PRAYER: Fr. Richard J. Hauser, S.J., gives his perspective

The winding roads: Career paths to acade

Fuzzy math: Creighton clearly out in front
Untold Truths?
I am writing in regards to WINDOW, Spring 1997 Issue. I enjoyed the story “Tales Told Out of School!” most especially “Fessing Up to the Feds.” I’m sure Creighton University is filled with untold truths!

Thanks for the good work! Keep it up.

Rev. Fr. Paul C. J. Zaccone, BS’78
Wynot, Neb.

If the Tax Man Hears...
I really thought I could get away with it (WINDOW Spring 1997, “Tales Told Out of School,” “Fessing up to the Feds”), but after all these years, the haunting tale has finally come back to me for full confession. Anyone who lived in Degelman Hall during those miserably hot summers in the ’40s and ’50s and ’60s will know that the sisters (not nuns!) who lived there sought various ways to cool off in the evenings. When the shades of evening closed in, off went the many layered habits and the veils and on with some cool night attire. If you were lucky you may have lugged along for the summer a small fan; this may have afforded some degree of comfort. But there were times when I needed more.

How about a treat for the crowd? Begging and borrowing from the sisters, would you believe some of us dug deep into our large pockets and found just enough coins to pay for some refreshing beverages? And the tax, would you believe I talked the delivery man out of that? Now the story is out. Full confession.

Here’s hoping the U.S. Treasury doesn’t go bankrupt because I couldn’t pay the federal tax.

Sr. Irene Hartman, O.P., MSedu’61
Larned, Kan.
Dear WINDOW Readers:

My identity at Creighton University and to the outside world of Creighton graduates for the past 13 years is as editor of WINDOW magazine. It is the only identifiable connection with Creighton that everyone understands in the very moment it is said.

“What do you do at Creighton, Bob?”

“Well, I’m manager of publications.”

“Oh.”

The general response is a vacant look and a swift change of subject.

But...

“What do you do at Creighton, Bob?”

“I’m editor of WINDOW magazine.”

“Oh, really. I love that magazine. You really do a good job with it. It’s wonderful.”

Of course, I always hasten to add that I don’t do much more than nag people to get the magazine through production. Many people help, including Pamela Adams Vaughn (who tracks the magazine’s story list of hundreds of articles and hires and assigns stories to freelancers or campus resources); Dotzler Creative Arts and Ray Dotzler, owner (who are responsible for the magazine’s appearance); Executive Editor Steve Kline (who directs the entire operation, making the decisions about what to include and exclude), and a fabulous group of people (including three vice presidents and a couple of Jesuits) who freely donate their lunch hours once a month to advise us (and occasionally engage in spirited discussion) regarding story ideas — the Editorial Advisory Board.

WINDOW magazine would not be the same without these people.

Since its beginning in 1984, however, I must claim responsibility for its mistakes and for those things that may have irritated you, too. I can only hope they made you think.

At the twilight of my own career, I pass the baton to a young man at the dawn of his own career.

His name is Rick C. Davis, BA’88, and he’s a go-getter with the system of beliefs instilled in his years earning a Creighton degree in journalism. At the age of 31, he is less than half my age. I believe his new ideas and fire will keep WINDOW’s star burning in the Creighton firmament for many years.

I have enjoyed my 15 years at Creighton, and especially those since 1984, when WINDOW was born. Few of us welcome coming to work each day. I do and I consider myself among the luckiest to work at Creighton.

Pam Vaughn also has just undergone a life change, moving to a part-time position. She will get a chance to write again for WINDOW, as I did in its early years.

I have never found a better audience, a better readership, a more involved and intelligent constituency, than WINDOW’s readers, and Creighton graduates. I hope I will get a chance to write again for WINDOW, as I did in its early years.

Surprisingly for me, I am being given an additional opportunity at Creighton: to help shape the university’s presence on the Internet and its World Wide Web, through Creighton’s own Web site. I hope to “see” you, to challenge you and to bring information to you, much in the way I have in the past, but now through the electronic medium. God speed.

Bob Guthrie, Editor

C.U. in Good Hands

“Fr. Morrison: Jesuit…and CEO” was an outstanding article. He calls us all to the daily question — What Have I Done to Promote the Kingdom of God? He clearly calls us to the four value issues: 1. Respect for each individual as a child of God; 2. Respect for all of God’s creation; 3. A special concern for the poor, and 4. The promotion of justice. He brings to point: Education as a way of finding God.

As a Creighton graduate, I cherish not only my nursing degree but also these positive influences of Jesuit education.

I like the way Father ends his article: God gives us the grace necessary to do a job. As I face my second bout with breast cancer, I believe, He does give us that grace.

Father Morrison — You’re All About the Kingdom of God! And so indeed, Creighton flourishes under your care.

— Rosemary Murphy Johnson, BSN ’77, Newark, Calif.

The Holocaust

I want to comment on an article in the Fall 1994 issue, called “Courage in the Holocaust.” It was by far the best (and most moving) article on the subject that I have ever read. Your explanation of why some people can stand up and say “No” while others will continue to follow orders (no matter how cruel) was indeed extremely insightful. My wife and I have spoken about this article to many of our friends and often to our children. As you said in your article, we encourage our children to do those small “everyday things” that build courage in hopes that as adults, they will have developed the skills and courage needed to stand up and say “No” (or “Yes” — depending on the circumstances) should the situation ever arise.

Again, thank you very much for a very powerful article on a very important subject.

— Alan C. Schwartz, MD’75, Phoenix, Ariz.
Had the late Walt Beal been informed his Creighton campus eatery — Beal’s Grill — was part of culinary history, he’d have had something properly profane to say in response.

Most college towns have a favorite example of this genre, where food is generally inexpensive and there’s a sort of kitschy ambience. (“What the hell does that mean?” inquires the crusty Beal ghost.)

By Bob Reilly

Walt Beal, at right, with his Beal’s Grill employees around 1953. Walt, known for his salty language and sharp repartee, fed and ribbed a multitude of hungry Creighton students at his 24th Street diner.
Beal's Grill — which anchored the southeast corner of 24th and California streets — reflected these qualities, although you had to struggle to appreciate its charisma amid the welter of expletives and the redolent odor of beef. When Walt’s son-in-law, Howard Fiedler, assumed the stained apron, the place became a gentler venue, but the salty founder’s presence hung on, like patina on a grill.

Born in Omaha in 1892, to German parents, Walter Beal survived the 1913 tornado, attended local grade and high schools, then went on the road representing his father’s Nebraska Hay & Feed Company. In Walnut, Iowa, he met, wooed and wed, but his first wife died at age 27, leaving behind a daughter, Burnice, who learned to fare for herself in those early, difficult years.

“Later on,” adds Burnice, “my Dad tried to make it up to me.”

Walt remarried, inheriting a second daughter, and continued as a salesman, hawking barber supplies in Iowa. Shortly after he moved to the two-story stucco residence adjacent to the Hilltop, about 1937 or 1938, Walt found himself unemployed.

The story goes that, in 1939, he was surveying the Creighton campus from an upstairs window, musing that these students, mostly male, might need a place to eat. The Wareham Hall Beanery was operational, but Walt reckoned, correctly, that an alternative might be welcome. Tearing out the downstairs living and dining rooms, he installed a counter that stool-seated two dozen or more, and added a small dining room with round tables and oak chairs for professional school students, some athletes and other privileged guests. Through the years, a few modest alterations were made, but the interior remained essentially the same. Upstairs, three bedrooms, a bath and a living room accommodated the Beals.

“My father built a balcony,” remarks Burnice, “so he could watch the birds.”

Much of his time, however, was spent in the grill, perched on his favorite corner stool, backed by chalked “specials” and watching the door for a familiar face. That’s the way patrons recall him.

When WINDOW editors solicited commentary from those who might reminisce about the grill and its owners, the request generated more than two dozen responses, some of them long enough for an article of their own.

“The ‘Bill of Fare’ at Beal’s was simple, adequate, repetitious, always served hot and in an appetizing manner,” wrote John Shoemaker, LLB’47. “Breakfasts were the ordinary run of sweet rolls, toast, cereals, pancakes, eggs, ham and bacon. Lunches featured two or three ‘specials’ that were prepared ahead and these were served quickly... Evening meals were served at a more leisurely pace... The menu at Beal’s was posted on various signs, hung about the eating area, and the ‘specials’ were posted on the blackboard that outlined the menu for the day. Such items as ‘Sewer Trout,’ ‘Sow Belly’ and ‘Beal’s Burgers’ were at times listed...”

