Spanish Surprises

By Sean McGinley ‘16

The rain caught us off guard, but the surprise guests really made the night. It began as a typical McBride evening in Spain. We gathered in Barcelona’s old city to tour a museum that used comic books to explore life under the fascist dictatorship of Francisco Franco. When the guards kicked us out, we left the museum to continue the discussion.

We typically held class outside, but this time the rain tried to spoil our plan. We sought shelter under an archway near the back of the Cathedral, refusing to let the awkwardness of the space intrude on our discussion. As class wrapped up, the rain eased and the skies lightened. Music filled the square. A parade of costumed giants with huge heads marched toward us, paying no heed. The photo above captures our surprise as the musicians proceeded to our spot, crowding us out of the archway that had served as our classroom. “Class dismissed,” we joked.

Such surprises had become ordinary. For eight weeks, nine McBride students and two professors lived, studied, and worked in Barcelona. We breathed the chaos of Catalonia – the region encompassing our city, which had long struggled to assert its autonomy from Spanish authorities in Madrid. Indeed, the very day we arrived King Juan Carlos I, in power since Franco’s death in 1975, abdicated the throne.

“*My time abroad taught me the meaning of self-confidence. I learned to trust my gut.*”

Thousands of Catalans took to the streets, waving flags and cheering “¡Visca Catalunya!” Long live Catalonia; it was their battle cry for independence.

On that day and on many others, we learned not only from our professors, but also from people around us. We worked as interns with local companies, with jobs ranging from near field communications to biomass industry analysis to patent classifications. Our colleagues spoke three languages. They also spoke of working to fulfill themselves, not just to fill their pockets. We saw what it means to work with passion. We came to appreciate the siesta and the second lunch.

We also explored the meaning of Catalonia through literature that painted our adventure. Unforgettably, we walked the streets where George Orwell, best known for 1984 and *Animal Farm*, had faced down gunfire during the civil war in 1937.

Although we shared a common adventure, as individuals we grew in different ways. My time abroad taught me the meaning of self-confidence. I learned to trust my gut. My classmates learned their own lessons, some of which they share in the pages that follow, and all of which included their own surprises.
Lives Transformed: Reflections on Spain

The McBride students who spent the 2014 summer in Barcelona worked as interns with local and multinational companies. They also studied the history and culture of modern Spain. As part of their coursework, they produced “zines,” in effect self-published magazines, reflecting on their experiences. Below are short extracts.

“Symbols of Catalonia”
Nichole Pisierra

I moved overseas when I was five and began familiarizing myself with the world of travel, looking for the same key symbols wherever I went. A fork and knife on a sign will always lead me to food. A stick figure in a triangle skirt will take me to a bathroom. I have been trained to look for and understand these symbols. In a way they are a comfort; they connect me to a life I recognize. Symbols direct me. A blue sign with a lower case “i” for tourist information should lead me to everything that I need to know. I will find the answers I seek. Or will I? If my time in Barcelona taught me anything it’s that the real symbols that I should be looking for are the abstract ones, those with deeper meaning that I must work to uncover. ...

Catalonia taught me many things. I learned about the power of resilience and the variations of the rhythm of life. I saw the struggle between the old and the new. I felt the impact of memory and of forgetting. I found the many unexpected symbols that surround us and reveal the depth of culture. But mostly I learned to put away the map, to look up, and start seeing.

“Discovery”
Courtney Widhalm

My thoughts whirl. I write frantically, trying to keep pace with the tide of my unconstrained thoughts. I take no notice of people passing by. The only thing that matters at this moment is what I am writing. With each new word I shift through my journey that has brought me to this point. I am left looking at myself. I realize what a truly whimsical creature I am.

I purport to be ruled by logic and reason, the main pillars of my engineering mentality. I am efficient in everything I do, precise in my decisions. Yet when left to my own devices I end up here, sitting in a park, scrambling to get my words to keep up with my thoughts. At the depth of my being this is what I love. There is beauty in calculus and well-executed chemical reactions but they do not require people to give up part of themselves. Pleasure comes from moments like this where every creative ounce of my being is attempting to escape all at once. Every word I record takes on new meaning because it is part of me, a tiny fragment of my mind let loose into the world.

“The View from the Cheap Seats”
Clara Levy

My summer abroad meant more than getting to know a different culture; it was more than being challenged every single day, more than doubting myself and getting frustrated, upset, and disappointed. It was all of it and none of it at the same time.

