

## RETIREMENT UNABRIDGED

www.umich.edu/~turner

I was asked to write a short piece about my time at the College to be published in the April, 2009 issue of Portico. I have often considered writing my own obituary, so I agreed. Usually the retiree is interviewed and a staff member writes the text. I found it difficult to produce an essential collection of the oddball events that turned a pretty terrible architecture student into a full professor at the University of Michigan in 1500 words. I wrote about 7000 words and submitted 3500. I'm not sure what the publishable version will include so I decided to add a bunch of pictures and put this unabridged version on the web.

Beginning in 1975, I have kept a daily diary. Although it is very cryptic, it does note significant dates in my teaching career. The most interesting portions are my cycling and running mileages, my marriages, divorces, when I met people, etc. I used various university calendars to record these important events, beginning with the University Activities Center's calendar in 1965. The least interesting entries are meeting reminders and lists of things to get done. I thought that perusing these 30 calendars would help me remember things I could include in this document. Unfortunately, I never put enough information in them. I also used some symbols that mean nothing to me now.



University calendar, 1976-77

This is from 1976/77, the year my daughter was born. It was the first day of summer so we named her Summer. She was due on the 17<sup>th</sup> but as the arrow shows, she came four days later. I think the "2cm" on the 9<sup>th</sup> and 16<sup>th</sup> was dilation. The "TT10" was a 10 mile time trial.

The numbers are my training cycling miles. Two mileages meant two rides in the same day. It's no wonder I had no time for design studio.

It doesn't get much more interesting than what you see on the left.

We didn't have a name chosen so the entry says "GIRL" and is followed by her vitals. It seems that her birth did not affect my training as noted by the increasing mileage except for the 21<sup>st</sup>.



The Acoustic Chapeau on the author's head.

One thing I enjoyed about working as a university teacher and researcher is the availability of libraries, lectures, other researchers and energized students; new ideas; crazy ideas; crazy people; A cesspool of knowledge.

I began collaborating with professor Norm Barnett in 1997 and we are still going strong today. Norm is an acoustician and I am a programmer. We have created room acoustic teaching software applications. We built an early version of the software in 1989 but it was not aimed at students; It was strictly a research tool.

I was one of only a few students in my class who liked learning architectural acoustics. Norm was our teacher and his lectures were clear and precise; he expected the student to understand the material and to read and do homework problems (two credit class = two hours of class time + four hours homework each week).

This picture demonstrates how little I knew about the human head as a sound receiver. This experiment was an attempt to use packing material to block out voices in the administration offices. It didn't do anything other than make me look ridiculous.

### A dubious academic beginning

I never intended to be an architect or a professor. I assumed I would learn a trade, work on an assembly line or become a house painter like my father.

My academic career started poorly in elementary school. I was obedient and kept to myself for the first couple of years. By 3<sup>rd</sup> grade my marks in deportment had tanked and I did hard time in the principal's office. My 5<sup>th</sup> grade homeroom teacher wrote on my final report card that I was a leader, but I "tended to lead in the wrong direction." I still have a scar on my right hand from an accident I had in 5<sup>th</sup> grade shop. We were making icicles out of strips of tin and I grabbed one with my bare hand and got a bad gash in the soft skin of my right hand where my thumb and index finger. Why were 5<sup>th</sup> graders taking shop? The same shop teacher couldn't stand me and he kicked me off the safety patrol for "shagging" cars. I was destined to be a juvenile delinquent.



An idiot shagging behind a car while on skateboard.

This picture is not quite why my safety belt was taken from me. Shagging is the act of grabbing onto the bumper of a slow moving car so that it drags you along, your shoes acting like skis. To be able to shag a car in Detroit you needed three things. First, you need a side street covered with snow. Second, you need a car going slowly enough that you can grab on. Third, the car must have a bumper that can be used as a grab bar. Shagging, as we knew it, is no longer possible since bumpers have nothing to grab.

There is one warning: Do not grab onto the side of the car that has the tailpipe. The whole thing is unhealthy. Mothers hate it.

### **House painting**

I worked with my father on weekends and during summers. By age 12, I was painting bedrooms with a 6" brush and a wooden stepladder using oil-based paints. (Anyone who has ever used oil-based, semi-gloss enamel in a bathroom with the door closed will understand the bizarre "painter's high.") My father was training me for the family business. My father also wanted to name me Hartwell Dexter Turner after two streets in Detroit. My grandparents lived on Hartwell and my father used to manage an apartment building on Dexter. I'm guessing he reasoned that such a regal name would surely benefit me; I suspect that "Hartwell Dexter Turner House Painting" was what he was thinking. In a rare moment of self-assurance, my mother used her veto power and I became Jimmy. Some of my friends still call me Hartwell.

