I thought my writing was a problem because it seemed to him, on the evidence, that I wrote

Abstraction Ladder: Starting Reading from the Bottom Up, S.I. Hayakawa's *Language in Thought and Action*.



...so much of the way we improvised and invented ways to do things at the Children's Museum, and all of those exercises and experiences we've designed with kids and exhibits and things, all were based on that basic sense that everybody has to, everybody has limitation. *Everybody* has to find their own way to function successfully and feel confident if they have – if they develop those compensatory skills, then they can make it.

—Excerpted from an interview, January 2006

Mike Spock and Judy Wood




In looks and reputation Judy Wood was an Antioch star. She was smart, articulate and the most productive visual artist in the Yellow Springs community. We hit it off—in many ways—and eventually got married, worked together and in parallel on lots of projects, had our first two kids in Springfield Community Hospital and came to live in a spacious, sunny loft over a drycleaner, barber and sheet metal shop: Hopper's *Sunday Morning,* complete with striped barber's pole.

well. As with Coach Silvernagle, Basil Pillard managed an extraordinary educational tour de force that became a personal breakthrough to my learning. It turned out that I could write but I seemed to need a setting and approach that more closely fitted my peculiar disabilities or gifts.

Dayton: Getting a Grip

The third turning point of these uneven years was my initiation into the professional museum world. The Dayton Museum of Natural History was a sidebar department of the public library. It had grown into museumhood through the almost haphazard accretion of attic-donated odds and ends. By the mid '50s the museum, housed across from the main library in an old pump factory, had begun to look and feel like the real thing. Among the organized clutter there was a light bulb filled with murky water (a remnant of the Dayton flood of 1913, a rocker reputed to belong to Abraham Lincoln "authenticated" by a tintype of the president sitting in what looked very much like the chair, a tired Egyptian mummy that was a compelling landmark for spooked-out kids, and a small indoor zoo of "rescued" animals. But the Dayton museum also had a significant and growing collections of natural specimens and ethnographic artifacts, and two floors of exhibits put together by WPA artists during the Depression.

Of course I didn't know at the time that she would become my wife and professional colleague, but I had followed Judy Wood as a junior-level all-purpose museum assistant on an Antioch job period. My *first* museum job! She, and then I, had covered the front desk, directed school groups and other odd jobs, but there was so much left for the tiny staff to do that we were able to insinuate ourselves into a variety of projects. Our storm-browed director, E.J. Koestner, in spite of his intimidating looks, had the happy gift of giving everyone who showed up at the door—weekend volunteers, high school students, Antioch Co-ops—a chance to contribute and learn. For

My First Exhibit: Dayton Museum of Natural History


When the tiny exhibit finally opened I was disappointed that I never saw anyone looking at my finished work until Reverend Crawford, the museum's janitor, pointed out that it was just that no one wanted to be caught *looking* at the exhibit. His evidence was that he had been kept busy cleaning off fingerprints and oily nose smudges from the glass. Not only my first exhibit, but it was my first experience with what the visitor studies field eventually came to call an unobtrusive measure of its drawing power.

At the Dayton Museum of Natural History, Director Joe Koestner left us pretty much on our own to conceive, research, design, label, and install exhibits. Without formal training we were challenged to discover and invent ways of getting things done. What a way to learn! In my initial Co-op period I worked on a small exhibit on human reproduction—an uncomfortable theme for those innocent days. Koestner took the reasonable precaution to get the Miami Valley Medical Society to bless the plan.

The newly built Dayton Museum of Natural History, Dayton, Ohio, 1958.

all of us there were animals to feed (and clean up after,) collections to catalog, mailings to get out, afterschool clubs to run, a museum store to staff, walls to paint. Each of us responded to Koestner's trust and grew to meet his expectations. Most intriguing to Judy and me was the possibility of new exhibits to build.

Koestner had ambitious plans for an independent and newly housed museum. As before, he enlisted all of us in creating his new museum. I found myself working with the famous architect, Richard Neutra, on plans for the building, and with Bill Marshall, head of exhibits at the Ohio State Museum. We cooked up a complementary approach to the content and layout for the visitor experience. Bill and I designing, scripting and crafting the exhibits. Working into the night, we heard the recorded phone line locating where the brand new Sputnik could be found among the stars and answered persistent calls to settle arguments about the gestation period of elephants. Our crew included Judy helping with illustrations and murals and a gifted alcoholic finish carpenter who showed up when he was dry to build exhibit walls and cases. By that time I was working as an independent contractor under Bill's supervision. Unlike my earlier and somewhat formal relationship with my swimming coach, Bill Marshall and I became close friends as he served as our leader and my next teacher. And of course there was E.J. Koestner whose permissive approach encouraged our independence and growth, and for me a new idea of the possible. In several years we worked our way through about two-thirds of the master plan and my museum career was launched—irrevocably.

