For family, friends, & alumni of Cistercian Preparatory School

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Fall 2016

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SCIENCE BUILDING RENOVATIONS

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Martina Kroll, head of the science department, with Tim Parker '90, biology teacher and director of facilities

Mike, Brent '83, and Kyle Bulger have strong connections with the abbey and school.

Four generations for Cistercian

Cistercian and the Bulger family go back. Way back. As an immigration official in the fifties and sixties, Gordon Bulger helped dozens of Hungarian Cistercians gain US citizenship.

During the early sixties, Mike Bulger played football for the SMU Mustangs along with a tight end named Tom Hillary. The two college buddies ended up coaching at Cistercian over several decades.

"I knew everything I needed to know about life to have a successful career and life," Brent Bulger '83 tells people, "when I graduated Cistercian in 1983." Son Kyle Bulger was baptized and received his First Communion at Cistercian, spent two years at the prep school, and was confirmed by Abbot Peter Verhalen '73.

"With our connections to Cistercian," Bulger said, "I decided that my life insurance policy would be the best way to leverage my gift to the Memorare Society. I knew I wanted our connections to Cistercian to continue."

MEMORARE SOCIETY

To remember Cistercian with a planned gift, contact Erin Hart.
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CONTINUUM is published twice a year (spring & fall) by Cistercian Preparatory School.

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Exciting news for teaching science

"Cistercian science teachers are so dedicated and the boys are so talented you could almost just give them a Crayola and they would learn. But, if you could give them the latest scientific tools available, are not the possibilities almost endless?"

Letter from the headmaster
Fr. Paul McCormick

This observation was expressed by an alum parent about our upcoming renovation of the science building. It reflects both the pride we all share in the current makeup of our science faculty and our excitement over the new lab spaces and tools that will soon be available for our students. Our cover story introduces members of the science department, both veteran and new, and tells the story of how they are working together to impart a genuine love for and mastery of the STEM subjects. It also features many details of the upcoming renovation itself and the various ways it will soon dramatically impact the way science is being taught.

Our second feature shares the tremendous impact that our most recent graduates are having at the various colleges they attend, both in and out of the classrooms. Sometimes the emphasis on just "getting in" to a college or university overshadows all the great things our students do as academic and campus leaders after they are admitted. I certainly could not be more proud of them and know you will also enjoy hearing their stories.

In his own homespun way, Smokey's column points to what might well, at least partially, explain our students' success after graduation and beyond. And, Fr. Roch reminds us all that ultimate success in life is in learning to love others in God.

Finally, in addition to the popular Class Notes, this issue contains the Annual Report which highlights the generous and ongoing financial support that we receive from so many supportive alumni, alum families, current parents, and the larger Cistercian family. Such support enables us to remain true to our mission of *ardere et lucere* as we continue to educate and form new generations of students. As that parent rightly suggests, are not the possibilities almost endless? Thank you all so very much.

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Infused with smarts, values, and confidence, Cistercian alumni are succeeding in a wide range of collegiate endeavors.

By David E. Stewart

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Science building renovations will offer new ways to make concepts memorable

By David E. Stewart

Cistercian Preparatory School was founded with the aim of preparing talented boys for the colleges of their choice by challenging their minds with excellent academic programs, molding their character through the values of Catholic education, and offering them guidance with both understanding and discipline. Cistercian Preparatory School does not discriminate on the basis of race, color, creed, national, or ethnic origin in the administration of its admission and education policies, financial aid programs, athletic programs, and other activities.

COLLEGE MATRICULATIONS

College application process helped members of Class of 2016 learn about themselves

The trend of college applicants zeroing in on STEM (science-technology-engineering-math) and business-related majors continues unabated.

A full 91 percent of Cistercian's Class of 2016 plan to major in these areas, up from 82 percent for the Class of 2015 and 70 percent for the Class of 2014.

The 91 percent is composed of 55 percent for STEM and 36 percent for business.

"This trend toward STEM and business mirrors the current national trend, especially among high school boys," said Peter Saliga, director of college counseling.

"Our graduating seniors were eager and focused throughout most of the college application process," Saliga added.

"All but two students had an admittance in hand before November was out."

Lessons for 2016

"I am fully capable of taking responsibility for myself. "

"Catholic communities were a major factor."

"I had more to be proud of than I originally thought."

In the end, the Class of 2016 produced 319 applications among its 44 graduates (for an average of 7.25 per senior).

Private schools saw 61 percent of Cistercian matriculations (27 private to 17 public).

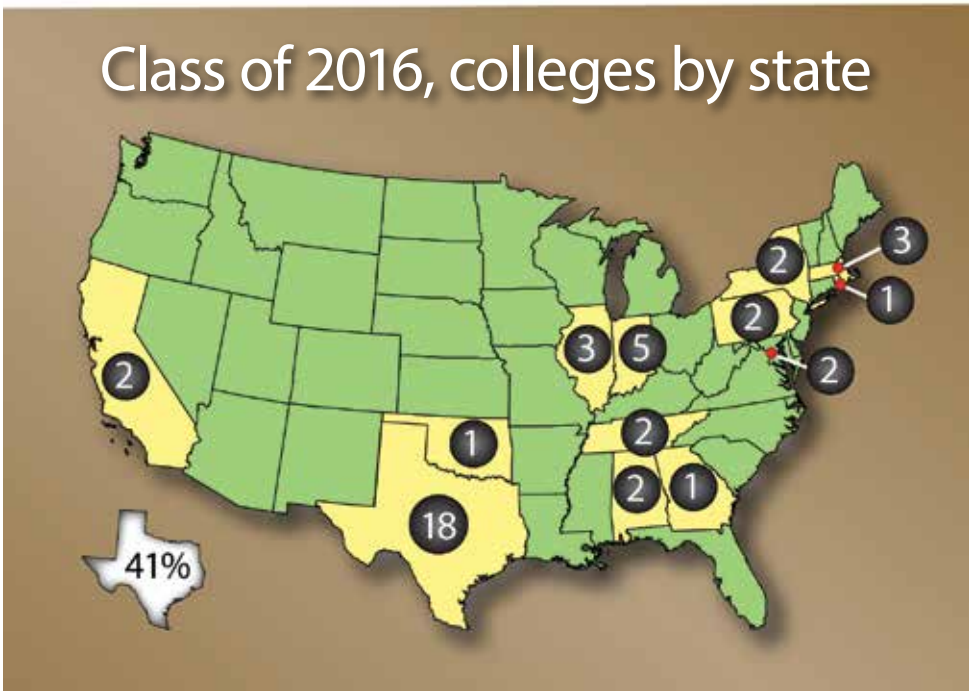
Ten attend Catholic universities.

A majority decided to leave the Lone Star State, with just 41 percent remaining in Texas (16 percent staying in Dallas-Fort Worth).

A surprising 63.6 percent chose to attend a college where at least one other classmate was attending.

At five of those schools (UT, Baylor, Georgetown, University of Chicago, and Villanova), Cistercian classmates are rooming together.

Thomas Williamson '16 was awarded a commission to the United States Military Academy at West Point.



CLASS OF 2016 CAMPUS SNAPSHOT

91%
Percent planning to major in business or STEM

63.6%
Percent of those attending college with a classmate

7.25
Number of applications per senior

Colleges

Auburn University
Baylor University (2)
Boston College
Brown University
Emory University-Oxford
Georgetown University (2)
Harvard University
New York University
Northeastern University
Oklahoma State University
Pomona College
Purdue University
Rhodes College (2)
Santa Clara University
Texas A&M University
Texas Christian University (2)
Texas Tech University
The University of Alabama
The Univ. of Texas - Austin (6)
The Univ. of Texas - Dallas (5)
The Univ. of Texas - San Antonio
U.S. Military Academy at West Point
University of Chicago (3)
University of Notre Dame (4)
Villanova University (2)

5 members of the Class of 2016 are attending the University of Texas at Dallas, a record number from Cistercian to the Richardson campus.

10 members of the Class of '16 attend Catholic institutions — Notre Dame (4), Villanova (2), Georgetown (2), plus one each to Boston College and Santa Clara University.

NOTES

Tim Parker '90 traveled to Boston in December to visit with Cistercian alumni in the area. While there, he saw an exhibit on the Audubon Society presented by **Jess Clay '13** at Harvard ... UT freshman **Jared Campbell '16** served as the DJ at this year's Homecoming, a skill he honed while at Cistercian and continues to perform in Austin.

2016 EXODUS WINS ACCLAIM

Exodus continues to garner ever-higher national recognition. The Columbia Scholastic Press (CSPA) honored the 2016 edition, entitled "Forms," a Gold Medal critique.

CSPA critiques provide yearbook staffs and sponsors an audit of strengths and weaknesses as well as comments from a CSPA judge.

The Gold Medal critique suggests a Crown award may be in *Exodus'* future.

The 2016 yearbook also received the National Scholastic Press Association's highest award.

"Our editors, **Michael Molash '16**, **Michael Byrne '16**, and **Juan Pablo Castella '16** and the entire staff worked very hard," said sponsor Fr. Anthony Bigney.

