

# arts AND SCIENCE

The magazine of Vanderbilt University's College of Arts and Science

FALL 2011



whereAREyou?



STEVE GREEN

Answer found on the back cover



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artsANDSCIENCE® is published by the College of Arts and Science at Vanderbilt University in cooperation with the Office of Development and Alumni Relations Communications. You may contact the editor by email at [artsandsciencemagazine@vanderbilt.edu](mailto:artsandsciencemagazine@vanderbilt.edu) or by U.S. mail at PMB 407703, 2301 Vanderbilt Place, Nashville, TN 37240-7703. To share class notes or other alumni news, please go to [www.vuconnect.com](http://www.vuconnect.com).

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Vanderbilt University is committed to principles of equal opportunity and affirmative action.

**COVER:** *His Teach For America experience inspired Jake Ramsey, BA'09, to continue teaching academically-disadvantaged students. Here he works on math concepts with students at Nashville's KIPP Academy (p. 24). Photo by Joe Howell.*

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DANIEL DUBOIS

**A GREAT UNIVERSITY BRINGS THE BEST LESSONS OF THE PAST AND THE PRESENT FORWARD TO SHAPE THE FUTURE.** In this sense, a university is an inherently optimistic institution. Each fall, we welcome to our campus new students and new faculty, bright, accomplished and bristling with potential. These newcomers merge into the broad community of students and faculty here before them. They add to the living, breathing organism of thought and action that makes campus life so exhilarating.

I write today to thank you—each and every one of you—for your contributions to the vitality of this life in the Vanderbilt University College of Arts and Science. In Arts and Science we have a vision for the future that we aim to realize through our teaching and learning, our research and new discoveries, and our service to our community and to the wider world. Ours is a bold and ambitious vision that involves work at the very highest levels across and among the sciences, social sciences and humanities. I believe passionately that the diversity of thought within Arts and Science is our greatest strength. In a world that grows more complex all the time, where unimagined possibilities challenge orthodoxies of thought and belief, new answers come from unexpected sources. Complexity requires diversity. To succeed, we need each other.

The community that advances the Arts and Science vision far exceeds the physical borders of our campus. The alumni, families and friends of Arts and Science walk alongside those of us here on campus in our principled dedication to a better future. You have expressed your dedication to that commitment thousands of times over in the past few years when we asked for your help in an effort that has, quite literally, shaped our future. Vanderbilt University has recently concluded its *Shape the Future* campaign. As you will learn in the pages that follow, this fundraising effort has raised money much needed in support of student scholarships, faculty research and discovery, the advancement of academic innovation and much more. The *Shape the Future* campaign also made clear how profoundly dedicated we—our community, in all the diversity of perspective, age and experience represented by that term—remain to a positive outlook. To a belief in education, pure and simple.

In this issue of *Arts and Science*, we turn the lens from its customary focus on our campus toward a vision of our larger community: toward you. You have spoken and you have acted. You have reached down deeply and given generously, even in times of economic uncertainty. Thanks to your generosity, we can point to changes for the better all over our campus—to young alumni entering the world free of debt, thanks to scholarships raised through Opportunity Vanderbilt; to advances in research vital to the arts and the sciences; to the recruitment and retention of great faculty from all over the world. I hope that in reading the pages that follow, you enjoy a glimpse of the story you have made possible. For your role in shaping a future that looks very bright indeed, it is my great honor to offer you my heartfelt gratitude.

A handwritten signature in black ink, appearing to read 'Carolyn Dever'. The signature is fluid and cursive, with a long horizontal line extending to the right.

Carolyn Dever  
Dean

# Get a *check* from Vanderbilt!

## ***Establish a charitable gift annuity with Vanderbilt and we'll pay you for life.***

Help the College of Arts and Science by establishing a charitable gift annuity with Vanderbilt and you'll receive fixed income for life. Other benefits include an immediate income tax deduction, partially tax-free payments and possible capital gains tax savings.

Your gift also helps Arts and Science with funding for scholarships, faculty chairs and improvements to our facilities. Learn more by contacting Linda Ray Miller in Vanderbilt's Office of Planned Giving at (615) 343-3113, (888) 758-1999 or [plannedgiving@vanderbilt.edu](mailto:plannedgiving@vanderbilt.edu). Let her tailor a charitable gift annuity just for you.

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Age	Annuity rate	Yearly income	Tax deduction
65	5.3%	\$530	\$2,659
70	5.8%	\$580	\$3,289
75	6.5%	\$650	\$3,923
80	7.5%	\$750	\$4,508
85	8.4%	\$840	\$5,326
90	9.8%	\$980	\$5,965

\*minimum age of 65 and gift amount of \$10,000. Deductions as of **September** 2011.

