

PRINCIPIA PURPOSE

TAKE OUR SURVEY INSIDE!

SUMMER '13



23

Meet a Few of
This Year's Grads

28

It's Never Too Early
to Learn to Give Back

34

"By Land and Sea":
Engaging Biology Students in
Hands-on Research

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The mission of the *Principia Purpose* is to build community among alumni and friends by sharing news, updates, accomplishments, and insights related to Principia, its alumni, and former faculty and staff. The *Principia Purpose* is published twice a year.

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Dear Reader,

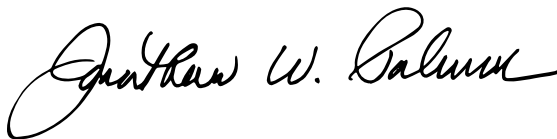
With liberal arts programs under the microscope nationwide, recognizing the practical value of a broad-based undergraduate education is more needed than ever. So our cover story celebrates the liberal arts.

The timeless skills and habits of mind developed through a liberal arts education—analytical and critical thinking, the ability to communicate, respect for others, and a commitment to ethical behavior—are in demand in every industry. What's more, a focus on learning *how* to learn prepares one to live a meaningful life that blesses others.

Principia founder Mary Kimball Morgan recognized the value of an education that turns thought outward. "True education," she said, "is learning to look away from self, thus constantly broadening one's mental horizon" (*Education at The Principia*, p. 6). Here at Principia, we do our best to provide a broad-based, outward-focused education to students of all ages. Along those lines, I'm sure you'll enjoy the article about School students across all levels "learning to look away from self" through community service.

Educational trips are another good way of "broadening one's mental horizon." Take a look at pages 32–33 to see all the places Principians studied this year. And don't miss the exciting research going on in the College's Biology and Natural Resources Department, where professors and students are studying prairies, turtles, snakes, soil, trees, and more. Meanwhile, faculty at the School are introducing students to the world of finance and money management—from learning to balance a check-book in Middle School to tracking hypothetical stock portfolios in Upper School.

Enjoy this issue's feast of information and images, keeping you in touch with Principians' activities and accomplishments. And please be sure to fill out the survey tucked in the center of the issue. Let us know what you think of the *Purpose*!



Dr. Jonathan W. Palmer (C'78)
Chief Executive



Contents

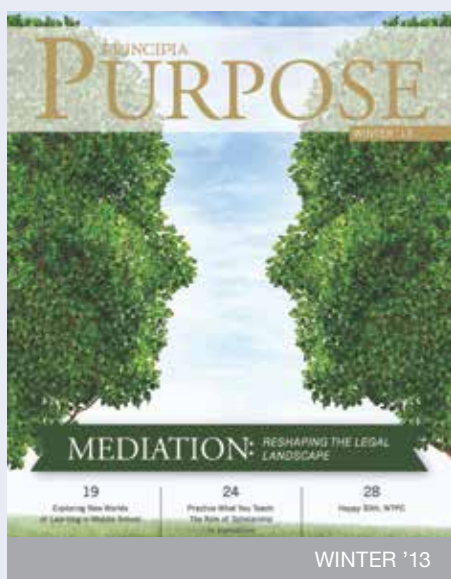


FEATURES

- 10 A Liberal Arts Education: Preparation for the Future
- 23 Meet a Few of This Year's Graduates
- 28 It's Never Too Early to Learn to Give Back
- 32 Where in the World Did Principians Study This Year?
- 34 "By Land and Sea": Engaging Biology Students in Hands-on Research
- 40 Making Sense of Dollars and Cents

DEPARTMENTS

- 1 From the Chief Executive
- 3 Letters
- 6 School News
- 8 College News
- 44 Awards and Achievements
- 48 Christian Science in Action



“Happy 50th, WTPC”

As is always the case with articles that appear in publications like this one, there could only be so much detail . . . In the case of WTPC, there is more to tell. . .

I think I have a copy of the article revealing that the Milwaukee Mothers’ Club raised \$500 that enabled the station to put together a studio in the basement of the School of Nations. This was thanks to the work of Mrs. Earl Jones prodding for a bake sale, etc. She, of course, is my mother. It was Will Hancock (C’61), who was student body treasurer, who dissected the Student Body budget and found the \$800 that the SB put up. And it was I, who had never spoken in public, who carried the question-and-answer presentation for one long night in the Chapel.

. . . Little thought is given to the actual broadcast difficulties these days, but it was really quite an achievement of Jim Sindelar (C’64) and group when you realize that the first broadcasts were from transmitters located in the attics of the dorms. In those days the visit of

male students to the attics of any dorm was strange and to the attics of women’s dorms, impossible. But they did. I’m not sure the administration ever knew how the signals got broadcast. . .

. . . I am forever grateful to those who got the vision and kept it alive. . . It was a great experience.

Roger Jones (US’59, C’63)

While I was grateful to see an acknowledgement of 50 years of WTPC in the last *Purpose*, I was disheartened by the fact that an entire decade of WTPC’s history was left out!

The 1980s produced some very talented and quite successful students who went on to great things in the broadcasting profession. From the early ’80s through to the ’90s, WTPC had a cohesive format, a student-run board, a news desk, a publicity director, and a programming director. It was during this time that WTPC went 24 hours for the first time, managing to keep a 24-hour schedule going four days a week with only student DJs—and these DJs numbered almost 70 students, better than 10 percent of the entire student body!

It was an exciting time in radio, with “alternative rock” just coming into being. WTPC had an overall format, but there were still shows with their own character, covering everything from classical to jazz. There were even a couple of comedy shows. We had a DJ of the Quarter award, the board attended the National College Radio Conference in New York, and there were many events on the campus sponsored by WTPC.

Also during this decade, the studios expanded in the lower Concourse, installing state-of-the-art equipment for the first time in over two decades, thanks to the support of Dick Tullis (US’30, C’34). With our new equipment and leadership from students like Scot Barringer (US’80, C’85) and Todd Gruenig (C’86) and the faculty support of Warren Fairbanks and Chuck Patterson, the College was led towards a communication program, which has blossomed into the full-scale program they have now.

Currently, there is a Facebook page entitled “WTPC 95.5 FM—In the 80s” for anyone who remembers and loves that time in WTPC’s history. When WTPC celebrates its 75th anniversary with another article, please don’t forget those of us who made it successful in the ’80s!

Jennifer Ward Bumba (C’87)

WTPC Publicity Director, 1985–1987

“Exploring New Worlds of Learning in Middle School”

I was reading with interest about the donated electric vehicle [a Sebring-Vanguard Citicar] that was “one of the first electric cars to be commercially produced in the U.S.” When I came to the description about an aluminum frame and a body of ABS plastic, I was quite surprised. I am unaware of the use of aluminum in the early days, and the only plastic that I was aware of was celluloid. One of the first large usages of electric vehicles was a NYC taxi fleet in 1897, and in 1904 the Columbia Runabout exceeded 1,000 in sales. Other American manufacturers were

Studebaker, Edison, Rouch and Lang, Ryker, Morrison, Anthony Electric, all of which were produced prior to 1914.

I remember seeing Mr. Freddy's charging stand. It was about 30 inches square and five feet high, but I do not recall seeing his electric vehicle. Perhaps the changing of city electric distribution from Edison's direct current to Tesla's alternating current had something to do with no longer using the vehicle.

It is most gratifying to see that students are learning more than math and English, so keep going, Principia!

Trefor Thomas (US'46)

.....

“Mediation: Reshaping the Legal Landscape”

For nine years I have been a volunteer mediator with Community Mediation Services (CMS) in Clark County, Washington. For many years the program was a city-county service, but then it was eliminated by budget cuts. . . . CMS re-formed as a non-profit organization, continuing to offer free or low-cost mediation for neighbor-neighbor, landlord-tenant, and small claims disputes. (We also now do foreclosure mediations.) Our mediators are not paid, but are volunteers from the community who are highly trained by CMS.

Our preferred model is to have co-mediators at each mediation. The only time the parties are physically separated is if the mediators or a party calls for a short “caucus,” or private meeting with the mediators, during the course of the mediation. Caucuses are held with each

party separately and are “doubly confidential”—the mediators will not relay any information to the other party (either in caucus or open session) unless requested or permitted. The parties do all negotiating face-to-face, with the help of the mediators. Any agreement reached is under total control, understanding, and buy-in from both parties.

Using this model, CMS has a very high rate of success, bringing more peace to our community. I trust that the disputants take away new skills to use in their future interactions with others. Mediation is a wonderful thing.

Liza Allen Halpenny (C'77)

. . . Your readers may be interested in knowing that there are [other] approaches to mediation . . .

Many mediators, including . . . my business partners and I, . . . spend most, if not all, of the mediation time with all the parties in the same room. We have found that this is the most effective way to help them better understand each other. . . .

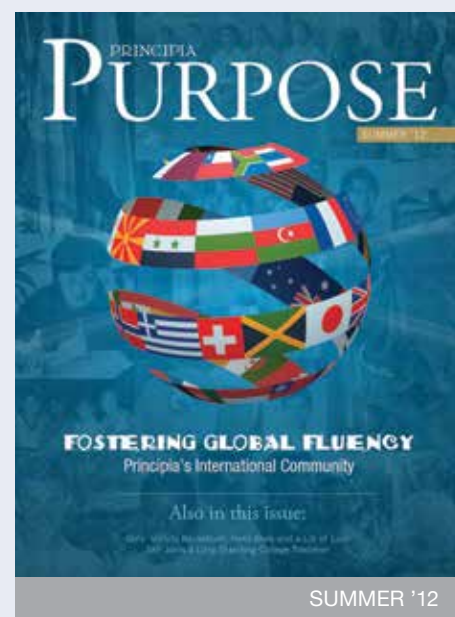
We point out to the parties in mediation that understanding each other and working together toward a resolution doesn't mean that they have to like or agree with what the other party has to say. However, if they can reach mutual understanding, then they can work together more successfully toward jointly acceptable agreements.

. . . The mediator functions primarily as a facilitator in this conversation between the parties. We make use of caucuses if it appears that some key information is being held back by the

parties, if they seem very hesitant or uncomfortable, or if they seem unable to move forward.

Many situations that are mediated involve people who have an ongoing relationship with each other, such as family members, co-workers, community members, and service providers of many kinds. If these people can resolve issues with each other by working through them face-to-face, they are likely to create a stronger bond with each other and to decide on an amicable rather than an adversarial way to resolve their differences in the future.

Elisabeth Seaman



“YAF Joins a Long-Standing College Tradition”

A letter to the editor in the Winter 2013 edition contained a factual error relating to the Young Americans for Freedom (YAF) group's guest speaker Star Parker. It said, “If her claim to have been ‘. . . unanimously elected . . .’ to the Republican Congressional seat [for] California's 37th District is an

indication of her bona fides, there are other claims open to question.”

However, a quick look at Parker’s bio on her Center for Urban Renewal and Education website refutes the letter’s accusation. The site reveals Parker never claimed a unanimous election to the seat. It merely states that she was “unanimously *nominated*”—that is, ran unopposed—for that seat’s Republican candidacy: “In 2010, she ran for the Republican Congressional seat in California’s 37th District and was unanimously nominated.” Her site also says that she didn’t win the general election.

What’s also troubling is that a letter that includes a personal attack on an individual would be printed in a *Principia* publication. Parker was a guest at *Principia* and should be treated with all courtesy. Ideas are fair game, but a person isn’t. . . .

Katherine Dillin (C’92)

I am writing to commend Heather Shotwell on her well-written article [about YAF]. I felt it was very informative, and I am truly excited that Prin has an organization . . . like that on campus. It is important to showcase these organizations and other activities to show that our students are experiencing college life in their own individual way, but at the same time expressing the one Mind. I also would like to point out that I felt Shotwell’s tone was very appropriate. We should be excited for all of our students, and we should be cheering on their moral and spiritual growth.

Whitney Howland (C’93)

I was interested in reading the letters to the editor [about the YAF article]. . . . I do not understand what was so objectionable to the letter writers.

To start, the article was reporting about a group of Prin students who recognized and were supporting an organization that stands for American values that most everyone in our sociological and political spectrum would agree with and be supportive of. Values such as “free markets”; the need to encourage free enterprise; the importance of adhering to traditional values; individual freedom and responsibility; abiding by the law and the rule of the majority; limited government that follows the Constitution; the right of freedom of speech and the press; and a strong national defense.

These are certainly qualities that I was brought up with and that were supported by my *Principia* experience. They are values that are absolutely important and fundamental in dealing with the underlying issues we are confronted with in today’s world. I try to live them in my personal and professional life. I believe that a conference such as was reported by the article is very appropriate for young minds to consider and have serious discussions about.

Norm Robinson (C’51)

I was startled by the strong criticism of Young Americans for Freedom in the last Letters column of the *Purpose* and so would like to share what I cherish about YAF and how it merits my respect: Its true north is the worth and capability of every individual. . . .

The third policy of *Principia* includes this statement: “The *Principia* refuses to accept as final any belief of limitation which grants greater capacity to one individual than to another.”

. . . As a Christian Science volunteer chaplain in Chicago’s Cook County Jail, I can say that many are reaching for higher self-definitions and individual responsibility, and love deeply the Christian Science message of their spiritual perfection now. . . .

. . . [I]t is a wonderful breath of fresh air to me that some young people are looking to the true north of infinite possibilities for all mankind. And that is what YAF is doing.

Deborah L. Allen (C’68)

. . . As a contributor to YAF for many years, I was quite surprised to see it characterized as a controversial group. If love of God, country, and the Constitution is controversial, it is news to me. YAF battles an entrenched liberal philosophy on many college campuses where they are often not allowed to bring speakers to address interested students that want another viewpoint. As a 1964 graduate of Skidmore College with a BA in government, I am very familiar with the default position of liberalism on most college campuses. YAF endeavors to bring another view that is not the standard. If students are to become fully educated in this complicated world, it is only proper and wise that they be exposed to many divergent political ideas. . . .

Patricia Beveridge



Graduation 2013

Bible scholar Kristy Christian gave an inspiring address to the Class of 2013 at the Upper School commencement ceremony on May 19. You can listen to her talk on Principia Internet Radio

(www.principia.edu/radio). Also, see page 23 to meet three of the 75 seniors who received diplomas.