### **Junior High School**

In junior high school, I found that math came easy to me. The rest is a hormonal blur.

### **High School**

I started my 1958 Sunbeam Rapier every morning with a crank because I could not afford a new starter motor. Occasionally, it would kick back and almost take my arm off.

Things were marginally better in high school. Academically I was doing very well, but no one noticed. I took advanced math and physics in the same term that I took small engine shop. This may have been misunderstood. Socially, I was fairly inept, and I had picked up some bad habits in junior high; I was the jerk who would say anything in class to make people laugh. The teachers didn't like me; I'm sure of that. Ergo: Dummy's English.

### **Dummy's English**

The Walled Lake Consolidated School District had "tracked" me as a dummy and I could only take a dumbed-down English in both junior and senior high school. I always wondered why there were never any of my friends in both math and English. Tracking is now known as "homogeneous grouping," but it is profiling and it is a terrible thing to do. Of course, "heterogeneous grouping" also has its problems. I couldn't craft an interesting story when I graduated, but I had the highest SAT math score in my graduating class. I was a smart ass; not a dumb ass.

Thinking I was a poor student, my girlfriend's father suggested that I learn to be a sign painter. Although I graduated near the top of my very large class, I was advised to apply to Lawrence Tech and General Motors Institute. Luckily, a friend convinced me to apply to Michigan. Five years after I graduated with degrees in architecture, my mother asked me how I was doing in college. For years, she told friends that I went to MSU in Ann Arbor. I was the first in the family to continue past high school. I was not bred for college life and especially not for a college teaching job; and I was ill-prepared for the mystifying steps necessary to creep along the tenure trail.

I didn't think about college until just before my senior year in high school.

My math teacher was from Columbia University and created her own experimental curriculum for our class. We developed a new number system with its own operators and data types. Rules governed every operation and addition and subtraction and other operators were carefully defined. We built it using a notation I hadn't seen before. I was in heaven and did very well. I once asked her what matrices are used for. She answered: "You will find out when you get to Michigan; and I did!

### **The NHS fiasco**

In my senior year I became a member of the National Honor Society. This surprised my English teacher to the point where she would not excuse me for the NHS group photo. I was doing well in her class but she was sure the con was on. It took a visit from the principal to pry me loose. I think she asked to see my transcript. She never apologized and I'll bet she still thinks I took advantage of her.



Walled Lake Consolidated High School National Honor Society 1965

That's me in the left top corner between Don and Pat. I wasn't a friend with most of these people, but I did know their names. My girlfriend is in the lower right corner. We called her Sue. She now lives in Texas and goes by Susan.

There were many non-believers in the audience when I was awarded the math and art medals at high school graduation. Guided by their best advising manuals, my counselors suggested math, engineering, architecture or art as careers. I was surprised nursing wasn't on the list since I had scored high on "medical field" on an aptitude test. I was accepted into Michigan's Engineering School, but after one year, I transferred to Architecture and Design.

I knew nothing about architecture and I could not name a single architect other than my high school drafting teacher. My greatest accomplishment in his class was a detailed section of a Briggs and Stratton four-cycle gasoline engine. The only heroes I had were baseball players. I especially liked the cards and I spent every nickel on them.

### Visiting Ann Arbor

I came to Ann Arbor in the spring to apply for a student loan. While on campus I noticed that people were not smiling or paying much attention to traffic. Once I became a student, I understood their behavior. My most vivid image of the day was of a longhaired student opening the door of a VW van and driving away with the radio blasting. Growing up in the Motor City I saw very few foreign cars, but because my father was an Englishman, I drove English Fords, Sunbeam Rapiers, Hillman Huskies and other British autos.



A Hillman Husky wagon

My next trip to Ann Arbor was to take a test for a Naval ROTC scholarship; it would be my backup tuition plan. My test scores were good and I was offered a full scholarship. I could not name any great naval battles, officers, ships, but I was good at taking tests. I knew all about marlinspike seamanship, and I've keelhaunched my share of bosuns. As the brochure stated, I would graduate in four years and spend four years in the US Navy. I had never held a gun and didn't plan to in the future, so I spent little time deciding to decline the offer. I had become a pacifist.