I had always imagined myself in another person’s moccasins but this summer I wore the soles thin. I was viewing the world completely differently because I was now a different person. I was an outsider, a stranger - someone different, looking from the cheap seats down onto the stage longing to be the star again. That is what was so unbelievably eye-opening, life changing, and inspiring to me. I was working and living there, so I had wanted to live like a local, to become one even. If I had more time it might have come. But I found my lesson and my respect in being the foreigner. I saw through my own eyes and at the same time the eyes of millions of others who at some point in their lives had been displaced, had been aliens. All at once, I understood.

“Lost in Translation”
Creed Flynn

I wasn’t a mere tourist in Spain. I was a student and I was an employee. I spent much of my time in the office of NUB3D, a company that produces structured light scanners. What I learned there was as important as anything else I learned in the country.
Given the nature of NUB3D’s work, I was doing something technical, but it was not technical in a way my Mechanical Engineering education had prepared me for. I was writing technical articles for use in NUB3D’s marketing materials and flexing every muscle McBride had built in me. Since my work involved writing — a lot — and researching — a lot — I was challenged to be an effective communicator on multiple levels: within the context of the information I was presenting, the context of NUB3D’s identity as a company, and the context of a foreign language.

This last point—the context of language—was the most interesting challenge. Most of the employees at NUB3D knew some English, and I knew some Spanish, but a great enough disparity existed that we were never communicating on level ground. Language had to be molded into new patterns. Speech became malleable. Language is a facilitator of communication, but to be effective, language must be able to convey ideas on a one-to-one basis. Working in a foreign office environment impressed upon me this simple lesson: thoughts and ideas must be flexible; they must be reconsidered and reiterated lest they become lost in translation.

“Confluence”
Aaron Heldmyer

This trip — there was no time for sleep. Every event, discussion, connection, picture, laugh, discovery… each one flickered by like snapshots in a slideshow. And they went by fast. So fast, in fact, that I scarcely had time to consider what it all meant to me, how it changed my own story. I especially came to appreciate the most ordinary of pleasures, a sentiment I record in the poem below, “Confluence.”

I am a tree, a wonderful thing to be.
I provide shade, and comfort, and hospitality.
This park in the city, I call my new home.
A simple immigrant, displaced, out here all alone.
I do what I can for the things that I love,
A frugal and kind existence, for kingdom above.
~
I am a fountain, I make water colors,
A blue splash and some red, maybe mimic the flowers.
What’s life without beauty, or heavenly smile?
I’m the brilliant artist: I paint land to our style.
My brush transcends canvas; takes to the city,
Each bold stroke of my hand, a proof und edifici.

~
I am a pigeon, a curious creature.
You will see me in your park and on ships by your shore.
I look from afar with my view from the sky,
And I take snapshots and photos: a tourist who flies.
You shoo me away, yet I always return –
A constant reminder of time, too slow to discern.
~
I am the metro, but you cannot see me.
I move under my park, through tunnels, rapidly.
I’ve always been here, and I’ve stories to tell,
As a local I’ve seen hardship, heard cannons and bells.
Through struggles and despair, I merely press on.
For no evil can extinguish my heart or my song.
~
I am a dog, poised with curiosity,
Over the sights, the new scents, and sounds all around me.
I have to share all the great things that I’ve seen!
All I can do, though, is howl inarticulate things.
But there aren’t quite words to express anyway,
The simple pleasures I’ve found in that park, every day.

From Left to Right: Clara Levy, Anna Borchert, Courtney Widhalm, Creed Flynn, Nichole Pisierra, Sean McGinley, Kyle Flanagan, Aaron Heldmyer, Sarah Hitt, and Richard Sebastian-Coleman on the top of Monserrat, just outside Barcelona.
Cultural Myth Buster:
Faculty Spotlight on Jessica Rolston

By Alyssa Spomer ‘16

Are men naturally more aggressive than women? Is there a biological difference between races? What is culture? What is human nature? Such questions became the central theme for a new core course in the McBride curriculum.

In the best tradition of McBride, the class took "exploring our world" to a new level. We grappled with big questions about what it means to be human by examining different cultural practices around the globe. The lively discussions encouraged us to reevaluate simple assumptions about humanity that we previously took for granted.

Titled “Explorations in the Modern World,” the course takes the perspective of its instructor, Jessica Rolston, a cultural anthropologist who researches communities that host extractive and energy industries. Rolston recently published her first book, Mining Coal and Undermining Gender: Rhythms of Work and Family in the American West, a finalist for the Society of Economic Anthropology book prize.

She was recruited to CSM three years ago in part because of the influence of McBride alumni. Ken Osgood explains that when he became director of the Honors Program in 2011, he received a call from an alum who wanted to help the program. “We talked for over an hour about how industries such as his needed engineers with leadership skills, and about how McBride had done so much to facilitate his own success as a manager in the mining industry,” Ken recalled. Near the end of the conversation, Ken asked him which McBride class had most helped him in his career. “Cultural anthropology,” came the answer. “The course prepared him to work with surrounding communities in Australia and Mongolia,” Ken recalled him saying. “It helped him resolve conflicts that arose in the course of doing business.”