Arts and Science people always have books and magazines on their reading, just read and to-read-next lists. Some are for courses, some for research and some are for sheer pleasure.

*Notes on Democracy* by H.L. Mencken

*In Defense of Freedom and Related Essays* by Frank S. Meyer

*Freedom and Federalism* by Felix Morley

*The Man Versus The State* by Herbert Spencer

Reading now: *Saint Augustine's Confessions*

—Keith Neely, junior, history

*The Wall Street Journal*, [mediapost.com](http://mediapost.com) (daily)

*Advertising Age*

*Flight Journal Magazine*, *Car and Driver*, *Cooking Light*, *Cook's Illustrated*

Just read: *The Good Life* by Peter Gomes (I'm a faculty VUceptor)

*The Idea Writers* by Teresa Iezzi

*A Single Grand Victory: The First Campaign and Battle of Manassas* by Ethan S. Rafuse

*Fighting for the Confederacy: The Personal Recollections of General Edward Porter Alexander* ed. by Gary W. Gallagher

*The Pembroke Welsh Corgi* by Susan W. Ewing

Reading concurrently: *Generals South*, *Generals North* by Alan Axelrod

*The Day of Battle* by Rick Atkinson

Next: *Men of Fire: Grant, Forrest, and the Campaign That Decided The Civil War* by Jack Hurst

*Empire of the Summer Moon* by S.C. Gwynne

As you can tell, I like reading about the American Civil War.

—Arthur Johnsen, associate professor of the practice of managerial studies

*The Good Life* by Peter Gomes (another VUceptor)

*A Time to Kill* by John Grisham

—Newton Adkins, sophomore, Latin American studies

## National Recognition for Student Scholars

**ANYONE WHO THINKS UNDERGRADUATES CAN'T BE SERIOUS SCHOLARS HAD BETTER THINK AGAIN.** Three College of Arts and Science students have been selected as top scholars by prestigious national institutions.

Katie Ullmann has been named a 2011 Udall Scholar in recognition for her past commitment to environmental issues and her demonstrated commitment to a career in the environmental field. An American Studies major and Ingram Scholar, Ullmann has focused on social movements and their effect on environmental and climate protection policies. Now a junior, the Brookline, Mass., student was one of 80 undergraduates selected nationwide—and one of only 27 sophomores—from a group of 510 students nominated by 231 colleges and universities. The scholarship from the Morris K. Udall and Stewart L. Udall Foundation provides up to \$5,000 for her junior or senior year.

Seniors Justin Menestrina and Tim Xu were selected as Goldwater Scholars from a field of nearly 1,100 math, science and engineering students nominated by colleges and universities across the country.

Menestrina is a physics student from Knoxville, Tenn., conducting honors research in preparation for his senior thesis. Xu, of Vienna, Va., is completing a double major—with honors—in neuroscience and European studies. The Barry M. Goldwater Scholarship and Excellence in Education Program provides each with a two-year scholarship worth \$7,500 a year for educational expenses.

In addition, Greg Gauthier earned honorable mention in the Goldwater competition. The Wheaton, Ill., senior is working toward an honors degree in mathematics and economics while maintaining a 4.0 GPA.

## Celebrating New Endowed Chairs

Some of the most outstanding professors in the College of Arts and Science have been honored for academic achievements with the awarding of endowed chairs. Being named to an endowed chair is one of the most prestigious honors a university can award.

Some of the chairs are newly endowed, while others are supported by gifts made previously. The gift of endowed chairs makes it possible for the university to recruit new and retain top faculty, as well as provide support for the professor's work.

The new chairholders are:

- Larry M. Bartels, May Werthan Shayne Professor of Public Policy and Social Service
- William P. Caferro, Gertrude Conaway Professor of Vanderbilt History
- Kenneth Catania, Stevenson Professor of Biological Sciences
- Lynn Enterline, Nancy Perot Mulford Professor of English
- Marilyn Friedman, W. Alton Jones Professor of Philosophy
- Larry W. Isaac, Gertrude Conway Vanderbilt Professor of Sociology
- Carl H. Johnson, Stevenson Professor of Biological Sciences

- Michael P. Kreyling, Gertrude Conaway Vanderbilt Professor of English
- Jane G. Landers, Gertrude Conaway Vanderbilt Professor of History
- William Luis, Gertrude Conaway Vanderbilt Professor of Spanish
- Larry May, W. Alton Jones Professor of Philosophy
- Jonathan Metz, Frederick B. Rentschler II Professor of Sociology and Medicine, Health and Society
- James G. Patton, Stevenson Professor of Biological Sciences
- Sandra J. Rosenthal, Jack and Pamela Egan Professor of Chemistry
- Mitchell A. Seligson, Centennial Professor of Political Science
- David C. Wood, W. Alton Jones Professor of Philosophy

The recent *Shape the Future* campaign allowed the College of Arts and Science to more than triple the number of endowed chairs it had previously. Other endowed chairs are expected to be announced before the end of the school year.