NEW TEACHERS/STAFF AT NORTH TEXAS FOOD BANK: (l-r) Stefan Rinaldi (Form IV science, Biology II), Gerald Edwards (safey and security coordinator), Martina Kroll (Physics I, Chemistry II, science head), Will Squiers '12 (Form III math), Jonathan Erickson '12 (Form II and IV math), Philip M. Agtarap (athletic trainer and Form III heath), Patrick Spence '08 (Form III and V English), Seth McGill (Form IV fine arts).

NEW TEACHERS

Talented and familiar group is fitting right in at Cistercian

A top priority for Fr. Paul McCormick was to fill important spots in the science faculty this year.

The headmaster started his hiring with Martina Kroll, head of the science department who teaches Physics I as well as Chemistry II.

"I feel right at home at Cistercian," she said. "It feels a lot like the schools I attended in Germany." (See more about Kroll on pages 46-51.)

"There's an aura about Cistercian," said SMU Ph.D Stefan Rinaldi, who teaches Form IV science and Biology II. "The teachers are educators, and the students are eager to learn. It really feels like a village."

Patrick Spence '08 (Form III and V English, student council sponsor), **Jonathan Erickson '12** (Form II and IV math), and **Will Squiers '12** (Form III math) feel very much at home at Cistercian, in an awkward sort of way.

A Harvard College classics major, Spence taught a wide variety of subjects full time at Holy Family Academy in Manassas, VA for three school years and three summers at St. Albans in Washington, D.C.

As Student Council sponsor, he attended this year's homecoming — with the same date he escorted to homecoming his freshman year at Cistercian.

"By far the biggest surprise to me in returning to Cistercian to teach," said Erickson, who majored in math and computer science at Rice, "is how much time it takes to grade."

A Princeton English major, Squiers has found himself repeating sayings and mannerisms of former teachers.

Seth Magill brings significant experience to his position as fine arts teacher, drama director, and speech sponsor. A working stage and commercial actor, he's also an experienced teacher of inner-city theater programs as well as through the Dallas Children's Theater. (See story on the Middle School musical, p. 4)

Philip M. Agtarap and Gerald Edwards represent important firsts for Cistercian.

Agtarap is serving as the school's first full-time athletic trainer (Cistercian had been the only SPC school without one). He brings eight years of experience as a trainer, a master's degree in health care administration, and experience at the collegiate level. "Cistercian is pretty ideal," said Agtarap, who also teaches Form III health.

Edwards, Cistercian's first safety and security coordinator, served as an Irving police officer for 28 years. In addition to campus patrols, Edwards coordinates drills, discusses safety topics with the students, and processes background checks.

"I've been amazed by the interaction between faculty, staff and students alike," Edwards said.

1 The number of SPC schools without a full-time athletic trainer in 2015: Cistercian. Philip Agtarap was hired as full-time athletic trainer this fall.

0 The number of safety and security coordinators at Cistercian until Gerald Edwards was hired this fall. He brings 28 years of experience as an Irving police officer.

Photo by Jim Reisch

BIG MEN ON CAMPUS

Infused with smarts, values, and confidence, Cistercian alumni are succeeding in a wide range of collegiate endeavors.

By David Exall Stewart

THE STUDENTS LINING UP in front of the odd-looking building in Cambridge in the fall of 2012 caught the attention of Harvard sophomore James Yoder '11.

"What *is* that building?" Yoder asked his roommate, pointing toward the scene on Auburn Street from their dorm room.

The flatiron-shaped structure has been attracting curious looks since its opening in 1909; it resembles the face of a Prussian soldier (down to the unmistakable early-20th-century army helmet on top) and a petite castle.

James Yoder '11
HARVARD
Humor publication

"That's *The Harvard Lampoon* castle," his roommate answered. It rang a bell.

Yoder had been amused by editions of the *Lampoon* distributed to his dorm room freshman year.

"There wasn't much in the way of a comedic outlet at Cistercian," Yoder laughed, "although *The Informer* seemed to have trouble figuring out whether it was designed to be humorous or serious.

"I remember reading a funny story by Patrick Spence '08 my freshman year about the waterless urinals."

"My only experience at writing comedy came when I sat down to work on my student council speech in the spring of junior year."

On the spur of the moment, he joined the line for the Lampoon's introductory meeting; he found the presentation funny, and familiar.

"Their sense of humor — making good fun of one another — reminded me of Cistercian. No one takes themselves too seriously; everybody dishes it out and everybody takes it."

After a grueling process of writing comedy pieces and working them over and over again, he managed to earn election (2-7 make it out of 60-100 who try) his junior year. Yoder would go on to serve as an editor of an edition his senior year. And as social chairman, he played host to celebrities like Katy Perry.

The experience encouraged him to pursue a career in comedy writing, following *Lampoon* alumni like Al Franken, Conan O'Brien, B.J. Novak, and countless others.

EARLY IN THE FALL OF 2014, Ole Miss freshman Jack Bitterman '14 strode confidently through the university's activity center.

On this, the first day freshmen were invited to shop for clubs and organizations, Bitterman was making a beeline for the mock trial table. He signed up for a tryout for the team.

"Thomas Molash '14 and I had founded the mock trial club at Cistercian our sophomore year," he explained. "It was a big part of

my high school years, and I expected it would continue to play a major role for me."

At his very first competition, Bitterman won an award.

Now a junior, he's the All-Region closer for the University of Mississippi mock trial team, the chaplain of his Phi Psi fraternity, and the chair of fraternity intramural sports. On the academic front, he is working on a double major in psychology and history.

Jack Bitterman '14
OLE MISS
Mock Trial

Over the past summer, Bitterman was selected to teach high school students at "Intensive Law and Trial" at Stanford.

He and his fellow instructors received two weeks of training at UC Berkley before stepping in as teachers.

"It was intensive in every sense of the word," said Bitterman, "and most of the kids came in with no knowledge of the law whatsoever.

"In nine days, my fellow advisors and I took classes of 14-16 to the point where they could run their own mock trial, complete with openings, crosses, directs, closings, and even objections."

The students in the program also had the chance to pick up knowledge from Stanford law professors, a man exonerated by the Innocence project after being wrongfully incarcerated for 18 years, and lawyers who had argued before the Supreme Court.

They conducted three sessions during the month of July and in the process spread the kind of passion for the law that Bitterman picked up at Cistercian.

NOT ALL ALUMNI VEER SO UNPREDICTABLY as Yoder (or predictably as Bitterman), but our survey of alumni from the Classes of 2011-15 illustrates how Cistercian graduates embrace collegiate opportunities and contribute to their campus communities.

"I was by no means a great student at Cistercian," said Tim Witham '13, "but the trial by fire at Cistercian gives you the confidence that you can weather a lot.

"You learn that you can pick yourself up even if you don't always succeed."

"I say this all the time," smiled Santiago Martin '12, "Cistercian is my home. It definitely prepares you academically.

"I can tell you that I worked just as hard at Cistercian as at Stanford," he added. "The classes were intellectually just as challenging and just as interesting at Cistercian as at Stanford."

But academic preparation tells only a fraction of the story.

In the selected stories (we did not have room for all those that merited inclusion), you will see a consistent thread of alumni building upon values and experiences rooted in their years at Cistercian.

MOVERS & SHAKERS

Noah Andersen '11 - TEXAS A&M

Involved in numerous activities at Texas A&M, he rose to the No. 2 position in the Aggie Corps of Cadets senior year after having received a commission with the Marine Corps during his junior year. His training at A&M helped Andersen graduate in the top 5 percent of the Marine Corps Basic Officer Course.

Noah Andersen '11 after graduating The Basic School in Quantico, VA.

Jacob Young '13 - WILLIAM AND MARY

William & Mary's student-administered honor code ranks as the oldest in the nation and is a revered tradition in Williamsburg. Young, a chemistry major (with a minor in biochemistry), joined the Honor Council as a freshman. After three years of service, he was named its chairman as a senior. Young also is a member of the Kappa Delta Rho fraternity.

Christian Raroque '14 - VANDERBILT

In consultation with several Vanderbilt professors, this computer science major has been working on various phone applications for different businesses. One such project gave him a chance to assemble a small business team that included Cistercian classmate Reece Jackson '14 at Santa Clara as one of his computer programmers. Their plan won a $5,000 first prize from a Santa Clara panel of professors and business leaders in a business plan competition. Raroque continues to explore markets and seek capital for the venture.

Ethan Perez '14 - RICE

The computer science major is focusing on data science/machine learning/artificial intelligence (see p. 14 for a related story). After freshman year, he interned with Google in San Francisco, working with a Google maps team. Following his sophomore year, Perez was selected as a KPCB Engineering Fellow to intern with Uber. "I employed feature engineering, data analysis, and machine learning to catch and ban fraudsters who use stolen accounts to take rides."

Garrett Hoard '15 - ALABAMA

In addition to being a member of the university's Honor Council and an ambassador for the Capstone College of Nursing, Hoard is a student manager for the men's basketball team. This Honors College student also finds time to be a member of the Beta Upsilon Chi (Brothers Under Christ) fraternity and an outstanding student.