The alum convinced Ken that cultural anthropology needed to remain a focal point of the Honors curriculum. When the opportunity came to recruit a top faculty member in this field, McBride was able to help fund this new position through endowed funds gifted by McBride’s many supporters. “Jessica Rolston is the perfect example of how important it is to have the best faculty teach in Honors,” Osgood explained. “She has had a transformative impact on the program’s curriculum, and on the lives of our students.”

Jessica’s course is structured around the idea of students becoming "cultural mythbusters." Readings from a wide array of perspectives challenged previously held ideas about marriage, relationships, kinship, aggression, gender, race, and other issues. The course also reflected Jessica’s research and experience. Having worked as a miner in Wyoming’s Powder River Basin, the country’s largest producer of coal, she became fascinated by questions of how mine workers navigate between embodying gender stereotypes and disregarding them. She later returned to the area to conduct anthropological field work. She discovered a surprising and dramatic movement away from gender extremes, as the mining industry focused on creating a safe and profitable environment that downplayed gendered employment patterns.

By sharing her individual insight and experience within the mining community, Jessica was able to push the class to think about culture in a different way. We discovered the link between “hard” and “soft" sciences as well as the benefits that came from connecting the two. Jessica’s teaching and research allowed us to see the connection between our future fields and the role that culture plays in shaping them. “Jessica’s teaching and research allowed us to see the connection between our future fields and the role that culture plays in shaping them.”

Jessica Rolston, at work as a miner in the Powder River Basin, the nation’s largest coalfield.

“Jessica’s teaching and research allowed us to see the connection between our future fields and the role that culture plays in shaping them.”
McBride Shines at Ethics Bowl

By Chris Pumford ’16

McBride students appreciate that, solutions to contemporary problems invariably raise questions of morality and ethics. As our alumni know, McBride prepares us to wrestle with these questions, even if there are no simple right and wrong answers. As everyone knows, McBride students have a little bit of a competitive streak.

These three elements came together as Mines fielded, for the first time in its history, a team to compete in the National Intercollegiate Ethics Bowl. Placing third in the Rocky Mountain Region, the Mines team—comprised of six McBride Honors students—impressed both coaches and moderators with their skill and abilities, especially given their status as first time competitors.

The competition focused on fifteen ethical cases written and developed by the Association for Practical and Professional Ethics (APPE). The team prepared for three months by researching the facts and analyzing the ethical implications of each case. In the competition, the team had to defend their ethical position against another team before a panel of expert judges. Students were judged based on their understanding of the facts of the case, their ability to articulate the ethical principles in play, their presentation of a convincing argument, and their ability to respond effectively to the challenges and questions from the other team and judges. Teams from across Colorado, the University of Nebraska, and the University of Winnipeg all met in Boulder for the competition, which lasted from 8:30 am to 6:00 pm on November 15. During the competition, Mines squared off in spirited but friendly debates on such issues as food security, the regulation of genetic testing, the use of public shaming as a means of deterring crimes, and the psychological and social consequences of idealized images of women in the media.

The team’s coach, Sandra Woodson, was thrilled by the McBride team’s performance. The students were “so excited and smart and motivated,” she said. “They were wonderful, and not in a hand-waving vague way: they comported themselves with grace, humor, and intelligence.”

The team’s third place finish makes CSM an alternate for the National competition. Mines was the only engineering school represented at the contest, and beat out Metro State, the Air Force Academy, CU Boulder, Colorado State University, and the University of Winnipeg. The top two teams (Fort Lewis College and the University of Nebraska Lincoln) will compete in the National Ethics Bowl at the annual APPE Ethics conference in California, in February. The McBride team will be attending the conference as observers, their participation made possible by Honors Enrichment Scholarship funds.

Mines was represented by an interdisciplinary team of McBride students, including: Courtney Widhalm (Chemical & Biochemical Engineering), Chris Pumford (Mechanical Engineering), Richard SebastianColeman (Environmental Engineering), Melodie Glasser (Chemical Engineering), Nicholas Dyer (Computer Science), and Sean McGinley (Mechanical Engineering). They were also coached by Toni Lefkon, teaching professor in Liberal Arts and International Studies, and Ph.D. student Brian Zaharatos.

Congratulations to Team McEthics for an outstanding debut!
The World in My Backyard: Service Learning at a Golden Elementary School

By Joni Sanborn ’16

What a great way to start the day; being greeted with hugs and smiles. This was my experience twice each week when I volunteered at Shelton Elementary as part of the McBride Service Learning course. At Shelton, I worked with students with learning difficulties. My goal was to inspire them to want to learn—a task that was much harder than I anticipated.