I bought a motorcycle two days before school started and rode it to my dormitory the following day. That evening, the motorcycle was stolen. My mother was very happy. At the time I believed that motorcycle was a symbolic link to my past; A way for me to go home. Ann Arbor was now my home. I never rode another motorcycle.

### FEW

At first, I was not a good college student, preferring activities other than attending classes. As a reward for this behavior, I was asked to stay home for what was supposed to be my senior year, and "Further Enrollment Withheld" was stamped on my transcript. Once again, my permanent record was tainted.

Here is a list of activities I participated in instead of sitting in studio:

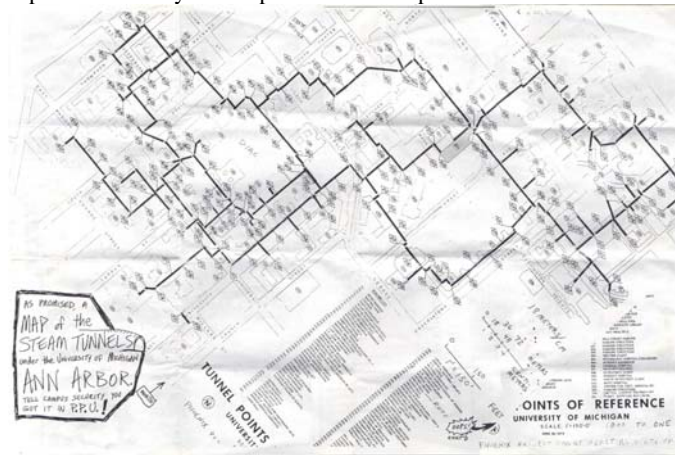
- Swimming at the IM building. I loved the adult noon nude swim (for men). For the first couple of years at Michigan I enrolled in required phys-ed classes for friends in the dormitory who didn't like sports. I took ice hockey, figure skating, water safety instruction, drown-proofing and snow skiing. The snow skiing class was held at Tee and Ski that used to be near Howard Cooper. It had a single run and one towrope.

I learned enough first aid to in the WSI class to spend 30 minutes trying to revive a participant in a senior's bowling tournament. My brother and I were official score keepers and one of the bowlers fell over and stopped breathing right in front of me. The thirty minutes were spent giving mouth-to-mouth resuscitation. He would come to and look at me and shake his head. He would also vomit in my mouth that made me lift my head and vomit. I did all I could, but he died later after the emergency crew arrived and took him to the hospital. He had suffered a heart attack and I didn't figure that out until it was too late. I don't think of this very often; it was one of my recurring dreams for many years.

Drown-proofing was intended for non-swimmers and I had just finished a water safety instructor's course. That meant I was qualified to teach and test swimmers according to Red Cross criteria. I did a good job of faking it until the last week when we were to stay afloat in the IM pool for one hour. With about 15 minutes remaining the non-swimmer next to me started having trouble. He began making his way to the bottom of the pool and grabbed my arm. I instinctively broke his grip and wrapped my arm around his chest. He continued to fight so I pushed him away until he began sinking again, this time he had no energy to thrash. I dragged him to the side of the pool

by cupping his chin in my hand, placing my elbow against his shoulder and side stroking to the edge of the pool. It was textbook lifeguard stuff. No one ever mentioned the incident and I had a new friend.

- Fast-pitch softball. I had played fast pitch as a third baseman for a few years in a competitive church league. Third base is a suicide position; there were never any slow grounders. Instead, most hitters would either lay a bunt down or try to blast it right at you. One had to play about halfway to the bag. I told everyone I was a pitcher. I learned a windmill delivery that the entire student body could hit.
- Bicycle racing. Must put in those long slow discipline miles. I road almost every day from January 1st until the end of summer. I trained with the Wolverine Sports Club on Tuesdays, Thursdays and Saturdays. I crashed in half my races from 1974-1980. I have written about cycling on another web page. ([www.umich.edu/~turner/cycling](http://www.umich.edu/~turner/cycling)).
- Slot car racing. There was a nice track at the local hobby shop owned by a film scholar and teacher. This was one of those short-lived ventures like Rubick's Cube, Roots negative heal shoes, and frozen yogurt stores.
- Badminton. I love badminton and was very good at it. I played with a group at Barber Gym.
- Volleyball. I learned how to play properly and could hang with the "A" teams.
- Ping pong, piano and pool. We always had a pool table and a piano in our house.