Dominic Micheli '15 - TCU

A member of the Honors Community as well as a resident assistant in the Honors dorm. Micheli was selected for the Chancellor's Leadership Program and has taken a lead role with Frog Aides (community service), as well as being a LEAPs volunteer. As a freshman, Dominic served as a teacher's assistant for Calculus III, as well as tutoring services for students. This year, he joined Neely Fellows, an elite group for business students.

ATOP THE NOVEMBER 7, 2013 edition of *The Heights,* the headline revealed trouble on Boston College's idyllic Chestnut Hill campus. It read, "Fall Concert took $112,000 loss with lowest turnout in three years." Written by junior assistant news editor Andrew Skaras '11, the story detailed the dramatic costs behind the dismal attendance at the school's September event.

"I started writing for *The Heights* as a freshman," said Skaras. "After focusing on creative writing at Cistercian (as a member of *Reflections*), I wanted a change of pace.

"I had no idea what I was getting into," he reflected.

Founded in 1919, *The Heights* is funded exclusively by advertising and donations, providing the publication with complete editorial independence.

Alex Skaras '11
BOSTON COLLEGE
Student newspaper

"We did not have a system of beat writers like a big city operation," Skaras explained, "but I quickly began to drill down on the student government [known as the Undergraduate Government at Boston College, or UGBC]. It became my unofficial beat.

"As I became closer to my sources and learned more and more," he added, "it became clear that the UGBC was a giant waste of money. But I was searching for a way to get that on the record and into print."

The failure of BC's fall concert in September 2013 presented a high-profile opening.

Skaras made it clear that high-ranking members of the UGBC had decided to book O.A.R., an indie band that had been popular in the early '00s (and performed at BC in 2003), without consulting a representative sample of the student body.

Oblivious to the band's lack of popularity, UGBC officials made matters worse by scheduling the concert for the hockey/basketball arena, one of the campus' largest venues.

Fewer than 1,000 attended the concert, creating a sea of empty seats. And red ink.

Skaras' reporting prompted outrage on campus, a series of letters and editorials, and changes to the UGBC.

"The UGBC," Skaras pointed out, "was prompted to split off the programming function for concerts into a separate entity dedicated to finding musical acts that students wanted to see."

The BC Presidential Scholar, who took time off from newspapering to travel to Greece (brushing up on his conversational Greek) and Germany among other places would continue to seek out injustices and improprieties as he rose to chairman of the editorial page during his senior year.

Since graduating in May 2015, he's been working with his cousin's construction company in Manhattan.

He plans to attend law school next fall, inspired by his advocacy work as a writer for *The Heights*.

REFORMING STUDENT GOVERNMENT seemed unlikely for Andrew Dudasko '13.

"I came to Austin College to play football," he explained. "Playing college football was an awesome experience. I learned about teamwork, accountability, and time management, but after my sophomore season I felt it was time to try other things, something outside my comfort zone."

A friend suggested he look into the Student Assembly.

"I liked the idea and was elected as a representative of a campus residence (starting second semester) sophomore year."

The experience on the Student Assembly gave Dudasko the chance to help people.

"I was finding out how much I enjoyed serving," he said. "I was finding a purpose."

Still, he wasn't prepared for what came next.

"Andrew," said the faculty advisor to the Student Assembly in the fall of his junior year, "I want you to run for president."

KILLING IT IN THE CLASSROOM

***Isaac Johnston '11* - TAMU-GALVESTON**

Entered college contemplating a major in marine biology. After an internship with a well-known professor in the state of Washington his junior year, Johnston won a scholarship to pursue his PhD in chemical engineering at Clemson.

***Alex Eddy '11* - UT-DALLAS**

Excelled at physics at the University of Texas at Dallas; now in graduate school at OU studying meteorology on a full scholarship.

***Anthony Micheli '13* - TCU**

Won the 2016-17 Neeley Heritage Scholarship that is awarded to students for academic excellence and leadership potential or accomplishments.

***Patrick Blonien '14* - BAYLOR**

A double major in math and finance with a minor in statistics, Blonien earned a spot in a program that provides him an office to tutor students in various math courses. He was recently elected president of the club golf team.

***Connor Malin '15* - ALABAMA**

A math and computer science major at the University of Alabama, Connor Malin individually outscored the university's official three-member team on the Putnam exam.

Malin won a spot in a summer research program (normally open only to juniors and seniors) at Auburn University studying how to make drones fly autonomously. The youngest student in the program, he focused on the mathematics of using neural networks to predict the future position of autonomously flying drones.

***Mark Dorsey '15* - AUBURN**

Majoring in industrial design, Dorsey didn't just survive the "design boot camp" over the summer (meant to weed out candidates), he killed it by ranking fourth in the class. He also serves as the lead musician for a Catholic spiritual retreat.

Bevo handler Peter Thompson '13 (left) with UT backup quarterback Matthew Merrick '15 in September

"You know," Dudasko said pointedly, "that I won't win."

"I think you have potential and would do a good job if elected," he responded.

Dudasko's opponent in the race for president had been groomed for the job. That didn't seem to impress voters; Dudasko prevailed.

Andrew Dudasko '13
AUSTIN COLLEGE
Student government

"I wanted to take this job seriously," Dudasko said, "and I put a lot of work into doing a good job."

"I found the Student Assembly had not been representing the students very well."

In fact, student government at Austin College appeared to Dudasko much like a clique, just a group determined to have a good time together.

"I came in without an agenda," he said. "I wasn't there to do anyone any favors. Just represent and lead."

Lead he did. During the first semester of Dudasko's term (which encompasses the 2016 calendar year), the Student Assembly passed more than 20 resolutions, a number unheard of in the memory of most around Sherman.

"More often than not," he said, "these resolutions were little things that boosted student morale.

"But there were important changes too, like improving the cafeteria's offerings for vegetarians, vegans, and those with gluten issues."

Dudasko, whose terms ends with the fall semester, formed a committee to process the students' input and communicate with the food providers.

He also successfully pushed for the installation of sidewalks for the disabled.

"I wanted students to feel that their concerns were being heard and addressed," said Dudasko, who spent many nights in his office in the student union. "I gave them a voice on campus."

"COMING FROM CISTERCIAN," explained Clay Tillotson '11, "I saw fraternities as just a way to make some friends when I came to LSU.

"I had no plans to get involved with leadership in my fraternity."

But by sophomore year, his fraternity brothers in the Kappa Alpha Order voted him as their social chairman, entrusting him with an $80,000 budget.

"Then a fraternity brother of mine told me about the Intra-fraternity Council (IFC) during my sophomore year," he added. "I learned I could earn a little extra spending money and it would be a nice item to add to my resume.

Clay Tillotson '11
LSU
Greek leadership

"I thought it also might teach me a little about managing people."

A year after joining, he rose to president of the IFC's 5,000+ members.

"Our most important project is organizing fall rush at LSU, where 800 guys look for a bid from a fraternity. It takes a lot of effort in conducting and programming the information sessions, coordinating with the fraternities and the board, scheduling, and preparing presentations.

"We have to guide 800 18-year-olds who have just moved away from home through the four days of rush.

"It's a lot like herding cats," laughed Tillotson. "But we placed 95 percent of them; only 20 failed to receive a bid (LSU uses the two-way match system in which potential new members make their selections and the frats select whom they want)."

Photo courtesy of Leslie Merrick

"It was the largest fraternity recruitment event in LSU history."

Tillotson, a finance major, returned for his senior year and worked as a graduate assistant for LSU's Center for Internal Audit.

"I was in charge of grading papers like a TA," he explained, "as well as recruiting (a skill he had honed through his leadership positions in the fraternity system)."

AT VANDERBILT, THE BROTHERS of Phi Delta Theta elected Michael Machak '12 to a very different position.

Mike Machak '12
VANDERBILT
Greek leadership

Machak was known as the "fun-sucker" (a.k.a., the risk manager), a thankless position requiring a strong backbone, especially in Machak's year of service.

He was responsible for ensuring that fraternity members abided by federal, state, and local laws (as well as fraternity guidelines) in all of their activities.

"I had a run-in with a member of my pledge class," Machak remembered. "He was the social chairman, one of the most popular guys in the frat."

Machak didn't back down. "I had to impeach him.

"It was a tough time for me," he explained. "I was bombarded from both sides. But the members elected me to do a job, and my role was to provide for the well-being of all members.

"I could not play favorites.

"I worked to keep the process democratic and transparent." said Machak.

Fulfilling responsibilities to his fraternity wasn't the only imperative motivating Machak.

He also served as leadership coordinator for the fraternity system, helping those who aspired to executive positions in their fraternities.

And, aided by a bevy of AP credits, he sought to lighten the financial load on his parents.

"With the great jump start that Cistercian provided," he said, "I was very aggressive in the courses I took, and when I saw an opportunity to save my parents some money by graduating a semester early, I took it."

With a career job already secured, he planned "to get a life experience under my belt" during the spring semester.