2013 Cum Laude Initiates

Eight graduating seniors were inducted into the Principia Chapter of the Cum Laude Society in May. Students graduating cum laude have maintained an exceptionally high level of academic achievement as well as an excellent citizenship record during their junior and senior years at the Upper School. The cum laude designation was conferred on Cassidy Alford, Claire

Douglas, Gage Edgar, Stephen Hanlin, Georgette Hoffmann, Austin Moyle, Claire Smith, and Kayleigh Wood.

Soccer Program Reaches New Goals

In the space of just 12 months, the Principia Upper School soccer program scored two notable firsts:

- In the spring of 2012, the girls' varsity soccer team won silver in the Missouri State Championship.
- In the fall, the boys' soccer team won the District Championship.

Color Walk Unites Campus

What a sight it was on the last Friday of April, as Principia staff, students, teachers, and parents walked, ran, cheered, and sang their way around the fields—dusted in rainbow hues! The second all-School walk-a-thon was a wonderful way to strengthen the sense of unity and camaraderie on campus—and raise funds to help complete renovations to our Middle School.

The event demonstrated the creativity and commitment of the Upper School's Community Service class, whose 16 students worked assiduously with their teachers to organize the day's proceedings. The students came up with the idea of a "color walk," where the participants would be showered with brightly tinted powder (cornstarch with food coloring) and receive rubber bracelets for each lap. The class also planned and facilitated after-lunch games and activities, which were a big hit with the younger grades.

Students raised nearly \$9,500 through walk-a-thon pledges, with at least one donor offering to match that amount and the possibility of additional donors stepping in.



And now, thanks to the dedication of generous donors, we are realizing yet another achievement: bringing our existing Mesa soccer field up to regulation dimensions, while also reorienting its position to north-south from the current east-west layout.

Work on the project has already begun and will continue through the summer.

Another Spring, Another Awesome Spring Production!

A talented cast and crew certainly put us in the right mood for April showers with their professional staging of *Singin' in the Rain*. The creativity and commitment of our students, faculty, and staff were evident in every song, note, dance step, and scene change. They even got it to rain right on the Ridgway stage! Little wonder that every one of the three performances received a standing ovation.

Two Varsity Players Hit the 1,000 Mark

At a high-energy game in January, Joe Colliatie became the first Upper School junior to reach 1,000 points in his high school basketball career. (All other Upper Schoolers reaching this goal have done so as seniors.) A few weeks later, in one of the closing games of the season, senior Justin Ball also reached this landmark achievement. During the season, both boys were named Athlete of the Week by the *St. Louis Post-Dispatch*, and KSDK (St. Louis News Channel 5) ran a segment on the Principians' tandem achievement. You can watch it at www.principiaschool.org/1000.

We're abuzz about . . . honeybees!

The "outdoor classroom" concept, which makes use of our beautiful campus for experiential learning at all levels, continues to expand. Two hives humming with honeybees arrived on campus in April, taking up residence behind the Business Office. Spring Shutt, our director of nursing and an experienced beekeeper, is maintaining the hives, with occasional help from her son, sophomore Gavin Austin (pictured below). A healthy hive can yield up to 100 pounds of honey per year. By the fall of 2014, students will likely become involved with honey gathering and processing as long as the hives have a sufficient store of honey for the bees' own consumption during winter. In the meantime, students will be studying these insects, whose highly social behavior and community structure fascinate scientists the world over.



Photos by Spring Shutt



SLIAC Conference Athletic Honors

Women's Tennis

Carlie Sanderude (C'14) was named St. Louis Intercollegiate Athletic Conference (SLIAC) Player of the Year after posting an undefeated record of 6–0 in SLIAC play this season. She also led the team to victory in the 2013 SLIAC Championship.

In addition, Shannon Carney was named the 2013 SLIAC Women's Tennis Coach of the Year. Carney led Principia to its second conference tournament title in three years with her squad finishing 6–0 in conference play and 12–4 overall.

SLIAC also recognizes one individual from each team, selected by her coach and teammates, who throughout the season best displays the ideals of sportsmanship. Sarah Corbitt (US'09, C'13) represented Principia on this year's All-Sportsmanship Team.

First Team All-Conference

- #1 Singles: Carlie Sanderude
- #2 Singles: Sarah Corbitt
- #3 Singles: Kelly Adams (C'15)
- #4 Singles: Hanne Andersen (US'12, C'16)

- #5 Singles: Olivia Ikuma (US'12, C'16)
- #6 Singles: Justine Roy (US'12, C'16)

- #1 Doubles: Sanderude and Corbitt
- #3 Doubles: Ikuma and Roy

Honorable Mention

- #2 Doubles: Adams and Andersen

Men's Tennis

Sophomore Jason Wissman won SLIAC Player of the Year, while freshman Joey Sander shared Newcomer of the Year honors with a player from Webster University. Sander also represented Principia on the SLIAC All-Sportsmanship Team.

First Team All-Conference

- #1 Singles: Jason Wissman
- #2 Singles: Joey Sander

Honorable Mention

- #1 Doubles: Sander and Wissman



Softball

Principia College received the team Sportsmanship Award for the second time in three years. In addition, Devon Harrison (US'09, C'13) represented Principia on the SLIAC All-Sportsmanship Team.

Second Team All-Conference

- Thanda Kyaw (US'11, C'15)
- Devon Harrison

Success at the State Capitol

Early in March, three College students participated in the 2013 Model Illinois Government simulation in Springfield, Illinois. Political science majors Cameron Douglas and Lyssa Winslow (both sophomores) and junior Briggs DeLoach served as Republican Illinois senators, debating actual pieces of legislation from the 2012 Illinois legislative session on issues related to education, gun control, and transportation.

Dr. Brian Roberts (C'88), who worked with the students and attended the competition, reported that all three Principians spoke frequently and substantively during committee and floor debate, earning the respect of their peers. In addition, DeLoach was honored with the Donna Lennon Award for Outstanding Senate Committee Person.

Multidisciplinary Project Explores Urban Life

This spring, the College conducted a three-week, multidisciplinary study program called "Cities: Routes to Reinvention," designed and directed by Professor Duncan Martin (C'76), chair of the Art and Art History Department. As part of the program, internationally known architect Diane Haigh, the College's 2012–13 Annenberg Scholar, conducted a series of seminars and field studies in conjunction with Old North Saint Louis Restoration Group, which is guiding the revitalization of the Old North St. Louis neighborhood.

Students' work culminated in presentations followed by a roundtable discussion, led by Haigh, featuring St. Louis professionals in community

New Teaching Award Recognizes Political Science Professor

Professor John W. Williams (C'76), JD, is the first recipient of the Horace Edwin Harper Jr. and Evelyn Wright Harper Award for Teaching Excellence, established not only to recognize but also to "help publicize" excellent teaching at the College.

The following criteria are considered in the evaluation of nominees:

- Effective student learning
- Continual teaching and course improvement based on assessment
- Fair and clear grading of student performance
- Accessibility as a teacher on academic issues
- Innovative teaching
- Support as teachers for Principia policies 5, 8, 10, and 12, which emphasize a commitment to character education, service to others, teaching based on divine inspiration, and the demonstration (but not the teaching) of Christian Science

Professor Williams, chair of the Political Science Department and co-chair of the Asian Studies Program, has taught at the College for 30 years. He is a demanding and popular professor both in the classroom and on abroads, which he leads to China, Tibet, Kazakhstan, and Vietnam. It's not unusual for Williams's students to present their research conducted overseas at conferences of the Illinois Political Science Association, an organization for which Williams has served as president more than once. He also coaches the College's moot court competitors, who often bring home awards.



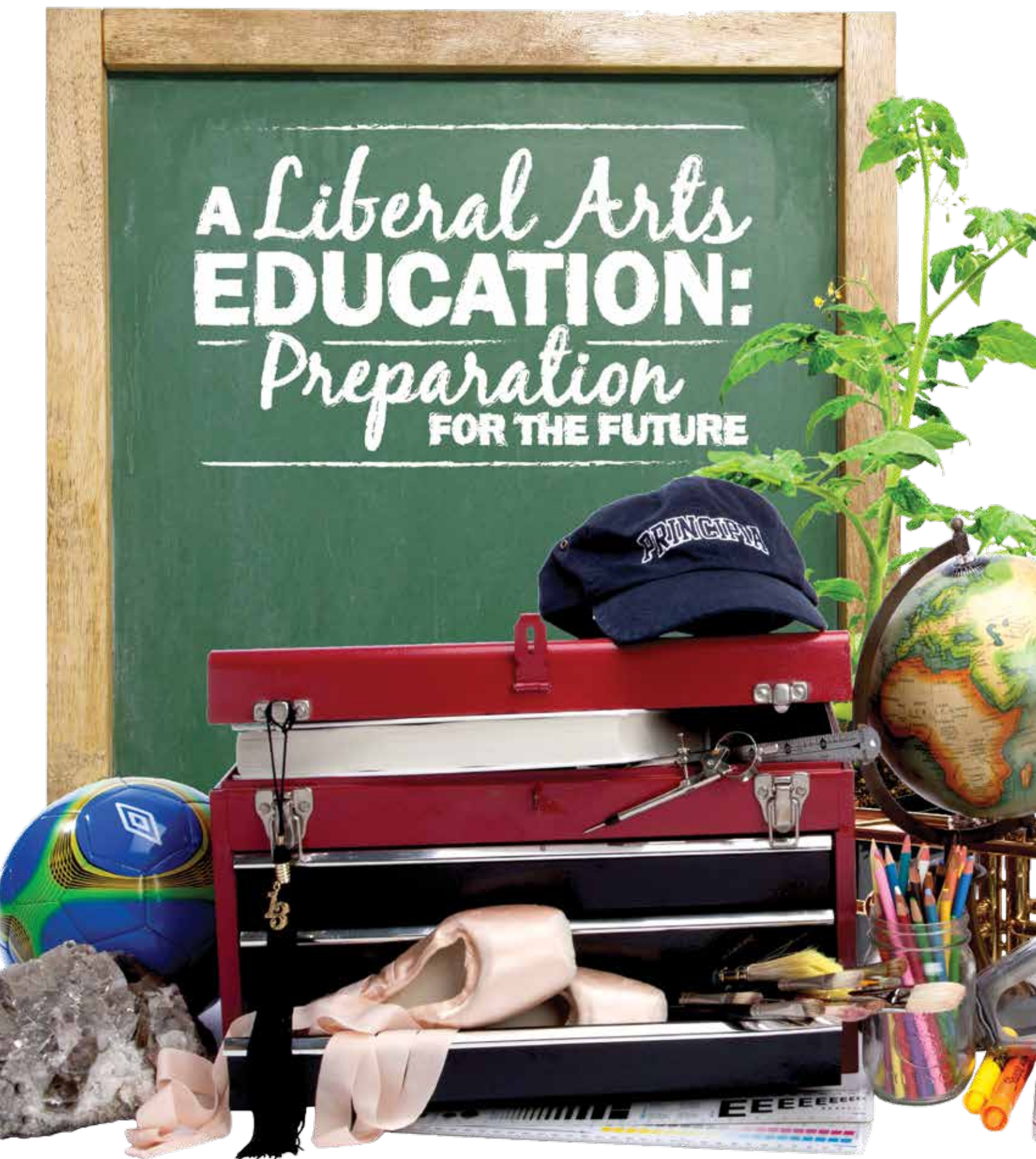
Adult learners value Williams's instruction as well, benefiting from his Summer Session classes and talks to Principia Clubs. In addition, more than 60 adults will learn from him later this year as he leads the Principia Lifelong Learning cruise on the Mekong and Tonle Rivers through Vietnam and Cambodia.

development, sustainability, preservation, higher education, religion, and the arts. This focus on urban life was especially timely since trends indicate that, after fleeing cities in the 1950s and '60s, people are now returning to them. Haigh explains, "A so-called 'Fifth Migration' is now taking place, resulting in design initiatives to reclaim historic areas. This pattern is playing out in St. Louis, providing an excellent opportunity for students to consider complex global issues that touch the lives of so many people."



A Fitting End

A clear, mild spring day set the scene for this year's College commencement, held on Saturday, May 11. President of The Mother Church, Chet Manchester (C'82), CSB, delivered the address, encouraging graduates to consider the contribution they can make in the world. Afterward, friends and family gathered on the Chapel Green to celebrate the 110 members of the 2013 graduating class. You can listen to the address on Principia Internet Radio (www.principia.edu/radio) and meet three members of the Class of 2013 on page 25.



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ATIONWIDE, LIBERAL ARTS AND SCIENCES PROGRAMS ARE AT A CROSSROADS, FEELING THE NEED TO DEFEND THE BREADTH OF LEARNING CENTRAL TO THEIR APPROACH.

Critics charge that liberal arts degrees aren't as marketable as more specialized ones (from engineering and business schools, for example). Add the Great Recession to the mix, and you find high school seniors and their parents increasingly leery of the liberal arts. In fact, however, the twenty-first-century workplace—where change is the only constant—is one of the *best* reasons to pursue a broad rather than narrow education.

Unlike cutting-edge technological training, which may be outdated tomorrow, the skills cultivated by a liberal arts education are timeless. If employees can think analytically, solve problems creatively, and communicate effectively, they're equipped for whatever the future may bring.

We spoke to a number of recent Principia graduates with majors in the liberal arts who report finding themselves well prepared for the workplace. Take Kenny D'Evelyn (C'10), for example.

A political science and history double major, he's working in Washington, DC, as an analyst at Deloitte Consulting LLP, an international management consulting firm. "The communication skills I developed at Prin are essential to my career," D'Evelyn comments. "My work is all about analyzing problems, developing potential solutions, and clearly explaining those solutions to the client."

James Arnott (C'09) finds the same. An economics and political science double major, he's the program director at Aspen Global Change Institute, a nonprofit organization that advances scientific understanding through interdisciplinary programs. "I am using the foundational tools I developed at Prin and taking them further," Arnott says. "I would not be able to do what I do if it weren't for Prin and the liberal arts education I received."