Map of the University of Michigan's steam tunnel network.

- Sneak through the steam tunnels that ran through the campuses. The laundry facilities in East Quad were in an entrance to the steam tunnel system. We spent hours getting lost and emerging in some strange building on campus. When I refer to "we" I mean those who value a different kind of classroom experience – the type who fails a class or two and doesn't give it another thought. If we were not supposed to use the tunnels, why would they make them so accessible?
- Hockey. I thought I was a good skater until I saw a video of one of my games. I became a goalie soon after. At one time, I was playing five nights a week, and often I would have a soccer game followed by a hockey game.



Folk band at Belle Isle in 1967; Mother's Truck at Lake Orion High School homecoming dance, 1970.

- Playing guitar. I played bass guitar and sang in the Mother's Truck from 1967-1970. I've always been in some kind of band. In college I also played acoustic guitar in a folk band. After graduation I played saxophone in jazz bands. A few years ago I switched to piano. I still practice every day. What else is there to do?

I partially blame the housing office for my situation because I was assigned a room in a new, partially finished dormitory on North Campus called Bursley Hall. The dormitory was very modern compared to East Quad, where I

spent my first two years. Its location among the trees and hills of North Campus, and its recreation room filled with ping-pong and pool tables added to its vacation-like appeal. We would often sled down the hill from the Commons to the VA Hospital, and if traffic was light, a little push would propel us to the river. This sled run is where the Art and Architecture Building sits today. The sled, of course, was a tray borrowed from the cafeteria.



Bursley Hall 1967-1968

### SDS

At Bursley, I hung with a group that was very political. Most were members of Students for a Democratic Society, which I found out was not at all like the College Republican National Committee. They asked me to make a sign to be put on the Diag announcing a visit by presidential candidate Eugene McCarthy. The sign didn't help Mr. McCarthy win the election, but it did serve another purpose: I had mistakenly put my name on the back. The printing was small, but someone read it. For the remainder of the school year, and almost weekly, I was joined for lunch by two men who wore cheap suits and asked silly questions about my friends. Luckily, they showed little interest in me. I'll bet Hartwell Dexter would not have gotten into this much trouble.



Eugene McCarthy

### I found my niche

Having paid my debt to society, I returned to school. I wasn't sure about staying in architecture so I began to study for the MCAT exams. That was too much work so I conceded defeat and enrolled in a computer-programming course. It was a new class and a new requirement for graduation. Professor Harold Borkin was the instructor.



I had trouble programming for the first half of the term and no resources were available.

Harold told me not to paint the hull any color but white. I painted my wooden Finn a bright orange.

In 1969, there were no shelves of computer books at the local bookstore and Ulrich's had only one or two programming books located in the math section. Eventually, I learned to program and the next year I became a teaching assistant. Harold advised me to help anyone who needed computing assistance, including faculty, all architecture and art students, doctoral students and anyone else on campus. He was selling me to the department. Harold taught me to sail; I painted his house. I have never had a better one-on-one teacher.

My first lecture was in the auditorium of Lorch Hall, home to Architecture and Design and the Art School. I spent my entire architecture student days in Lorch Hall. The College moved to North Campus in 1974. I had a private darkroom on the sixth floor. There was no elevator and the first stair run was very long because of the high ceiling in the lobby. I made many trips up the stairs carrying darkroom supplies and equipment, including a very heavy enlarger. I was never going to be an architect so I thought becoming an architectural photographer might be worth a try. I spent a lot of time browsing through Purchase Camera and Lobby Hobby.

The Lorch Hall auditorium doubled as an alternative movie house called the Cinema Guild and original home of the Ann Arbor Film Festival. I was still a student and knew nothing about teaching but I knew about learning. I never forgot what it was like being a student.

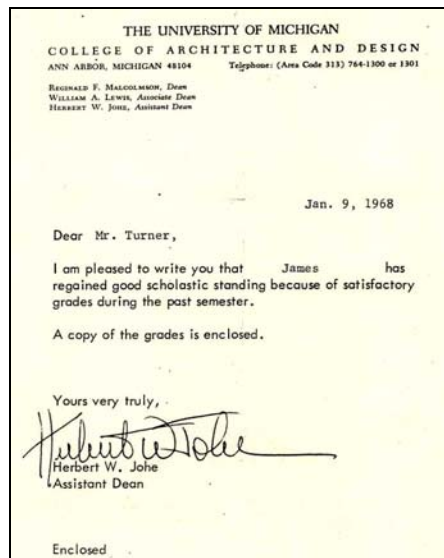


Lorch Hall. Home of the School of Architecture and Design. The column on the left now sits at the entrance to the new building on North Campus.