From left, Dean Carolyn Dever congratulates William P. Caferro, Lynn Enterline, Jane G. Landers, William Luis, James Patton and Carl Johnson, who were celebrated at a ceremony in May.

## An Arts and Science Head of State



Ali

**ABDIWELI M. ALI, MA'88**, has been named the prime minister of Somalia, the first College of Arts and Science alumnus to serve as a head of state.

Ali was appointed the acting premier of Somalia's transitional federal government in June after then-Prime Minister Mohamed A. Mohamed resigned. Soon after, Ali was named permanent prime minister and then overwhelmingly approved as prime minister by Somalia's parliament.

A Somali native, Ali came to Nashville in 1986 for Vanderbilt's esteemed Graduate Program in Economic Development. He spent two years in the College of Arts and Science, earning his master's degree in economics before returning to Somalia to serve in that country's ministry of finance and revenue.

Ali also holds a master's degree in public administration from Harvard and a doctorate in economics from George Mason University and was a fellow in Harvard's Kennedy School of Government. Most recently, he taught economics at Niagara University in Lewiston, N.Y., before returning to Somalia in late 2010 as minister of planning and international cooperation.

"I owe a lot to Vanderbilt University and it helped me at a critical juncture in my life," Ali wrote to his friends at GPED. "I am eternally grateful to all the faculty and staff members who kept me close and gave me a great opportunity to learn, grow and become the person I am today."

In one of his first policy initiatives, Ali appointed a national committee to tackle the severe drought affecting large parts of the eastern African country; approximately 11.5 million Somalis are suffering from famine. Other challenges he faces include leading a country affected by civil war, militant terrorism, piracy, religious conflicts, lawlessness and political uncertainty.



STEVE GREEN

*Serbia in the 1990s serves as the lens through which Assistant Professor of Art Vesna Pavlovic (pictured) contrasts normalcy and war. Her photographs were installed in a recent show at the Frist Center for the Visual Arts. The exhibit also included recent images examining modern American life.*



JOE HOWELL

## Fun Fact

When Associate Professor **BRANDT EICHMAN** and Assistant Professor **ANTONIS ROKAS** were surprised with 2011 Chancellor's Awards for Research in August, they became the eighth and ninth biological sciences professors to receive the honor since 2005. That marks an uninterrupted seven-year run for the department's faculty.

**CONGRATULATIONS** to these faculty members who have been promoted to new positions and received tenure.

**Patrick Abbot**, associate professor of biological sciences

**Brian Bachmann**, associate professor of chemistry

**Kenneth Catania**, Stevenson Professor of Biological Sciences

**Kate Daniels**, professor of English

**James H. Dickerson**, associate professor of physics

**Eva M. Harth**, associate professor of chemistry

**Kevin Huang**, professor of economics

**Jens Meiler**, associate professor of chemistry

**Moses E. Ochonu**, associate professor of history

**Bunmi Olatunji**, associate professor of psychology

**Keivan Stassun**, professor of astronomy

**Steven Tepper**, associate professor of sociology

**Benigno Trigo**, professor of Spanish

**Tiffany Tung**, associate professor of anthropology

**Martina Urban**, associate professor of religious and Jewish studies

**Edward Wright-Rios**, associate professor of history

**Christoph M. Zeller**, associate professor of German



# Bridges to Bangladesh

Mention Bangladesh and images of poverty, famine and environmental disaster might come to mind. That's only half the story, says Steve Goodbred, associate professor of Earth and environmental sciences.

"Bangladesh is a land of superlatives," Goodbred says. "It has big rivers draining big mountains [the Himalayas], a big climate, the world's largest river delta and lots of people. We have a lot to learn from them."

Vanderbilt and its College of Arts and Science agree. Scholars from Earth and environmental sciences, political science, sociology and religious studies have joined forces with colleagues from the School of Engineering and the Owen Graduate School of Management to study Bangladesh and its people.

Why all the interest? "Bangladesh mirrors problems the rest of the world will be facing in the next century," says Professor and Chair of Religious Studies Tony K. Stewart, who has studied the literature and religion of Bangladesh for 35 years. "They are developing innovative solutions to problems of overpopulation, poverty, rising sea levels, coastal flooding and cyclones through a creative synergy between their traditional culture and the use of modern technology."