Judy and I were married and moved into a spacious loft above a row of storefronts that was a dead-on replica of Edward Hopper's *Sunday Morning*, save for the traffic signal that bathed our living room—changing every few seconds—with red, green and yellow light. When I finally managed to assemble the bits and pieces adding up to a degree, Judy lifted up our three-month-old Danny at the back of the crowd to "see Daddy graduate."

Cambridge: Harvard

I had begun to wonder, beyond the telltale smudges on the glass at the Dayton Museum of Natural History, if there were other ways to get inside visitors' heads to get a handle on what museum exhibits were actually doing.

Over the Thanksgiving holidays I had an intriguing conversation with a returning Antioch friend about the problem of making sense out of the black box of self-directed museum learning. Shim Goldberg talked about his first year at the Harvard Graduate School of Education and suggested that it might be a fertile place for me to get some grounding in the behavioral sciences, research methodologies and learning processes that could be applied to museums. He encouraged me to think about joining him there since the School of Ed seemed interested in non-traditional students and offered to craft programs that would match their off-center interests and needs. In spite of my uneven record the Program in Research and Instruction was intrigued by me as a non-scholastic outlander and offered me a place in the fall 1961 class.

We packed up our family, now including our second son, Peter, our things and an old upright player piano with rolls, and headed for Cambridge and an apartment above the landlord of a "triple-decker." The intellectual rigor of graduate work was less daunting than I expected and I went off the top of the scale on the GRE aptitude and biology exams. I was introduced to educational psychology through a survey course taught by a team including a together-seeming Richard Alpert before he became Ram Das (he was very good), dozed off regularly in a hot, stuffy, late afternoon philosophy of education course and was unexpectedly thrilled, of all things, to learn about the power and implications of inferential statistics from Fredrick Mosteller, one of the giants of the field. In two back-to-back methods courses I devoured and reported on the slender literature on museum visitor behavior and the related audiovisual instructional research of that time; and I got to design, observe and write up my own first research, an interesting study of problems visitors were having with the early technology of recorded gallery tours as illustrated in two halls at the American Museum of Natural History, one of my childhood haunts.

True to form, I was enjoying the work but only getting some of the assignments done. Long pieces of writing were just as hard to complete as before. I was looking for a graceful way to withdraw from the scene without admitting to my family and professors that I had failed again.

When I dropped out of school and did different, weird, unconnected jobs, I couldn't for the life of me explain to anybody how any of this connected with anything else. It just seemed random. But now, looking back on it, every single thing that I did was very different but each one was part of a contribution. They all had to be there for me to end up where I did, which was amazing. I always feel sorry for the people who feel they have to make [career] decisions so early in their lives. Sometimes they have to back pedal and start all over again. Can you imagine that my first co-op job helped me figure out I didn't want to be a doctor? I could have been eight years into college and medical school before I made that discovery. What a time saver—and a life saver—that was.

—Excerpted from an interview, January 2006

First Day of Work

I showed up on my first day in a suit—my only suit.... Phyl came out of her office...and greeted me warmly. We chatted for a while and then I said I probably should get to work and closed our shared door. I sat down behind the desk and opened one drawer and another. There were sheets of letterhead and envelopes, a yellow pad of lined paper, several sharpened pencils, ball point pens and even a school kid's compass and ruler. I closed the desk and adjusted the leather-cornered blotter. Now what? I realized I hadn't a clue.

Phyllis—known as Phyl—O'Connell and Mike Spock.

Jamaica Plain: The Children's Museum

In one of my courses I met a fellow oddball, Les Cramer. He was a student of recorded sleep learning and artificially compressed speech who later worked on the suspicious erasures of the Nixon tapes and the audio traces of the Kennedy assassination shots. Les kept telling me that the directorship of The Children's Museum in Boston had been open for some time and that I ought to apply. The museum had been a customer of his when he sold heating oil in his other life. It seemed like a preposterous idea. I hadn't run anything and didn't have a clear idea of what a children's museum really was anyway. Still, as my personal educational crisis deepened I realized I had no way or desire to hang on in graduate school. I had almost convinced myself that I had skimmed off the cream of what the School of Education and Harvard had to offer in the first year and the next years would only ad X to what I thought I already knew.