"I reached out to the Vail Ski School," said the avid skier. "It is the finest ski school in the country. They offered me a position as an instructor for three to six-year-olds."

He traveled to Colorado over Thanksgiving break to receive his training. Then a few weeks later, after taking his final college

COMPETING AT THE NEXT LEVEL

U. of Chicago cornerback Andrew Beytagh '14 buys into Maroons approach

THE BUS RIDE FROM Chicago to Danville, KY — home of the Centre College Colonels — takes about six hours.

Andrew Beytagh '14, junior cornerback for the University of Chicago Maroons, wasn't phased. He had one of his best games, finishing the late September tilt (a 49-27 loss) with 11 tackles and an interception returned for 14 yards.

Andrew Beytagh '14
U. OF CHICAGO
Football

He also managed to get some school work done on the long trip back to the school's Hyde Park campus.

At a university ranked third by *US News & World Report*, professors don't cut athletes much slack, despite the 20-25 hours they spend at practice and in meetings every week.

"Sports aren't a top priority here," smiled Beytagh. "The stands aren't very full at our games. It's mostly parents and friends."

"Just like Cistercian," he added, "the coaches know that academics come first here. If you can't make it to a meeting, they understand. I love that about our program."

In addition to football, Beytagh is "super involved" in the Phi Gamma Delta fraternity that is composed primarily of football and basketball players.

Encouraged by his brothers in the frat, Beytagh put his experience as sports editor of *The Informer* to write for *The Chicago Maroon* and generate interest in the team's games.

That work led to his role in The Order of the "C," an organization of varsity lettermen committed to promoting athletics on campus. Beytagh currently serves as vice president.

After freshman year, he spent the summer studying at the London School of Economics. Then he interned with General Growth Properties after sophomore year, focusing on "big data"

exams, he returned to Colorado to serve as a ski instructor for the remainder of the ski season.

"The kids were fearless," he marveled.

The experience also provided opportunities to interact with several bigwigs (including the chief executive officer of Pabst Blue Ribbon beer) whose children he taught.

And when a young skier couldn't find his parents, Machak and a co-worker stayed late until they were located. (He was given the ski school's "Epic Service Award" for his effort.)

"Cistercian shaped who I am today," said Machak, who is now working in Nashville at Raymond James as a health care investment banking analyst.

"I would not be the man I am today if I hadn't spent eight years at Cistercian," he added.

"Someday I plan to return to Texas so I can send my son to Cistercian."

"Competing [at Cistercian] gave me what it took to succeed in college."

— Tim Witham '13

"IT CAN BE HARD TO MOTIVATE fraternity brothers to wake up early on a Saturday," laughed Tim Witham '13 of his job as philanthropy chairman for the Kappa Alpha fraternity during his sophomore and junior years at the University of Tulsa.

"My role was to coordinate community service projects and fund-raisers," he said.

"Our biggest events were helping the Muscular Dystrophy Association in its participation with the ALS Ice Bucket Challenge and Slide the City in Tulsa.

"It took us off campus and made us feel part of a community effort."

With a slip-and-slide set up over an entire city block, the Challenge attracted a large crowd.

The crew of fraternity brothers helped staff the event; it was up to Witham to work behind the scenes with MDA officials to coordinate their participation.

Tim Witham '13
TULSA
Greek leadership

The event offered Witham a chance to expand on the many community service efforts he had participated in at Cistercian, like the Down Syndrome Guild Dance.

"It felt different though," he added, "because I was in charge."

He also served his fraternity as the alumni relations chairman and the university as an ambassador (tour guide) during his sophomore, junior, and senior years.

On the academic front, Witham was elected vice president of the Geology Club his sophomore year and president his junior year.

"It posed a different set of challenges than my work with the fraternity," Witham explained.

"Ultimately, I had to find ways to bring the students in the department together with the faculty."

Witham worked to create fun team-building exercises, like a ropes challenge course.

"It was more fun than academic, but it helped the grad students, undergrads, and faculty interact and get to know one another."

He also spearheaded a set of outdoor activities for the club that brought those in the department together outdoors to study the earth and float down the Arkansas River.

For his efforts, Witham was recognized by the Tulsa Geological Society as their Outstanding Geoscience Student at The University of Tulsa for 2016. The University of Tulsa also honored him as an "Outstanding Senior."

"Cistercian gave me the confidence to put myself out there," he said. "You miss 100 percent of the shots you don't take, so I took a few."

"I wasn't a stellar student at Cistercian," Witham acknowledged, "but competing there gave me what it took to succeed in college."

TEXAS A&M has an involvement-crazy attitude," laughed Johnny Garnett '13. "I wanted to work with organizations that I could take pride in, ones with a meaningful mission that would motivate me to help them grow.

"And expand my comfort zone at the same time."

issues using current business computer programs.

"A number of teammates interned on Wall Street after their junior year and returned to campus in August exhausted from their 80-hour work weeks," Beytagh explained. "The coaches gave them time to recover as they prepared for the season.

"Those guys tell me that employers respect the time-management skills we learn as college athletes," Beytagh said, "dealing with travel and everything else, especially coming from a school like the University of Chicago."

"Football also teaches you a lot about leadership and teamwork.

"That's great preparation for a career in finance."

ATHLETES SHINING

(Division I varsity)

Ryan Watters '15 - CORNELL Soccer: Contributed as a freshman outside mid-fielder. Started most games this season, Watters contributed an assist in an OT loss to Penn.

Dare Odeyingbo '15 - VANDERBILT Football: The defensive end saw lots of action this year, including two fourth-quarter tackles against Auburn (photo at left) and a fumble recovery against Tennessee.

Matthew Merrick '15
TEXAS Football: Backup quarterback.

Galen Hu '16
BROWN Water Polo: Backup attack.

Vanderbilt defensive end Dare Odeyingbo tackles Eli Stove of Auburn in the fourth quarter of a 23-16 loss to the Tigers.

Photo by John Reed, USA TODAY

He found just such a mission freshman year in The Big Event.

Early on a spring morning every year, upwards of 20,000 students stream in and fill the parking lots surrounding E.J. Kyle Field on the Texas A&M campus. Marshalled into teams, they collect goodies, tools, and assignments prior to setting off to perform chores at residences throughout the Bryan/College Station community.

The Big Event began in 1982 as a way for A&M students to express their gratitude to residents of the community that surround the campus.

Nowadays, the event benefits nearly 2,500 residences every year. Homes are improved through work like landscaping, painting, cleaning gutters, and fence repair. Those actions (and interactions) create a special bond between students and residents.

Johnny Garnett '13
TEXAS A&M
Community service

Like many freshmen, his involvement started off as a staff assistant — meeting with approximately 20 residents in the community to learn their stories and the work needed on their properties (as well as assessing the resources needed to complete the needed chores).

"It has a tremendous impact," Garnett explained, "especially for the elderly residents in the community who can't do this work themselves. We can transform their place in a few hours.

"I really enjoyed meeting all the people we were able to help."

After studying abroad his sophomore year, Garnett returned prepared to deepen his involvement in The Big Event.

"The year in Europe helped me become more independent and screw my head on straight."

As a junior, he accepted the task of generating sponsorship revenue from the 25,000 T-shirts distributed to students volunteering for The Big Event.

"I liked to remind sponsors that students wear those T-shirts all year long," he said of his role as a sponsorship coordinator. "On any given day, there are probably a couple hundred wearing them on campus, so a lot of eyeballs see their logos."

"My work for The Big Event helped me learn how to talk to business people," he said, "and present the sponsorships as an opportunity to partner with us in helping the community and their business at the same time.

"It taught me how to build a mutually beneficial relationship.

"I have no issue with asking for money," he emphasized, "if the dollars are going to the right place."

With his help, The Big Event raised $150,000 in 2016 to fund the mammoth one-day community service event (e.g., recruitment of volunteers, operations).

As a senior, the finance major in Texas A&M's banking program was elected president of the Old Army Gentlemen's Society (Ol' Ags), a social organization for campus leaders. Once a year, the Ol' Ags conduct a powder-puff football tournament to raise money for summer camps that serve the underprivileged.

"I have had fun reconnecting with many of the business owners with whom I built relationships last year on The Big Event," he said. "Most of them remember me in a positive light from The Big Event."

No surprise, the Old Ags set a record this year in funds raised.

"Whatever my career path, I want to leave a net impact of good on the planet and be active in philanthropy."

— Joseph Raff '13

"COMING OUT OF CISTERCIAN," reflected Joseph Raff '13 of his freshman year at Northwestern, "I was looking for a club that had a service focus."

At the activities fair freshman year, he was intrigued with an organization called Supplies for Dreams (SFD).

Founded by a couple of Northwestern students in 2008, the organization provides low-income students of Chicago Public Schools with basic school supplies, field trips, and one-on-one mentoring.

The need, as outlined in the SFD annual report, revolves around two harsh realities: 86 percent of Chicago Public School students come from low-income families; and 86 percent never graduate college.

"I had done a good deal of tutoring while in high school," Raff

TAKING FLIGHT

Alec Radford '11 co-founded indico, a leading artificial intelligence firm, in his dorm room.