I remember one student in particular. He was having a rare good day; he smiled when I came in and didn’t fight about sitting at his desk. We were working through a math word problem, trying to understand the concept of “take away”. We tried using our fingers, modeling with blocks, and drawing pictures. Failing to grasp the concept, he eventually gave in to frustration. His eyes welled up. He banged his head repeatedly against his desk. “Why can’t I get this to work?” he cried. I learned that the obstinate students were behaving that way not to make my life difficult, but as a way of coping with adversity.

The whole experience opened my eyes to the wider world that exists right here in my community. In my day-to-day life at Mines, I meet very similar people at every turn. They come from reasonably privileged middle-class backgrounds and good schools. They have the means to pursue higher education and they have the wherewithal to earn technical degrees. At Shelton, I encountered a broad community. I interacted with students from economically diverse households. Many were from different cultural backgrounds.

Many also struggled with a variety of scholastic subjects. The experience helped me understand, on a deeper level, what I was studying in the Service Learning class where we focused on the cause and effects of different forms of poverty.

The students at Mines and at Shelton do have something in common, though: large classes that make it easy to get lost in the crowd. Many of our science and engineering courses at Mines are taught to huge groups of 50 to 100 or more. We blend in, we fade to the background. And sometimes we see our problems ignored.

I saw this, too, at Shelton. To energetic and curious children, a class size of 30 is huge. McBride’s small seminar courses taught me the importance of having a voice in the classroom, and I wanted the students I tutored to experience the same thing. I did not want them to feel ignored. I did not want them to tune out.

One of the best parts about working with students is seeing tangible results. I saw the children advance in math, reading, and writing. I gained a personal understanding of their individual difficulties; I tried to help them devise strategies to overcome them. Overtime, many became more sure of their abilities, more comfortable answering questions, more likely to ask for help when they needed it rather than letting their frustrations build.

I also came to appreciate my limits. Over the course of my spring semester as a volunteer, I made little to no progress with the student I mentioned at the beginning. It was sobering. I returned to Shelton to continue volunteering after the summer break and saw cause for hope. I found him completely changed. With a more stable home life and medication to help him focus, he has many more good days. His frustration at difficult math problems has reduced tremendously. He greets me with smiles and hugs: a great way to start the day indeed.
Bringing Judo to the Blind

By Robby Schultheis ‘15

I began Judo when I was four years old, and my childhood memories are immersed with visual images of myself learning the sport. Those mental images are what enable me to continue to learn and advance in martial arts, for the very way we teach such skills hinges upon the ability to see the movements. Yet how does one develop skills in a sport like Judo with neither those mental images nor the gift of sight? It turns out that being born blind, as opposed to developing blindness later in life, makes it that much more difficult.

I came to understand this in part through my father, the head coach of the Gurnee Judo Club, located in the northern suburbs of Chicago. In addition to getting me involved in Judo as a child, he also fostered an appreciation for the value of athletics to people with disabilities. Our Judo club has a strong affiliation with the Great Lakes Adaptive Sports Association, whose primary goal is to develop the blind through athletics. We currently have three blind athletes training at our Judo Club, but we have seen numerous blind students quit due to the intensity and physicality of the sport.

It is that much more demanding for those born blind. We have never had a student, born blind, stay in Judo... until we met Krista Erickson. She was born without sight, but overcame that adversity to attain a master’s degree, and is now an advocate for assistive technologies in Chicago.

Krista has a formal education and learns “best” by reading, but most Judo manuals and tutorials rely on visual images to instruct students. In the spring of 2014, Krista emailed me a request for help: “I’m still on the hunt for anything to study outside of class that’s text-based and not based on drawings, photos or videos. Any suggestions?”

I had nothing to offer. It is difficult to transcribe the physical movements of judo into words. It is far easier to use pictures. I could find no useful resource for students like Krista who need verbal explanations.

The only real solution was to begin writing such a manual, myself. I decided to embark on this project as a means of fulfilling the McBride Practicum requirement. During the summer of 2014, I began writing descriptions of the top competitive throws in judo.

As I did so, I realized the connection between sight and memory. Krista does not have a visual memory, and so she cannot comprehend images in the same way that we do when we close our eyes. Even those who were born with sight and have lost all vision have their memories to rely upon. Those born blind have no such visual memories, however. Therefore, in writing this document I am not only transcribing the physical movements of judo, but I am also sharing my memories of how I learned the throws.