>>



Educating Leaders

Mark Peltz, director of career development at Grinnell College, researched the undergraduate institutions of the CEOs of Fortune 500 companies, leaders of Philanthropy 400 nonprofits, and all U.S. senators. Here's what he found:

- Out of **4,634** institutions of higher learning in the United States, **270** are baccalaureate colleges offering arts and sciences programs.
- These **270** colleges enroll only **2.2 percent** of all undergraduates in the U.S.
- Yet **11.33 percent** of business, nonprofit, and government leaders graduated from baccalaureate colleges offering arts and sciences programs.

Peltz concludes, "The data presented here clearly illustrate that liberal arts graduates will not only be well-positioned for career success, but that many of them will be poised to become our nation's next leaders."¹

1. Mark Peltz, "The Liberal Arts and Leadership," *Inside Higher Ed*, May 14, 2012, <http://www.insidehighered.com/views/2012/05/14/essay-how-liberal-arts-colleges-promote-leadership>.

Meanwhile, half a world away, Bethany Boyer-Rechlin (US'04, C'09), a global perspectives major serving in the Peace Corps in Benin, praises the practicality of her liberal arts education as well: "Drawing connections among the academic disciplines, developing the ability to speak and write effectively, learning to think creatively—these summarize Prin. I developed a broad toolkit for whatever I may encounter."

TAKING A BROAD VIEW

As these students discovered, studying a wide range of subjects prepares one well for work—and life. For that very reason, perhaps, breadth has been at the heart of the liberal arts since antiquity. The term *artes liberales* refers to the classical studies free men undertook in order to become contributing members of Ancient Greek society. The tradition took root in Rome as well, and by the Middle Ages, these studies comprised seven subjects classified as the trivium (grammar, logic, and rhetoric) and quadrivium (arithmetic, geometry, music, and astronomy).

In his 2008 convocation address, Dr. Tom Fuller, Principia's Harry J. and Margaret L. Heimer Professor of Mathematics and Computer Science, described the esteem for the liberal arts typical of early times:

Philo Judeaus, a first century philosopher at the intersection of Jewish, Greek, and Roman thought, wrote this paean of praise for the liberal arts: "Grammar teaches us to study literature in the poets and historians, and will thus produce intelligence and wealth of knowledge. . . . Music will charm away

the unrhythmic and inharmonious by its harmony. . . . Geometry will sow in the soul that loves to learn the seeds of equality and proportion, and by the charm of its logical continuity will raise from those seeds a zeal for justice."

Justice, harmony, equality, proportion—learning to prize these qualities of thought opens one up to new ideas and aids in discerning right from wrong, fact from fiction. It also develops the mental nimbleness needed to cope with change, including the breathtaking pace of change in today's workplace—and among today's workers.

CHANGE YOU CAN COUNT ON

Increasingly, people are reinventing themselves professionally, switching careers numerous times. At the start of each school year, Dr. Scott Schneberger (C'70), the College's dean of academics, reminds new students that a broad-based education will enable them to adapt not only to a rapidly evolving workplace but also to shifts in their own interests. "Specialized training makes it harder to have multiple careers," he points out, offering his own professional life—in military intelligence, as a professor and research institute director, and now as a college administrator—as an example.

By current standards, however, Schneberger's three career shifts are the picture of stability. Those entering the workplace nowadays will likely make many more changes than that. In an Opinion piece for *The Christian Science Monitor*, Elsa Núñez, president of Eastern Connecticut State University, describes the dizzying pace of work-

1. Elsa Núñez, "Liberate Liberal Arts from the Myth of Irrelevance," *The Christian Science Monitor*, July 25, 2011, <http://www.csmonitor.com/Commentary/Opinion/2011/0725/Liberate-liberal-arts-from-the-myth-of-irrelevance>. All further references to Núñez's comments are from this article.
2. Amy Scott, "What Do Employers Really Want from College Grads?" *Marketplace*, March 4, 2013, <http://www.marketplace.org/topics/economy/education/what-do-employers-really-want-college-grads>.

place change and its impact on career preparation: “[T]oday’s technological world—where knowledge doubles every 18 months and industries are created in less time—requires workers with the transferable skills they need to be ready for as many as 11 different jobs in a lifetime.”¹ Even accounting for the difference between job changes and full-fledged career shifts, that’s a lot of reinventing oneself!

Change at that pace wouldn’t be possible without the ability to transfer skills from one job to the next. Fortunately, students in liberal arts programs get practice at that, transferring what they’re learning between disciplines instead of jobs. Kate Wells (C’10), a journalist who majored in religion, describes the value of this: “I took a philosophy class at the same time I was

taking math. Having to do proofs in both classes was kind of amazing—you saw how logic, clarity, and evidence work on a fundamental level.”

THE LIBERAL ARTS AT WORK

Employers across a wide range of industries recognize the value not only of developing transferrable skills but of honing them through a variety of applications, as Wells describes. “[T]he vast majority of employers say they are less interested in specialized job proficiencies,” Núñez notes. “Instead, they favor analytical thinking, teamwork, and communication skills—the broad intellectual and social competencies available through a liberal arts education.”

David Boyes, president and CTO of Sine Nomine Associates, a Virginia-based technology-consulting firm,

concurs. As he told *Marketplace*’s Amy Scott, “We don’t need mono-focused people. We need well-rounded people.”² Which is exactly what liberal arts learning is designed to produce.

Indeed, students who make a strong liberal arts education their own have a very practical calling card in today’s workplace. They are well-rounded, intellectually inquisitive people who enjoy learning, can think analytically, critically, and creatively about whatever is put in front of them, and know how to communicate with others, nearby and around the world.

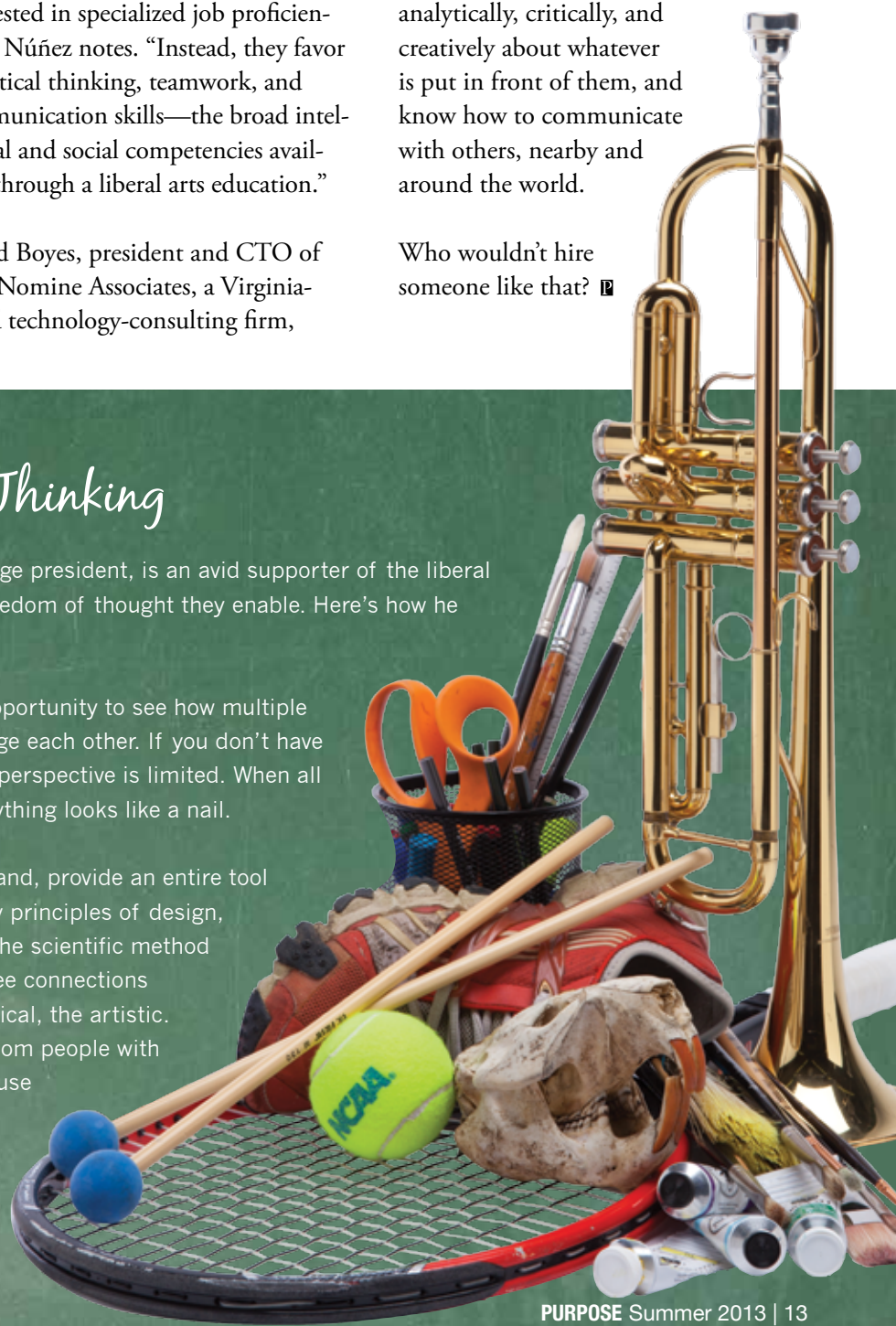
Who wouldn’t hire someone like that? ■

Liberated from Limited Thinking

No surprise, Dr. Jonathan Palmer, Principia College president, is an avid supporter of the liberal arts and sciences. In particular, he values the freedom of thought they enable. Here’s how he explains it:

Liberal arts are liberating arts. They’re an opportunity to see how multiple disciplines work with each other and challenge each other. If you don’t have a variety of ways to look at something, your perspective is limited. When all you know how to do is wield a hammer, everything looks like a nail.

The liberal arts and sciences, on the other hand, provide an entire tool kit for understanding an issue. You can apply principles of design, consider the aesthetics of the issue, or use the scientific method and conduct an experiment. You’re able to see connections between the historic, the economic, the political, the artistic. Leadership in organizations often emerges from people with a liberal arts and sciences background because they’re able to see those connections.





by Trudy Palmer

MOST LIBERAL ARTS PROGRAMS USE A SYSTEM OF “DISTRIBUTION REQUIREMENTS” TO ENSURE BREADTH OF STUDY. IN THIS APPROACH, STUDENTS CHOOSE AMONG DESIGNATED COURSES WITHIN THE HUMANITIES, MATH AND SCIENCES, ARTS, AND SOCIAL SCIENCES.

This system is popular among professors and administrators because it requires little adjustment to faculty teaching schedules and research interests. And it’s popular with students because it allows them considerable choice. In fulfilling the humanities requirement, for example, students typically choose from at least half a dozen disciplines. Some think that puts important choices in the hands of those not yet mature enough to know what they need. Others argue that choice improves student buy-in, which, in turn, enhances learning.¹

For years now, Principia College has used distribution requirements as part of its approach

to teaching the liberal arts. In preparation for the change from quarters to semesters in fall 2011, faculty members reviewed all academic requirements and revamped many of them, including the liberal arts distribution requirements (LADR). LADR must now meet specific outcomes-based assessment goals to ensure that students understand and practice discipline-specific methodologies and can communicate effectively about their use of them. Demonstrating an understanding of context is also an expected outcome.

According to Dr. Libby Scheiern, director of the College’s Teaching Excellence Center (soon to be

the Teaching and Learning Excellence Center), this revamped approach improves upon the prior system. Before, many courses fulfilled distribution requirements simply by virtue of their subject matter. Now, they specifically cover disciplinary skills and methodologies as well as subject matter. What's more, faculty must design and administer assessments to measure LADR outcomes. Assessing students' knowledge of content alone is no longer sufficient. As Scheiern explains, "Having specific, measurable outcomes allows us to ensure consistency in what we are delivering in each of the areas."

PROFICIENCY AND SKILL DEVELOPMENT

Along with completing liberal arts distribution requirements, students must meet proficiency and skill development standards in writing, quantitative reasoning, and a second language.

They must also choose one of a number of courses on the Bible and satisfy a physical education requirement.

To help students establish college-level skills early on, Principia requires all freshmen to take a First Year Experience (FYE) program. Each FYE comprises two courses from two different disciplines focused on a common theme. The third element in every FYE is the Integrated Learning Component (ILC),

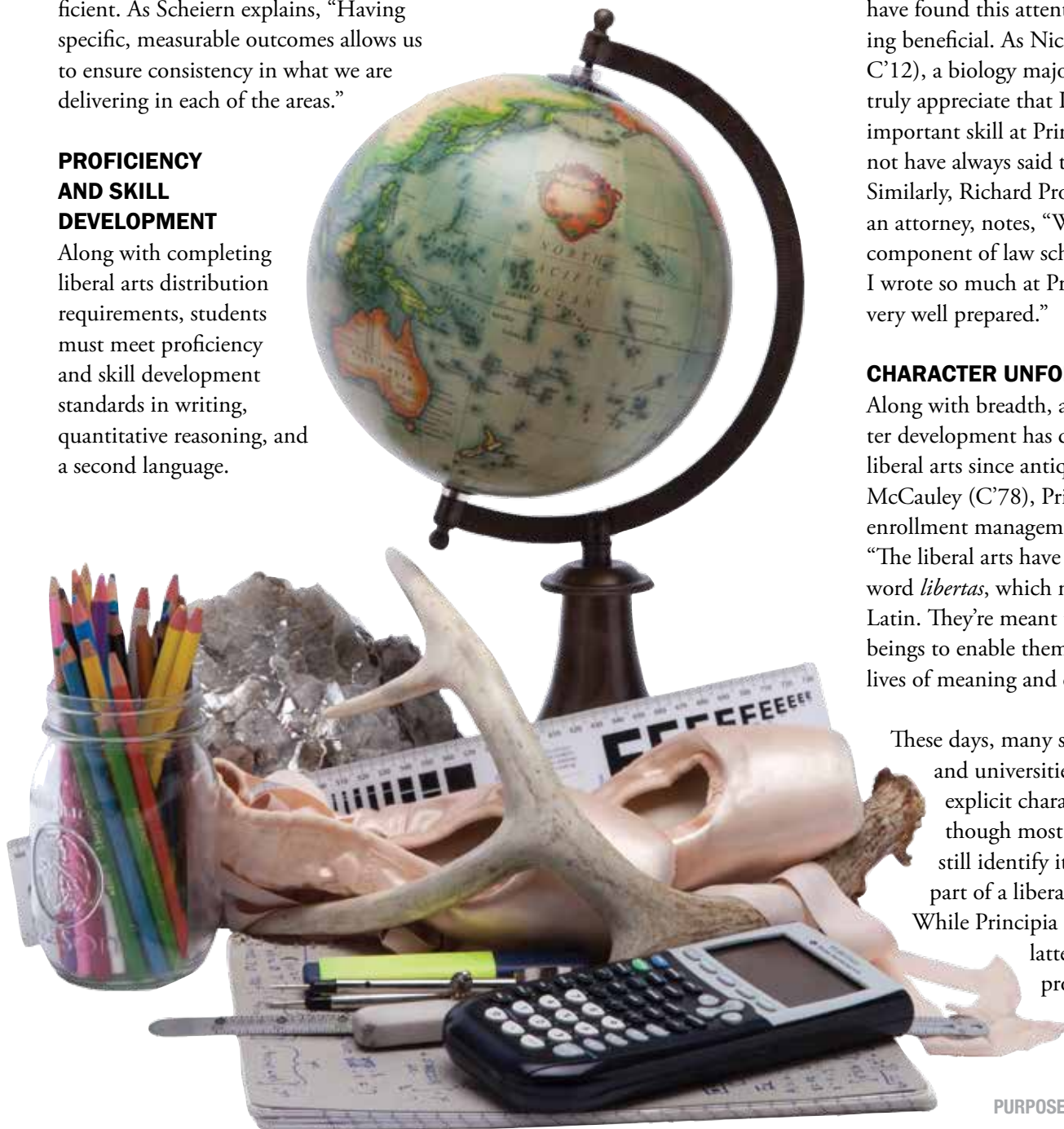
which develops abilities in writing, analytical reading, information literacy, and critical thinking.