OVER THE SUMMER OF 2014, four Olin College of Engineering students rented a Boston apartment to focus their attention on fashioning a business out of their "serious knack" for data science.

Rising Olin seniors Alec Radford '11 and Slater Victoroff, techies who shared a love of "machine learning" (also known as deep learning or artificial intelligence or AI), were steering the enterprise.

Alec Radford '11
Aidan McLaughlin '12
FRANKLIN OLIN
High-tech startup

"Machine learning," according to Victoroff, "is the art and science of teaching computers to perform tasks which we used to think only people could do."

"In their first years at Olin," said Aidan McLaughlin '12, another Olin student who joined the team as an intern for the summer of 2014, "Alec and Slater attracted attention by doing well in on-line data science competitions.

"Everyone on-line could see how good they were, so companies began calling them to do contract work."

The pair developed algorithms to help clients find

said, "so I was intrigued by the mission."

"A lot of it was the influence of Fr. Paul and Coach Walsh," he explained. "I was on the community service board at Cistercian and worked at a non-profit. Cistercian helped me realize I had a passion for service."

SFD was doing impressive work. In 2015, it provided 2,764 students at four schools with backpacks and school supplies; another 750 students were escorted on field trips to Chicago museums by organization volunteers.

"I remember my first trip to the Shedd Aquarium as a freshman," Raff said, "where the fourth-graders from Manuel Perez Elementary School and I were astounded by the beluga whales.

"We expose kids to their city and its resources," he said. "It is exciting to see a field trip expand their world view and their love of learning. Many have never left their neighborhoods."

As a sophomore, Raff was made marketing director and began to raise funds from individuals, corporations, and foundations.

As a junior, he was named the fourth executive director in SFD's history. What could Raff add to the impressive work of the organization?

In the fall of 2015, SFD introduced a student metrics tracking dashboard, called DreamTrack, to help motivate students and help the organization keep tabs on their progress.

Joseph Raff '13
NORTHWESTERN
Community service

This year, Raff is helping the organization grow exponentially.

"We are expanding beyond Northwestern," Raff explained, "and creating a Chicago chapter that will oversee an additional 16 colleges and universities that are starting their own SFD programs.

"Over the next five years, our signature undergraduate-run model and novel programs will be able to serve an additional 30 CPS schools and thousands more students."

Raff has led a record-setting fund-raising campaign in the past year to position the organization for its ambitious goals.

"Whatever my career path," said Raff, who will graduate with a BS in material science engineering, "I want to leave a net impact of good on the planet and be active in philanthropic organizations."

patterns and generate insights from their data.

The algorithms can be tailored to determine the sentiment of a large batch of data (e.g., classify web site comments into positive or negative). Other models can take thousands of photos, apply descriptors, and classify them.

As sophomores in the spring of 2013, the pair secured seed funding from Rough Draft, a subsidiary of Boston's General Catalyst Partners, that contributes money and guidance to college startups.

Following the advice of Rough Draft advisors, Radford and Victoroff incorporated and worked to refine their tools so that any business could make use of machine learning.

Naming the enterprise posed some difficulties until they applied machine learning techniques to the quest.

After starting with an "open," lower-cased "i," the sequence of letters was determined by searching for the subsequent letter with the highest market capitalization rate.

Living together in the summer of '14 did present the four (Radford, Victoroff, McLaughlin, and another Olin student, Madison May) with issues that couldn't be solved by machine learning.

"Sometimes we wouldn't see Alec until 2 in the afternoon," laughed McLaughlin, who worked on the company's web site. "He was straight-up nocturnal."

While Radford's sleeping patterns interrupted their working together, no one complained much.

"Alec has the expertise to translate recent advances from the academic community into a form that industry could use," explained May, who is now indico's chief technology officer.

In August of 2014, the venture was selected to be part of Boston's Techstars startup accelerator program, culminating in November with a "demo day" before an audience of prospective investors at the House of Blues across the street from Fenway Park.

(Top) Alec Radford '11; (above) pyramid at indico includes Ian McLaughlin '12 - bottom right; Radford - second row, far left.

It proved a success; indico raised $3 million from the venture capitalists and angel investors gathered there (the average startup on demo day raises around $2 million).

Since then, indico has been thriving in a tech sector where the likes of IBM, Google, Microsoft, and many others are fighting to carve out a niche.

In late 2015, Radford led a project with Facebook's AI research lab in New York to develop an artificial neural network that can conjure up realistic-looking photographs of people on demand.

Earlier this year, the firm announced that they were working with ManuLife to improve service to their various constituencies.

And in August, Victoroff was invited onstage during the keynote speech at the Intel Developer Conference (where the theme was machine learning) to share his view on the direction of the field.

While the "serious knack" of the college buddies from Olin has turned into serious business, Radford's interests hadn't changed.

"indico," explained Radford, "is shifting from machine learning development/research to focusing/specializing on building out machine learning products.

"I've transitioned to being an advisor at indico and joined OpenAI (co-founded by Elon Musk) in a role kind of similar to joining a graduate program."

Radford made the move to San Francisco in May. The founders of OpenAI, a host of Silicon Valley luminaries, see it as their role to ensure that artificial intelligence benefits humanity as a whole.

Just don't expect to see Radford before noon.

Photo of human pyramid courtesy of Aidan McLaughlin '12; photo of Radford courtesy of Alec Radford '11

"STANFORD OPENED MY MIND," said Santiago Martin '12, who is now working for Morgan Stanley in New York City. "Coming from so many different backgrounds, the students there had lots of ideas and values very different than mine.

"But I never felt I had to be someone other than who I was," he added. "I felt confident in myself and my values."

Santiago Martin '12
STANFORD
Student leadership

"That self-confidence," Martin emphasized, "came from Cistercian."

"While I stood out as different at Cistercian, being from Mexico, I never felt ashamed of where I came from, or my accent. Cistercian helped me feel very confident, especially in my values."

In Palo Alto, Martin became intrigued by the entrepreneurial spirit on campus. And he saw an opportunity.

"I set out to apply the innovative bent at Stanford," said Martin, "to the many opportunities south of the US border. Latin America is a lot like the US 50 years ago."

He formed the Society for Entrepreneurship in Latin America (SELA) to organize conferences to bring businessmen from Mexico, Brazil, and other countries to meet college-aged entrepreneurs.

"Unfortunately," said Martin, "the entrepreneurial spirit at Stanford gravitates primarily toward renewable energy and technology. The opportunities in Latin America are mostly in other areas.

"An important lesson I learned was how difficult it is to be a student leader," Martin said. "Motivating others is not easy."

After SELA's failure, Martin joined a group called US-MEX FOCUS (Forum for Cooperation, Understanding, and Solidarity). Composed of students at Stanford and the Instituto Tecnológico Autónomo de México, the organization aims to form connections between the next generation of leaders in the US and Mexico.

He helped organize biannual, week-long conferences, contacting speakers and choosing delegates from universities around the US.

One of those speakers — a well-known Mexican entrepreneur — not only accepted Martin's invitation (paying his own way to the California conference), but has since become a mentor.

"I gained so much through my work with these two organizations," Martin explained. "I don't know that I would have the confidence to pursue these activities without Cistercian.

"It prepared me on a personal level; forming me spiritually, intellectually, in every sense of the word."

"LUKE TOMASO '12 AND I were invited to join a new social group," said David Novinski '12 of the offer the two Cistercian alumni received in the fall of 2014, their junior year at Texas A&M. "We weren't super bent on it, initially."

The founders of the Century Men's Society were responding, in part, to the large demand for spots in the four or five established men's social clubs on campus (e.g., the Old Ags Club mentioned on p. 14).

David Novinski '12
TEXAS A&M
Student leadership

"Luke and I had missed the closeness we enjoyed with our classmates at Cistercian," explained Novinski, who is now working for Holder Construction in Dallas. "We knew how special it can be to have a group of guys to do service projects with.

"We had seen how a group of guys can fit together," he added, "how a group can respond to a challenging classroom setting and the dynamics of moving through life, sports, and academics with that sense of strictness, and a strong set of values."

While Tomaso and Novinski couldn't be certain this new organization would live up to its potential, they trusted the intentions of the founders.

"The founders quickly found that we had a lot to contribute from our Cistercian days," he said.

"We had seen how a group of guys can fit together, responding to a challenging classroom setting and the dynamics of moving through life."
— David Novinski '12

Novinski, a University honors student who has volunteered for Habitat for Humanity and worked for The Big Event, wrote the organization's constitution and set forth its four pillars: humility, loyalty, service, and tradition.

"We want our members to be present in A&M traditions," he explained. "All members have to be involved in other organizations on campus. We wanted to be clear about what we stood for, including disciplinary actions.

"The idea is that we can become better leaders by growing off one another."

The original core of 12 in the fall of 2014 grew to 30 by December.

In the spring of 2015, the organization attracted 200 applications; 25 (mainly sophomores and juniors) were accepted.

One of their activities, Pancake Night, offers students a non-alcoholic gathering place. Everyone is invited.

"It's become massive," Novinski said. "We have 10-15 griddles going. It's our signature event."