I had been in the auditorium many times. One Saturday morning in my sophomore year I attended a materials lecture by professor Bob Metcalf. The lecture was about flat roofs and Bob knew more about flat roofs than any person on the planet. Apparently, I fell asleep and awakened in an empty and dark auditorium. I learned nothing about roofs that day, flat or otherwise, and I have never thanked Bob for ignoring me.

There was much political and social activism in the late 1960s in Ann Arbor. One night I was in the Lorch Hall audience to see a cult film called "Flaming Creatures." I was seated for only a few minutes when the lights went out and then came back on. As we made our way to the exit there was activity on the open staircase that led to the projection booth in the lobby. A local police lieutenant and his deputies had confiscated the reels and were trying to make their way through the mob of angry film lovers (I went because the film was supposed to be racy). I never saw the movie but felt part of a grand moment of civil disobedience.

One afternoon our class was summoned to the lecture room for a presentation by long-time associate dean, Herbert Johe. Expecting a scholarly presentation on some aspect of the Beaux Arts period, we came with pencils and notepads. Instead, we received a stinging polemic on current student culture. We were told that what we ate, drank, read, smoked, wore, danced to and thought about lacked quality and were not appropriate for a young architect. He even branched into a mild diatribe on wine and music. As professor Johe defined the proper architect, I tried, but could not fall asleep. I appreciated Herb much more when I became part of the faculty. He played a mean game of tennis and drove a weird French car. Beverly and I have two of his watercolors.



Tell me that there were enough drop-outs to warrant a form letter from Herb

Herb was Assistant Dean in the late 1960s when I took my year off. Notice of my reinstatement came as a form letter. No word-processing in those days.

I didn't think of these events as I sped through my first lecture. I had notes but didn't use them. Instead, I went to the blackboard and began writing while I motored through the material. I got nervous and told a story about my sister. I heard faint laughter although I'm sure what I had said wasn't funny.

**My first mentor and my first cup of coffee**

In 1968, a new snack bar opened in Lorch Hall just a few steps from the auditorium. During the summer of my penance I visited instructors of courses I had failed, hoping they would give me a late drop or an incomplete. Professor Sterling Crandall was the only one to agree. We discussed my plight in the snack bar over cups of coffee. I had never tried coffee but since I understood the metaphorical meaning of "over coffee," I was obligated to gulp away. My sips were small but the effect on my stomach was noticeable. I was about to explode when Sterling began showing me how to size rivets on gusset plates. We were there an hour and it was, without question, the most uncomfortable I had ever been. That was my last drink of coffee. Years later, Sterling needed my help remembering the third part of the 1960s hippie mantra, "Tune in, Turn on and (Drop Out)." I figured we were even.

Sterling was my first structures teacher and he and I were members (along with Moji Navvab) of a College bowling team in the mid 1980s. To Ted Hall the concept of an “bowling average” was absurd and we discussed it at length. Along with Ted, Sterling and me were Soontorn Boonyatikarn a faculty member, Jim Jones a doctoral student, and Kamel who was just a student.

PINHEADS			
Booniyatikarn	9820	75	130
Crandall	5889	54	109
Hall	2892	25	115
Jones	11961	75	159
Kamel	6757	43	160
Turner	3713	24	154

A score sheet from the University's Tuesday night bowling league

Sterling was also the first College scribe to insert a little humor into the Faculty Meeting minutes. I consider his faux meeting minutes from the early 1980s the standard against which future minutes will be judged. I became the next scribe and everything I wrote for the College from that point on I added at least one stupid event that never took place. I recorded the meetings correctly, but tried to make them more enjoyable. I also visualized my colleagues as clowns and I poked fun at whomever I thought needed attention. Only one person complained. As one can imagine, faculty meetings are a real hoot! Curricular issues, graduation requirements, faculty ballots, reports from program chairs...Funny stuff.