Naturally, these skills are reinforced throughout students' time at the College. In particular, writing skills are emphasized across the curriculum. Professors in all disciplines are expected not only to give students writing assignments but to teach them how to improve their writing. Many alumni have found this attention paid to writing beneficial. As Nick Tosto (US'08, C'12), a biology major, explains, "I truly appreciate that I developed this important skill at Prin, although I may not have always said that as a student!" Similarly, Richard Protzman (C'08), an attorney, notes, "Writing is a huge component of law school, and because I wrote so much at Principia, . . . I felt very well prepared."

CHARACTER UNFOLDMENT

Along with breadth, a focus on character development has distinguished the liberal arts since antiquity. As Brian McCauley (C'78), Principia's dean of enrollment management, explains, "The liberal arts have their root in the word *libertas*, which means freedom in Latin. They're meant to liberate human beings to enable them to pursue moral lives of meaning and contribution."

These days, many secular colleges and universities shy away from explicit character education, though most religious colleges still identify it as an integral part of a liberal arts education. While Principia belongs in that latter category, its approach to character development differs from >>





The Benefits of a Small-College Community

It is no accident that the majority of liberal arts colleges are small, residential campuses where students know most of their peers—and many of the faculty—by face if not name and interact with them in a variety of settings. This intimate environment has an enormous impact on students' growth. "It is on a small campus, with its sense of community and peer identity created by shared residence and a faculty committed to engaging students in and out of class, that the most profound positive effects on student effort and achievement occur," writes Richard Hersh, former president of Hobart and William Smith Colleges.¹

And the gains are not purely academic. Character development thrives in such a setting as well. Sports teams, clubs, and student government—not to mention dorm life—provide nearly round-the-clock occasions for students to hone their teamwork and leadership skills, test-drive their impressions, and practice communicating across cultures. In short, small campuses are communities where students practice being citizens. Over the stretch of four years, they decide how they will be known in a place small enough to know them.

that of most other institutions. Instead of trying to instill good character in students, Principia faculty and staff work from the basis that each individual already possesses an entirely good, fully developed character supplied by God. This was central to founder Mary Kimball Morgan's vision of a Principia education. As she put it, "The main purpose is . . . to bring out the real child, God's child."²

This is not a head-in-the-sand perspective. Academic and co-curricular activities abound with opportunities for students' God-given character to be revealed. In classes, residence halls, and sports teams, faculty and staff work diligently to help students think through the myriad distractions and dilemmas confronting them. Much of this work goes on informally, but structured programs exist as well.

At the start of each year, for example, new students attend orientation, a key part of which introduces them to Principia's "Big Rocks," described in the orientation booklet as "how we live Christian Science in all we do, how we work each day to develop and acknowledge the best in each other and ourselves, . . . [and] what it means to be a Principian." The Principia Community Commitment, which contains the following core points, frames orientation:

STRIVE to understand and express God in all you do
CONQUER "all that is unlike God" (*Science and Health*, p. 262)
LOVE "God . . . and your neighbor as yourself" (see Luke 10:27)
GIVE unselfishly

In some respects, orientation lays the foundation for the required Moral Reasoning Seminar, a 30-hour program spread over three years. With the help of presentations and small-group discussions led by members of the Office of Student Life, students pursue a demanding set of objectives, including exploring the importance of moral reasoning to Christian Science, learning the most common ethical values shared by people around the world, and developing a personal model for making moral decisions.

Admittedly, these are ambitious goals, and no one would argue that the College's approach to character unfoldment works perfectly. Refinements are ongoing. Yet the centrality of character to the College's educational mission places Principia squarely in the most venerable of liberal arts traditions. ■

1. Richard H. Hersh, "Generating Ideals and Transforming Lives: A Contemporary Case for the Residential Liberal Arts College," in *Distinctively American: The Residential Liberal Arts Colleges*, eds. Steven Koblik and Stephen R. Graubard, (New Brunswick, NJ: Transaction Publishers, 2000), 183.

1. For a detailed discussion of this and other approaches to teaching the liberal arts, see chapter 10 of Derek Bok's *Our Underachieving Colleges: A Candid Look at How Much Students Learn and Why They Should Be Learning More* (Princeton, NJ: Princeton University Press, 2006).
2. *Education at The Principia*, 9th ed. (St. Louis, MO: The Principia, 2004), 65.



WHAT “COLLEGE” BRINGS TO THE *Liberal Arts*

by Trudy Palmer

EVERY YEAR, LARGE UNIVERSITIES AWARD HUNDREDS OF BACHELOR OF ARTS DEGREES, MANY OF WHICH, ON PAPER ANYWAY, ARE FOR A LIBERAL ARTS EDUCATION.

The same is true for bachelor of science degree-earners who aren't in engineering or other professional programs. Some would argue, however, that taking art history, literature, chemistry, and so on in lecture halls that seat hundreds falls short of a true liberal arts education.

WHEN LESS IS MORE

The Socratic method, small-group discussions (led by professors, not graduate students), individualized writing instruction, student presentations, group projects, and experiential learning are hard to pull off in a large lecture class. Yet these tools are key to transforming disparate pieces of information into a cohesive education. Not only are students more likely to retain information they've

wrestled with, but that intellectual wrestling itself is a key part of what they're learning.

“I loved the small classes and access to faculty at Principia,” comments Representative Joe Fitzgibbon (US'03, C'07), a history and political science major now in his second term in the Washington State Legislature. “I felt the professors were truly engaged in my learning, and I appreciated the small school setting where learning to write and speak well are a top priority.”

In an effort to mitigate the disadvantages of their size, some large universities have created honors colleges that mirror, as much as possible, the feel of a small liberal arts college, with plenty of small- >>

group discussion and individual attention. But universities can never achieve what may be colleges' most significant differentiator: a primary—and usually exclusive—focus on undergraduate education. Universities, by contrast,

institutions—and it matters not only to the teachers themselves but also to their bosses. That is, teaching is much more likely to be a major criterion for faculty evaluation at a small college than at a large research university.

“When you get an assignment as a reporter, you try to think, ‘How can I hook somebody’s interest in this? How can I make it clear and relatable for any audience?’ I realize now that this is exactly what Principia professors did for me and other students every day.”

— Kate Wells

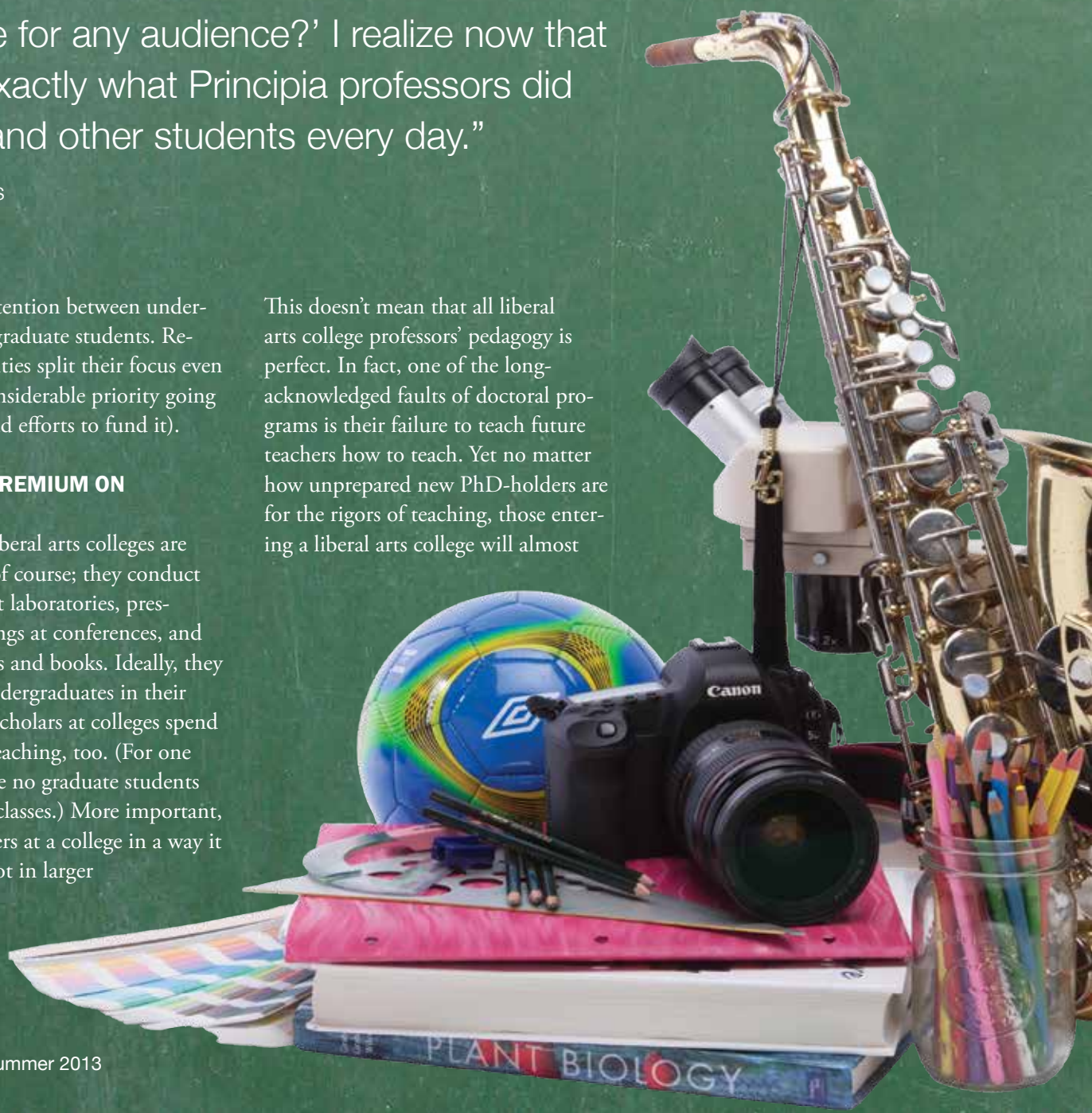
divide their attention between undergraduate and graduate students. Research universities split their focus even more, with considerable priority going to research (and efforts to fund it).

PUTTING A PREMIUM ON PEDAGOGY

Professors at liberal arts colleges are still scholars, of course; they conduct research, direct laboratories, present their findings at conferences, and publish articles and books. Ideally, they also engage undergraduates in their research. But scholars at colleges spend a lot of time teaching, too. (For one thing, there are no graduate students to cover their classes.) More important, teaching matters at a college in a way it may or may not in larger

This doesn’t mean that all liberal arts college professors’ pedagogy is perfect. In fact, one of the long-acknowledged faults of doctoral programs is their failure to teach future teachers how to teach. Yet no matter how unprepared new PhD-holders are for the rigors of teaching, those entering a liberal arts college will almost

certainly find a culture where teaching is valued, colleagues care and converse with each other about effective instruction, and students expect (even demand) individual attention in the classroom and out of it. Additionally, just as small classes place pressure on students to be prepared for discussion, they also place pressure on professors to be engaging teachers and skillful discussion leaders.



“HOOKING” STUDENTS’ INTEREST

Reflecting on her time at Principia College, Kate Wells (C’10) draws ties between her professors’ pedagogy and her work as the arts and culture reporter/producer for Michigan Radio, part of the NPR network. She explains:

Without even realizing it, I learned so much from the faculty about how to take a broad, unfamiliar subject—like environmental science or ancient philosophy—and make an audience care. When you get an assignment as a reporter, you try to think, “How can I hook somebody’s interest in this? How can I make it clear and relatable for any audience?” I realize now that this is exactly what Principia professors did for me and other students every day.

Working hard to “hook” students’ interest is one of the privileges and responsibilities of teaching in a college devoted to undergraduate education. ■



Making the Most of College

“I loved the small-school atmosphere and the opportunities that came my way at Prin,” says Andy Rathburg (C’08), a theatre major. “I was cast in the fall theatre production my second day of classes, and I know I wouldn’t have had that kind of opportunity at a big university.”

Along with singing in Plus One (an a cappella group), playing in the orchestra, and performing in Dance Production, Rathburg was on the rugby team all four years—a game he continues to play. “It is a terrific sport,” he says, “and I learned so much from the team experience at Prin.” Rathburg also took his experience in Lazy Zipper (the College improv group) with him after graduation, creating an improv comedy troupe back home in Michigan.

Along with athletics and the arts, Rathburg enjoyed numerous opportunities to serve on campus, including several house board positions and a stint as all-campus social head. “Planning creative things to do on campus helped me think about the whole student body,” he comments. He also volunteered off campus with Habitat for Humanity, building houses for low-income families in Alton, Illinois.