The money raised by the event benefits a local food bank.

"Many trying to start similar organizations began asking for our help," he added. "They saw we had something special."

The Century Men's Society continues to thrive.

"Our experience at Cistercian helped Luke and me to play an important role in shaping this brotherhood at A&M."

NO MATTER THE ENDEAVOR, the alumni in our story pointed to Cistercian's role in providing them with a foundation for their collegiate achievements.

They learned more than academics, they learned how hard they could push themselves.

As members of their forms through youth's most challenging years, they explored the world and themselves in the context of a spiritual community.

There, they found a center, their center.

The achievements of these alumni — and the many they represent — reflect and exemplify much of what we hold dear in the Cistercian community.

24 Creating moments of 21 Science

Improvements to the science building will offer new ways to make concepts memorable

By David Exall Stewart

90 The faces framed in the class photos in the science building never grow old.

"Look at us," laughed Jon Kauffman '86 on a visit to the school from his home near Seattle. "These photos really take me back."

The retired Microsoft executive hadn't been back to Cistercian in a while. His tour included the remodeled Middle School and Upper School buildings, the new courtyards behind them, the new entrance building, Founders Hall and the chapel, plus the new gym and the remodeled old gym.

After spending a few moments reminiscing over the faces in the class photos, he stepped from the hallway and into the chemistry lab.

"Wow," smiled Kauffman, "this hasn't changed much."

When Kauffman's senior class first occupied the $2.2 million science center in the fall of 1985, the new structure represented Cistercian's best thinking in teaching science.

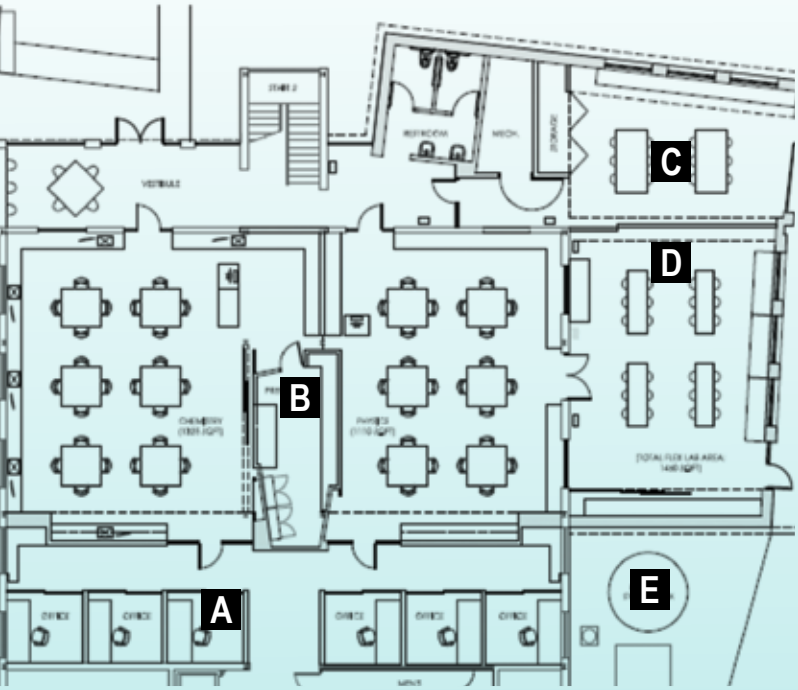
The structure included four labs with the latest equipment and tools. It featured large storage rooms, eight teacher offices, a kitchen, and a large lecture hall (later converted into a theater).

Equally or more important than the science labs, the building laid the foundation for plans to double the size of each form, from approximately 20 students to 40 plus.

Moving the biology/chemistry lab and the physics classroom (located on the first floor of the Upper School) to the new building freed classroom space where new double sections could be taught.

Growth would take some time, but it came.

Compared with Kauffman's Class of '86 that graduated with 27 members, class sizes grew into the thirties during the nineties. By the 21st century, the school began graduating an average of 44 seniors per year.



ANSWER TO PROBLEM ON P. 46. Using the formula that relates the force that the ground exerts on the car (normal force F_N) and the force of rolling friction (F_f) of tires on concrete, the weight of the car can be calculated with the formula, $F_N = F_f / \mu$. The students needed to ask for μ (the coefficient of rolling friction for tires on concrete), the value needed to solve the equation.

Flex space for clean and messy work

A 1,400-square-foot flex space will be constructed in the area toward the gym and upper parking lot. It will feature a clean room and messy room where students can work on projects that require power tools and 3D printers as well view demonstrations (e.g., stream tables that demonstrate the power of water and earthquake benches). The flex area will open to the physics lab.

First floor plan positions the offices **A** *where the storage rooms were located. The former hallway becomes a prep room* **B** *to serve the chemistry and physics labs. The flex room can be broken down into a messy* **C** *and a clean room* **D**. *Sustainability features include a rain-water collection barrel* **E**.

While those larger class sizes put the school on solid financial ground, the labs designed for 20 became crowded with 24 students.

IN THE SPRING OF 2015, the retirement of two outstanding science teachers — Betty Sitton (34 years of service) and Cambria Reinsborough (13 years of service) — left the science department facing an adjustment period, and an opportunity.

Fr. Paul McCormick hired a promising science teacher in Lourdes Baker and began the search for a new science head. Tim Parker '90 took over as interim head of the department for the 2015-16 school year, adding to his duties as director of facilities, biology teacher, and JV basketball coach.

Meanwhile the probabilities of renovating the science building increased.

"We certainly did not want to renovate the science building," said Parker, "without the influence from our new science chair."

Hardly able to control help herself, Martina Kroll pulled up the web site of Cistercian Preparatory School again — the third time in a matter of weeks — in the fall of 2015. The Lakehill Prep science teacher checked to see whether the opening for a new science head had been filled.

She had hesitated to apply in previous weeks because she did not want to force her son Jonathan to transfer to a new school for his junior year.

"The position is still open, isn't it?" asked husband Peter, a professor of chemistry at UTA. She nodded.

"You should apply," he said.

"Cistercian fascinated me," explained Kroll, a native of Germany, "because it was the first school I found in the US that resembled the gymnasium (grades 5-12) I attended in Germany."

In addition to Cistercian's European roots and its gymnasium grade levels, she noted the school's opposition to on-line assignment books, lesson plans, and grade books.

"This position is very European," noted Kroll, "and it is crucial. Students have the chance to fail homework assignments and quizzes — without their parents knowing.

"They have the opportunity to learn from their mistakes without parents becoming involved and hindering the child from taking responsibility. Mistakes help students learn."

HEADMASTER FR. PAUL MCCORMICK FOUND KROLL to be a dedicated educator whose engaging personality hardly hinted at her cache of doctoral degrees.

She earned an M.D. and her Ph.D in Physiology (from Ruprecht Karls University in Heidelberg).

The Kroll family moved to the US in 2007 when UTA recruited her husband Peter as a chemistry professor. Kroll also joined the UTA faculty, working on a research project there.

Upon the project's conclusion, she spent her third year there teaching college freshman chemistry and biochemistry to seniors.

"I was shocked at how little the freshmen knew," she said. "I began thinking of my high school experience in Germany, the lab and lecture approach. I realized I could make a bigger impact in secondary education."

That led Kroll to Lakehill Preparatory School in Lakewood,

Photo by Jim Reisch

FLEX ROOMS

ROOFTOP

BIOLOGY

(Left) The flex room will be constructed on the northeast corner of the building. (Above) Rendering of flex rooms. (Top right) The roof of the new flex rooms will accommodate space for planters, solar panels, and a platform for egg drops. (Right) The biology lab will offer access to the rooftop area.

where she spent four years.

Fr. Paul became convinced that Kroll would bring far more than just credentials to Cistercian, she would bring a passion for teaching and research as well as the connections at UTA to make research a viable part of a Cistercian science education.

That research component would have to become incorporated into the science building renovations.

The renovated building will accommodate small-group work, Socratic sessions, lectures and spaces where students can get their hands dirty.

Cistercian's 21st century class sizes dictated the addition of 1,700 square feet on the first floor (in the area extending toward the East Gym and the upper parking lot).

"It will increase our teaching space by 25 percent or more," said Parker. "The additional square footage will be configured so that it can be broken down in various ways and serve a variety of functions."

"With the flexible furniture (on lockable wheels) and space options," said Kroll, "all the classrooms in the renovated building will accommodate small-group work, whole-class Socratic sessions, and lectures while opening up spaces where students (e.g., in a senior seminar) can actively 'get their hands dirty.'"

"That means we can hold every science class in the science building; with the help of some creative scheduling." Currently, First Formers never set foot in the building and several other MS forms split time there.

"It will be wonderful," said Form I science teacher Jim Taylor, "to have the kind of space where we can immerse the boys in concepts like plate tectonics and erosion with hands-on demonstrations."

The flex area will offer two spaces, a clean half strictly for lecture-style teaching and a messy half for experiments (e.g., stream tables that demonstrate the power of water and earthquake benches) and tools (e.g., house power tools, 3D printers, a 3D scanner, and a laser cutter). The two spaces can be opened to one another or separated.