Shoemaker recalls with great relish the steaks his rancher parents sent him and his brother Bob, and which Walt obligingly grilled for them, setting the meat off with fries and a salad.

“The foods I remember best,” adds Gary Joe, BS’67, BSPha’70, “were the burgers with hash browns and apple sauce... eggs, which I always ate ‘looking at me,’ the short and tall stacks of pancakes, the chicken noodle soup, chili, chicken fried steak... the dessert pies. And, at no charge, any advice you ever or didn’t ever want to hear, from which horses were going to win races, to things of a global nature...”

E. Kathleen Malone Shoap, BSC’42, one of the few women to mail in memories, praised the hot roast beef...
sandwiches. Frank Kavanagh Smith, BS’43, pronounced the “chili and greasy hamburgers good” but thought the atmosphere even better. “It consisted of sweat, the smell of burnt grease, and the roar of the crowd.”

Not every culinary experience was a happy one, but those are the kinds that prompt stories.

“I had a habit of using a napkin to ‘blot’ the grease off whatever particular meat entree I had for the day,” says Philip Garland, BA’68, JD’73. “On one particular day, the burger was especially greasy and, as I somewhat disgustedly looked at the napkin, Mark Broderick walked in and I said, ‘Mark, look at this!’ His rather dry response was, ‘Did you get it off the counter or off your burger?’”

Wrote John Kilbride, MD’63: “On a Sunday morning in 1956 after Mass it was traditional to go to Beal’s Grill instead of the Wareham Beanery for breakfast. Four of us sat at the counter covered with blue linoleum with a greenish cast rendered by years of grease buildup. When one of our group cut into his pancake a Band-Aid appeared. As if on cue, Ziggy, the cook, came to the kitchen doorway turning his index finger back and forth, looking for something missing.”

Responding to the query about his worst meal, Daniel Galvin, JD’52, says: “A batch of Walt’s special Spanish spaghetti that went awry and kept a number of students quite busy the next day.”

T. Q. Smith, BA’67, recollects that, when he complained that his food was cold, Walt walked to the counter, stuck his finger in the macaroni and cheese, nodded his head, and provided a fresh, hot meal.

One day I joined Drs. John Sheehan and Al Schlesinger for a late lunch at Beal’s. Each of them had ordered a burger and coffee. The short order cook, clad in a muscle shirt and perspiring freely, considered the feasibility of a single trip to the counter. He wrapped the hamburgers, shoved one under each armpit, and carried the coffee in his free hands. The order was refused.

My assessment of the greasy spoon image is that it might have been exaggerated, since all such diners were subject to this epithet. All things considered, except for heightened cholesterol levels, no permanent damage seems to be attributable to Beal’s specials.

“In 46 years,” contends Burnice, “I never heard of anyone having a stomachache.”

(WINDOW is not soliciting responses to dispute that claim.)

Joe sort of agrees. “There were no bad meals at Beal’s! Take this in the context that Beal’s cooked the same types of meals I would have cooked daily for myself if I were doing my own cooking. Now there’s a scary thought.”

Food wasn’t the main reason to frequent Beal’s. Walt and Howard were the drawing cards, with Walt being more outrageous and Howard having an edge in wit. Case in point.

A medical student once shouted to Walt, “Two eggs over in a hurry!” Walt walked up to him and splattered the two eggs on his shirt, then handed him five bucks and told him to get himself cleaned up.

Responding to a similar request for a couple of eggs, Howard merely set the raw eggs on the counter before the student, and smiled.

Both Howard and Walt loved the races at Ak-Sar-Ben and would leave early in season to go to the “Westside Cleaners,” their euphemism for the track. Walt was the bigger gambler, but Howard, who idolized his father-in-law, kept him
company, making smaller wagers. Walt also owned race horses, stabling them at the Ak. Patrons loved to bait Walt and would keep tabs on his success — which was limited. On one occasion, one of Walt’s horses was leading down the stretch but collapsed and died. The next morning the air was full of one-liners directed at Walt. “Go on and laugh, you *!!#@**s,” Beal came back. “You don’t know that right now you might be eating that horse.”

Because of Walt’s language, his grill was declared off limits to Creighton Prep students. When one of the more naive Prepsters came into Beal’s to explain his future absence, Walt quipped, “All right, you little s.o.b., you just lost yourself a place to eat.”

Creighton’s coeds were under similar edict.

“When I came to C.U. as a freshman in ‘58,” reports Jeanette Bates Maxwell, BA’62, “Mrs. Hamilton (Dean of ‘Girls’) gave us very clear directives — ‘Nice girls don’t go to Beal’s.’ I never went.”

Theresa McCormick Liewer, BA’70, heeded the same warning, never venturing inside Beal’s.

“I think you’ll find the same for most other women students,” Liewer said. “Beal’s was essentially a ‘guy’ thing. Did we mind? Not really. I loved my years at Creighton. I received a great education and made wonderful friends. I never felt particularly deprived because I didn’t experience Beal’s.”

Both these female correspondents remind us of how different things were for women in those years, with an uneven application of rules on curfew, dress codes, even bans on chewing gum and other behavior deemed “unladylike.”

One coed who braved the male advantage at Beal’s found herself ignored by Walt. Three times she yelled that she wanted a hamburger. Beal finally stormed over and said, “All right, that’s three hamburgers. What else?”

The grill’s employees were all male, except when a family member would come downstairs to help out, or when Howard assumed command. These workers have their own legends.

“I celebrated my 18th birthday in the basement of Beal’s Grill,” recalls Daniel Galvin, JD’52, “peeling potatoes with a heavy jowled, silent old gentleman named ‘Dad’ Hartnet. Upstairs, Ham Kimmel, the fry cook, balanced the long ash on his Lucky Strike, and kept up with orders from my cousin, Jim Galvin, PhB’43, JD’48, and a man with a shadow of a mustache named Pierre from Mt. Ayr. I later washed dishes, hopped counters and did the garbage and sweep up detail (3 hours for 3 meals, plus 50 cents per hour over 3). When I asked Walt what I could eat, his answer was, ‘If you ever go out of here hungry, it’s your own fault.”’

After taking the Iowa Bar Exam in 1951, Dan Galvin, then job hunting, paid a courtesy visit to Walt. He was given an apron and put to work.

Thereafter, for the next couple of months, he entertained student customers by pointing me out as an example of what higher education could do. ‘He’s right back where he started 10 years ago.”’

Joe washed dishes at dinner time “in exchange for all the food I could eat at one sitting,” and Fr. Neil Cahill, S.J., “hashed” at Beal’s just after the place opened. Burnice remembers her father questioning whether Cahill, an imposing figure then as now, could navigate the restaurant’s narrow counter space. Cahill demonstrated his agility by dancing lightly down the constricted aisle.

Not every former employee retained a positive image of Walt. Like all characters, working with them is
often more taxing than observing them from a distance. One medical student employee recalls his long days, starting at 4:30 a.m., and says he never heard a kind word from Walt, only complaints.

“Walt sat on the end stool with an apron on and (was) almost a chain smoker. I never recall an instance where he would get up and help, no matter how busy we were, and the pay was extremely low, except that I was privileged to eat.”

This student alluded to Walt’s addiction to gambling and remembers with some rancor that Beal never paid him for a World Series bet the student won.

“While I was working at the clinic, I called Walt and told him to keep his $2 and keep his job as well, that I would never enter the place again, and I never did, not even to get the pay that was due.”

Another student cited Walt’s insensitivity on ethnic and political grounds, stating that the grill’s owner “felt that everyone was entitled to Walt’s opinion on anything and everything.”

There was this side of Walt, and people dealt with it in different ways — some by avoiding the place, some by filtering out the commentary, some by egging him on in order to get the full flavor of his invective.

“Walt loved to give the jocks a poke,” remarks Francis Gilchrist, BS’50, a former varsity basketball player. “He was always on my back and said I would never be as good as ‘Pinky’ Knowles and Gene Lalley. I always agreed and his reply was that I was getting much wiser. Then he would begin telling me about the ‘41-’42 team and how that was a ball club.”

Gilchrist was also the beneficiary of one of those many loans and gratuities from Walt.