### The first thesis student

There was no thesis option until the early 2000s. I once stopped Dean Metcalf in the 2<sup>nd</sup> floor hallway and asked if I could propose a one-year course of study in the nascent area of computer science. I added that I would replace studio with independent study classes and the result would be a written thesis and a computer program. He reminded me that the College is responsible for providing its students with a professional degree in architecture that includes one design studio per term. I took his advice and elected professor Borkin as my studio instructor for my last two graduate studios. I did a programming experiment combining computer graphics, geometry and special and non-spatial data. That thesis became the ground zero for most of our future CAD research. I graduated and began looking for a job.

I just (5/15/2009) found one of the five copies I made on my thesis. It was in the garage and it is a bit moldy. I think that sums up the quality of my knowledge in computing since I went on medical leave three years ago; I have not programmed much lately and I never read any of the appropriate literature. I guess I should buy a CNC-driven router and a laser cutter, and maybe a 3D plotter so I can make precise miniatures of my designs that could never be built.

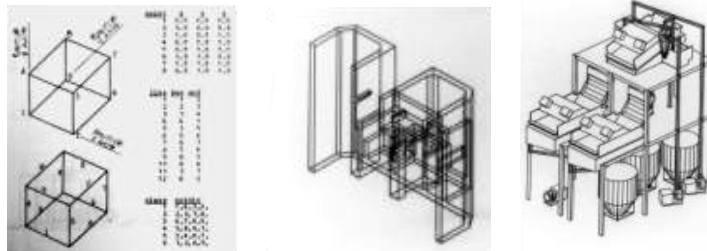
### Finding a job

I graduated in the spring of 1973 and despite a looming energy crisis and the handicap of my pedestrian moniker, I began looking for a job. On weekends I delivered pizzas for my sister's pizzeria. I had squeezed six years of required coursework into eight years of school; that alone should have impressed potential employers. On my first interview, I was asked if using computers would allow a firm to make better buildings, design buildings faster and make buildings cheaper. I had no clever or pragmatic response.

### How I became an instructor

Luckily, I was hired by the College to write a user manual for a computer graphics program that Harold had been writing. When the job was completed I left town and returned a month later with no money, no job and plenty of pizzas to deliver; I was surprised to find another paycheck waiting for me. I tried to give the money back but neither Harold nor Bob Metcalf, who was now the Dean, knew how to accomplish that. The checks kept coming and I stopped trying to return them.

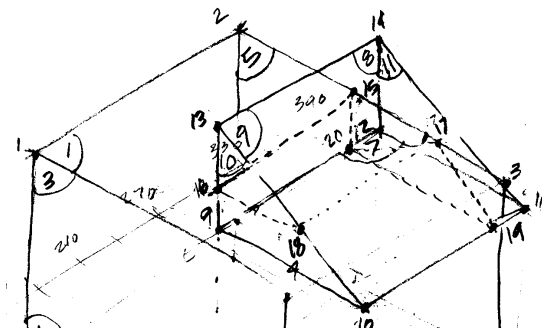
I was eventually hired permanently and after a few years, and a few sponsored research projects; I was hired as a research scientist. One day Harold asked me if I wanted to officially be an instructor. I said that I did. I understand that is not the way things are done today. This odd set of events eventually landed me as an assistant professor on tenure track; I was the last inbred professor.



Images from the ARCH:GRAPHIC and ARCH:MODEL User's Manual

### The beginning of computer research in the Architecture Research Lab

My first programming project was to improve 3D modeling tools in our graphics program. There was no AutoCAD or Rhino, or any relevant literature and almost nothing on computer graphics programming. My charge was to add the ability to add, subtract and intersect 3D models. It took nine months to implement a similar 2D algorithm and three years for the 3D version.



It was necessary to make a sketch like this to find most errors in the 3D set-operation functions.

A typical sketch with labeled point, lines and polygons that was used to find errors in the 3D version of the set-operations. I made hundreds of this type of drawing from 1975-1992 – the precious years I spent debugging the function.

Harold handed me a copy of a thesis by a PhD student at Carnegie Mellon University. It was titled “An efficient algorithm for doing set-operations on 2D polygons.” I had been thinking about methods to improve the user interface to our computer graphics program, specifically, tools to build 3D models faster and more accurately. Being able to add and subtract polyhedra was at the top of my list, so I carefully read the thesis.