"We'll be able to clear the floor of chairs and tables (all of which are on lockable wheels)," added Taylor, "and conduct an experiment to enrich the lesson."

ONCE COMPLETE, ALUMNI like Kauffman will have to look elsewhere in the science building to marvel at their young faces.

That hallway will be swallowed up by a prep room that will serve the labs on either side of the building.

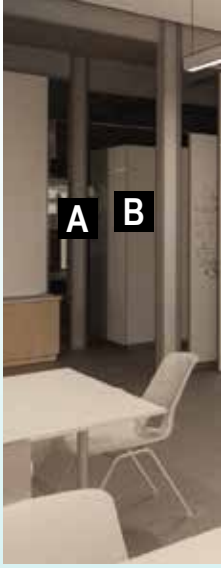
The storage rooms behind the current labs will, for the most part, be absorbed into storage cabinets within the chemistry and physics rooms, making lab equipment and demonstration material more easily accessible to teachers and students.

"The flex space adjacent to the physics lab," noted Fr. Philip

Renderings and plans courtesy of Cunningham Architects

FUNCTIONALITY FOR A PASSIONATE FACULTY

Cistercian's larger science faculty offers teachers more time to focus on their subject areas. Sitting in front (l-r): Stefan Rinaldi, Form IV science; Biology II; Fr. Philip Lastimosa '00, Physics II. Standing (l-r): Fr. Mark Ripperger, Form III science; Martina Kroll, Physics I, Chemistry II; Lourdes Baker, Form II science, Chemistry I; Tim Parker, Biology I; Greg Graham, technology elective and technology Senior Seminar; Jim Taylor, Form I science.



Lastimosa '00, "will allow students to work at their own pace, some can work inside the classroom, while others paint, saw, or hammer on a Frisbee launcher or catapult out in the flex space.

"We'll even be able to conduct experiments, like racing the mouse-trap cars, without invading the gym like we do now."

And the egg drop? There's a spot designed for that above, on the roof of the flex space outside the biology lab (see p. 49) that will double as an outdoor laboratory.

"I'm excited about using that space as a garden," said Lourdes Baker, who teaches Form II science and Chemistry I, "so we can bring life science labs outdoors. We can use it as photosynthesis lab and create eco-systems to see how organisms interact.

"The building also will have its own rainwater collection system," Baker added, "and solar panels that will help us discuss sustainability in the context of science."

"Right now," said Stefan Rinaldi, a Ph.D. from SMU who came to Cistercian in the fall from Hockaday and teaches Form IV science and Biology II, "the classrooms segregate the lecture style of teaching, where the teacher stands up front, vs. the lab approach, where the teacher moves around the class."

"We will be more able to practice science in the renovated building," he said, "and inspire the kids to investigate and research and think creatively on their own."

Like Kroll with UTA, Rinaldi plans to employ his SMU connections to offer research opportunities for Upper School students. The renovated science building will feature two rooms on the second floor dedicated to students' research activities. One will feature gas, water, and a sink.

"Oh my God, what is he doing?" Kroll remembered thinking during a demonstration back at her university.

"I don't remember what the professor wrote on the blackboard," she said, "but I vividly recall the experiment connected to the concept.

"Creating those hooks," Kroll added, "creates a deeper understanding and a lasting impression in students' memories."

Many such hooks have become milestones in Cistercian education, including projects like Fr. Mark Ripperger's rocket project in Third Form and the egg drop in physics.

The renovated building will be configured and equipped to make these moments more common.

In the chemistry lab, for example, floor-to-ceiling white boards (see above) can be slid out of the way to expose a demonstration fume hood enclosed on all sides by transparent safety glass.

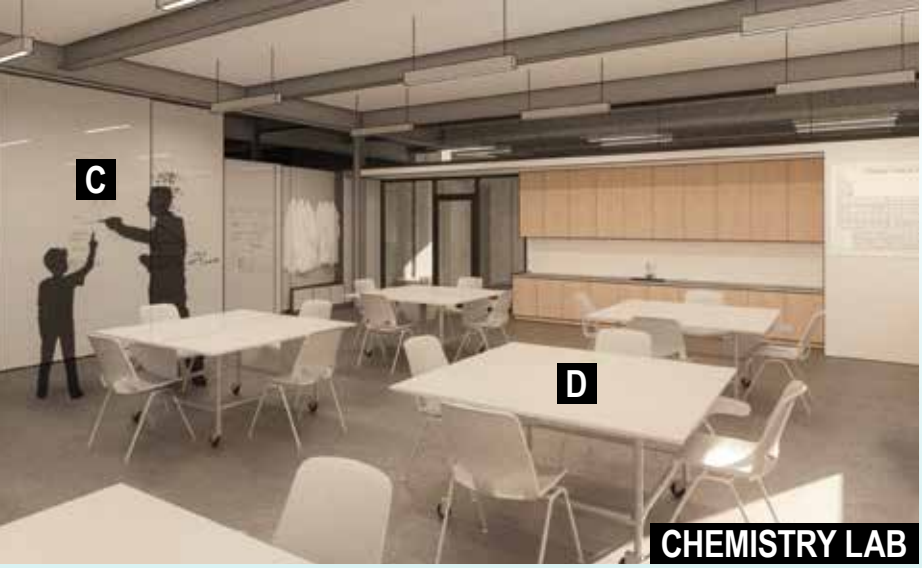
"It will open up in the prep room and classroom," said Lourdes Baker, "so the students will be protected from any toxicity, but they can see reactions occur."

Even explosive chemical reactions can be staged in the fume hood. "Students often request explosive reactions," laughed Kroll, "sometimes one a week."

Both the biology and chemistry labs will benefit from the more accessible fume hoods.

TECHNOLOGY WILL BE EMPLOYED where appropriate to facilitate learning. All lab stations will be equipped with Ethernet connectivity, data outlets/inlets and computer docks.

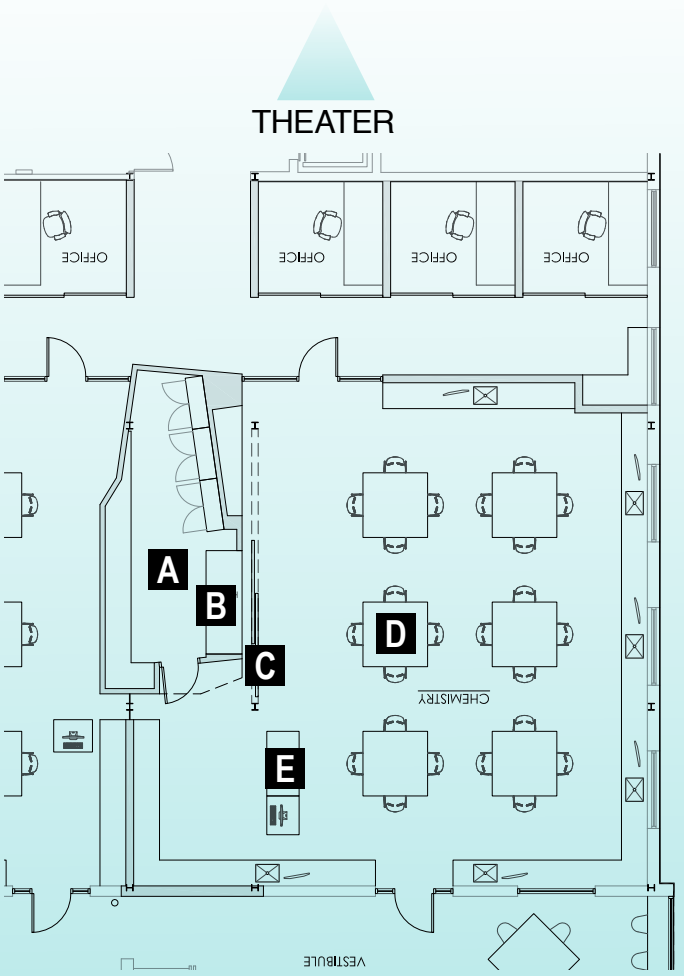
Photo by Jim Reisch



CHEMISTRY LAB

FUME HOOD

The chemistry lab will feature a prep room **A** *(also accessible from the biology lab) that will include a multi-sided fume hood (see sample at left)* **B** *to make toxic or explosive experiments and demonstrations safe and visible to all students. The fume hood will become visible by sliding the floor-to-ceiling white boards* **C** *out of the way. Lockable wheels will make tables and chairs* **D** *easy to move as needed. The AV cart* **E** *will be digital and wireless so that the teacher or students can project their work on to the main screen.*



"We want to expand access to relevant technology," Kroll said, "but we're not striving for every student to have a computer on campus."

Probeware will play a key role connecting sensors with software and computer systems to provide students an efficient way to collect, interpret, and analyze data.

Software that accompanies the proposed Vernier Probeware includes a home license so data collected at school can be processed, graphed and printed at home.