“I remember one instance when Coach Ed Hickey said I needed a haircut before a road trip. He always insisted we have ties, coats and decent haircuts. I told Walt I needed $5 for a haircut or I couldn’t eat. He pulled out a twenty and said, ‘Besides the haircut get a decent meal. You are so damned skinny (6’1” and 153 pounds), no wonder you never get a rebound.’ At the same time he said, ‘I want that $20 back or I will take it out of your hide.’”

Walt pulled many a bill off the wad he carried, staking politicians to conference fees, providing meal money to unemployed grads, putting countless lunches on the cuff “until you can pay me back.”

“He put on the air of Mr. Tough Guy,” asserts Gilchrist, “but he was really a softy at heart.”

Burnice agrees.

“A marshmallow,” she insists.

“One morning about 3 a.m., we heard a dog yelp out there on 24th Street. It had been hit by a streetcar. Walt got up, put the dog in his Cadillac and drove to the vet. He pounded on the door, woke him up, and told him to take care of this animal and send him a bill.”

Burnice’s husband, Howard, was the same soft touch. He kept the grill open one summer, when customers were sparse, just so one employee with a family would have a job.

Both men knew thousands of Creighton students, although they might address them by assigned nicknames — “Council Bluffs,” “Red,” “John Hancock” (because this student was asked to add his ‘John Hancock’ to an IOU).

“I knew all those kids,” said Walt. “I even liked some of them.”

“I noticed the regular customers always sat in the same places...like Cheers. As soon as someone would walk through the door, Walt or Howard would yell out a greeting. They either hollered out your name, nickname or something associated with your field of study...‘pill pusher,’ ‘mouth plumber,’” Joe said.

Many students brought their parents there, and Walt was usually on his best behavior then. But the mothers and fathers were sometimes surprised and shocked to think their kids worked in this minuscule establishment.

After Walt’s death in 1973, his son-in-law, Howard Fiedler, took over the grill...and the birthday celebrations, as shown in this 1983 photo.
The years rolled along, with coffee making its slow increase from 5 cents a cup and the hamburgers getting thinner in imitation of the popular McDonald’s version.

“I think they must have been made at the rate of 10 to the pound,” opines Doug Demster, BS’70.

Walt’s second wife, Hazel, also a presence in the grill, died in the mid-fifties. One of the best-kept family secrets was that tyrannical old Walt was a pussycat when confronted by Hazel. She got her way in just about everything. Maybe that’s why his public contact balanced that hen-pecked image.

Jack Kostel, BA’59, and three classmates shared quarters with Walt a couple of years after Hazel’s death. This was the only time Walt tried this experiment, although he had provided accommodations for others needing temporary lodging.

“The place would close at 6 p.m.,” says Kostel, “and Howard would clean up and prepare for the next day. Walt would come upstairs, spiff up, light a big Dutch Master cigar and drive away in his long, baby-blue Cadillac to see his lady friend.”

The cigars disappeared in the wake of doctor’s orders and Demster remembers inheriting half a box of Corona Clippers. Howard Fiedler took on more of the grill duties, but Walt remained visible and caustic. Each year on Walt’s birthday (Dec. 13) students and staff would flock to Beal’s (some prompted by Fr. Cahill’s threat of a demerit) and help him cut the ever-present cake.

Burnice, the last familial link to Walt, also became more involved with the grill as Howard’s role expanded. Every other week she’d make 18 gallons of soup, sometimes employing volunteers as tasters.

“Years before,” comments Burnice (pronounced BURN-iss), “my father decided I should learn to cook. So I fixed his Sunday meals. He complained from the first mouthful, even before company. I was often in tears. But Dad would explain his behavior by protesting, ‘How else can I make a good cook of her?’”

Hazel was a Catholic and Walt had many friends among the Jesuits, but he never joined any congregation.

“Still, he was generous in taking food to the Poor Clares,” Burnice remembers, “and, when students were on retreat, he kept silence in the grill.” Fr. Charles Hayden, S.J., dean of men, used to assure Hazel’s fears about Walt’s ultimate destination by assuring her, “Walt will get there as soon as we all will.”

On June 30, 1973, Walt Beal died. He was 80 years old and had spent 33 years feeding the hungry students he imagined needed a good meal. By now, the Student Center cafeteria provided real competition, but the old diner still had its loyal clientele.

Walt had endured brain surgery twice and, when he knew he was going, he called Burnice to his side and, seeking to redress an old wrong when his daughter was deprived of one of Hazel’s two coats, told her quietly that he planned to buy her a fur coat.

Howard took over Beal’s now, and the birthday celebrations became his two months earlier than Walt’s. Burnice said he tried to emulate his father-in-law but was just too nice a guy. Still, Beal’s remained a lively place.

“Whenever his special of the day would be steak and fries,” write Frank Cosgrove and John Kinney, both JD’78, “Howard would always serve it up to the hapless customer with the words, ‘Here are your snake and flies,’ (and) who could ever forget Howard replying to anyone who
Paul Determan, BA’62, contributed an essay to the “Memora-Beal-ia” request, imagining Walt and a positive influence on Naval affairs during the Vietnam War, in which, reads the copy, the author served as a food service officer. Ordered by his superiors to trim the budget, he conjured up a solution from his meals at Beal’s.

“While munching I would witness Walt, who had a penchant for cutting corners, get up from the counter with his ever-present coffee cup and pour the cold dregs back in the stainless steel urn; obviously an ingenious example of micro cost management that was beyond contemporary discipline. And so easy to implement on a broad scale.”

Determan’s tongue-in-cheek report credits Beal’s fictional biography, From Dregs to Riches, as the bible for the recycling of fruits, nuts and vegetables throughout the Navy for nearly three decades.

From Tony G. Oreskovich, DDS’88, comes a poem composed while he was in dental school:

**Memory Grill**

The usual menu —
Burger with fries;
Someadays a Special,
Always improvised.
Lunch counter service,
Not enough spinning stools.
Indigestion, congestion,
Final exam fuel.
Counter-top jukebox —
The same forty-fives;
Four years at Beal’s
And time passed it by.
Progress needs parking,
A leveled lunch spot;
More spaces, more cars
On a memory lot.

Perhaps Joe should have the final word:
“I have such fond memories of Beal’s. It was as much a part of my life at Creighton as anything else. It was a very special place. Things change. Life goes on. I can’t help thinking this would be a better world if every country had a ‘Beal’s’ in each of their cities or provinces. Hey, Walt and Howard, I know you guys are in heaven. If I’m lucky enough to meet up with you again, I’ll have ham, two eggs lookin’ at me, hash browns, toast, and a short stack. And don’t worry about the dirty dishes. I’ll wash ‘em!”
was the next victim... The cake aimed at Bill Markham missed him. All the noise attracted Walt downstairs to find out what was going on. The place was a mess. I fled. We were all back at Beal’s within a week... I lost my job.” — W.E. Tomek, Arts’71.

“The pinball machine, the jukebox selectors at the counter, all were part of the Beal’s experience. In these days, where one restaurant is pretty much the same as another, Beal’s stands out.” — Gerald D. Wilson, BA’75.

“If anyone complained, the reply was to get your butt up to the Beanery, and don’t come back.” — F. E. Gilchrist, BS’50.

“No alcohol was served, and Beal’s was a perfect example of a place you could go to laugh your head off and have a good time without imbibing liquid spirits ... Second hand smoke? If you were a smoker, you probably didn’t need as many ‘cancer sticks’ (as Howard used to call them) on the days you ate at Beal’s.” — Gary Joe, BS’67, BSPha’70 (Joe also reminded us of the meal tickets which came with 50 cents off each time a new card was issued.)

Denny Cronin, BS’52, supplied a photo of one of the basketball teams of postwar years clustered around Walt and Hazel Beal, taken at one of the season-ending feeds put on for the athletes. Denny worked at Beal’s for a couple of years and says: “…if a person didn’t know how to work for somebody else, you quickly learned from Walter. His bark was worse than his bite but you also knew he was around.”

“Dad always wanted to be his own boss.” — Burnice Fiedler

“Walt and Howard are the property of Creighton University.” — Fr. Neil Cahill, S.J.