Although I began writing the manual with the intention of publishing it in Braille, several blind athletes urged me to develop a more interactive platform. Recognizing the potential, I teamed up with fellow McBride student, Brian Rakestraw to develop both a website and an app that can help blind athletes practice their moves while hearing a voice talk them through the complex series of movements involved in each of the major throws.

As Brian puts it, “This app will provide blind athletes with an interactive resource that will be universally accessible on and off the mat. The website will be available on all platforms and all devices that can connect to the Internet, and the app will always be within hands reach.”

For an hour and half, three times a week, Krista is on equal footing with us all. We hope that this manual will inspire others to follow in those same footsteps.
Crossing Cultural Boundaries:
English Summer Abroad

By Jessica Deters, ‘17

It was my second day in London. I hardly knew any of the hundred plus international students but was slowly becoming acquainted with the city.

Nearly all of the students ended up at Nando’s, and I soon found myself surrounded by girls from China. At first, I was intimidated. They were all speaking to each other in Mandarin, and I felt like a dumbfounded spectator. I was hesitant to join their conversation. Thankfully one of the girls from Hong Kong invited me in, asking where I was from. We ended up talking for an hour about our respective countries. As dinner drew to a close, I knew I had to ask that question: What do you think of the one-child policy?

I received a two-sided answer. They understood the necessity for such a policy. Uncontrolled population growth would be detrimental to their country’s development as a world power. Yet they also acknowledged their personal understandings were constrained by experience. After all, each of them was an only child: the “one child” of the one-child policy. They did not have siblings, nor did they have aunts, uncles, or cousins.

In that answer, I came to see the whole world differently for I saw it through the eyes and experiences of another. These kinds of conversations defined my study abroad experience. I spent my summer at the University of Exeter studying Britain and the Making of the Modern World. I went in expecting to analyze exactly that: the impact of the British Empire on the rest of the world. However, the course went much deeper, providing me with a new outlook on major historical milestones.

We spent a day examining slavery with leading British historian Jeremy Black. Let me take a moment to explain just how impressive Dr. Black was. He walked in, sat down at the head of the class and, with no notes or aid of any sort, proceeded to speak to us in incredible detail for four hours about the history of slavery and how it relates to the British Empire. He then answered, with perfect clarity, a question from each of the 25 students about anything historical we wanted to know. We were in awe.

He began his discussion of slavery with antiquity, explaining the role throughout history. He separated public slavery from private slavery, noting that public slavery was seen as a norm even as private slavery was being condemned in the eighteenth century. Though Black enhanced my understanding of slavery, the message he left went much deeper. Mid-lecture he paused, looked at each us and said in his prim British accent, “We owe our predecessors the respect of understanding their mindset before condemning them.” This simple statement stuck with me. It’s so easy to stand on the moral high ground and judge the inhumane ways of the past. But today’s values were not yesterday’s nor will they be tomorrow’s. We have to understand the past on its own terms.

The course itself changed the way I view history, but my conversations with fellow students changed the way I viewed the world. I went to brunch our first Sunday in Exeter with five new friends, Amy, Catherine, and

“I came to see the whole world differently for I saw it through the eyes and experiences of another.”

From left to right: Jack, Josh, Jessica and Amy and

From left to right: Jack, Josh, Jessica and Amy and

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Josh from the U.S. and Jack from Hong Kong. While waiting for our tea and scones, we asked Jack about the relationship between Hong Kong and China. My knowledge of this relationship was trivial at best, but Jack provided such insight I found myself wishing I could record the conversation.

Jack told us that he identified himself as Chinese. His roots are in China, and many of the people in Hong Kong have fled there for political reasons. In fact, some families are split between the two, with older generations in China and younger ones in Hong Kong. Though Jack wished Hong Kong could be united with China, he would not want to live under the Chinese government. The process for appointing leaders in China is ambiguous, and often times new leaders simply appear. They are expected to be accepted by the public. Hong Kong offers much more freedom, especially with regards to social liberties, than China does. For example, in Hong Kong Jack can access social media like the rest of the world and he doesn’t have to worry about the government tapping his phones.

Jack’s insight allowed me a glimpse into his world, and it changed how I view my own. I never had to worry about my grandparents living in a different country or feeling isolated from my nationality. He pushed me to understand the different realities with which others live.

I was not the only Mines student to take part in the University of Exeter’s International Summer School. Six other students, including fellow McBride sophomore Logan Schuelke, also travelled to Exeter. Logan studied International Relations and really enjoyed learning about foreign countries often overlooked in U.S. media coverage of international events, such as Tajikistan. He found this change in geographic focus, although not surprising, to be an incredible learning experience.