Stewart's expertise includes several fellowships in that country, including a recent Fulbright-Hays Faculty Research Abroad Fellowship. He is also the founder and director of the Bangla

Language Institute at Bangladesh's Independent University. Stewart recently joined the College of Arts and Science from North Carolina State University in a move that will increase Vanderbilt's scholarship in South Asian studies.

## Environment, Politics and People Intertwined

With a population of 162 million people—about half the size of the United States—cramped into an area roughly the size of Iowa, Bangladesh is one of the most densely populated countries in the world. Its Muslim majority has existed in relative peace and harmony with a Hindu minority for centuries. And while the country is currently stable, the potential for conflict stemming from environmental stresses exists, Goodbred says.

"Natural disasters and environmental change can cause political instability," says Goodbred, who has been studying the Ganges-Brahmaputra river delta for more than 15 years.

"Bangladesh has flooding, river migration, arsenic-contaminated groundwater, climate change, tectonic activity, earthquakes, cyclones and sea-level rise—it is a dynamic region," he notes. "We're trying to understand when, where and at what magnitude populations migrate in this area. Where's the tipping point at which large numbers of people migrate and strain other cities and countries? Can we anticipate migrations and limit potential damage through advanced preparation?"

Impressed by the interdisciplinary nature and quality of research being done at Vanderbilt, in part through the Institute for Energy and Environment, the U.S. Department of Defense recently



awarded Goodbred and his team \$7 million to study the impact of climate and environmental change on human migration patterns in Bangladesh. The team includes Professors David Furbish and John Ayers and Associate Professor Jonathan Gilligan, all from the Department of Earth and Environmental Sciences; Associate Professor of Political Science Brooke Ackerly; Professor of Sociology Katharine Donato, and engineering colleagues George Hornberger, University Distinguished Professor of Civil and Environmental Engineering and Earth and Environmental Science, and Professor of Civil and Environmental Engineering Mark Abkowitz. The five-year grant is a multidisciplinary university research initiative with Columbia University under the Office of Naval Research.

### Far-flung Field Study

In spring 2010, university funds allowed Goodbred, Ackerly and Gilligan to take a class of 15 graduate and undergraduate students to Bangladesh to study water resources and water-related hazards, their impact on the population and possible solutions. The Arts and Science, Engineering and Peabody students were enrolled in a transdisciplinary seminar on “Water and Social Justice in Bangladesh” [see “Active Earth” in the fall 2010 issue of *Arts and Science* magazine].

“Vanderbilt’s investment in that course put us in a position to secure the DoD grant,” Goodbred says, as well as a \$1.1 million National Science Foundation award that will enable him to take classes to Bangladesh in 2012 and 2014.

The interdisciplinary culture of the College of Arts and Science helps scholars better understand the dynamics of complicated problems by bringing together teams with varied expertise, Goodbred notes. “We can engage each other to answer complex questions and our students get to sit in the middle of that process.”

Political scientist Ackerly, who studies injustices associated with natural disasters, agrees: “We are teaching students from various disciplines to approach these questions informed by a broader view.”

### A Different Perspective

In March 2011, then-junior Haley Briel traveled to Bangladesh with Goodbred to study the Brahmaputra River. The Earth and environmental sciences major continued her research on campus this past summer, supported by the Vanderbilt Undergraduate Summer Research Program.

“Meeting the exceedingly generous and curious Bengali population gave my academic studies a new sense of enthusiasm and purpose,” Briel says. “To meet literally hundreds of Bengali people, all with so little, but willing to give so much, was a truly touching experience.”

That is exactly what Goodbred hopes his students will take away from their experience. “We need to educate our students and get them to foreign places to give them a different perspective,” he says. “Our goal is to prepare the next generation of students to give service in the international arena.”



“Bangladesh mirrors problems the rest of the world will be facing in the next century.”

—Tony K. Stewart, Professor and Chair of Religious Studies



Opposite: Traditional fishing nets, Meghna River in northeastern Bangladesh. Above, top: A typical street in the Sadarghat area of Dhaka, capital of Bangladesh. Above, bottom: River dweller life—marketing, ferrying, hauling by water—on the Buriganga.

ALL PHOTOS BY TONY K. STEWART

# Gary Jaeger

GARY JAEGER COULD PROBABLY IMPROVE THE WRITING IN THIS MAGAZINE STANDING ON HIS HEAD.