Howard died in 1996, but, along with his father-in-law, Walt, he left a legacy of memories.
IS THE EIFFEL TOWER TALL?
In 1965, Lofti Zadeh, an Iranian-born mathematician working at the University of California – Berkeley, developed fuzzy set theory and touched off a thunderbolt in mathematics. The storm, called fuzzy mathematics, has inspired a phenomenal amount of published material and elevated the computers’ level of competency to that which rivals — or even exceeds — that of most humans. This ongoing “age of enlightenment” of the computer — and its reverberation throughout the mathematical community — gives Creighton’s Center for Research in Fuzzy Math and Computer Science its mission and its members their drive.

Researchers in most Western countries have not adopted fuzzy mathematics as quickly as they could have, which holds back research and development in all areas of technology.

The Japanese, on the other hand, have quickly embraced fuzzy mathematics and used it as a primary focus for technological advancement. The Japanese are so impressed with its versatility that practically anything and everything they produce has a fuzzy side to it. Japanese corporations conducting significant research and development in the area of fuzzy control include Tokio Electric Power (control of dam gates for hydroelectric power plants), Fuji Electric (simplified robot control), Toshiba (improved planning of bus timetables), Hitachi (improved efficiency and safety for subway systems), Mitsubishi (better energy efficiency in air conditioning systems), Nissan (better mileage and performance from automobile engines), Subaru (more helpful cruise control), Sony (recognition of handwritten symbols with pocket computers), Sanyo (back light controls for camcorders), and Ricoh (voice recognition for computers and appliances).

Mathematicians in the United States, as other Westerners, have been slow to accept and apply fuzzy mathematics, perhaps due to its name. “Fuzzy,” to most of us, conjures images of Teddy bears, dandelions gone to seed, and those warm comfy slippers with the rabbit ears — not quite the images we need to propel us into top-flight research.

Dr. John Mordeson and other key researchers at Creighton’s Center for Research in Fuzzy Math and Computer Science have rolled up their sleeves and are working hard to promote fuzzy mathematics and computer science in the United States. Of just a handful of institutions concentrating on research in fuzzy math, the Center has developed cooperative ventures with Creighton’s College of Business Administration and the University of Nebraska at Omaha. Its members have published more than 70 papers and notes from three lecture series. They also have served as referees and on editorial boards of various journals. And, of course, the Center continually offers undergraduate and graduate courses on both the theory and application of fuzzy mathematics and computer science.

The Center, which receives financial support from the Creighton College of Arts and Sciences, in addition to a substantial gift from Dr. George Haddix, MA ’66, and Sally Hansen Haddix, Arts ’73, also promotes fuzzy math and computer science abroad. Since the Center was formed, it has hosted faculty from China, India, Japan, Saudi Arabia and Korea, and provided resources for researchers in Bangladesh, Pakistan, Egypt, Nigeria and Iran.

But let’s not get ahead of ourselves. Just what is fuzzy mathematics — and why should we care about its discovery in the first place?

To illustrate the significance of fuzzy math, we begin by asking an average person a simple question, such as “Is the Eiffel Tower tall?” That person might answer, “Well, yes — sort of — yes, it is, if you compare it to other structures in Paris — or structures overall — although it isn’t nearly as big as other buildings, say in New York City, or Chicago. If we compare it to natural things — Mount Everest, for instance — then it isn’t tall. So it is — well — sort of tall. Is that good enough?”

Throughout most of our computer age, “sort of tall” has not been good enough. To learn why, we must have a basic understanding of how computers

Editor’s Note: Author Brian Kokensparger already has a degree in English (creative writing), but he will soon receive his master’s of computer science from Creighton and he currently works in Cardiology.
work. At their most basic level, computers are collections of electrical circuits. When voltage is passed through these circuits via various combinations of inputs (as determined by the “logic” of the machine), it gives us output signals that are either “on” (represented by a numerical one) or “off” (a numerical zero). Herein lies the classical problem: How often in the real world can we absolutely assert something either “is” or “isn’t”? How effectively can we attack a complex issue with a vocabulary of two words: “yes” or “no?”

This on-or-off (binary) nature of the computer forces us to change our question into a simple comparison of measurements, such as, “Is the Eiffel Tower taller than the Sears Tower?” How often in real life do we have the freedom to change the question if we cannot answer the one given?

Businesses and researchers are most interested in the tough questions that most computers haven’t been able to answer — until now.

In fuzzy mathematics, we broaden the concept of “is” into a number of linguistic shades of gray. Even a child can answer the question “Is the Eiffel Tower tall?” completely and appropriately with “It’s sort of tall,” or “It’s pretty tall,” or even “It’s kind of tall.” Thanks to Zadeh’s discovery and the research done in its wake, “sort of tall” is perfectly adequate and can be applied anywhere it is needed.

If the users of this set are a group of airline pilots, “sort of tall” is much more helpful than “not taller than the Sears Tower.” Let’s say the pilots need to know all the “tall” objects between London and Hong Kong. They need to know about Mount Everest, for sure, and perhaps the Eiffel Tower, depending upon the standard flight plan. So if these and other objects are even “a little tall” and in the flight path, the pilots need to know about them. We must somehow give “tall” meaning and make sure both the Eiffel Tower and Mount Everest are adequately represented in the same set.

Fuzzy mathematicians handle this problem easily. Unlike the crisp sets mentioned earlier, where objects are either “in” or “out” (one or zero), in fuzzy sets, each object has a membership value in the group that is one, zero, or any of the infinite number of fractions in between. All objects are in the set by some degree — most not entirely in the set, and not entirely out of the set.

For our airline pilots, we create a fuzzy set called “Tall Objects Between London and Hong Kong,” of which both the Eiffel Tower and Mount Everest have a degree of membership. In terms of height, we might say the Eiffel Tower is .15 in the set (being that it is only “sort of tall”) and Mount Everest is 1.00 in the set (being that it is “massively tall”). Now we have a set that includes both entities yet also recognizes their differences — what we’ve needed all along.

No need to stop there. We also will help the pilots by considering what actually lies in the flight path between London and Hong Kong. Since pilots generally avoid flying over big cities and the tallest portions of mountain ranges, we give them an arbitrary southern route which avoids these tall entities. Now we have a fuzzy set called “Tall Objects in the Flight Path Between London and Hong Kong.” We also assume they avoid the Himalayas entirely on the flight path, so Mount Everest’s previous membership value of .15 in “Tall Objects Between London and Hong Kong” becomes .4 in the set “Tall Objects in the Flight Path Between London and Hong Kong.”

Now the pilots have a much better idea of the perils along the flight path and are better informed of the combined severity and probability of engaging each (.4 for the Eiffel Tower and .6 for Mount Everest). This fuzzy set now provides useful information for the pilots, information previously unavailable due to limitations imposed by “crisp” thinking.

You have just learned the fundamental concept of fuzzy mathematics: Membership in a fuzzy set is represented by a membership value of zero, one, or any of the infinite number of fractions in between. Applying this concept to real world problems adds an additional layer of complexity, but
the underlying theory always remains the same.

Since we have already created a fuzzy set to inform the pilots, why not really help them by creating a fuzzy navigator to automatically fly the plane around these obstacles? First, we create a data file containing the map locations of all the objects in the fuzzy set “Tall Objects in the Flight Path Between London and Hong Kong,” including their height. Then we arrange continuous inputs to our new fuzzy navigator, including the current altitude of the airplane and its location and bearings (direction of travel). Now we ask the pilots — who are the experts since they’ve logged thousands of miles over this route — for some rules.

Some may tell us that on clear days they fly close enough to the Eiffel Tower to allow the passengers a glimpse as they fly by. This requires another input — weather data with a visibility factor. They may also tell us they are required by company policy to fly quite a bit south of the Himalayan mountain range, and as close as possible to the city of Calcutta.

We put all these preferences into the navigator as rules: “If visibility is two miles or more, then fly as close as possible to the Eiffel Tower.” “If visibility is less than two miles, stay far away from the Eiffel Tower” and “Fly away from the Himalayan mountain range, and as close as possible to the city of Calcutta.” Once we put these rules into the system, we create fuzzy sets to handle all the input data (like our fuzzy set “Tall Objects in the Flight Path Between London and Hong Kong”). The rules, fuzzy sets, and input data are all merged to produce a continuous stream of output data. The lines carrying this output data could then be connected directly to the steering mechanism of the plane.