As a cultural and educational experience, my summer in Exeter was transformative. I participated in the summer study abroad program to fulfill the Honors Practicum requirement, and I’m grateful to the McBride donors whose generosity provided me with an Honors Enrichment Scholarship to do it. I may have traveled to an English-speaking country with close ties to the United States, but I gained a much broader international understanding cultivated by my studies, my experiences, and by my amazing interactions with other international students. It was a great way to explore my world.
Water’s Edge

Bradley Wilson ’15 was the winner of the Liberal Arts & International Studies Blackwell Award for Creative Expression. Bradley created “Water’s Edge”, a photo essay with accompanying haiku poems.

Ebb/Flow
A little boy’s heart
Running to the falling tide
Embracing the flow

Carve
Splitting heads and thoughts
Difference engulfs all things
Carving strength and will

Crash
Mirages of waves
Break down the lasting brick walls
Streams of hope are left

Foundation
Rebuilding betides
The cycles of freeze and thaw
Restore ancient flow
A Rocky Burial

By Aya Angstadt, Brianne Fagan, Catherine Jimenez, Joni Sanborn, Bradley Wilson, and Edward Wolfram

A team of McBride students delivered a stunning performance of slam poetry at the 2014 Rocky Mountain Honors Symposium. Challenged to dramatize the importance of a forgotten historical issue, the group chose the Rocky Flats nuclear weapons complex, once located north of CSM. Their poem is reprinted below. Their performance can be viewed by going to the “news” page of the McBride website.

The land you are about to enter, Rocky Flats National Wildlife Refuge is an historic Cold War site. For nearly four decades, thousands of women and men worked here, building nuclear components for the United States’ deterrent weapons. Crawling into this pit of nuclear waste, we unearth what has been hidden for generations. Haunting our conscience with uncertainty and guilt, we are about to enter is an historic Cold War site. The land you are about to enter is a national wildlife refuge. The land you are about to enter is hazardous to your health.

This land is deep | we can’t bury our future | like we buried our plutonium.

This war is Cold, so we build weapons we don’t understand.
Security
Freedom
Fear
It makes me shiver—makes my teeth chatter still as a grave I sit and wait crouched in frozen fear. In the shadow of national secrets Secrets like a leaded vest keep us safe “Better dead than Red.” My lips blue with death before I let my cheeks blush red.

The temperature sinks as the chance for nuclear winter rises with each dropped bomb. Bomb! Bomb! Crushed by the threat, we drop the temperature and wait.
Even if we freeze waiting, we are ready.
An arsenal of bombs made by an arsenal of men
Drive up, suit up, radiation meter
Dexterity lost in the glovebox dangling the plutonium puppets from ideological strings
Heavy hands
Our armor against the war inside
Forced to work silently
No secrets can slip from workplace chatter.
We emerge hot soldiers of the Cold War

This was my life’s work, forty years in the making
Not making a killing, but providing a living at the mercy of the gods of a nuclear future.

As if a sign reading “Wildlife Refuge” eliminates the dangers of radioactive materials left in the soil.

Twenty-four thousand years,
Twenty-four thousand years
That is the half-life of plutonium.

Our lifeflight seeded with plutonium sludge seeping out of steel drums meant to contain the danger left at the mercy of Colorado winters decaying to rust.

Lubricants
Particles
How do you put out a plutonium fire when you must not use water?

How do you hear silent threats carried on the wind?
How do you build a shelter from unstable earth?

Plutonium knows no fences; heeds no signs or legislation
does not listen to our chatter
It leaches into trickling ground water after a storm

A critical habitat meant to protect the mouse, the grass, the lupine
A criticality imploding on our refuge

Uncle Sam buried the recurrent abuse under a meter of topsoil
As if a policy signed by Congressmen can reconcile our grievances with the creation of a haven for flora and fauna never realizing the threat posed by the silver-gray metal that leaves behind an invisible infection only half gone in twenty-four thousand years.

Remember when we had a puppy named Lily How she played in the lake when I went on long walks, parched tongue lapping the clear blue water clinging to each curly lock of white fur

They say when we die our bodies are returned to the same earth that gave us life,
But the ground she was buried in took her life;
mother nature mutated by human nature
Seeding a cancer that metastasized into our cul-de-sacs.
Creeping its way to the dinner table swing sets bicycle tires bare feet

Remember when we used to play in the mud and make mud pies

Remember when we danced in the middle of a summer rainstorm
And splashed in the puddles
Everyone thought we were safe, wouldn’t toxic water glow in the dark and hazardous lakeshores be staked with yellow warning signs?

Mothers apply a band aid to a scraped knee
But it can’t cover a radioactive wound
The suburb silenced
Can I raise my family here?

This land is deep | we can’t bury our future | like we buried our plutonium.