I found the proposed algorithm to be good, but too complicated so, with Harold’s help I began to write our own version. We wanted to eventually provide a 3D version and starting with a 2D version seemed to be a good strategy. I had no research papers other than the thesis. There was no Internet and only a few conference proceedings available. To this day I never read papers describing other’s work before designing my own approach to a programming problem. This became my credo, although I seldom discussed this with colleagues. As a student, when given a studio assignment my mind went numb, but when given a programming assignment I could envision data structures, algorithms, and user interfaces. This is how I was going to earn my living. I wouldn’t need to paint houses as my father had.

I spent many years debugging them, and I still have a list of changes I would like to make. I continued to write application programs and the “research lab” began to attract large sponsored CAD research projects. I worked every day and never considered it to be a real job. If I had trouble with an algorithm I would ride my bike along Huron River Drive to Dexter to clear my head. I solved many tough problems while pedaling. It was a wonderful time.

There were few universities writing architectural related software in the late 1960s and early 1970s. Our doctoral program provided student programmers and a few faculty learned to program. We were inventing and implementing programs that, in some cases, are still advanced today. The research staff included Harold Borkin, Robert Johnson, Ted Hall, P. Lynn Borema, John McIntosh, and Patricia McIntosh. We delivered papers at ACADIA, ACSA, SigGraph and attended conferences and committee meetings all over the world. Our first CAD doctoral student entered the program in 1968. My last doctoral student graduated in 2005.

### Weekly CAD meetings

Perhaps the most significant intellectual activity during my tenure was the weekly meetings of the CAD faculty and students initiated by Harold and often convening at his house. Attendance was usually high and discussions began with a presentation by one of the attendees and evolved into very good discussions. A group of us also ran at lunchtime, and as we ran we discussed our research. Also, during the early 1980s a group of us would have dinner at a local pizza restaurant. We continue this today although the restaurant has changed and the group is smaller. We still discuss CAD research but mostly we enjoy each other’s company. The latest group includes me, Ted Hall, Scott Johnson and George Yeh.

### This is what I did

Accomplishments that I consider significant are: As initiator of a pair of CAD Fundamentals courses; the revision of the sequence of computer programming courses by adding a third and fourth course in 2D and 3D computer aided design programming sequence; as investigator or co-investigator for many large sponsored research projects from Construction Engineering Research Laboratory, Gilbert Commonwealth, Townsend and Bottum, SEMCOG, US Navy, and others from 1975-1992; as an active member of the IGES/PDES/STEP international committee convened for the purpose of defining a neutral file format for the exchange of product design, analysis and fabrication, and the precursor to Building Information Modeling; as an active member of ACADIA and receiving a lifetime achievement teaching award; As a member of the curriculum committee for many years; and as secretary of the Architecture Program and College; as developer of many computer applications such as ARCH:MODEL, GEDIT, Acoustic2D, Acoustic 3D, and various prototypes: Syntax2D, Graph2D; and serving as member of over 30 doctoral dissertation committees; and as developer of many function libraries to manipulate geometries.

What I taught over the stretch of my career coincided nicely with what was or was not available commercially. From 1970-1982, there were few 2D drafting programs and no 3D modeling, visualization or animation programs available, so we wrote our own and made them available to students. During that period I taught Fortran to all students whether they wanted to learn it or not. From 1982 to 1990, AutoCAD was available but we decided to continue to develop and teach our software. From 1992 to 2006 there were many good programs available and we changed our CAD courses to use commercial programs. Recently, the Architecture Program decided to reduce the teaching of computer drafting and



to concentrate on non-programming computing topics such as machine generation of 3D models. My courses were recently removed from the catalog.

### **How many mentors does it take to create a professor?**

When my responsibilities increased (initially Harold advised me to not attend faculty meetings) I turned to my professors for advice.

Professor Norm Barnett and I have met at least once a week since 1997 when he convinced me to spend my sabbatical developing interactive architectural acoustic teaching applications. Norm is a scientist and was my acoustics instructor. Together, we created two exceptional acoustic programs. I still enjoy his stories about French horns and fencing.

Professor Henry Kowaleski and I worked on the College Rules together. The experience was somewhere between no fun and dull pain. I cried when he told me that the young architects in his office had painted his original George Nelson "ball clock" to match the color of the walls. I still get teary-eyed when I think about that poor clock. Henry was my lighting instructor, and he wrote the best exams.