When the fuzzy navigator is installed and activated, it constantly checks the visibility data in the weather file along with the current location and altitude of the aircraft, compares this data with the mapped locations of the various entities that the pilots wish to avoid or encounter on the flight, and, according to their stated preferences (rules), adjusts the steering mechanism. The result? A perfect flight by a vigilant and competent navigator — and more time for the pilots to attend to other matters.

Though programming a fuzzy controller sounds like a very complicated process (and is when passenger safety is at risk), at its most basic level it is within the capabilities of anyone with a good handle on a modern programming language.

William Jutz, a student in Dr. Mark Wierman’s Applied Fuzzy Set Theory course at Creighton, programmed a fuzzy controller called a “Fuzzy Lunar Lander.” Lunar Lander, a popular simulation game, allows players to try their hands at landing a space vehicle on the surface of the moon. It is crucial for the players to approach the landing pad at the proper vertical and horizontal speeds, while avoiding uneven terrain (such as mountains and craters).

Jutz initially set arbitrary values for the horizontal and vertical speeds, tempered these values according to the distance from the landing pad, and let the controller take over from there. After a few dozen landers implanted themselves permanently into the lunar soil and rock, he “tweaked” (changed ever so slightly) the values and the sets until the fuzzy controller developed a “feel” for the landing pad.

In talking with Jutz, it was obvious that the fuzzy controller coached him toward choosing the right values. Once those values were chosen, the controller operated flawlessly. It quickly, precisely and gracefully guided the lander onto the landing pad every time.

His previous controller (the “crisp” one) landed the lander on the pad most of the time, but did so without the grace and precision to which we’ve become accustomed. The difference between a fuzzy controller and a crisp one is the difference between setting down smoothly and gently, and popping a few rivets on touchdown.

Other students have applied fuzzy mathematics to diagnosing diseases, scheduling work crews, optimizing quality and production in a cotton mill, optical character recognition, controlling automobiles, and determining authorship of manuscripts, all with fascinating results.

Faculty members in the Creighton Center continue to contribute scholarly papers in the field. Drs. Mordeson and Premchand Nair are “fuzzifying” automata theory, which will help in the efficient design of logic circuits and, therefore, faster and more powerful computers. Dr. Wierman is continuing work on the Extension Theorem, producing a methodology by which anything that can be quantified can be fuzzified. Dr. Shih-Chuan Cheng has recently submitted a paper for publication on fuzzy circles. Dr. Davender Malik, the Creighton faculty member who first heard of fuzzy mathematics from a colleague and brought the idea back, is working on fuzzy algebra, automaton theory, and fuzzy set theory.

“There is much work left to be done in fuzzy math,” said Mordeson to his Fuzzy Seminar class, a room full of undergraduates, graduate students, and faculty observers. “There are research problems to investigate in every area. We have a lot to do.” No one disagreed.
It seemed like the ideal job to a new MBA grad from Indiana University: product marketing for General Mills. However, after three years of trying to find ways to persuade American shoppers to buy Gold Medal Flour, Betty Crocker products and Bisquick’s new lines, Tom Manahan wasn’t satisfied.

He’d always believed that he should make a difference in the lives of other people – and he didn’t see that happening. “I needed to see things in a larger scope.”

He began seriously to entertain an idea which had first occurred to him as an undergraduate at the University of Minnesota: becoming a priest.

Today, the Rev. Thomas Manahan, S.J., says he has found an opportunity to touch lives in his Creighton marketing and business ethics courses and in his other work as a Jesuit, which includes conducting retreats.

“The direct contact with students is very invigorating and rewarding,” he said. “The question is, ‘How do you keep a mission alive in an institution?’ It’s some of the same challenge in a corporation as here. The larger spirit can get lost in the mundane. We have to keep outward looking, not just inward looking so our worlds don’t become too small.”

Manahan, although distinctive in coming to the priesthood later in life, is one of a number of Creighton faculty members in a variety of disciplines for whom teaching is a second or third career. Most teach in fields such as education, journalism, nursing or a business related to their professional experience. However, a few have entered new fields and disciplines.

They are a special group, said Academic Vice President Charles Dougherty. Most Creighton faculty members take their positions right out of the graduate schools they entered relatively soon after finishing their undergraduate degrees.

Typically, the second careerists are older, and their maturity means they combine academic excellence with “a wealth of real life experience which they share with students,” he said.

Many have overcome formidable obstacles to pursue academic careers, including years of mid-life graduate work which they have often combined...
with full-time jobs. They also usually take pay cuts, sometimes large pay cuts. Some have gone into debt to pay for their graduate work during the years when most families are acquiring assets and investments.

Who are they? Why do they do it?

Second careerists frequently mention such motivations as a love for teaching and a desire to mentor young people. They believe that their years of experience will enable them to introduce students to the “real world” they plan to enter.

All sorts of backgrounds can contribute to effective teaching. For example, Dr. Terry Clark, associate professor of political science, said the oral presentation and critical thinking skills which he developed as an Army intelligence officer are extremely valuable in the classroom.

Clark, a graduate of the U.S. Military Academy, spent 10 years as an Army officer before finally pursuing the academic career which had long attracted him. In his doctoral work at the University of Illinois (financed partially with severance pay from the Army), he specialized in comparative politics with supporting work in international relations, Soviet domestic politics and Russian history.

At Creighton, Clark teaches courses in comparative politics and international relations with a stress on Eastern Europe. He’s also involved in helping Creighton develop a relationship with a Lithuanian university and other international activities.

“Never for one day of my life have I regretted this decision (to become an educator),” said Clark. “I have found what I like. I take it as a privilege to study and focus on what I like.”

However, the decision was expensive, he said. “I took a two-thirds reduction in salary to go to graduate school. I’m making about half of what I would if I had stayed in the Army.”

Clark said he has recouped some of the loss by consulting with businesses interested in working in Lithuania and Russia and writing book reviews and articles.

“I’m glad I did it (went into academia) but both my wife and I on occasion recognize how much we lost financially,” he said. “However, I’m no longer suffering from high blood pressure and stress.”

Some second careerists combine past careers in unique ways, to the benefit of their Creighton students. Dianne Travers-Gustafson, an assistant professor of nursing, today divides her time between community health/community mental health classes on campus and working on a National Institutes of Health grant for rural osteoporosis research. Travers-Gustafson lives with her husband, Mark, and two children on a farm near Mead, Neb.

She began her career teaching special education in elementary and high
schools, then worked in Brazil with her husband. When they returned to the U.S., she enrolled in Creighton’s accelerated nursing program because she believed that this would be useful if they again worked in a developing country. Following graduation, Travers-Gustafson worked in rural public health nursing, but she had never lost her love for teaching. She returned to graduate school at Creighton and received a master’s degree. She also has been a day care nurse in North Omaha.

“I wanted to coach,” said Travers-Gustafson. “I think one’s teaching is very colored by one’s experience. I am very grateful for having lived abroad and in a rural area. This is a rural state. It puts me in good stead for teaching. I deal with issues of safety in entering homes and communities and health promotion. It leaves me with a comfort level for clinical practice. The didacticism emerges from our life experiences.”

Some career shifts take years to complete. Dr. Cynthia Corritore, an assistant professor of information technology, spent 13 years pursuing her doctorate in management information systems. During much of that period, she taught nursing at the University of Nebraska Medical Center.

Corritore said she originally chose a nursing career because it was one of the few careers open to women when she graduated from Burke High School in 1974. Although nursing hadn’t been her first choice of careers, she eventually received a master’s degree in nursing and taught it. Her interest in science eventually led her into computer programming and her career shift.

Today, said Corritore, she’s developing a specialty in medical informatics which focuses on the interaction between humans and computers in the medical field. Her unusual dual background is a major asset in work on applying human computer interaction to medicine.

Corritore said she had a choice of teaching at Creighton or a state university when she was completing her doctorate in 1996 but chose Creighton. Here, she finds her computer science colleagues open to women, and she likes the greater flexibility of a private university.

Like all second careerists interviewed, she expressed satisfaction with her career shift. Corritore, who has three children under the age of 10, notes that although it took her 13 years to complete the doctorate, she’s now working on the “cutting edge” of a field that fascinates her in a university where she is happy.

Some second careerists come to Creighton with backgrounds in teaching at the K-12 level and have retooled themselves for the world of the university.