We cannot reconcile what we bury.
Discover
We cannot resolve what we forget.
Memorialize
We cannot apply a salve to a concealed wound.
Heal

The land you are leaving is now uncovered
The land laced with plutonium, uranium, americium
The land you live on was buried under a pile of secrets.
This war was cold, but we build a future we now understand.

Uncle Sam buried the recurrent abuse under a meter of topsoil
Citizens plunge beyond the surface
Scientists become our nuclear guardians
Resurrecting the rocky truth about this land
Clawing out of this plutonium-laced tomb

Our nuclear past is toxic,
but if radiation can cure cancer
mother nature heals human nature
there is hope for the future our land.

It is true. The land you are leaving is an historic Cold War site
It is true. The land you are leaving is a national wildlife refuge
It is true. The land you are leaving is hazardous to your health.

This land is deep, we won’t bury our future like we buried our plutonium.
Nor Aiman Kladiah Ahmad Tarmizi ’16 interned with the International Youth Center, an organization created by the Malaysian government to support youth development projects. The Center brings people of all walks of life together, channeling them towards paths that align with the Center’s, including integrity, tolerance, and equality.

Among other things, Aiman organized youth programs, helped restructure the Center’s holistic education program, and compiled information for reports. She also honed her communication skills. “Since we have to deal with people of all ages,” Aiman noted, “it is crucial to be able to use appropriate tone and jargon.”

During her two months there, she was especially intrigued by the organization’s workplace culture. “At the IYC,” Aiman observed, “family is put ahead of work, since efficiency and happiness are directly influenced by the staff’s home conditions.” This approach is reflected in the Center’s flexible attendance policy. “The staff is allowed to attend to a family emergency just by sending a text to the management without having to fill out forms that require approvals.”

Aiman also conducted research on the role of race in Malaysian society as part of her McBride practicum project. Jessica Rolston’s course on cultural anthropology inspired her to pursue this project. The class “debunked myths about human nature and challenged and changed my ideas about culture.” In conducting her research, Aiman applied methods of observation and analytical assessment she had learned in class to her fieldwork. “Using a technique widely used by anthropologists, I tried adopting an outsider’s perspective to get an objective view of the community Without injecting my values and beliefs in Interpreting the culture”. The McBride

She also developed her confidence as a young scientist. “I really learned how to trust myself and have confidence in my work this summer, because I had to teach myself about most of the background that I needed to know to move forward in my work. It was very different, being so independent, but it gave me a taste of the exciting things to come in grad school and beyond.”

Alex Truby ’15 traveled to Leoben, Austria during the spring of 2014. There she studied Petroleum Engineering while also completing her McBride practicum project.

The town of Leoben resembles Golden in many ways, Alex notes. “It is located in the foothills, it is fairly empty when the students of the engineering school are away, and there is even a Coors-sized brewery just a few kilometers outside of town.”

There were also many differences, of course. The differing teaching styles and work methods “took a bit of getting used to,” Alex recalled. “Traveling to an unknown place where very few people outside of my classes spoke English really forced me to push myself out of my comfort zone and grow as both a student and person.”

Alex also traveled extensively both in Europe and farther afield. For her Easter Break she took a five-day trek through Nepal, and was especially struck by her visits to religious sites like the World Peace Pagoda and the Swayambhunath, a hilltop religious complex colloquially known as the “Monkey Temple” because of the holy primates that lived within. “I found it very interesting to be in the mix of it all, only having been exposed to “Western religion” in the past,” Alex reflected on the blog she kept during her time abroad.

Alex found that traveling to different
The Program’s annual reunion brings past and current fellows to a three-day conference exploring a wide range of pressing policy issues, with talks and discussions led by leading policymakers and business leaders.

“The most rewarding part of the trip was seeing that there are still ways to impact the country in a positive way,” Tessa said. “It was extremely humbling to meet so many people who have served at a high capacity and done so much already. I grew to admire them after only a couple of days and was encouraged by their determination to keep up my own interest in policy and the public realm.”

countries “taught me just as much, if not more, than what I learned in school. I learned things about people and cultures that I could not have if I had stayed here in Golden (beautiful though it may be).”

To learn more about Alex’s travels, read her blog at: http://minesmagazine.com/author/alextruby/.

### Tessa Cummins ’16 and Clara Levy ’16

attended the 2014 White House Fellows Reunion in Washington, D.C. Their attendance and participation was made possible by the generous sponsorship of Bruce Henry, a CSM alum who served as a White House fellow in the early 1970s and later worked as executive vice president of Polaroid Corporation.

Bruce hopes to interest more Mines graduates, especially McBriders, in the White House Fellows program – an outstanding way to inject science and engineering expertise into the policymaking arena. The program, founded in 1964, is one of the country’s most prestigious programs for leadership and public service.