"The Vernier array of sensors serves physics as well as chemistry," explained Kroll, "and that software includes the capability of analyzing video clips taken during experiments (e.g., a football punt-projectile motion) or even analysis of the physics of movie stunt scenes and computer games (e.g., find the gravity assumed in the Angry Birds game)."

The AV carts and projection systems will be upgraded to digital and will offer interactive possibilities.

"We will be able to connect lab station computers wirelessly to the projector," said Kroll.

"Our goal is to be able to project the results of ongoing investigations and small-group work onto the main screen with the possibility of projecting several screens at once."

A variety of software programs for 3D, simulation and data visualization are also being considered. The update to the building will include high-end computers with touchscreen ability and powerful graphic cards at a ratio of one per two students for use in the classroom.

> *"Students who practice science have a chance to ... think on their own. We want the guys to become independent thinkers."*
>
> — Stefan Rinaldi
> Biology II teacher

"I AM EXCITED," said Parker, "by what this science faculty can do for our students in the renovated building."

"Their competence, experience, and depth of knowledge in their fields is inspiring."

The science faculty is intent on expanding opportunities for students to observe the scientific method at work through experiments and demonstrations, and hands-on learning.

"Students who practice science," said Rinaldi, "learn to investigate and think on their own. We want the guys to become independent thinkers."

"We want our students," added Kroll, "to use the methods to gain new insights and solve problems by transferring knowledge."

Kroll has plans for a science senior seminar that will "enlist the cooperation of several professors at universities in the Metroplex to offer real-world research opportunities in conjunction with research groups led by the participating faculty."

The two dedicated research rooms in the renovated building will come in handy for senior seminar students.

"As an alum, I am proud of where we are," Parker said. "And humbled and excited for where we are going."

Renderings and plans courtesy of Cunningham Architects

My "Cheeseburger Diet to Success and Happiness"

Afterthoughts
Smokey Briggs '84

Folks, today is the luckiest day of your life. Step right up and lend me your ear for ten thin minutes, and you will walk away with the long-lost secret to success known only to the ancients of yore.

That's right folks, success on this rock spinning through endless space is no accident. There is a formula — a recipe so simple that any man or woman can bake this cake and eat it too.

Following this very formula, I myself, a man of no special talent or ability, have defied the many prognostications of mentors and loved ones alike, and found some moderate degree of success in this life, and nearly doubled my life span in the process.

Too good to be true right? There has to be a catch.

No catch folks. No icky potions of anteater venom and dung-beetle tea. No day-long bouts of exercise. Not a stomach-turning thing to swallow or do. This formula is so easy I call it Smokey's Cheeseburger Diet to Success and Happiness.

It was pure luck that I discovered this long lost secret. While it would make a better tale to tell if I had found it in a cave while running from the Federalies down south while smuggling rare Chinchilla pelts into Colombia, the truth is my parents forced it on me at a very young age.

As I aged the dose became addictive, and my addiction intensified once I consciously realized the salubrious effects.

Now, to be honest, this long-lost Fountain of Youth is actually a combination of a fountain of youth and a time machine.

Have you ever wished the day contained just a few more hours — hours that only you could access? Or wished that you could just slow time down?

This is the key to the miraculous nature of Smokey's Cheeseburger Diet to Success and Happiness.

By scientific calculation, I have lived 16 years longer than the average 51-year-old American.

Okay, so Smokey's Cheeseburger Diet to Success and Happiness does not actually double your life span.

But think about it — a mere five extra years for a 50-year-old is a ten percent increase (see I earned that C in Geometry). If my scientific calculations are correct, I have lived at least 20 percent longer than the average American, maybe even 25 percent longer.

Tomorrow, with luck, I will still be alive, and living 29 hours a day compared to the average American.

What could you accomplish if you had an extra five hours each day outside of work and sleep?

The secret of the ancients?

Turn off your television.

Now wait. Hear me out.

According to the most recent data, the average American watches at least five hours of television every day of the year.

My parents believed that a television set was a great decoration for a living room, and should be turned on for precisely 30 minutes each weekday to watch the evening news. (Actually I think my dad was so cheap he feared we would burn the tubes out if we watched it).

Whatever, the result was we kids rarely watched television. Instead we played ball, shot rifles, played games, read books and did all the other things that eons of children did before we invented the one-eyed-lobotomy-box we call a TV.

The habit stuck with me. See, by pure luck I stumbled upon this secret of the ancients. But what luck for me! And now you!

By my scientific calculations I have not watched 93,075 hours of television that the average American has watched. At an average of 16 waking hours per day, that comes to 5,817 more days actually lived that most Americans spent watching other people pretend to live. That comes to 15.9 years of life.

Think of it in terms of books read, thoughts thunk, conversations had, problems (or navels) contemplated, projects completed, vocations vocated, avocations avocated, kids played with, loved ones loved … the list is endless.

My good readers, you will note that part of this edition of *Continuum* is devoted to chronicling the recent collegiate successes of Cistercian alumni.

Humans define success variously, but at the core of any serious definition is "accomplishment."

Accomplishment requires time.

My father once told me that if a man worked 60 hours a week for five years straight, he could not help but be successful.

The Old Man was referring to a vocation, but his advice applies soundly to all of life.

For many of us born lacking extra-amazing talent, success in all aspects of life, from labor to love, is a factor of elbow grease applied over time.

Finding the time to apply that elbow grease is easy when you subscribe to Smokey's Cheeseburger Diet to Success and Happiness.

REMEMBERING

Mark Simon '74
Mark Simon '74, passed away unexpectedly from a heart attack Friday, July 18, 2016, in Silver Springs, MD. He is survived by his wife, Robin; sons, Joseph and David; and brother, John Simon '76. Through life's ups and downs, "Mark never lost his sense of humor," said his wife Robin.

Steve Korkmas '75
Stephen P. Korkmas '75 passed away on Friday, July 15, 2016, after a battle with cancer. He is survived by his wife, Lisa; children, Alexandra and Andrew; parents, Marguerite and Vincent Korkmas; sister, Cathy Airola; and brothers, Craig and Brian Korkmas. A proud Aggie, Steve had held several executive positions with energy firms in The Woodlands.

Community calendar

JANUARY
28 Admissions testing

FEBRUARY
4 Admissions testing

MARCH
13 Spring break
20 Classes resume

CISTERCIAN
PREPARATORY SCHOOL
3660 CISTERCIAN ROAD
IRVING, TEXAS 75039

Is 'Loving people in God' just an empty cliché?

For a long time I had felt uneasy about the recommendation to 'love people in God.'

I knew it had to be a right way of loving because St. Paul and other saints have often said it, but to me it seemed opposed to loving a person for his or her own sake.

On Prayer
Fr. Roch Kereszty

If I loved someone for God's sake, I thought, I was using that person as a means for strengthening my love for God, not for his or her unique self. I have had a vague but real experience that every human being is unique and irreplaceable. That uniqueness can be described as long as we want, but it will still elude us. All description of a person's unique qualities is nothing more than circumlocution and approximation.

Viktor Frankl, the famous Austrian psychiatrist and holocaust survivor, offers a mental experiment to show that what makes someone *this* or *that* person is real but inexpressible by words of any kind.

Suppose, he says, you claim to be deeply in love with a woman, but someone makes you this offer: "I will pay you one million dollars if you agree to this exchange: I will give you another girl who will look like and sound like your current girlfriend, in fact, she will have exactly the same external and internal characteristics. But she will be someone else. Would you accept this exchange?"

If you do — says Frankl — you do not truly love her, but have only a passing erotic attraction. If your love is real and deep, no price is great enough for you to exchange your girlfriend for her perfect likeness. The true lover knows his friend's unique identity which escapes definitions and descriptions: only love knows *that unique identity* or knows *her* as *her*.

How then can such a personal love (that exists in its most dramatic form between a man and woman, but to some extent in every genuine friendship) be reconciled with loving someone in God?

My confusion began to clear up when I finally realized what the phrase actually means. To love someone in God means to love that person *as* God loves him or her, which is possible only if God grants me a share in His own love. God loves His own image in us, yet we are not carbon copies of Him.

Each one of us is His unique image, both different from, and similar to, Him. God's image is what is most uniquely personal in us, that is our inexpressible mystery. To the extent, then, that I unite myself with God's love, I come close to this deepest level of my friend's personality where he or she communicates with God, where God incessantly upholds and unfolds the best in that person.

If the soul is hesitant or reluctant to accept God's love, He gently reproves, persuades, lures and inspires that soul. And at times, He even sets up roadblocks to close all escape routes so that the soul can more easily surrender to Him. But there is one thing God never does: he never forces his will upon anyone.

Thus, loving people in God and loving what is most personal in them mutually presuppose each other. If my love is united with God's love, I can love people at their deepest level, the unique mystery of their persons. If I experience communion with people at that level — provided that my experience is true — I may assume that God's grace enabled me to do so.

If I do not love others in God but only with my own resources, I can reach people only on the surface; I may try to manipulate them in order to dig deeper into their unique mystery, but even the most refined tactics will be countered with resistance or evasion.

Only God's love can reach a person's true depth.

We can, then, join another in his or her deepest mystery to the extent that we are united with God and love that person in God.