One veteran educator now teaching at Creighton is Dr. Clidie Cook, assistant professor of education, whose varied and extensive background includes teaching business education in Guam and at Omaha North High, piloting the Cooperative Office Education Program for the Omaha Public Schools, supervising business educators in OPS, serving as assistant principal of Benson High School for 15 years and teaching vocational and business education at the University of Nebraska-Lincoln.

Like many of Creighton’s second careerists, Cook acquired her doctorate at UNL while working full-time. At C.U., her courses include graduate classes in educational foundations and classroom management for teachers.

Cook could have continued teaching at UNL. But she was...
attracted to Creighton because of its smaller size and greater contact with students.

“I like the Jesuit method of instruction,” she said, “and the stress on caring about the individual. The students are more value-oriented. It shows in the way they act, like opening the door for you. I like the atmosphere.”

Another Creighton educator, Dr. Bryan Le Beau, credits his “first career” — as a special education teacher in a high school — for much of his skill in the classroom.

Le Beau, an associate professor of history, believes there is “no substitute for classroom experience ... The more challenging the experience, the better teacher you become.

“Creighton students are very easy to teach. They don’t pose the kind of challenge where they defy you to make the course interesting, where you have to constantly think how to get their attention and get them to learn and even be interested. You can bypass that here.”

“**What It Takes**

A PERSONAL NOTE

“You teach at Creighton. I’ve always wanted to do that. What would it take?”

Like many mid-career changers in academia, I’ve often fielded such questions. My instant thought is “you don’t even want to know.”

Mentally, I flash back to the graduate school years. I’m on I-80 heading to another night class at the University of Nebraska-Lincoln. Since tearing out of my Creighton office at 3:15 p.m., I’ve picked up my children at school, fixed dinner for my family (but not had time to eat), helped with homework, checked to make sure I have my assignment and dashed out the door praying that the weather doesn’t change. Dinner will be cookies from the vending machine.

It’s like this twice a week for two years — followed by several months of intense studying for comps and more months of intense research and writing to complete the dissertation. It’s a shame to discourage others from entering a field I love, but the above is a reality that potential career switchers face. What does it take to make it?

• A burning desire to teach and a great love of young people because, otherwise, it’s not worth the sacrifices.
• A flexible spouse (if you are married) and children willing to tolerate the fact that Mom takes her books to basketball and soccer games (if you have kids).
• A willingness to spend a considerable sum on tuition while taking a pay cut at work.
• The drive and self-discipline to devote almost every spare minute to studying for the doctorate.
• A willingness to continue working at this pace for several years after finishing the doctorate to publish enough to be granted rank and tenure.

It helped a lot to have a strong sense of the rewards that this massive investment of time, money and energy could reap. For me these have included:

• Work that is challenging, interesting, rewarding and worthwhile.
• A flexible schedule that enables you to leave work to pick up non-driving teens at school or attend daytime school functions, take children to medical appointments and so forth. You may grade papers until midnight but at least you can attend the 1 p.m. music festival.
• The opportunity to do serious writing and research — something which is impossible in a conventional office job.
• Excellent benefits and the ability to supplement the paycheck by teaching summer courses, consulting, freelance writing and the like.

As long as you have a realistic appreciation of what you’re getting into, follow your heart and go for it. I’m glad every day that I did. But I can see why so many give up the idea when they find out what the total package calls for.

**Editor’s Note:** Wirth’s struggle paid off. This spring, she received tenure and a promotion — “the goal of all those awful trips to Lincoln,” she says. For this newspaper reporter and ad executive turned professor, the switch was worth the effort.
Editor’s Note: Richard J. Hauser, S.J., is professor of theology, chair of the theology department and director of the master’s programs in theology, ministry and Christian spirituality at Creighton. His book, “In His Spirit: A Guide to Today’s Spirituality” (Mahwah, N.J.: Paulist Press, 1982), gives an expanded treatment of the matter in this article. (Note: All scripture quotes are from “The New American Bible.”)

I remember when I learned to pray. I was teaching as a Jesuit scholastic at a mission in South Dakota. Our life was very difficult.

Regular Order included rising at 5 a.m. and retiring after the students were asleep around midnight. We were expected to do an hour of meditation before 6:30 Mass in the Mission Church. Eventually sheer physical exhaustion drove me to begin sleeping late, getting up only in time for Mass. Daily meditation had always been presented to me as essential for living the Jesuit life, so I experienced continual guilt for skipping them. But every evening after the students had quieted down in the dorms, I’d walk down the highway under the stars, often for more than an hour. I recall being discouraged and lonely and pouring out my heart to God. I also recall returning from these walks peaceful, feeling close to Christ and wondering how I could survive without these walks. But my conscience continued to bother me for skipping daily meditation. But one night I had a startling realization: I was not skipping daily meditation; I was doing it at night! I was walking down that highway each night to be with the Lord — not to fulfill a religious obligation — and that was, after all, prayer. I had learned to pray.

Frequently I receive requests to give talks on prayer. Usually I’m instructed that the group would like some practical methods for improving the quality of their prayer. I am always uncomfortable with these requests. My own experience tells me that praying is more than the conscientious use of methods — I’d been doing that for years before my breakthrough at the Mission. My experience tells me that prayer happens when we find a time and place that enables us to be in touch simultaneously with our deepest selves and with the Lord. At that moment God’s Spirit joins our spirits, and we truly pray from our hearts. In this context Paul’s remarks about the Spirit aiding our prayer make great sense.

“The Spirit too comes to help us in our weakness. For when we cannot choose words in order to pray properly, the Spirit...expresses our plea in a way that could never be put into words...” (Rom. 8:26-27)

In short, I believe that the basic challenge for deepening personal prayer is arranging circumstances that best evoke the Spirit within ourselves, letting God’s Spirit join our spirit, and then expressing our hearts to the Lord. For me at the Mission it was walking down the highway at night.

Vatican II called us to a renewed appreciation of the role of the Holy Spirit within the Church and within spirituality. Chapter One of the “Constitution on the Church” expresses this eloquently.

“The Spirit dwells in the Church and in the hearts of the faithful as in a temple (cf. 1 Cor 3:16; 6:19). In them he prays and bears witness to the fact that they are adopted sons (cf. Gal 4:6; Rom. 8:15-16 and 26). The Spirit guides the Church into the fullness of truth (cf. Jn 16:13) and gives her a unity of fellowship and service. He furnishes and directs her with various gifts, both hierarchical and charismatic, and adorns her with the fruits of His grace.” (cf. Eph 4:11-12; 1 Cor 12:4; Gal 5:22).

“In order that we may be unceasingly renewed in Him [Jesus] (cf. Eph 4:23), He has shared with us His Spirit who, existing as one and the same being in the head and in the members, vivifies, unifies, and moves the whole body.”

John Paul II’s 1986 encyclical “Lord and Giver of Life” reflects Vatican II’s emphasis on the centrality of the Spirit in Christian life. The pope succinctly summarizes the connection between the redemption of Jesus and our sanctification by the Holy Spirit.

“The redemption accomplished by the Son in the dimensions of the earthly history of humanity — accomplished in the ‘departure’ through the Cross and Resurrection — is at the same time in its entire salvific power, transmitted to the Holy Spirit: the one who ‘will take what is mine’...” (para. 22).

John Paul reminds us that we adequately understand the Christian vocation only when we understand the role of the Holy Spirit. The entire effect of the redemption is brought about by the Holy Spirit! Post-Vatican II Christians are challenged to renew our understanding of the work of the Holy Spirit — an understanding all but lost before the Council — and then to rethink our approach to every spiritual discipline, including personal prayer.

The Spirit and the Self

Treatment of the role of the Spirit within ourselves must begin with the Last Supper discourse in John’s gospel. Jesus is comforting his disciples, having told them of his imminent departure.

“But now I am going to the one who sent me, and not one of you asks me, ‘Where are you going?’ But because I told you this, grief has filled your hearts. But I tell you the truth, it is better for you that I go. For if I do not go, the Advocate will not

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come to you. But if I go, I will send him to you.” (Jn 16: 57)

But Jesus assures them it is better for them that he goes; the Spirit he sends will take his place, guiding and strengthening them in their mission. Indeed this union with himself through the Spirit is the condition for apostolic effectiveness. The Gospel could not be more clear.