So I sent in an application and soon found myself with three young board members, who had volunteered themselves for the search committee, sitting in a dark booth at the Midget Restaurant in Cambridge explaining expansively to them, in Dr. Seuss's words, "What I would do if I ran the zoo." All of the committee members were committed educational reformers, and sensing an opportunity at The Children's Museum, were looking for ways to seize control and transform the sleepy, almost 50-year-old organization into a experimental platform for innovation in informal education. Choosing to look beyond my limited and checkered background they saw me as a possible stealth candidate to lead an ambitious but low-key revolution. But the problem was my resume. The committee spent the next few days hatching a scheme to present me to the two people who really counted: Helen Claflin, the most generous but quite conventionally inclined board member, and Phyllis O'Connell, the acting director and former assistant director under the previous director. The search committee decided to start down the path of least resistance. Phyl was a plunger and she and I hit it off immediately. She came aboard the cabal. Mrs. Claflin was another matter. Helen Claflin for years had been the museum's largest personal contributor—and behind the scenes the most influential member of the board. She thought The Children's Museum was just fine as it had always been, thank you! The trick, as the co-conspirators Tom Sisson, Ham Coolidge and Charlie Walcott saw it, was to win Mrs. Claflin over, and hence the board, by emphasizing Harvard not Antioch, and by making a lot of the fact that they could get me for $2,500 less than they had paid the director they had fired the year before. As a failed and unemployed graduate student that had never run anything at all, $7,500 sounded pretty good to me.

Hyams Presentation

I was setting up my inaugural presentation to the funder that was the most consistent and generous supporter of the museum. The board of the Godfrey Hyams Trust was about to arrive in the foundation's old-fashioned Boston offices. I had come early, tense as an over-wound spring. I rested my slide projector on a worn leather chair, plugged into an outlet, and hurried on to arrange the table and set up the screen. Suddenly, I detected the unmistakable odor of burning insulation and turned to see a thin column of smoke rising from the projector. I frantically unplugged the projected and lifted it from the smoldering chair. The building's DC electrical current had fused the carousel's motor, burning a hole in the upholstery and making a shambles of my carefully orchestrated presentation. Just as I fully grasped how bad things really were the door opened and the members of the board filed in. I have no memory of what happened next but a month later we learned that, perhaps out of amused pity, they had decided to renew our grant for another year.

Bringing the Dead Circus Back to Life

What about the future? Staff and trustees are presently examining goals, surveying community needs and discussing plans for implementation. A Master Plan will be prepared for publication in the fall of 1970. But in the meantime it seems clear from the tangible accomplishments of recent years that The Children's Museum has demonstrated a capacity for innovation and change. The question for the next ten years is: Can these new ideas be applied effectively to meet those community and educational needs that cry out for attention? Specifically, what role can the Children's Museum play in solving the current problems of urban disintegration, racial tension and misused resources?

A perceptive child once recalled his visit to an Ohio museum as a "trip to that dead circus." The analogy is very much to the point in that it accurately reflects the experience of many museum vistors. Marble halls, row on row of glass cases, do-not-touch signs, wordy labels and watchful guards all too often "kill" the fascinating and informative objects in a museum's collections. But these barriers are not inherent to the museum experience. An appropriate way can be found so that each object will communicate its message directly to the visitor.

A simple pair of Eskimo snow goggles can tell us volumes about the harsh demands of the Arctic, at the relief from squinting at ice floes in the glare of a low spring sun, the craftsmanship of the Eskimo and even the shape of his face. But the goggles will not tell their story while locked away inside a case even when "explained" by a neatly typed label. Snow goggles are not to look at—they are to look *through*.

The Children's Museum is determined to make the most of the museum experience. In designing its programs, the Museum takes great care to find that unique set of circumstances that will being children and objects together in the most provocative and effective interaction. In everything the museum does—exhibits, informal activities, group programs, kits, even in teacher workshops—an attempt is made to bring back the sounds of the band and the crack of the lion tamer's whip, the smell of the menagerie and the taste of cotton candy; the color, motion and gaiety of real life to the "dead circus" museum world....

A Bootstrap Plan is Adopted

Soon after Michael Spock was appointed director in the fall of 1962, a group of staff and trustees met through the winter and spring of 1963 to conduct a thoroughgoing analysis of the Museum's problems. Their report suggested that the museum might have a place in the community if 1) attention was focused on bringing elementary-school-aged children and real objects together through the development of innovative materials and programs; 2) services were expanded to teachers, group leaders and parents for the greatest multiplication of effort with a limited staff; and 3) a start could be made at solving the financial problems with a combination of increased user fees and project grants.

During the next six years:

• A proposal was written to extend the museum's successful Loan Exhibit program by developing integrated multi-media kits. Materials and Activities for Teachers and Children. The MATCh Kits Project was funded for four years (and $460,000) by the U.S. Office of Education and now will be extended through commercial manufacturing and sales by the Education Division of American Science and Engineering.

• A second $51,000 research proposal was funded by the Office of Education to develop child-tested exhibits under the two-year Validated Museum Exhibit Project.

• The permanent staff was increased from 17 to a full-time equivalent of 35. (Seven now have masters or doctorates while only two had graduate degrees in 1962).

• Students from the College Work Study and Neighborhood Youth Corps programs were aggressively recruited so that 38 were employed full-time at the museum in the summer of 1969.

• Salaries were raised and a retirement program begun under TIAA. The professional range is now $7,000 to $15,000.