Saving the best for last, Rathburg reflects on his spiritual growth: “Being at Prin really helped me build a strong spiritual foundation in my life and work. I’m very grateful to say I’ve had a steady stream of paying roles [on stage and in films], and there are some opportunities in the works that I’m very excited about. I continue to listen to God for my next right steps.”

— Heather Shotwell



On Becoming an Engineer

JACQUELYN (FIELD, C'97) STAR COULD HAVE ATTENDED AN UNDERGRADUATE ENGINEERING SCHOOL, BUT SHE CHOSE PRINCIPIA COLLEGE'S 3+2 PROGRAM INSTEAD.



by Heather Shotwell

According to that plan, she would have spent three years at the College and two in a university engineering program, winding up with BS degrees from both institutions. As it turned out, she completed only one undergraduate degree—a BS in chemistry with a minor in religion from Principia.

“Frankly, I didn’t want to leave because I was very well established and was fully involved with the swimming and diving program,” Star says. An eight-time NCAA All-American and four-time Academic All-American, Star still holds all four Principia women’s diving records and was recently inducted into the Principia College Gold & Blue Athletic Hall of Fame. “My experience as a Principia diver remains one of my most cherished college memories,” she comments. “Training and competing as a team fostered great life skills in working together and leadership.”

But diving wasn’t all that kept Star at the College. “I also loved the liberal arts education I was receiving and felt that it would prepare me well for a career in the sciences,” she explains. “For example, I took a theatre class, which was tremendous preparation for public speaking. Being able to stand in front of a large group and present ideas with confidence is an invaluable career skill.”

RIISING TO THE CHALLENGE

With the encouragement of several Principia professors, Star applied to top-notch graduate schools and was admitted to the University of California, Berkeley in their environmental engineering program. “Berkeley was a bit of a culture shock at first because of the size and urban setting,” Star recalls. “I was accustomed to the open door policy of Prin faculty. . . . Still I felt well-prepared coming from Prin and took it on as a challenge.”

In particular, Star’s ability to communicate stood her in good stead at Berkeley:

The writing skills I had developed were invaluable. At one point one of my professors asked if he could post my lab report on the hallway bulletin board for other graduate students to see. He said it was rare to find a student who could write so well. The lab report was exactly the kind I had produced weekly in Jeff Cornelius’s chemistry class. It was then that I realized the value of the writing experience at Prin.

After completing her master’s in engineering, Star began working for Union Oil Company of California (Unocal).

"I got my feet wet in the environmental engineering field, working first in refining, and later in the abandonment of retired oil fields and terminals," she says.

WORKING OVERSEAS

Then in 2002, when a facility engineering position opened up with Unocal in Indonesia, Star drew on her Principia experience (and friends) as she considered this opportunity. She explains:

Colleagues discouraged me from applying for the position, stating that it would be difficult for a woman to be successful in a management role in a Muslim country, that the cultural differences would be nearly impossible, and so on. But I spoke with several Prin friends who had gone on the Indonesia abroad, and they encouraged me to apply. During the application process, I stated that I had studied abroad [in China] during college, and I'm sure that was one reason I got the job.

Once on-site, I drew on my experience from the China Abroad to immerse myself in Indonesian culture. Many doors opened up during the three years I worked there.

Next, Star applied and was accepted to an intensive, one-year MBA program at INSEAD, a multicampus business school with locations in Asia and Europe. "One of the prerequisites for



admission to INSEAD was fluency in two languages," she notes. "Thanks to Prin's foreign language requirement, I was able to pass French as well as Bahasa. I took a one-year leave of absence from Unocal and attended the INSEAD campus in Singapore. The program was very rigorous and the courses were, indeed, a challenge, but I absolutely loved studying business in an international setting."

While Star was in Singapore, Chevron bought Unocal, and the merger opened an opportunity for her to join Chevron's prestigious Finance MBA Development Program, based in the San Francisco Bay Area. After two years in the finance program, Jacquelyn and her husband, Ryan (C'97), who also works as an engineer for Chevron, were transferred to Houston, Texas, where she worked in corporate planning and he worked in IT.

BRANCHING OUT FROM A STRONG FOUNDATION

"I have needed to reinvent myself several times in my career," Star says. "I have felt God leading me, and I have learned that Christian Science is the true differentiator."

In June 2012, Star was assigned a new position in Bakersfield. As an engineering supervisor in asset development, she leads a team of 18 facility engineers and technical staff who provide engineering and construction support for the expansion of new oil and steam wells, ensuring sustained productivity for the field.

"Recently, my manager asked me to speak to a group of highly skilled engineers and managers, because she said I can express ideas more clearly than anyone else," Star comments. "Honestly, I attribute this to the communication skills I developed at Prin. I received an outstanding, well-rounded liberal arts education; I learned to communicate effectively, work collaboratively, and think analytically and creatively. My Prin education definitely set me up for success." ■

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Meet a Few of This Year's Graduates

by Armin Sethna and Heather Shotwell



UPPER SCHOOL

Georgette Hoffmann

Digging deep—across the board

The language of words and the language of music have been integral to Georgette Hoffmann's Principia experience—and this cum laude graduate plans to carry both with her to Barnard College in New York City this fall.

In addition to pursuing honors and Advanced Placement (AP) English classes and taking French and Spanish all four years at Upper School (which requires special permission), Georgette spent a couple of summers learning Japanese and covering an extra year of French! Similarly, her musical repertoire isn't confined to just one idiom: she is an accomplished classical and jazz musician, playing clarinet in the concert band and saxophone in the jazz band. At the Missouri State Solo and Ensemble competition, Georgette won a Superior rating for her solo clarinet performance.

"Although I'm more geared toward the humanities," Georgette says, "the teachers have all been great, and they've been able to interest me in other subjects such as science and math." They must have done a good job because Georgette did not need much persuading to take AP calculus her junior year and AP statistics her senior year!

When summing up what she loves about Principia, Georgette highlights the "amazing opportunities to try new things and the support that the teachers and coaches provide every student." Two spring-break trips—one to Spain and the other to Israel—rank high on her list of top opportunities, as do the Upper School's "amazing" music and athletic programs. Although she took her junior year off from sports to "dig deeper" into her music, Georgette has enjoyed participating in both volleyball and swimming, and she loves the sense of sisterhood that being on a Principia team engenders.

In fact, that sense of sisterhood is partly what attracted Georgette to Barnard, a selective, all-women's institution affiliated with Columbia University. That, and the rich musical and cultural variety that New York City offers!



UPPER SCHOOL

Cameron Sheehan

Making the most of all that Upper School offers

Opportunity and acceptance are key elements that Cameron Sheehan has valued during his two years at Principia. Transferring into a new school as a junior is not easy, but Cameron has no regrets about having made the move from his high school in New York, where he was happily involved in a range of activities.

The clincher for him is the sense of brotherhood and the deep friendships developed at the Upper School. "Living in the dorm, surrounded by people 24/7, is pretty much the best way to make good friends," he observes. "I'm really appreciative of this and feel the difference from my old school."

In addition to pursuing his interests in science and technology, Cameron played on the Upper School football >>

team, completed the requirements to earn his Eagle Scout award, and played trumpet in the jazz and concert bands, including a couple of demanding solos during the recent end-of-year concert. “What I would tell someone who wanted to come to Principia is that you have the opportunity to do whatever you want here—and everyone will be happy to support your decision,” Cameron comments. “At your old school you might be afraid to join the play or a new sports team, but here they’ll happily accept you into the group.”

This summer, Cameron will be a counselor-in-training at the Adventure Unlimited camp program for Christian Science youth. And in the fall, he heads off to the competitive Rose-Hulman Institute of Technology in Terre Haute, Indiana, to pursue an undergraduate degree in engineering. Cameron’s interest in technology and his love of music influenced his choice of senior project, which was to produce a compilation of electro-music, learning a complex software program in the process.

Cameron’s comments shared at the Boys’ Senior Dinner aptly sum up his appreciation of his time at the Upper School: “I am grateful for the growth I’ve been able to achieve here. Whatever I did, I felt I was guaranteed to have a worthwhile, growing experience because of the character and quality of the people involved.”



UPPER SCHOOL

Cassidy Alford

A multidimensional experience

In just the last two years, Cassidy Alford has journeyed from dusty, small-town Nevada to the brightly lit studio lots of Hollywood—all without leaving Ridgway Auditorium. Leading roles in the 2012 spring production of *Crazy for You* and 2013’s *Singin’ in the Rain* have allowed this cum laude graduate to expand her talents and combine her love of dance and song through the medium of musical theatre at the Upper School.

Cassidy’s Principia journey began in the Middle School, where she arrived as an eighth grader, having moved halfway across the country from Portland, Oregon, with her family. “I was very excited about being here,” she recalls, although she was a bit intimidated at the idea of moving into Upper School the following year. “I think my expectation was of high school as portrayed in the movies—the classic cliques and so on . . .,” she says. “But I definitely liked what I found at Upper School.”

Along with shouldering a full academic load of honors and Advanced Placement classes, Cassidy kept up with dance classes—“I’ve been dancing since I could walk”—and production rehearsals all four years. She also became involved in activities she “would never have imagined doing at first,” such as serving in student government (including being president of the senior class) and on the Reconciliation Advisory Board, which handles student violations of Principia’s community standards.

Earlier this year, Cassidy also completed the four-year National Leadership Council (NLC) program, a DiscoveryBound leadership program for high school-age Christian Scientists. As part of her NLC service work, Cassidy volunteered for several years in the therapeutic riding program at nearby Longview Farm and also worked on a community project in rural Peru.

She heads off to Principia College in the fall, after working as a camp counselor at the Adventure Unlimited ranches this summer. On reflection, Cassidy says, “If you want a place where you can participate in lots of different things, feel part of many different groups, and be supported by people as you try lots of new things, Prin is definitely a place where you should be. I loved getting to be multidimensional!”



COLLEGE

Job Okello

Focusing on others

Job Okello has long been interested in social issues. As a high school student in his native Kenya, he learned sign language alongside his mother who works with disabled children. While at Principia, Job has been actively involved in community service in both Missouri and Illinois, volunteering at the International Institute in St. Louis, a women's shelter in Alton, the Pere Marquette juvenile facility, and a homeless shelter in Jerseyville. He majored in sociology and anthropology in order to explore further how to improve the lives of others.

Job was recently accepted into a master's program in social and economic development at Washington University. He'll apply later for a dual degree in law. In 2012 Job traveled to Nairobi to intern with AMREF, an organization that helps children who live on the street. During this internship, he coordinated efforts to provide food, clothing, and shelter and to help these children return to the school system.

Job sees a strong connection between education and economic opportunity, and his senior capstone reflected his passion for international development. He wrote an in-depth, 60-page analysis of the link between education and poverty reduction, using case studies in the U.S. and Kenya. "Sitting in class is not enough to make a better world," Job says. "We have to go out there and be a voice for the voiceless."

It wasn't all 60-page papers for Job during his time at Principia, though! His resident counselor discovered that he had played rugby in high school and encouraged him to join the team. "I made a wonderful, close circle of friends on the rugby pitch—men who fought together for success," Job says. "We had an especially successful season this year, finishing third in the conference. The coach has been like a father to me, inspiring me always to do better on and off the pitch."

This summer, Job will work for TMC Youth in translations—a perfect match utilizing his ability to speak four languages (five, including sign language). After graduate school, Job hopes to work in an international organization that advocates on social issues.

"I tried my best to live my Principia experience with the idea that what mattered most was the contribution I made to the campus community," Job says. "As I graduate, I'm thinking about expressing that idea in the experiences ahead."



COLLEGE


Luiza Dias

A rich and varied experience

Luiza Dias, originally from Brazil, arrived at the College as a freshman with an interest in business and economics, the subjects in which she ultimately double majored. For her economics capstone, Luisa researched and analyzed Brazil's financial services industry, and she undertook a strategic analysis of Delta Airlines for her business capstone.

For the past two summers, Luiza interned at Digital Latin America, a communications firm in Miami. "I was assigned to the operations department," she explains, "but after expressing an interest in finance, I worked in that area as well. It was an extremely valuable experience. I developed Excel databases, created detailed financial reports, and analyzed promotional sales."

This January, Luiza traveled to the United Arab Emirates for the Dubai Invitational Mediation Tournament, helping Principia claim one of the Outstanding Newcomer team trophies and take first place in Team Advocacy and fifth place in Team Mediation. >>



Luiza also placed first in the Individual Advocate Pair category with teammate Nate Waters, a sophomore. Along with Principia's success, one of the highlights of the tournament was the mentoring Luiza received. "The judges were extremely open and willing to give professional advice and share their experience," she comments. "I got to meet amazing students and mediators from around the world, and I had so much fun competing."

Attending the mediation tournament piqued Luiza's interest in law, so she did a one-week externship during spring break at a mediation firm in south Florida, where she saw firsthand how cases are resolved. Luiza will take the LSAT exam this summer and then apply to law schools with plans to pursue a mediation or business law career.

To complement her study of business, Luiza added an art minor with a focus on graphic design. "I've learned how to create work that is appealing to the eye and fulfills business goals," she says. "The mediation firm that sponsored my externship has asked me to redesign their website."

Luiza also found time to start the Entrepreneurship Club, serve as Sylvester House social head, and perform in Dance Production. "I'll miss the inspiring atmosphere here and the wonderful friends I've made," she says. "I feel well prepared for my next steps, but I could never have done it without applying Christian Science along the way."



COLLEGE

Kyle Whitney

Taking learning to the stage

As a theatre arts major and music minor, Kyle Whitney has brought his talents to the Principia stage in many roles. He appeared as Charles Darnay in *A Tale of Two Cities: The Musical* and as Cleon in Shakespeare's *Pericles*. He also sang the tenor role of Obadiah in the College choir's performance of Mendelssohn's oratorio *Elijah*.

"Principia faculty have very high expectations, yet they express them in the most supportive manner," Kyle says. "I felt their encouragement and support, and I appreciated how they created an atmosphere that inspired me to put forth my best work and constantly better myself as a performer."