“Remain in me, as I remain in you. Just as a branch cannot bear fruit on its own unless it remains on the vine, so neither can you unless you remain in me. I am the vine, you are the branches. Whoever remains in me and I in him will bear much fruit, because without me you can do nothing.” (Jn 15: 4-5)

Jesus’ prediction is fulfilled at Pentecost when the Spirit descends on the community. The Acts of the Apostles gives witness to the working of the Spirit in the apostolic Church. Note the difference in the disciples before and after the coming of the Spirit.

Among New Testament writings the epistles of Paul are also a most eloquent witness to this power of the Spirit — a power he received only after his conversion to Christ at Damascus. For Paul, belief in Jesus with the subsequent infusion of the life of the Spirit is a new principle of life, a new creation. This principle of life infuses the Christian community forming one body, the Body of Christ, with every member united and animated by the same Spirit.

“The body is one and has many members, but all the members, many though they are, are one body, and so it is with Christ. It was in one Spirit that all of us, whether Jew or Greek, slave or free, were baptized into one body. All of us have been given to drink of the one Spirit.” (1 Cor 12: 12-14)

What can we Christians expect from this presence of the Spirit? We enjoy three modes of activity flowing from the three dimensions of our being — physical, psychological and spiritual. It is helpful to imagine three concentric circles: The center is the spirit, the middle is the mind, and the outer is the body. Every human activity engages all three levels. Our physical and psychological activities are obvious to all. But what are our spiritual activities? The spiritual level is the level of our freedom, our freedom to respond to the Spirit or not to respond. The Holy Spirit joins our human spirit, initiating within us the desire for goodness — without the Spirit’s presence we would not even have the desire. Responding to the Spirit then transforms the other levels of our being, the physical and the psychological. The Spirit is the principle for all Christian life. Traditionally this indwelling of the Spirit has been called “sanctifying grace.”

Unfortunately the Vatican II theological renewal concerning the Holy Spirit still remains contrary to popular beliefs. Many of us live within a different model of the self — I’ll call it the Western model of the self. I call it the Western model because it is the model I recognize as dominating the approach to God in myself — and in my brothers and sisters in the Western Hemisphere. In this model God is solely transcendent — in heaven — and so not dwelling within the self through the Spirit. Since God is in heaven, God cannot be the initiator of good actions. Though the Western model duly acknowledges that we are made to know, love and serve God in this life and so be happy in the next, it gives God no role in these actions until after they are performed. Then it grants that God rewards us with grace in this life and heaven in the next. But in the Western model we are the initiators of our own good deeds — including personal prayer — and so we never truly understand the inner dynamics of prayer. In this model sanctifying grace is often erroneously understood as the treasury of merit stored in heaven earned by good works.

**The Spirit and Personal Prayer**

All this has practical implications for how we pray. We are called to live and to pray within the scriptural model of the self — not the Western model. For me prayer is simply the movement of the heart toward God under the influence of the Holy Spirit. It is a movement of the heart: no heart movement, no prayer. It cannot be identified either with words we say or thoughts we think. Indeed, prayer need not even be accompanied either by words or by thoughts. In Christian tradition the deepest prayer transcends both. And the movement can occur only when we are under the influence of the Holy Spirit. We have seen that the Spirit abides with us as a permanent indwelling gift of God. Though the Spirit, or sanctifying grace, is always present, we are not always in touch with that presence. But in prayer we set time aside to allow God’s Spirit to join our spirit and to raise our hearts to God.

And in prayer the movement of the heart under the influence of the Spirit is ultimately toward God, toward the Father and toward Jesus. Just as Christian theology sees the Spirit as the bond of union between the Father and the Son in the Trinity, so the Spirit is our bond of union with the Father and Jesus. Note that we do not really pray to Mary and to the saints; more accurately we go to them to pray with them to the Father and Jesus. In the communion of saints the Spirit unites us with Mary and the saints. And we on Earth are united with them as they now are in heaven. In heaven they exist in continual movement of love and praise to the Father and Jesus; as such they can be privileged intercessors for us. With them we move toward communion with the Father and Jesus, since the deepest yearnings of our hearts are also toward the Father and Jesus. It’s impossible to imagine Mary’s not wanting to unite us more deeply to her son and to our Father.

And Christians must pray, for in prayer we experience our deepest identity. Often we erroneously assume that we pray simply to seek specific favors from God. Deeper reflection reveals, however, that what we are really seeking is a confirmation of God’s love for us. Though we may be led to prayer to
seek specific favors, as we continue praying, we eventually realize our deepest need is for God’s presence and support. The Spirit has transformed our initial desires. The process is not unlike Jesus’ transformation in the Garden of Gethsemane. Initially he begins by seeking to have the chalice of suffering removed, but he concludes by yielding to God’s presence and is energized to do God’s will. I believe I experienced this same type of surrender during my nightly walks at the Mission.

Augustine said it best: “Our hearts are restless until they rest in Thee.” The ultimate purpose of prayer is resting in the Lord, realizing we are loved.

The “trick” to praying well is discovering the conditions best facilitating the movement of the Spirit. The time, place and setting for prayer are important. We choose the best available time, place and setting. For me at the Mission it was late at night walking down a highway, and definitely not early in the morning when I was half-asleep. I am presenting the following conditions and methods as the ones that regularly best facilitate my own daily response to the Spirit in personal prayer; everyone’s conditions and methods will be distinctive, related to their personality and schedules.

First the time. After rising, showering and shaving, I light a candle before my prayer wall. I spend 60 to 90 minutes in spiritual disciplines. Having gotten coffee, I begin by journaling; then, putting the coffee aside, I move to the morning office; finally, I move to personal prayer for the last 20 to 30 minutes. I never rush, spending as much time journaling as needed. The journaling clears my head and allows me to process what has built up in my psyche, matter which could emerge as distractions in personal prayer. Often journaling provides the topic for the subsequent prayer.

Next, the place. I pray in my own room — which doubles as a bedroom — in a chair next to a large window with an eastward exposure overlooking a secluded garden; the chair faces my prayer wall. It is upholstered and comfortable, but supports me firmly in an upright position. Alongside the chair on a side table I place all the materials I need: my journal, a Bible, the daily office, a lectionary, meditation books related to the liturgical season. I love this room; it is away from my offices. The window, open in warm weather, gives direct access to the sights and sounds of the garden and to the warmth and light of the rising sun. My prayer wall is hung with favorite icons, prints and crucifixes gathered over the years; I rearrange the wall for different liturgical seasons and feasts. I also have available musical tapes which I occasionally use as background. The physical setting — the time, place, furniture arrangement — is key. The regular rhythm of entering this environment at this time each day not only prepares the conditions for facilitating the Spirit but often occasions immediate communion with the Lord. Given the desire for communion with God, praying can be simple: Just find the right time and place and go there regularly!

Use of prayer methods may also help or hinder the movement of the Spirit. Most of us pray using the method of Lectio Prayer. In Lectio Prayer we choose an aspect of God’s word to focus our attention, and then we wait, listen and respond to the word of God — under the influence of the Spirit. This method is based on the conviction that God is present and can speak to us through the word. But the “word of God” has multifold meanings. God is present in the scriptural word; traditionally most have found the scriptural word has been the most helpful starting point. God also is present in the created word; some find focusing on God’s presence in creation — the beauty of nature — a more effective beginning. God also is present in the existential word; many find focusing on God’s presence in events and people of their lives the most effective beginning. But any aspect of creation or embodiment of creation — images, poetry, music — is a word of God and possible starting point for prayer, since God is present in all aspects of reality, sustaining them in existence and using them to bring us into communion: “Creation proclaims the glory of God.”

The Christian tradition affirms a wonderful truth: By focusing on the word of God we can be led by the Spirit to the highest levels of communion with God. This tradition, enshrined in
Benedictine spirituality, describes internal transformation as moving from thinking (meditatio) about God's presence in the word, to praying (oratio) to God about our reactions to this presence, to simply resting (contemplatio) in God's presence without either thinking about God or even consciously praying to God. Guido II, a 12th century Carthusian abbot, gives the classic expression of the internal dynamic of this prayer.