• Admission charges were initiated (supplemented by sponsorships for those unable to pay), circulating kit rates were quadrupled and income from all fees rose more than thirty-five times to $69,000.

• Total non-capital expenditures were increased from $85,000 to $377,000.

—Excerpted from "Bringing the Dead Circus Back to Life," a planning and fundraising document, May 1970

We climbed Belmont Hill to meet with Mrs. Claflin for tea in her spacious, formal home as the late October dusk fell and the Cambridge and Boston lights came on below us. I made what was for me an almost subdued presentation avoiding the dangerous rocks of my most unconventional and barely formed ideas. I tried to be charming, not spill my tea or leave cake crumbs on the chair cushions. The search committee's careful strategy seemed to work. With Phyl O'Connell's enthusiasm and Helen Claflin's reserved endorsement, the full board fell in line and I was offered the job.

I showed up on my first day in a suit—my only suit. The children's museum was housed in a spacious converted mansion located across from Jamaica Pond, one of the jewels in Olmstead's Emerald Necklace tying the Back Bay to what had once been the elegant southwestern edge of the city. The director's office was the vast master bedroom. The large corner desk reminded me of the corporate office of an intimidating boss in a *New Yorker* cartoon. The high-backed leather swivel chair faced out towards the door that opened many steps away onto the formal second floor hallway. Phyl came out of her office, the master bathroom connecting to the former bedroom, and greeted me warmly. We chatted for a while and then I said I probably should get to work and closed our shared door. I sat down behind the desk and opened one drawer and another. There were sheets of letterhead and envelopes, a yellow pad of lined paper, several sharpened pencils, ball point pens and even a school kid's compass and ruler. I closed the desk and adjusted the leather-cornered blotter. Now what? I realized I hadn't a clue.

I kept the door closed for the rest of the day. Phyl O'Connell told me many years later that her heart sank when I finally emerged at the end of that mysterious first day and asked "Do you suppose I could have an 'In' box and an 'Out' box?" and left.

Looking Back on 23 Years

The Children's Museum, Jamaica Plain

I recall the first day I arrived at work...I didn't have the foggiest idea of what I was going to do next—probably because I had never run anything before in my life.

Even questions as fundamental as "What is a children's museum?" were a major mystery to me at that point. There were all kinds of jokes about stuffed children: after all you have art, science, and history museums so a children's museum has to be about kids (and in fact there are a few children's museums about the history of childhood). So I was really just mucking around for a long time, trying to find my way.

The Children's Museum originally started as a teacher's center in 1908 and became a museum five years later. It was created by teachers who felt that the "serious" museums in town weren't paying attention to the educational potential of museums in terms of what they could do for school teachers or parents. Their sense was quite in opposition to what was going on. They were trying to make a clear and different statement. I think that intention has been a motivating force for many children's museums, even ones that are beginning now.

By the early 1960s museums had realized that there was an educational role for them to play. At that time nobody was paying attention to The Children's Museum and nobody cared much about what we did; we had a few joyous years before everybody caught on, when we could do almost anything. Even the mistakes were welcome because *something* was happening and it looked like change.

Looking back on a moment in institutional history, one easily forgets all the hardships that occurred in arriving to this point today. Now it looks very neat and linear.

The business of the name—should it be called The Children's Museum or not—took us seven or eight years to figure out. When I first arrived, the museum didn't look any different than any other museum. So I spent a lot of time exploring what made it a children's museum and not just a smaller adult museum. What seems absolutely self-evident now was a real struggle back then. The breakthrough (relating to the "children's" part of the name) came when we finally understood that it is for *somebody* rather than about something.

—Excerpted from Mike Spock: "Looking Back on 23 Years," *Hand to Hand,* Spring 1988.

What's Going on Here?

I have only a blurred memory of how I got through the rest of my inaugural weeks, but gradually ideas developed and became plans and plans eventually became tangible things to do and use. We had to let Boston know we were still here and on the move. At first it went slowly, tentatively, but when we eventually looked up from work I realized that things were beginning to look very different at the old Children's Museum. Kids loved it. Grownups were a little shocked and baffled. What was going on here? It looked wonderfully playful but was real learning going on? Parents and teachers and staff didn't know exactly what to call it or how to describe it but a thoughtful observer could see that children were deeply engaged and that something significant was going on. At that time there were no obvious models to point to. It didn't look much like a "real" museum but nevertheless it offered iconic experiences with real objects. And if it certainly didn't look like a school you had to concede there was important and lasting learning going on. In some ways a new category of educational organization was being created before our eyes; not so much by grand design as by our watching kids and seeing what they were doing and enjoying, or by playing with ideas that we thought up ourselves, or by expropriating other's promising inventions we found lying about, or by exploiting vivid memories of our own childhoods that seemed to suggest exhibits and programs we could develop.

With only a little encouragement and sometimes with no obvious qualifications, a collection of inspired doers and thinkers showed up and got to work. Things

Son of Spock

Ben Spock with granddaughter and Mike's youngest child, Susannah.