Kyle went on the England Abroad his junior year, delving into the study of Shakespeare. The group attended acting workshops at the Globe Theatre in London and conducted research at the British Library. "Of course I loved exploring London, attending plays, and taking in British culture," Kyle notes, "but truly one of my favorite parts of the abroad was the opportunity to

study historic literary and musical texts at the British Library."

Kyle also represented Principia College on two fine arts tours, singing in concerts for Principia Club audiences on both coasts. "I met so many wonderful Principia alums and prospective students," Kyle comments. "These performance opportunities truly allowed me to push my art further than before. Also, the group developed a wonderful sense of family as we traveled together."

Each year the Theatre and Dance Department brings performing arts professionals to campus to work with students, and Kyle took full advantage of these training opportunities. "These individuals gave such great insight into the working world of theatre, and I learned so much in these workshops," Kyle says. He also gained valuable experience participating in Dance Production for three years.

Kyle recently signed a performing contract with Blue Gate Musicals, a regional theatre production company based in Indiana. He will appear in two shows this fall—*The Confession*, a mystery set in an Amish community, and *Half-Stitched*, which will be performed in the round.

"I'm so grateful and excited about these professional opportunities coming my way," he says, "and for the excellent preparation I've received here at Principia. I've benefitted tremendously from the high quality of thought around me in this amazing learning environment." 



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IT'S
NEVER
TOO
EARLY
TO
LEARN
TO
GIVE
BACK

by Armin Sethna



Second graders visited and played games with residents at a local retirement facility.



Lower School students helped preschoolers decorate cards and place mats as Christmas gifts.

Principia founder Mary Kimball Morgan was convinced that “a life of selfless service is the only road to genuine happiness” (Education at The Principia, p. 174). As a result, she addressed this issue often and robustly with parents, teachers, students, and staff. In one particularly trenchant talk to parents, she posed some searching questions:

“What can we do for [our children] that will best prepare them for real life—a life of useful service and strong purpose? In the first place, cannot we inspire them with a desire to serve? Even our little children can learn the joy of serving—serving that means sacrifice of self.” (*Education at The Principia*, p. 57)

The integration of community service opportunities into the curriculum at all levels of the School is an empowering response to this demand. By identifying creative and relevant ways of doing for others, Principia students are discovering the value of giving of themselves. And yes, “even our little children”—those in Preschool—get to “learn the joy of serving” through sweet and simple gestures of gratitude and outreach.

Read on to learn a few of the ways Principia School students immersed themselves in service over the past school year.

Getting involved in the early years

In Lower School, each grade from 1–5 learns about and engages with a local organization that provides a valuable service to the community. Third grade, for example, partnered with Support Dogs, preparing posters and artwork to help with fundraising, as well as making dog treats and

learning about what it takes to train an effective support dog. Fourth grade worked with Coat-a-Kid, visiting its warehouse to help match warm winter clothing with children in need. First grade prepared inspirational cards for students who use Campus House, the School’s care facility.

In addition, the Lower School Student Council organized a special buddy project working with the Preschool children. Together, they made gratitude/Christmas cards for the service employees on campus and Christmas place mats for guests at Peace Haven Association, a Christian Science nursing facility.

Middle schoolers lend a hand wherever needed

Once a month, middle schoolers put on old clothes and put in a full afternoon of service work, indoors or out. Each advisory group of boys or girls is assigned to a specific location and task. Here’s a peek at what they accomplished in just one afternoon:

- Shopped for ingredients and prepared and delivered a delicious meal for a family in need
- Helped with cleanup on the grounds of the Museum of Transportation
- Did yard work and trash pickup at Peace Haven >>



Fourth graders helped fit children with winter clothing at the Coat-a-Kid warehouse.



Fifth graders filled requests for Christmas toys at Family Haven.



Upper schoolers made fleece blankets for families affected by Hurricane Sandy.

- Mucked stalls, brushed horses, and cleaned out cobwebs for Galloping for Girls, an organization that empowers young girls through horsemanship
- Shared their joy during visits with residents at local retirement facilities
- Helped build sets and prepare costumes for the Shake It Up, Shakespeare class's performance of *Taming of the Shrew*

Upper schoolers spread warmth—and more

Just before Thanksgiving, the entire Upper School student body spread out in McCalmont Gym to produce colorful fleece blankets for East Coast families affected by Hurricane Sandy. The activity was originally conceived of by the girls' varsity basketball team to help with team building, but it was quickly apparent that this opportunity could be much more inclusive and educational—and produce many more blankets—if everyone got involved. In the end, 40 blankets, each with an encouraging note and Bible quotation tucked inside, were shipped off to Long Island to be distributed with the help of local Christian Science churches and support agencies.

The girls' and boys' basketball teams also ran free training clinics for younger students during winter break and sponsored this year's "Ballers for Scholars," a fundraiser that supports Petals of Africa School in eastern Kenya.

But that's not all upper schoolers have been up to: In October, on this year's first Prin Giving Day, they rolled up their sleeves and rolled back vast amounts of invasive honeysuckle around campus and the nearby grounds of First Church, Town and Country. And in November and February, they fanned out through greater St. Louis, working with nearly 20 community organizations, ranging from homeless shelters to local parks.

“ . . . a life of selfless service is the only road to genuine happiness.”

— Mary Kimball Morgan

What's more, Upper School students in the Community Service class organized all three Prin Giving Days. This involved planning and promoting effective volunteering, selecting appropriate institutions for support, and coordinating the many logistics involved in putting more than 200 teenagers to work at once. The class also helped organize the April all-School walk-a-thon, a fundraiser to support the renovations underway in the Middle School.

As you can tell, community service at Principia encompasses much more than just “doing good.” It also expands and deepens students' understanding of how society functions and of the difference individuals can make in their communities. ■

WHERE IN THE

Beginning in Preschool, students head off campus to learn at a variety of sites. This year, for example, the littlest ones went to the Missouri Botanical Garden and the pumpkin patch—a perennial favorite.

As the children grow, they venture farther afield. Recently, the second grade went on an overnight to Illinois, where they learned a variety of Native American skills. And fourth graders took a two-night trip to the Dana Brown Center in the Shaw Nature Reserve, about 40 miles southwest of St. Louis. There, they observed stars, planets, and nebulae through a telescope and tried out pioneer life, identifying trees and animals and using traditional tools to split wood, saw logs, and smooth wooden shingles.

From fifth grade on, students travel greater distances for longer stretches to explore firsthand what they've studied in class and to practice being flexible, cooperative, and patient in unfamiliar surroundings. Invariably, they return tired but excited, with lots of learning to share.

See for yourself where Principians of all ages learned on-site this year—and where they'll be studying this summer. 📷



Rafting in Costa Rica



*Watching the sun set over
Toyko, Japan*



*Appreciating nature
in St. Lucia*

WORLD DID PRINCIPIANS STUDY THIS YEAR?

PRINCIPIA LIFELONG LEARNING TRIPS

Holland and Belgium

France

England (Summer 2013)

COLLEGE ABROADS

Japan

St. Lucia

Peru

Europe (Vienna, Paris, Zurich)

Tibet (Summer 2013)

SCHOOL TRIPS

Fifth grade: Colonial Williamsburg (Virginia)

Sixth grade: Boston, Philadelphia, and Washington, DC

Seventh grade: New York City

Eighth grade: Costa Rica

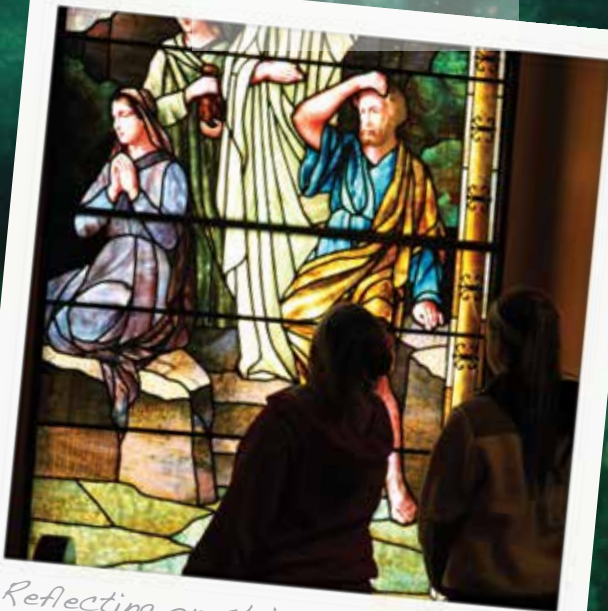
Ninth Grade: New Mexico

Tenth Grade: Dominican Republic

Eleventh Grade: New England

Spring Break Trip: Colorado Rockies

Spring Break Trip: Israel



Reflecting on stained glass at
The Mother Church in Boston



Enjoying local fare in a classic
French restaurant



“BY LAND AND SEA”

by Heather Shotwell

ENGAGING BIOLOGY STUDENTS IN HANDS-ON RESEARCH

Principia College’s top-notch Science Center offers up-to-date labs and classrooms and abundant display space filled with specimens of all sorts—rocks, reptiles, mammals, and much more. Some days, though, the biology side of the Science Center can feel a little lonely. It’s not that classes aren’t in session—they’re just not inside. As you’ll see from this introduction to Biology and Natural Resources Department research, this group likes to learn on-site.

Photo below: Junior Laura Harris with a young green turtle captured as part of a sea turtle research project near the village of El Nuro during the Spring 2013 Peru Abroad. Photo by Scott Eckert.

SEA TURTLES

"This is a tremendously exciting time in the biology department at Principia," says department chair **Dr. Scott Eckert** (C'79), who also serves as director of Wider Caribbean Sea Turtle Conservation Network (WIDECAST). "Our faculty are engaged in an unprecedented level of scientific research, which, along with our strong curriculum, creates dynamic learning opportunities for our students."

After graduating from the College, Eckert earned a PhD in zoology from the University of Georgia and later held a post-doctoral research appointment at the Scripps Institution of Oceanography at the University of California, San Diego. His research has contributed significantly to new approaches in the conservation of leatherback sea turtles, an endangered species. A pioneer in the use of electronic technologies to study the at-sea behavior and activities of sea turtles and other large pelagic vertebrates, Eckert brings this expertise to Principia classrooms, field study programs, and even a "field trip" to Trinidad, home to one of the world's largest nesting colonies of leatherbacks.

In addition, for the first time in the history of the Peru Abroad, Dr. Eckert met up with the group this spring for a three-week fisheries management unit. "Peru has the world's largest commercial fishing industry," he explains, "and through one of my former Duke doctoral students, who is Peruvian, we were able to observe commercial and artisanal fishing enterprises at an amazingly in-depth level."

As this experience in Peru indicates, professional connections can have wide ripple effects. "Principia students benefit as faculty keep current in their fields and connect with colleagues in the larger academic community," Eckert notes. "I had several outstanding mentors as an undergraduate and graduate student who led me to where I am today, and I appreciate the opportunity to pay that forward."

Professional connections can also be excellent resources for internships—an important aspect of undergraduate education. "Our department now tries to ensure that each student does two research internships prior to graduation," Eckert says. "These experiences are vital preparation for graduate school and finding that all-important first job."

SOIL

Dr. Greg Bruland (C'97) focuses his research on soil and water conservation, watershed management, soil science, and freshwater and coastal ecology. After earning a PhD in environmental science with a focus on wetland ecology and biogeochemistry at Duke University, he conducted post-doctoral research at the University of Florida. He then served as an assistant and associate professor at the University of Hawaii at Manoa before joining the faculty at the College this fall.

"I really enjoy working with students to ask unanswered scientific questions and help them design field studies and experiments," Bruland says. "Principia's campus is truly a living laboratory, with 2,600 acres located at the >>



Top left: Jewel Mountain Habitat Conservation area near Boulder, Colorado, where biology professor Chrissy McAllister collected plant samples. Top right: McAllister with her 1,000th plant sample for her doctoral dissertation. Photos courtesy of Chrissy McAllister.

MARINE SCIENCE IN THE MIDWEST?

Absolutely! In 2011, Principia College joined the Marine Sciences Education Consortium (MSEC), developed by Duke University to provide curriculum in the marine sciences to students from colleges and universities that don't offer a specialized program in the subject. Membership in the consortium gives Principia students access to Duke University's state-of-the-art Marine Lab in Beaufort, North Carolina, and to the classes, experiential learning opportunities, and travel programs it sponsors. Dr. Scott Eckert, a former MSEC faculty member, is already seeing the benefits of membership for Principia students. In the summer of 2012, for example, two students took classes—Marine Mammals and Marine Ecology—that would have been hard to come by in Illinois.

Even better, MSEC classes aren't just extra enrichment. Students can earn credit from Duke that applies toward their degree from Principia. "It's a win-win situation," Eckert comments. "Duke gets top-notch undergraduates who are passionate about their studies, and Principia students benefit from the Lab's advanced courses and coastal facilities."

Bottom photo: Dr. Greg Bruland (second from the right) with colleagues from the University of Hawaii at Manoa at the Honuapo wetland on Hawaii Island. Photo by Holly Bruland (US'96).



confluence of three rivers (the Mississippi, Illinois, and Missouri) and surrounded by forests, agricultural lands, prairies, streams, lakes, and wetlands. Biology instruction and research is certainly not limited to the Science Center classrooms and laboratories!"

"This spring," Bruland continues, "students conducted a pilot study on the soil properties (organic matter, moisture, bulk density, and pH) of Portage Island directly across from

campus, as well as other tree islands along the Mississippi River." Future classes will investigate the ecosystem services provided by these islands such as sediment retention and water quality maintenance.

Last fall, students in Bruland's Freshwater Ecology course completed group research projects on the use of Asian-carp-based compost as an organic fertilizer, the composition of benthic macroinvertebrates in pool versus



Hands-on learning in the Wildlife Management course

YOU CAN FINGERPRINT DIRT?

As a matter of fact, yes. Diffuse reflectance spectroscopy is a rapid soil assessment tool. It works in basically the same way that police identify people through fingerprinting. “Just as every fingerprint is unique,” explains Dr. Greg Bruland, “soil spectra are also unique, based on various chemical characteristics. I’m excited to pursue this technology with students in classes and senior capstones because it has many applications and is a considerable improvement on traditional methods.”

rifle habitats, and the respiration and primary productivity levels in two local streams. The students developed their own research questions and hypotheses, designed experiments, collected data, analyzed results, and made management recommendations based on their findings.