When I became a full professor I decided to help professor Bill Werner teach structures. During my second year of trying to explain " $\Sigma F_x = \Sigma F_y = \Sigma F_z = 0$ ," a group from my recitation section came to my office and told me that I should not assume architecture undergraduates know the meaning of " $\sin \phi$ ." I told them I did expect such knowledge since a course in calculus was required for admission and before tackling calculus you must first understand trigonometry. It was downhill from there and I never taught structures again. I came to Bill whenever I had a problem with students or problems with the administration. The later seemed to be status quo for me so I visited him often. Bill was my structures instructor and I served with him on the undergraduate admissions committee for almost a decade. I bought two saxophones from Bill; one was stolen and the other I sold for a nice profit.

I worked for professor Joe Lee on the first transformation of buildings next to the farmer's market into what eventually became Kerrytown. Joe was my studio instructor. He taught me to find value in the quality of objects. He often used a simple watchband as an example of the beauty of successful intersection of economy, craftsmanship, and simplicity.

Professors John Nystuen, Mitch Rycus and Jim Snyder showed me that planning faculty and architecture faculty can work together. I provided maps, GIS software and digitized maps to John, Jim and Mitch for use on sponsored research projects. This was before GIS software was widely available. For three summers I attended weeklong workshops in computer mapping at Harvard and was a digitizing and mapping consultant to SEMCOG, Detroit Economic Growth Corporation, and the Michigan Department of State for many years.

Professor Kingsbury Marzolf taught the courses I enjoyed most. He was engaging and humorous and presented some pretty dull material in a way that kept my interest. I think King has been a doctoral student at MSU for over 40 years. I still watch his video when it shows on late night television; I think it's called: "Kingsbury Marzolf; the Beret Years." King was my history of architecture instructor. King was the first person I poked fun at when I became College secretary and was responsible for creating the minutes.

Professor Al Feldt and I were members of a small jazz band for about 10 years. Hew played piano and I played saxophone. Not exactly and mentoring experience but mention it because it was such an enjoyable time.

### **Beverly Brockman**

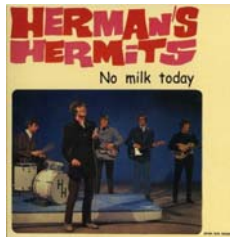
Today, an instructor changes a grade by logging on a web site and entering a few keystrokes, but back in the early 1980s, a grade change was made on a paper form and submitted to the Registrar's Office in the LSA Building. There, a recorder had to manually remove the old grade from the student's mylar transcript and write in the new grade. It was very time consuming. I had no idea that grades were compiled and stored that way. In my large lecture class I typically gave 20-30 incompletes, but one term I gave grades of "C-" instead of "I." If assignments were finished I would submit a new grade, and if not, I would let the grade stand. I gave almost 50 C- grades one term and about the same the following year.

Beverly Brockman worked in the Registrar's Office and was responsible for architecture grade changes, and all the extra work I created was her responsibility. In December 1986, she was hired as our College recorder. A few minutes before we were formally introduced, she was warned that I was responsible for all those manual grade changes. Beverly also tells the story about her calling me when she was still at the LSA Building to ask about an art student's grade for one of my courses. When she was told that I was in the "lab" she pictured a medical laboratory with the staff all wearing white lab coats. According to her I was rude.



At Beverly's mother's house

In May 2000, Beverly and I were married in the lobby on the first floor near Slusser Gallery. The Mayor presided over the ceremony and we provided cupcakes from the Dexter Bakery. And, yes, Beverly asked me. On February 29, 2000 she baked a cake and wrote in icing, "Will you marry me?" I knew it was coming and had to sell two baritone saxophones in order to purchase an engagement ring.



Beverly made sure no one missed her engagement ring, flashing it unsubtly at any woman within striking distance. It was the most aggressive she has ever been. She showed it to Peter Noonan the lead singer of Herman's Hermits ("I'm Henry the 8th, I Am") whom we saw in a sleazy lounge in a Windsor casino; I'm sure he was devastated. It was a beautiful, two saxophone ring; very rare

I had intended to play saxophone in local big bands when I retired. Instead, I am playing piano. Unless one is a soloist, a sax player has too many written notes to play. As a piano player I have some written notes to play – usually intros and endings and an occasional solo – but thanks to Ellington and Basie, I am free to play at will: fills, response, comping.



Playing with a big band



Playing with a smaller band

Beverly and I retire on May 31, 2009.

I think I'll spend a good deal of my retirement chasing Beverly around the house. She can run faster so maybe I'll get into the mouthpiece business. Beverly would like to have a cat or two and move to Hawaii. She promises to win the state lottery very soon.