### Alec Thompson ‘15

Over the summer, McBride senior Alec Thompson traveled to Nicaragua with a team of students from the Mines chapter of Engineers Without Borders/Bridges to Prosperity. While in country, the team successfully implemented a student-designed pedestrian footbridge in La Conquista in the Carazo region of Nicaragua. Over the course of the trip the students worked side by side with community members to construct the bridge that allowed citizens of a number of communities access to medical, educational, and other resources during the rainy season. The bridge sits over the Las Trancas River and directly connects the townships of La Conquista and Santa Elena.

Alec plans on using his experience as the basis for a research project investigating the nature of international aid, specifically provided by NGO organizations. He hopes to walk away with a better understanding of the factors that lead to effective and sustainable development in third world communities.

### 2014 Student Awards

**Outstanding Senior Awards**

- Brianne Fagan
- Kacie Wolverton

**Ange Melaragno Award**

- Brianne Fagan

**Outstanding Junior Awards**

- Nicole Neals
- Alexandra Nilles

**Procter & Gamble Foreign Area Scholarship**

- Courtney Widhalm

**Outstanding Sophomore Awards**

- Molly Rose Baron
- Richard Sebastian-Coleman
Remembering Thomas Philipose  
And the Founding Years of McBride

By Dr. Dean Thomas ‘82

When I heard that Tom Philipose had passed away, the news brought a jumble of emotions and many memories. I am member of the Pioneers, the first class of the Honors program. When we began, Guy T. McBride was the president of Mines and Tom Philipose was another professor on campus. Their legacies were yet to come. Fortunately for us, Tom had a vision, one that outlasts him.

I remember those early days of the program that seemed to come out of nowhere when it began in the spring of 1979. A few of my friends were talking about the program. They had decided to apply. Almost on a lark, I filled out an application. I remember that I completed it literally at the last moment. I’ve often wondered what Tom thought when he reviewed my application. I’m sure that my essay answers were not the best, but I am fortunate that he saw something in them.

One of the things that Tom had to do was settle on a name for our group – a simple decision, oddly complicated by some curious timing. At one moment, it was announced to the world that the first group of students would join the following year. Then shortly afterward, it was announced that the program would start right away.

Back in those days, the Honors program classes were given simple names - Group 1, Group 2, etc. The first class had already been admitted, and had been designated “Group 1.” Since we weren’t going to be Group 1, a name that had already been claimed, what were we going to be called? Many names were suggested. Tom settled on the Pioneers because we would be blazing a trail for the future. However, for some of the students, this name never seemed to fit. It seemed a little over the top. Several of us wanted to be called “Group Zero.” We felt that name captured the essence of what we were.

But Tom was ultimately right. I can remember on many occasions a group of Pioneer students having lively debates with Tom on the direction that the program would take. The program was embryonic; it had limited funding. Tom and the other professors frequently had to make tough choices. Today the program has well-organized trips for the students, but back then it was generally a struggle to send a couple of students anywhere. How should the professors pick just one or two to send on a trip? How often should the class meet? How tough should the grading curve be? Tom included us in many discussions. Not all of Tom’s decisions sat well with the students. One of the things that I learned later in life is that to change the world, a leader has to make unpopular decisions. The world does not change by staying the course.

After I graduated from Mines, I went on to graduate school on the East Coast and after receiving my doctorate, I moved to Washington, D.C. Years had past since I graduated from the honors program.

“The Honors program, and the gift that Tom Philipose gave to me, taught me how to persuasively present an argument. I learned to understand the viewpoints of others so that I can address their concerns before they voice them.”
Unexpectedly, Tom called me. I have no idea how he tracked me down. He asked me how I was doing, and we met again. Tom pulled me back into the fold. Over the years, on many occasions, I have met with Honors students when they have travelled to Washington D.C. Because of his efforts, I never truly left the program.

I know that I appreciate the efforts that he made, and I credit the Honors program as being a fundamental part of my education that gave me the skills that I use on a daily basis. For nearly 30 years, I’ve worked in Washington D.C. at Federally Funded Research and Development Centers, places that are known colloquially as think tanks. On a daily basis, I analyze problems for the federal government. All too often, I have to present news that the government leadership does not want to hear. Opposing factions will fight many of my conclusions. The Honors program, and the gift that Tom Philipose gave to me, taught me how to persuasively present an argument. I learned to understand the viewpoints of others so that I can address their concerns before they voice them. He and the Honors program taught me to think through a problem to its logical conclusion.

Over the last couple of weeks, many emails have been exchanged between the Pioneers. I know that the memories and feelings that I have expressed are widely held. Tom and his program changed our lives.

Tom, thank you from the Pioneers.