Having Dr. Spock as your father created wonderful and terrible opportunities, especially for a kid not sure about himself and especially at adolescence. When I was growing up, my father was struggling to establish his practice in New York City during the Depression. Nobody knew anything about Dr. Spock. When he was working on writing the book with my mother in the early '40s, he still wasn't famous. The book came out while I was in high school. There wasn't a lot of media about anything at that time. It appeared quietly. But by the time I went to college, everybody knew about *Baby and Child Care* and Dr. Spock. At this point I was trying to establish independent identity. My father was famous, he was recognized as a great writer, and I certainly didn't think of myself as a great writer. People were intensely curious about two things: what was it like to be the son of Dr. Spock, and how did the son turn out? I was still having trouble reading, struggling to finish college, find jobs. If you looked at me in my mid-'20s, you would say "This is a troubled person who's unlikely to make anything out of himself." In the 1950s, people didn't drop out of college, and if they did, they went to work as I did. Other people were either scandalized or took hidden pleasure in the fact that I wasn't the greatest example in Spock's teaching. For the next two decades when I would give a credit card to a clerk they would look at it and say, "Oh, any relation?" And I was faced with not answering anything, pretending I didn't hear the question, or saying yes.

A happy thing happened with the introduction of "Star Trek" on TV and the character Mr. Spock. All of a sudden when somebody would look at the name on the credit card, Michael Spock, they would say "Oh, have you got pointed ears?" Or "Give me the hand signal" or all that kind of stuff. It was terrific. By that time I was beginning to feel some confidence in myself. I had a life, my own family and a real job when I ended up at The Children's Museum after bopping around jobs and dropping out of school and everything else. I was the director of The Children's Museum for 23 years. So that all went away and I could admit to my heritage and be myself.

—Excerpted from an interview, January 2006

What's Inside?

Kids are noisily climbing down a worn ladder into a telephone manhole, the centerpiece of our first new exhibit, *What's Inside?*

Inspired by a long, boring car trip, the exhibition theme comes from the ten-year-old daughter of the director of a small upstate New York museum. As we developed her idea, this hands-on experiment opens such everyday objects as a baseball, toaster, chambered nautilus, live gladiolas, a drop of pond water, an Indian burial (we didn't know any better in those days, but we soon would learn) and what it looked like inside your mother when you were inside her. We expected the exhibit might last six months—*if* we were lucky and *if* we were willing to make an extravagant investment in its maintenance.

Interactive exhibits of the day, like the gears and pistons in New York, are all turned on by a push-button and always do the same thing. There is no chance, as Frank Oppenheimer of the Exploratorium later points out, to explore the revealing edge where a phenomenon starts and stops happening. So there is virtually no precedent for, and a lot of doubts about, this non-directive, open-ended approach. After all, kids are unfocused and even destructive. They are already doing their damnedest to jimmy our old exhibit cases. Everything will be reduced to rubble, and what isn't broken will walk.

Not only did *What's Inside?* work, but it lasts five years. The only thing that breaks is the nautilus shell, which I smash with my head as I stand up underneath it during installation. And the intense activity of the kids gives us plenty of feedback about which messages are getting through and which are not. Parents, on the other hand, look slightly stunned—yet pleased. There is no doubt we have stumbled onto something.

I was looking for a topic that would move us away from displays in exhibit cases (the visitor experience at that time). I was interested in eliciting visible audience behavior that would indicate what was happening for the visitor. So, the purpose of doing interactive exhibits, for me, was in eliciting feedback as much as it was exciting kids about something.

One component of the exhibit that worked very well involved fresh gladiolas placed on a table every day. Pieces of paper with parts of the gladiola drawn on it were also put on the table. Children could pull the flowers apart and tape them down on the matching spaces so that they had to observe how each part was different and where it belonged.

...That exhibit was just wildly successful. It fully changed our thinking and I think everybody else's. From that point on, we got bolder about trying things.

—Mike Spock
Excerpted from "Looking Back on 23 Years"
Hand to Hand, Spring 1988.