Bruland is also in the early stages of designing a Hawaii field study program that will include wetland ecology and other natural resource management topics. In addition, he plans to take students to the National Soil Characterization Lab in Lincoln, Nebraska, which has the largest soil archive in the United States (approximately one million samples from 90 countries).

PRAIRIES

Associate Professor **Chrissy McAllister** (C’93) is in the final phase of a PhD program at St. Louis University with a research focus on plant population genetics. Her dissertation explores how climate impacts population genetic structure in tallgrass prairie plants.

Over the last few years, McAllister has logged over 8,000 miles and more than 1,000 plant samples from as far west as Colorado and as far east as North Carolina. For part of that time, Principia students helped her locate, collect, preserve, and process leaf samples from big bluestem, the dominant grass of the tallgrass prairie ecosystem and a recent candidate for biofuel production.

Intrigued by the fact that big bluestem has duplicated its genome many times in its evolutionary history, McAllister is looking for possible climate variables that could trigger and/or help maintain such genome duplications. Thanks to her collaboration with researchers from the University of Guelph in Ontario, Canada, several students spent a week there with McAllister learning how to use flow cytometry to estimate genome size in her plant samples.

“Students have also been involved in laboratory work to prepare plant samples for genotyping-by-sequencing, a cutting-edge DNA sequencing approach that yields enormous amounts

of sequence data,” McAllister explains. “This data is used to investigate the evolutionary history of the species as well as to document current patterns of genetic diversity in the plant.”

“I’ll travel with students to Kansas this fall,” McAllister continues, “to collect pollen from big bluestem exposed to an experimentally imposed severe drought, and we will also return to Canada to work on flow cytometry of the pollen samples.”

FORESTS

Instructor **John Lovseth** (C’05) teaches a full load of courses in forest ecology, field and natural history, and sugarbush management. He is also the campus land steward, helping Principia become more self-sustaining and ensuring that a healthy forest endures for future generations. As a result of Lovseth’s initiative, Principia earned Forest Stewardship Council (FSC) Forest Management certification, which confirms that the campus forests are well managed. >>



Students processing sap into maple syrup for their Sugarbush Management class. Photo by Andrew Briggs (C'15).

MAKING CONNECTIONS BEYOND CAMPUS

Last fall, the biology department hosted the St. Louis Ecology, Evolution, and Conservation (SLEEC) Retreat on the College campus, attended by over 100 research scientists from Washington University, Saint Louis University, and other area institutions. In addition to sharing updates on their research, participants took advantage of several campus field trips, including tours of the mammoth dig, hikes to active rattlesnake dens, and visits to the timber harvest plot.

The conference provided a tremendous opportunity for Principia students to make contacts for graduate study and careers and to begin emerging into a larger arena of collaborative ecology and conservation research. For some, those connections bore fruit immediately in assistance with their senior capstone research projects.

Lovseth and his team have harvested some campus trees at the end of their lifecycle (100–130 years) and selected a small portion of them (roughly .75 percent of Principia's forest) to be processed at a nearby lumber mill and returned to campus for construction projects. So far, benches, a sugar shack, ranger shed, barn, and gazebo have been built using wood from Principia's forests.

As you might expect, Lovseth's classes revolve around hands-on learning. "Students gain experience in sustainable land management, seeing it for themselves firsthand," he explains. "They learn how complex decisions are made and see the benefits of understanding how ecosystems function." In his Environmental Mapping and GIS course, for example, they use specialized software to map soil characteristics, wildlife, and plant spatial patterns in order to solve land management issues.

SNAKES

A research project getting increased attention in the department concerns timber rattlesnake behavior—no snake handling involved! Although the timber rattlesnake is an endangered species in Illinois, the forests on the south end of campus contain a healthy popula-

tion. "As the forest gets cold in the late fall, the snakes move toward the limestone caves along the bluffs, usually returning to the dens where they were born," Eckert notes. "For their senior capstone, two students researched these amazing reptiles' winter hibernacula."

Eckert explains the project:

We built a camera system that monitors snake movement in and out of their dens so that we could correlate this movement with temperature data. As long as the ambient temperature is below 60 degrees, they prefer to stay inside. Once the temperature averages above 60 degrees, they move to the forests.

Our next step will be to track the snakes using radio telemetry as they move away from the dens so that we can understand how they use our forests. The curator of the St. Louis Zoo's reptile house and a zoo veterinarian will be collaborating on that project as they have exceptional expertise working with this species.

From sea turtles to snakes, rivers to forests, Principia biology department members provide students with an incredibly rich array of research opportunities. As Eckert puts it, "We're covering it all, by land and sea. Our teaching comes first, of course, and our research projects add strength to our program. Principia is a magical place to be a biology student. We have one of the finest living laboratories in the country with our 2,000 acres of forests—and a faculty who love sharing their love of exploration." ■

BE A LEADER

“The world needs thoughtful, articulate, spiritually minded leaders—the type of leaders Principia produces. That’s why I support Principia.”

— Warren Clinton (C’65)

Member of the Howard Society and the 1898 Legacy Society

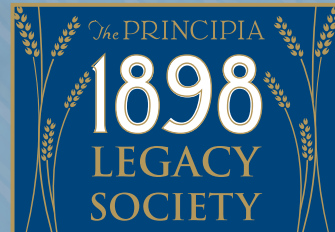
Howard Society

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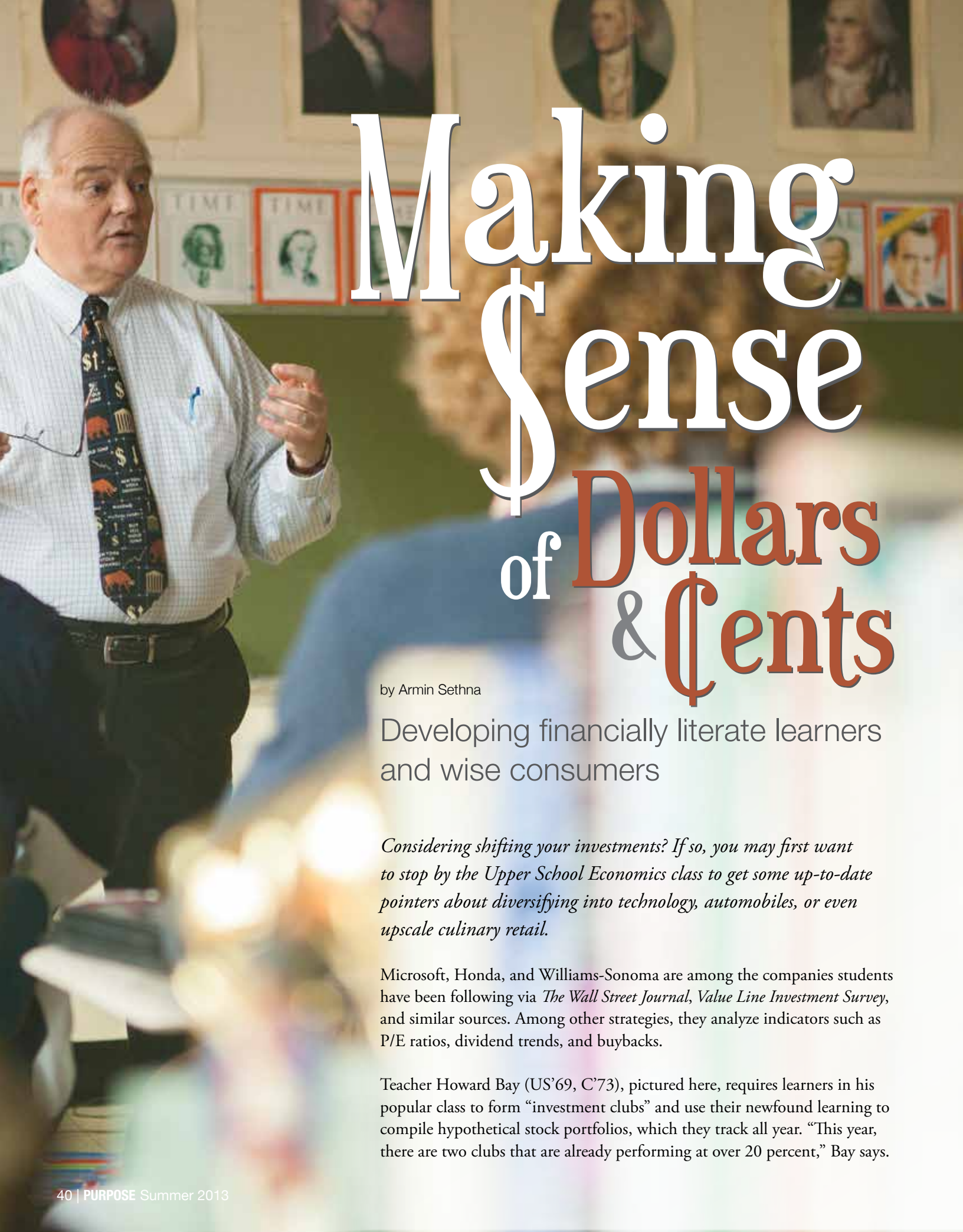
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A photograph of a man, Howard Bay, standing in a classroom. He is wearing a light blue button-down shirt, a dark tie with a pattern of dollar signs and other financial symbols, and dark trousers. He is gesturing with his hands as if speaking. In the background, there are several framed portraits of historical figures and a row of 'TIME' magazine covers featuring various people.

Making Sense of Dollars & Cents

by Armin Sethna

Developing financially literate learners
and wise consumers

Considering shifting your investments? If so, you may first want to stop by the Upper School Economics class to get some up-to-date pointers about diversifying into technology, automobiles, or even upscale culinary retail.

Microsoft, Honda, and Williams-Sonoma are among the companies students have been following via *The Wall Street Journal*, *Value Line Investment Survey*, and similar sources. Among other strategies, they analyze indicators such as P/E ratios, dividend trends, and buybacks.

Teacher Howard Bay (US'69, C'73), pictured here, requires learners in his popular class to form "investment clubs" and use their newfound learning to compile hypothetical stock portfolios, which they track all year. "This year, there are two clubs that are already performing at over 20 percent," Bay says.

Students' interest is equally high—and quite long lasting. “Former students are always asking me how their stocks are doing . . . [even] many years later,” Bay notes. He is ready and able to look up student portfolios going back almost 20 years!

Putting theory to the test—with business professionals

But, of course, there's more to economics than just investing. “In addition to reviewing micro- and macro-economic theory,” Bay explains, “each class member is also required to develop a business plan for a small food-service business” of his or her own creation. And Bay makes sure the students visit with and interview a number of entrepreneurs in the St. Louis area over the course of the semester.

The field trip to The Original Pancake House, a Chesterfield-based franchise of a national chain, is always a favorite. Bay has taken students to the popular eating establishment for the past six years—and it's not just for the “Dutch Baby” pancake, delicious though that is! Before sampling the fare, students share their business plans with owner Gordon Manus and get feedback from this seasoned restaurateur, who has been in the hospitality industry since the 1970s. “They come in well prepared with their plans and a number of questions,” Manus says, “and I share with them information about our finances, how we got started, and give them advice.”

“I have a lot of fun meeting with the Principia group, *and* it brings in a lot of regular business!” Manus says with a twinkle in his eye. He and Bay have struck up a fast friendship over

the years, and Manus's Chesterfield restaurant and his just-opened location in Ladue feature art created by Upper School art teachers and students.

Personal finance in the digital age

While Manus picked up a lot of financial basics helping his parents run a family business, few children today have the benefit of such experience. With the increasing prevalence of electronic banking for youth, as well as the volume of direct and online marketing that targets them, Upper School home economics teacher Phoebe McVey (US'86, C'90) finds it especially important that young people “learn how to be wise consumers and look out for their financial well-being.” One of McVey's classes, *You and Your Money*, targets juniors and seniors “who need financial literacy the most as they prepare to head out into the world,” she explains.

Such knowledge is increasingly important, according to the Council for Economic Education, a New York-based nonprofit that provides teacher training for economic education. As the council warns, “Our global economy has become so complex that the gap between what people know . . . and what they need to know is widening every day. Americans are increasingly responsible for their financial future, yet an alarming number lack even basic economic awareness.”

Beginning with the basics

Given that widening knowledge gap, the sooner financial education begins, the better. That's part of the logic behind the Middle School's *Money Matters* exploratory class. Students learn >>

Intercollegiate Investment Competition

About a decade ago, J. Ellwood “Woody” Towle (US'61, C'65), with assistance from Peter Lewis (US'83, C'87), began crafting what would become the St. Louis Collegiate Investment Management Contest, which just completed its seventh competition. And the winner was . . . Principia College!

Each year, schools entering the competition submit a hypothetical, value-based, \$1,000,000 portfolio consisting of 20 common stocks that are equally dollar weighted. The contest runs for 28 months (from December 1 through March two years later), and the best-performing portfolio earns a \$10,000 award for the winning school. (If possible, the award is allocated within the college or university according to the winning portfolio management team's wishes.) Typically, five to nine institutions participate. Competing with Principia in the contest that just ended were St. Louis University, McKendree University, the University of Missouri-St. Louis, Greenville College, and Lindenwood University.

The contest, which launched in 2004, is executed by Principia College and endowed in perpetuity by Towle & Co., an investment firm founded by Woody Towle in 1982. His primary goal for the competition was to give students experience with portfolio management and value investing. Based on the philosophy of Benjamin Graham, John Templeton,



It is especially important that young people “learn how to be wise consumers and look out for their financial well-being.”

— Upper School teacher Phoebe McVey

the difference between a debit and credit card and which one is best used when, as well as how to balance a checkbook and a budget. Teacher Hillary Moser (C’11) has instituted a system of “dollar credits” in her class. Certain behaviors (coming in late, repeated visits to the bathroom) “cost” dollars, and other behaviors can “earn” students money, which they can use to “buy” candy or the most comfortable chairs in the classroom. Competition was stiff the day the *Purpose* visited, as all the students wanted to have the biggest dollar balance by the end of the term!

Such practice in making and spending money came in handy when the class later visited the Edward Jones Finance Park in Chesterfield and participated in a daylong simulation program designed by Junior Achievement. Students were in-

troduced to real-life financial scenarios and then had to make budgeting, savings, and spending choices based on descriptors such as “married, three kids, earning \$49,000 a year” or “single, employed part time, with a rent of \$800 a month.” What would their net monthly income be, and how would they allocate it among housing, transportation, school fees, and vacations?