“You can see . . . how these degrees are joined to each other. One precedes the other, not only in the order of time but of causality. Reading (lectio) comes first, and is, as it were, the foundation; it provides the subject matter we must use for meditation. Meditation (meditatio) considers more carefully what is to be sought after; it digs, as it were, for treasure which it finds and reveals, but since it is not in meditation’s power to seize upon the treasure, it directs us to prayer. Prayer (oratio) lifts itself up to God with all its strength, and begs for the treasure it longs for, which is the sweetness of contemplation. Contemplation (contemplatio) when it comes rewards the labors of the other three; it inebriates the thirsting soul with the dew of heavenly sweetness. Reading is an exercise of the outward senses; meditation is concerned with the inward understanding; prayer is concerned with desire; contemplation outstrips every faculty.” (Guido II, “Ladder of Monks,” Cistercian Publications, 1978)

The goal of the process is contemplation which “outstrips every faculty” and rests in communion with God. Our activity recedes; God's increases: God holds us to God's self with little or no effort on our part.

For me, two other methods of prayer complement Lectio Prayer. Centering Prayer is based on the truth of God’s presence in the center of our being, beyond the level of thoughts and desires. It presumes the scriptural model of the self. I find it most helpful when the Spirit brings me to the contemplation mode of Lectio Prayer. After I have reached a level of interior quiet, I experience no need to verbalize thoughts and desires to God and am drawn by the Spirit simply to rest in the Lord. To symbolize my intention I choose a favorite appellation for God, such as, “Father,” “Abba, Father,” “Jesus,” “Lord,” repeating my prayer word only when distractions arise. The rest of the time I simply sit in faith before the Lord. The method, taken from the 14th century English classic “Cloud of Unknowing,” is more useful for those who have been praying regularly. In this method the Spirit holds us in communion with God without the mediation of thoughts and desires.

The assumptions and dynamics of Mantra Prayer are similar to Centering Prayer. In Mantra Prayer we also respond to God directly unmediated by reflections on God’s word. Having reached a level of interior quiet, we sustain our prayer not by a prayer word but by a mantra. Most mantras have four phrases; we slowly repeat the mantra, coordinating its four phrases (indicated in the following by asterisks) with our inhaling and exhaling. (Most, though not all, authors suggest coordination with breathing.) The desert fathers preferred: “O God * come to my assistance * O Lord * make haste to help me.” The most famous mantra in the Christian tradition, however, is the Jesus Prayer arising with the Greek Fathers in the fifth century: “Lord Jesus Christ * Son of God * have mercy on me * a sinner.” I frequently recast scriptural passages into mantra form. Among my favorites: “The Lord * is my shepherd * there is nothing * I shall want”; “You are my servant * whom I have chosen * my beloved * with whom I am pleased”; “I am the vine * you are the branches * without me * you can do nothing.” Mantra Prayer enters the Christian tradition formally in the fifth century in the “Conferences” of John Cassian.

When thoughts arise in Centering or Mantra Prayer the practical advice for handling them is simple: Resist no thought, react to no thought, retain no thought; simply return to the prayer word or mantra. Thoughts even have a positive quality to them because as we let them pass, we are evacuating from our psyches obstacles to the contemplative communion with God; they are actually part of the purification process. Handled well, they move us toward interior silence “which outstrips every faculty.”

“The goal of all prayer is communion with God...our role is discovering the conditions facilitating the movement of the Spirit.”

The Best Method of Prayer?

There is no “best way” to pray; whatever works is best for the person. Since the goal of all prayer methods is communion with God and since only the Spirit can bring about this communion, our role is discovering the conditions facilitating the movement of the Spirit. Communion remains a gift. I once believed — erroneously — it was my conscientious use of a particular method that guaranteed good results in prayer. Through trial and error we individually discover what works best for us. The following are some additional reflections on what has been working for me, not given as ways everyone should pray.

The starting point for prayer is usually my life, the existential word of God as I am experiencing it. I have had little luck — and in the past wasted much time — forcing myself to reflect on meditations written by others unrelated to my daily life. I believe God continually manifests God’s self in all creation and history and in my life — through the Spirit. I choose some aspect of God’s word from my previous day, a person or event. I bring the matter to mind and begin focusing my attention upon it. I put distractions aside as they occur and attempt to keep my mind gently on God’s word. I wait in God’s presence, listen to God’s speaking through the word in my heart and respond in any way the Spirit moves. The Spirit directs our attention to the word (lectio); the Spirit transforms our minds prompting suitable thoughts about the word (meditatio); the Spirit transforms our wills prompting suitable desires and affections about the word (oratio); the Spirit leads us to rest in God’s presence beyond thoughts and desires (contem-
I believe that listening to God is a better metaphor for the prayer process than the traditional speaking to God. We speak only in response to the Spirit and only after we have listened!

But frequently after lighting my candle, settling into my prayer chair, sipping my coffee and journaling, I find myself already held to God by God with no further effort needed on my part, so I stop journaling: I am already centered; no method is needed. I have developed a facility for being drawn by the Spirit into communion by the regularity of being present to God each morning at this time and in this place. The setting has not only prepared me for praying but actually has itself occasioned it. Perhaps my journal recordings have brought to mind some blessing, some word of God, from the previous day. The blessing becomes the occasion, the sacrament, for awakening consciousness of God and for resting gratefully in the presence of God. The Spirit moves me from gratitude to communion and contemplation. All I know is that I have no desire either to reflect upon or pray over the blessing. Or perhaps the recordings have recalled a need. The need then becomes the occasion for awakening consciousness of dependence on God and for resting in silent acknowledgment of my helplessness without God: “Be still and know that I am God.” At this point I often use Mantra Prayer and then Centering Prayer to sustain my attention.

Occasionally my attention is caught unexpectedly by some aspect of the garden outside my window: I see the sun rising through the trees, I hear a song of a bird or rustle of leaves, I smell the fragrance of the garden and feel the wind on my face. I have no desire to continue reflecting or praying: I find myself held by God to God — I am centered. Nature has become the sacrament occasioning communion with God and contemplation. Again I may move from this Lectio Prayer on the word of God to Mantra Prayer to Centering Prayer.

God made us to be fulfilled, fully in communion with the Father and Jesus; the Spirit in us yearns always for this fulfillment. In personal prayer we attend to this basic relationship of our life. Each of us has the challenge of discovering the conditions facilitating the deepest expression and enjoyment of this relationship. We ought never be discouraged. No matter how disturbing and preoccupying the external events of our lives may be, we can always pray because we’ve been given the Spirit to help us in our weakness. I think Paul had his own tumultuous life in mind — and perhaps also Jesus’ experience in Gethsemane — when he wrote to the community in Rome, a community that experienced persecution and even death for their faith in Christ.

“The Spirit too comes to help us in our weakness. For when we cannot choose words in order to pray properly, the Spirit himself expresses our plea in a way that could never be put into words, and God who knows everything in our hearts knows perfectly well what he means, and that the pleas of the saints expressed by the Spirit are according to the mind of God.” (Rom. 8:26-27)

The Creighton Retreat Center, located near Griswold, Iowa, offers a quiet place to relax, reflect and rest in the Lord. Above, Creighton employee Michael Kelley takes advantage of this peaceful atmosphere. The Center is open to alumni and others. Cabins, single rooms and conference areas are available. The Center also hosts spiritual retreats. To make reservations or for more information, call (712) 778-2466 between 9 a.m. and 4 p.m. Monday through Friday.
Two College of Arts and Sciences graduates were honored at May Commencement ceremonies this year with the University’s highest student honor, the Spirit of Creighton Award. They are Edward T. Dziedzic and Christie Michels.

Ed was president of Omicron Delta Kappa, a member of Alpha Sigma Nu — the Jesuit Honor Society, the Creighton University Concert Choir and advertising manager for the Creightonian student newspaper. He was on the dean’s list for five consecutive semesters, was active in Creighton theatre productions and retreats, served as assistant coordinator of liturgical music for St. John’s Parish and volunteered at Francis House. Ed, of Brooklyn Center, Minn., graduated with a Bachelor of Arts degree with a major in advertising.

Christie, of Sheldon, Iowa, completed her Bachelor of Science degree with a major in biology in May. She has served as a teaching assistant at Creighton in the Molecular and Cell Biology Laboratory. She was also a Leadership in Residence Scholar.

As co-founder and president of Empowerment 2000, Christie spearheaded efforts at Creighton to integrate college students into the middle school classroom to discuss parent relationships and saying “no” to drugs. Christie also presided over JUSTICE: Ignatian Leadership, an organization that fosters Jesuit values and education in the freshman seminars, and she served on the Student Board of Governors’ president’s cabinet.

Congratulations to Ed and Christie ... and the many Creighton students you represent.