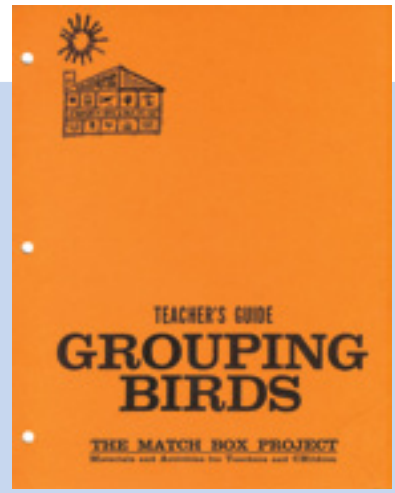
took shape and either failed or made it from a combination of inspiration and trial and error. We kept their leashes long. They were encouraged to take chances and make things happen. Criticism was allowed. Proposals were written and grants were brought in. Nifty exhibits were created and educational materials tested and produced. Teachers and parents were trained and mentored. Collections were rationalized and documented. A little-used auditorium was eventually transformed into a open, multilevel visitor/exhibit facility. The old fashion glass-enclosed natural history and cultural exhibits were retired, and the mansion converted into a teacher resources center and offices for the burgeoning staff. During seven years, with the new Visitor Center in place, attendance more than doubled and the staff grew from seventeen to thirty-five. We got a lot of national attention and some significant government and foundation grants that were highly unusual in those times. Out-of-state visitors with gleams in their eyes began to show up at our doorstep with dreams of creating similar experiences in their own communities. From the outside, The Children's Museum looked like a success: the model of a progressive and thriving educational organization. But it was not.

MATCh Kits Tryout

MATCh Project developer Gengene and I were standing at the front of an old Boston classroom, desks bolted to the floor. The teacher stage-whispered to us that we should not be disappointed if the small boy walking down the aisle did not do our tryout activity very well, after all, he hadn't done anything right all year!

Moving the museum out into the classroom, we were field-testing an elaborate multimedia primary grade kit on classification. The task was to study closely the features of nine plexi-boxed birds, divide them into two or three groups, and explain what the classifying criteria were for each group. We wanted to see if these abstract notions would come to life using real objects in natural grouping activities.

The boy looked intently at the mounts, turning each box over and, taking his time, organized the birds into two groups: three toes in front and one behind versus two in front and two behind. He completed the job, telling us his criterion and brilliantly picked out details from the birds that even we had missed. The next classifier was a girl who was the star of the class. She looked uneasily at the boxes sitting untouched on the table and turned her attention to the adults. All her energy was focused on trying to get us to confirm the *names* of the birds. She seemed overwhelmed by the challenge of really looking. Clearly, one child was a skillful reader of the real world, the other was only comfortable with words and people. It reminded me of the profoundly different way I learned to deal with the world compared to my more conventionally facile Fieldston classmates.