The class members were well prepared and succeeded in balancing their budgets by the end of the exercise—and some even gained more appreciation for mom and dad! “I am very grateful for my parents because now I know how much trouble they have to go through just to pay a bill,” remarked one student. ■

and Warren Buffett, value investing focuses on underappreciated equities and long-term capital appreciation. Instead of emphasizing buying and selling quickly purely for personal gain, Towle designed the contest to help students “take a longer view and see investing not as a game but a value to society,” he explains.

Towle’s secondary goal was to generate interchange across area institutions. According to Jim Bilsborrow (C’65), chair of Principia’s Business Administration Department, that goal continues to be met. “Sponsoring the contest has been good for us in establishing relationships with peers in the area,” he notes, “and it keeps our name active

at the various institutions.” Also, all the contest portfolios are known among all the schools, which facilitates learning across the institutions.

Usually Principia’s Investments class, which Bilsborrow teaches, submits the College’s contest entry each year. But many of those students have graduated by the time it matures. So Bilsborrow uses the contest results as an excuse to touch base with alums and learn of their progress since graduating. Meanwhile, current students study their predecessors’ portfolios as a guide in coming up with their own.

Other Principians integral to the establishment and execution of the contest

are Howard Berner, Principia’s chief investment officer, who helped develop the idea and Mariner Kemper (US’91), chairman and CEO of UMB Financial Corporation, which serves as the third-party administrator and tracks the portfolios.

This year’s contest victory was Principia’s first. Its million-dollar investment portfolio increased by nearly 40 percent, ending with a value of \$1,398,692. The closest competitor was St. Louis University, whose portfolio ended at \$1,329,864.

— Trudy Palmer

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events at a Principia Club near you.

AWARDS AND ACHIEVEMENTS

Saxophonists perform at the Upper School Christmas Concert, from left: Darrell Harris, Austin Moyle, Josh Barthelmess, and Kristin Manker.



SCHOOL

Musicians Shine at State

At this year's State Solo and Ensemble contest held in Columbia, Missouri, a large percentage of Principia's 24 contestants garnered high recognition—from among a field of 5,000 entrants—and walked off with the following awards:

Superior or "I" ratings

- Flute Solo: **Melissa Frank** (US'14)
- Clarinet Solo: **Georgette Hoffmann** (US'13)
- Piano Solo: **Austin Webster** (US'15)
- Clarinet Quartet: **Bethy Diakabana** (US'13), **Nicole Gerber** (US'14), **Georgette Hoffmann**, **Harmony Nash** (US'13)
- Vocal Quartet: seniors **Bethy Diakabana**, **Meredith Hamilton**, **Stephen Hanlin**, **Gabe Stringer**

Excellent or "II" rating

- Saxophone Quartet: seniors **Kristin Manker**, **Austin Moyle**, **Darrell Harris**, and junior **Ben Swank**
- Trumpet Trio: **Cameron Sheehan** (US'13), **Zach Telschow** (US'14), **Gavin MacKenzie** (US'16)

- Percussion Ensemble: **Sara Greene** (US'14), **Joe Fisher** (US'13), **Tyler Wingert** (US'15), and freshmen **Nathan Wood**, **Dylan Sheets**, **Justin Duvall**, **Colin Saad**

Very Good or "3+"

- Vocal Solo: **Bethy Diakabana**

Upper Schoolers Get Highest Scouting Awards

Sophomore **Courtlyn Reekstin** received the Gold Award from the Girl Scouts of America. Courtlyn's Gold project spanned nearly two years of volunteer work at the Preschool, including organizing annual Literacy Nights filled with storytelling, acting, and art for all the kindergartners and their parents.

A few days after graduation, **Cameron Sheehan** (US'13) earned his Eagle Scout Award from the Boy Scouts of America for a project that helped improve the facilities at Peace Haven Association, a Christian Science care facility in St. Louis.

Congratulations to both boarders for their dedication and perseverance!

Athletes Compete At State

Golf

Will Allen (US'13) and **Michael McClelland** (US'14) had an outstanding performance at Districts, qualifying for the State Golf Championships in Nixa, Missouri.

Wrestling

Over the winter, our wrestling team sent six qualifiers to State: seniors **Shane Reisen** (who earlier won the District Championship), **Matt Ross**, and **Gabe Stringer**; juniors **Jason McEntire** and **Robby Butler**; sophomore **Alex Kamau**.

Track and Field

All three Upper School athletes who made it to the Missouri State Track and Field Championships came away with honors. The three, who all happened to be seniors, placed as follows:

- First place, pole vault: **Austin Cooling**
- Second place, 400m dash: **Rachel Perea**
- Fifth place, 300m hurdles: **Joe Fisher**

What a great finish to their Upper School careers!



From left, Perea, Cooling, and Fisher are all smiles at the end of two days at State.

Photo by Lisa Perea

COLLEGE

Runner Wins Post-Grad Scholarship

Casey Powell (C'13), a business administration major, was recently awarded the women's 2012–13 St. Louis Intercollegiate Athletic Conference (SLIAC) Post-Graduate Scholarship. Powell plans to pursue a master's in marketing.

A two-year captain of the cross-country team and captain of the track team her senior year, Powell holds four school records and many conference and division honors, including Conference Runner of the Year (twice), All-Conference First Team member (three times), All-Region (twice), and Academic All-American (three times). She was also a National Championship qualifier and was nominated for the NCAA Elite 88 Award.



Along with her athletic accomplishments, Powell is an exceptional student. She graduated with highest scholastic honors and is a member of Phi Alpha Eta, the College's scholastic honor society. Her academic strengths contributed significantly to the cross-country team's recognition as an All-Academic team all four years of her career at Principia.

Swim Team Scholar-Athlete Honored

2013 graduate **Andy Furbush** left his mark on Principia's swimming record books. He holds second place on the All-Time Top Ten list for the 100 Fly and 200 Fly events along with additional All-Time Top Ten standings in four relays and the 100 Back and 200 IM. Furbush was also a Top Eight finalist in the Liberal Arts Championship meet all four years.

Furbush's academic record is equally as impressive. A business administration and economics double major, Furbush was honored with this year's Charles F. Buckwalter Athletic and Academic Honors Award, which goes to the senior athlete with the highest GPA who has earned four varsity letters in a single sport at the College. Furbush, who graduated with highest scholastic honors, is also a member of Phi Alpha Eta, the College's scholastic honor society. >>

ALUMNI

Dr. Anabel (Powell, C'51) Newman



Earlier this year, Dr. Anabel Newman, professor emerita of language education at Indiana University and Principia's David K. Andrews

Distinguished Alumni Award winner in 2000, published *M₂IP₃ The Role of Model, Motivation, Interest, Perseverance and Positive Pressure in Teaching Reading to Challenged Readers*. This is the most recent effort in her lifelong work to improve literacy.

Dr. H. Reid Wagstaff (C'56)

A former chairman of both the American Frozen Food Institute and the Frozen Food Foundation, Dr. Reid Wagstaff is one of three 2012 inductees into the Frozen Food Hall of Fame. Having served the industry for almost 30 years, much of that time in fruit procurement worldwide for the J.M. Smucker Company, he retired as vice president, government and environmental affairs.

Linda (Yows, C'79) Leitz

Early this year, Linda Leitz, CFP, EA, CDFA, was elected national chair by the National Board of Directors of

the National Association of Personal Financial Advisors. Her term begins in September.

Dr. Tom Quirk (FS'77)

Dr. Meghan (Buckley, US'90, C'94) Quirk

Working as a father-daughter team, Drs. Tom and Meghan Quirk recently completed two books in collaboration with their co-author, Howard Horton (Meghan's husband). Published by Springer, the books—*Excel 2007 for Biological and Life Sciences Statistics* and *Excel 2010 for Biological and Life Sciences Statistics*—show readers how to use Excel's statistical problem- >>

AWARDS AND ACHIEVEMENTS



Photo Contest Finalists

Students in Professor George Cooke's Photography Fundamentals course submitted photos to the 33rd Annual College and High School Photography Contest sponsored by Nikon and conducted by *Photographer's Forum*. Photos by sophomores **Barrett Crosby** and **Lyssa Winslow** were selected as finalists from over 16,700 entries. Their

work will be published in *Best of College and High School Photography 2013*, due out later this month. (Winslow's entry, which features classmate Hannah Camille Richardson, is pictured above.)

Phi Alpha Eta Members

Each year, select seniors graduate as members of Phi Alpha Eta, the College's honor society. A minimum cu-

mulative grade point average of 3.8 is required. The following students in the Class of 2013 graduated as Phi Alpha Eta members:

Amanda Lauren Cartwright, Natalie Rae Davenport, Fassio Jackson Elder, Andrew Ronald Furbush, Heidi Garrett, Rachel Christine Gibbens, Grace Marie Gillis, Julianna Marjane Hensey, Vincent-Immanuel Lukas Herr, Katherine Melissa Hynd, Zandr a Krysha Kaye-Duchesneau, Nicolas Martin Larsen, Shelby Ann Lemons, Dalton Thomas Long, Owen Elisabeth Loose, Julianna Kristi Mangelsdorf, Robyn Jem Maunton, Claire Le-Anh McLeland, Mallory Anne O'Neill, Laura Alison Perry, Erin Lacy Plum, Casey Mackenzie Powell, Shane Del Robles, Kaneohe Noel Wagner, Meredith Grace Wallace, Cameron Hays Wells, Duncan Martin Wilder, Lucia Ifigenia Xifr  Villar.

solving capabilities in science-related coursework and professional activities. These co-authored texts follow a series of six books Tom wrote over the last few years on using Excel for statistical calculations in business, education, psychology, and the social sciences.

Ashley (Olson, US'90, C'94) Beeman

A record-setter on the swim teams at the Upper School and the College, and former assistant coach of the College swim team, Ashley Beeman now competes at the Masters level. In May, she swam in the 2013 U.S. Masters Swimming Spring National Championship, held at the prestigious IU Natatorium in Indianapolis, Indiana. Beeman

competed in six events in the women's 40–44 age group, placing in the top 10 in four of them. A week later, she won all six of her events in the women's 40–49 group at the Connecticut Masters' Games Swim Meet.

Laurie (Burgdorff, US'98) Steckler



book written and illustrated by Laurie Steckler.

Last year, Shaggy Dog Press, which specializes in rural-themed writing, published *Lewis the Lamb*, a 36-page children's picture

Anna Rosensweig (US'02, C'06)

The Woodrow Wilson National Fellowship Foundation recently named Anna Rosensweig a 2013 Charlotte W. Newcombe Doctoral Dissertation Fellow. The Newcombe Fellowship is the nation's largest and most prestigious award for PhD candidates in the humanities and social sciences whose dissertations address questions of ethical and/or religious values.

Rosensweig is a doctoral candidate in French at the University of Minnesota. Her dissertation explores the ethical implications of human and collective rights in early modern tragedy.

MEET THE PRINCIPIA CLUB BOARD OF SAN GABRIEL VALLEY



Photo by Nancy (Siegmund, US'87, C'91) Ward

“

“Principia changed my life, so I like advancing the Principia idea wherever I can.”

- John Elmore, (C'83)

“I am happy to help Principia in this way.”

- Jorie Messman, (C'07)

“I like the idea that by volunteering locally, I am contributing to my daughter's college.”

- Suzanne Thomas, current parent (*aqua shirt*)

“Volunteering has reignited my commitment to all that Principia has to offer.”

- Hilary (Hamilton, US'65, C'69) Barner (*navy jacket*)

“This is one way I can give back to the school that gave so much to me.”

- Heather (Hooper, US'03, C'07) Denison

“I love Principia and the lifelong friends I met there. Why wouldn't I want to give back?!”

- Ruth Beckstrom, (US'92, C'96)

”

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Practicing Our God-Given Gifts

by Doug Hoff

“Why won’t it light?!” one pair of second graders complains. I encourage them to recall the three items needed to start a fire: fuel, heat, and oxygen. They decide to look for smaller pieces of wood and to pack them more loosely so the oxygen can flow through more easily. They try again. *Crack*. The fuel might be igniting. *Hiss*. It looks like it is! *Snap*. It’s definitely going now. What’s next? Oh, no! They belatedly remember they need to give it more fuel, but they don’t have any on hand, so they quickly grab what’s nearest. Unfortunately, there’s not enough heat to burn such thick fuel, so the fire goes out. Time to start over!

As the second-grade teacher at Principia Lower School, I certainly teach math, language arts, and social studies, but fortunately I’m also charged with helping to shape the children’s character. Any skill—be it adding numbers, kicking a soccer ball, or executing a

practice. At Principia, we don’t attempt to create anything in children; rather, we use practice to help bring out the skills they’ve already been divinely given.

Throughout an average day, there are many opportunities to nurture these skills, but in second grade, we also target these skills with a series of field trips that require strong collaboration and, most importantly, reliance on God. We rock climb, build shelters in the forest, spelunk, explore creeks, play team-building games, and orienteer. And for the first time this year, we went on an overnight to Illinois to learn Native American skills such as cordage-making, atlatl-throwing, and navigation.

Back in the woods, before rebuilding their fire, the children are encouraged to take a moment to pray. They have learned from their mistakes. They build

“ . . . before rebuilding their fire, the children are encouraged to take a moment to pray.”

cartwheel—needs practice. God made His children perfect and fully supplied, and we witness so much character unfoldment in the course of the year as students put their God-given gifts into

it correctly this time. Before gently placing pieces of wood of all sizes on the pile, they meticulously check each one to be sure it is dry. After they’ve triple-checked with each other that



Photo by Doug Hoff

they’ve done everything and are ready for anything, they proudly announce that they are ready to light their fire. Their intensity and focus are a testament to the hard work they’ve put in.

Not surprisingly, it immediately lights, and they are easily able to keep it burning. The struggle allowed them to learn the skill and become proficient in building a fire. The willingness to collaborate helped them remember all the details. And the success of their partnership gave them a feeling of pride and friendship that can only be achieved through such an experience. With the widest of grins on their faces, the students high five and start making s’mores!

Doug Hoff teaches second grade at Principia Lower School.

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