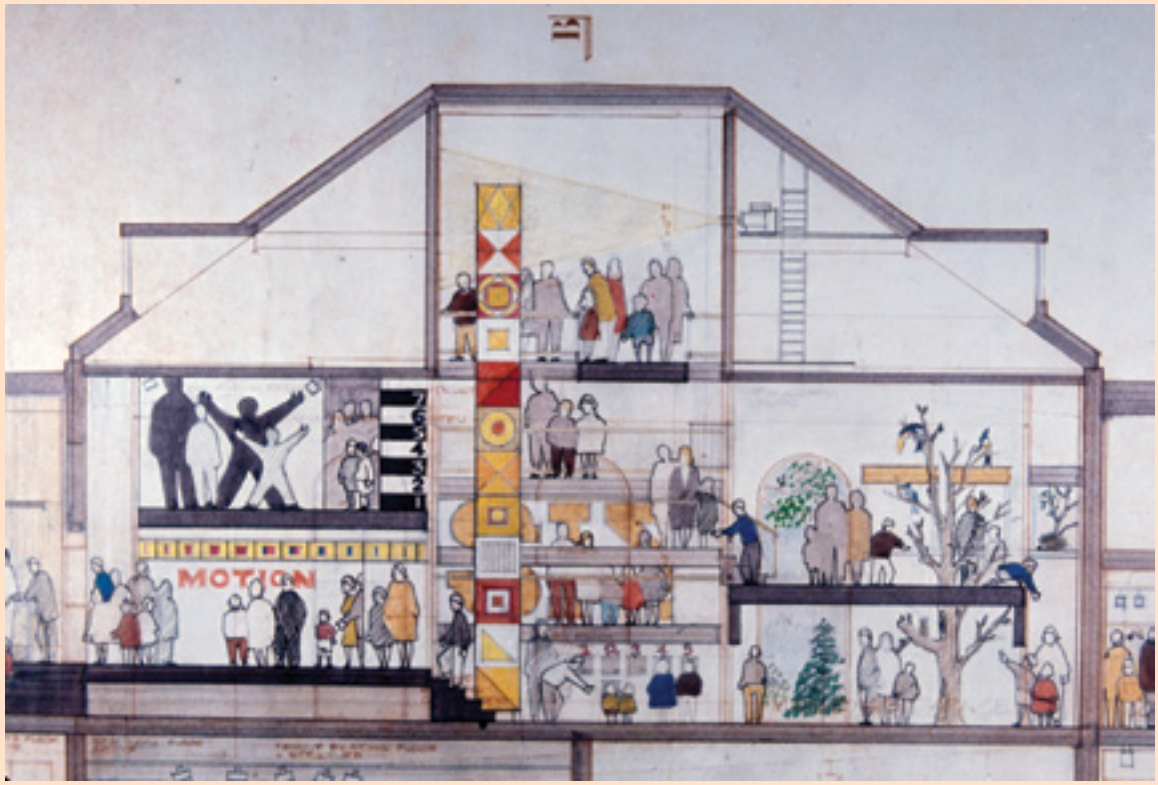


Funded, as near as we could determine, by the first federal museum education grant, the MATCh Box (**M**aterials and **A**ctivities for **T**eacher's and **Ch**ildren) curriculum development project (often called MATCh Kits) confirmed that a rich classroom environment in the hands of an observant and flexible teacher could serve the needs and talents of *every* student a decade before Howard Gardner published his multiple intelligences model. Eight MATCh Box units were eventually published nationally and taught a lots of tough subject-matter to lots of challenged kids, and became a powerful tool for training teachers at university schools of education.

From an interview with Michael Spock in* Museum News, *Donald Garfield, interviewer, November/December 1993

At Antioch I majored in biology and ended up doing some exhibit work at a few museums. When I went on to do graduate work, it was the early days of communication theory. I wanted to see if you could develop feedback from the visitor. Pioneer studies of the '20s and '30s tried to show that you can get at least partly inside the heads of visitors. I decided I didn't want to go for a Ph.D. At just that time the job of director opened up at The Children's Museum. When I got there, curriculum development was getting to be a big deal nationally. There was federal funding for it. I thought, Let's take our kit program, the stuff we're sending out to schools, and look at it as real curriculum units. Let's think of how you'd assemble things from scratch that would be based on both materials and activities. That was what we called a MATCH Kit program (Materials and Activities for Teachers and Children). It took the whole year to write the proposal for the pilot project. [The funder] expressed interest in it. We asked for about $50,000 but ended up spending about $500,000, which was an enormous amount of money back in those days. The Children's Museum's budget at the time was about $70,000, so the project became a huge engine for change within the museum.

Opening the Visitor Center



If the move downtown would have to wait, we began to look for an affordable holding action while we worked out the details of our new approach to interactive learning. Our old mansion was not a good candidate. Adapting the entry hall for *What's Inside?* was a traumatic experience: a wonderful demonstration but hard on the houses architectural details. On the other hand, the underused 500-seat auditorium that replaced the carriage house behind the mansion in 1936, even with its sloping floor, might be just the sort of adaptable to space for a temporary exhibition facility while we waited to become famous.

Cambridge Seven Associates was hired to plan a sensible, cheap renovation. They succeeded wonderfully while we went about designing and building the exhibits.

Elma Lewis and S. Dillon Ripley, the Secretary of the Smithsonian, were invited to officiate at the dedication. Ripley arrived in a foul mood. He had wanted to cancel, but I had insisted that everyone was counting on him. He had had to hire a small plane to get him from his Connecticut farm to Boston and it had been a very rough flight. I toured him through the center just before the opening and he looked flabbergasted.

The Visitor Center did take some getting used to. At the opening kids exploded through the doors and soon took possession of every square foot of every exhibit. It was joyous. It was noisy. It was frenetic. It was shocking. Parents were baffled. Staff looked stunned. What had we created?

After the opening the explosive entry was repeated at the beginning of each day, at the arrival of each school group. Kids were certainly having fun, but were they learning anything? It took a few weeks to get the answer. It appeared in two ways. If you listened to the throb of the mob, after about 15 to 20 minutes

Mutoscopes (left) in the exhibit *How Movies Move*.

Visitor Center exhibit *Big & Little*.

The Wigwam from the exhibit *We're Still Here.*

the place settled into a steady hum. After a while the crescendo built and once again subsided. What was going on?

We began to track individual kids. The child's entry stimulates an intense period of exploration. With the space under the child's belt we saw kids mentally marking exhibits for a return, deeper visit. You saw kids settle in for serious, deep work: several minutes to much longer intervals until each child was ready to move on to the next experience.

The noisy running around occupied the foreground of our perceptions. The quieter, more focused behavior was less obvious and but more reassuring. An individual child's experience was made up of alternating spells of active exploration between episodes of intensive thought and experimentation. The sine waves of alternating roar and calm were the artifact of the open pulse when everyone was in exploratory mode and no one was about to settle down for real work. As the day went on more visitors arrived, each individual wave began to cancel each other out and the average hum made up of both exploratory and deep work going on simultaneously created the normal hum, although new staff, parents and teachers had to be trained to look beyond the demanding foreground to see the more impressive learning going on in the quiet intervals each child's visit. But in the open architecture of the Visitor Center, none of this was obvious. We had to learn what was going on by more careful and systematic observation.

I learned several years later at an AAM reception at the Met, when Dillon Ripley had more than a few drinks and was feeling no pain, that he thought The Children's Museum was "Crap, just crap!" The genius who brought so many fresh innovations to the old Smithsonian just didn't get it.

The opening of the Visitor Center.

...interaction is a mental activity—it's what goes on in your head. Your arm is an extension of all the perceptual and motor mechanisms that constitute you as a person, from your head to your arm. What is happening on your hands is important but so's what's happening in your mind at the same time.

We are imaginative, symbol-manipulating beings with a capacity for extending ourselves outside of our head and into a scene. When you look at a miniature diorama of a house, you are interfacing with it by walking through that scene in your imagination. That's as much interaction as the hands-on kind. I think "interactive" is a better word for what we are about than "hands on."

—Mike Spock

Making a zoetrope strip in *How Movies Move.*

Parallels

I've thought about all the thematically-based stuff we did at the Children's Museum. Even my going to Antioch with the work study program, using classrooms and being out in the real world on jobs was also somehow or other part of the same education that started with the program at Fieldston. In the last decade I've been going back and looking at what was there that was so important.

One of the our parallel institutions was the Exploratorium. In the '60s and '70s, The Children's Museum and the Exploratorium® were doing very similar things—on opposite coasts. Their focus was on the intersection of art and science. Ours was similar but more focused on younger kids. If we were exhibiting the Giant's Desktop, for example, it was fun but it was also about issues of scale. If we were doing an Algonquin wigwam, it was about comparing similarities and differences in another culture, including changes in technology: How you would clothe yourself in a wigwam versus how you would clothe yourself today in a New York street? Even the playful things were thoughtfully put together and well researched, and always based on real and important things to learn. It was not just, "Let's have fun." It was fun, but that wasn't the reason for them.

I got to know Frank Oppenheimer, who was the founder of the Exploratorium. We were in contact from time and time, compared notes and admired each other's work. I have to confess it was only about three or four years ago that I remembered that Frank Oppenheimer went to the same Ethical Culture Schools that I went to as a kid. I thought, of course, there it is. We both went off on parallel paths because that was the way we both learned in a well-conceived and well-run school.

Having this incredible insight that Frank Oppenheimer and I went to the same kind of schools then drove me back to thinking about what went on there. How was I able to function in a school without the capacity to read? How was that program a theoretical construct for the work later done at museums in Boston and San Francisco? Frank and I were educated in such powerful ways that we replicated those experiences at The Children's Museum and the Exploratorium.

So I started to ask for help from Fieldston. They said, we don't have a lot to send you, but there's a paper that was written by the retiring founder, Mabel Goodlander, of the Fieldston School, which was one of the three Ethical Culture schools in New York. She wrote it in 1938. It was the 60th anniversary of the founding of the Workingman's School, founded by Felix Adler and one of his colleagues. The Workingman's School became an Ethical Culture school. Goodlander quotes some of the things that Felix Adler talked about at that time. He based the school on a very strong commitment to a social justice and equality. It was called the Workingman's School because it was a free school for kids who weren't being served very well in the public schools. Fulfilling a social mission was also part of the ways we operated at both the Exploratorium and The Children's Museum.

But the really profound thing that Adler talked about was that Workingman's School kids, whose destiny was to become working-class people, working only with their hands, would not be fully educated unless they also were educating their minds at the same time. On the other hand, he said, people in traditional schools on track to become college students and professionals, their learning was all based on how to use their minds. There seemed to be no need to give them any training in working with their hands in the real world. Felix Adler had an extraordinary insight that a whole person had to have both, and that not only did you need to have those capacities to be able to operate in a democratic society, but you also had to have them to operate in a technologically sophisticated, scientifically-based society. For example, he said science is based on creating an idea—a theory—of why something happens in the real world, and then figuring out a way—an experiment—to test that theory, by using your hands to make something happen and then observing it. In that sense, he nailed it: to be fully educated, you had to have both things. I could do the parts of my grade school education that involved weekly craft activity. Even if you couldn't write, you could talk successfully and convincingly, and argue and ask questions in a group setting. We would all work collaboratively, because there was always somebody in the group who had skills or talents that could be contributed to the project we were working on. We'd divide up the responsibilities. Everybody had to do some of everything. The most gifted person made the biggest contribution to the solution of the problem, but the solution was almost always multidimensional. You had to use all these different skills and talents. Much later, Howard Gardner's theory of multiple intelligences explained that same thing. Everybody has different capacities but fortunately in all of my learning experiences you learned to massage them and use some of them particular well.

Frank Oppenheimer was a physicist who in the McCarthy era had to leave the University of Minnesota. He worked on a ranch—with his hands—and then worked in high schools and created laboratory settings where kids had to use their hands to do experiments and things like that. That's why the Exploratorium looked the way it did—because he was in charge. The content of the whole place was the intersection of perception and art in the service of science and personal expression. In other words, science and art combined to form the natural intellectual playground of the Exploratorium, and also on the East Coast for a somewhat younger audience at The Children's Museum.

So there it is. There it is.

Excerpted from the interview
"The Roots of It All," January 2006

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