A philosopher, writing coach and yogi, Jaeger serves as the assistant director of the Writing Studio and senior lecturer in the philosophy department, as well as a yoga instructor at 12 South Yoga in Nashville. After graduating with a bachelor's degree in philosophy and writing from Johns Hopkins University, Jaeger earned a Ph.D. in philosophy from the University of Chicago. He says his work in philosophy and writing complement each other as both allow him to explore the power of argument while his yoga practice keeps him calm and focused.

## What do you do at the Writing Studio?

I, along with the other directors of the Writing Studio, supervise a staff of around 30 writing consultants who meet one-on-one with people who want to discuss their writing projects. Much of our time as directors goes to training and mentoring our staff, but we also devote some of our energy to forming collaborations with other departments and programs on campus. In addition to our consultation services, the Writing Studio offers writing workshops and other programs like On Writing, where we interview professional writers, and Dinner and Draft, where we invite faculty to discuss their works-in-progress over dinner.

## How many students do you work with each year and how are they benefitted?

Last year we had 4,102 appointments with 1,687 clients. Most of our clients are undergraduates, but we serve graduate students and faculty as well. Our clients come to us at all stages of the writing process. Clients who are just beginning a paper benefit from being able to talk through their inchoate thoughts. Clients who have already written a draft benefit from having a critical but sympathetic consultant read through that draft and engage

them in conversation about the structure and strength of their arguments. We even see graduate students and faculty who are writing dissertations and book-length projects. These clients benefit from having regular meetings with the same consultant who can help keep track of how their projects are developing.

## What's the biggest issue students face in their writing?

Most students do not realize that academic writing is about making arguments. Each discipline makes arguments in its own way, but at its core all academic work seeks to make a novel contribution to its field by arguing that the current state of play isn't quite good enough.

## What's a typical week like for you during the academic year?

Busy! During the school year I am up and writing before 5 a.m., sometimes as early as 4. This is the only way I can make any progress on my research and still make it into the office where my days are split between teaching and administrative duties. While on campus, I prepare and teach my classes, have regular meetings with the other directors of the Writing Studio and our collaborators, consult clients, see to the day-to-day operations of the studio, and attend philosophy department events. I also make time for yoga every day. Before coming to campus I practice pranayama (rhythmic control of the breath) for about 30 to 45 minutes. When I get home I practice asana (poses) for 1 ½ to 2 hours.

## What courses do you teach in philosophy?

I mostly teach classes in ethics and political philosophy. I have taught introduction to ethics, contemporary ethical theory, social and political philosophy, contemporary political philosophy, and introduction to philosophy. I have also directed an independent reading course on Indian philosophy.



JOHN RUSSELL

Most students do not realize that academic writing is about making arguments.

**Tell us about your yoga teaching. How long have you been doing it? What do you get from practicing it and sharing it?**

I went to my first yoga class when I was 16 years old. It was offered as a physical education elective in my high school and seemed like the best option for a 90-pound weakling. I didn't become serious about my yoga practice until I started studying with an Iyengar yoga teacher about 12 years ago. It was significantly more profound and intelligent than any other method I had or have yet to encounter. Although yoga has made me fit, healthy, and nearly eliminated chronic back pain, the biggest reason for doing it is precisely this: it makes me calm, focused and alert. I would say it makes everything else in my busy life possible. I teach it because teaching helps me to learn. This is true of philosophy as well as yoga.

**Have you ever had a student in one of your academic courses take your yoga classes?**

I have had colleagues and graduate students from the philosophy department take my yoga classes, but I don't think I have had a student from one of my philosophy courses take my yoga class. When I was teaching at the University of Wisconsin-Milwaukee, I taught yoga as an academic course. They had an Iyengar yoga program in their dance department and I was allowed to teach a yoga class in addition to philosophy classes as part of my teaching load.

# Math to the Nth Power

*The mathematics department quietly experiences dramatic growth in rankings and research prominence.*

The next time you pull out your smartphone, take a moment to appreciate the tremendous amount of mathematics that it embodies.

Math is involved in converting the sound of your voice into radio signals that connect you to your friends. It is used to create the complex shapes of the fonts in your email messages. In fact, all the phone's functions are performed by executing basic logical operations on binary code, strings of ones and zeros.

The sleek slab of glass, metal and plastic is an appropriate symbol of just how dependent modern society has become on its most complex art form. There are very few aspects of life today that can function efficiently without the liberal application of mathematics. At its base, mathematics is one of the truest creations of the human intellect. As Albert Einstein put it, "Pure mathematics is, in its way, the poetry of logical ideas."

## Here's the Proof

In the last 15 years, Vanderbilt's mathematics department has played an increasingly prominent role in the world of mathematics. It has quietly transformed itself from a department whose majors were mainly concerned with getting teaching jobs in regional colleges into a leading math research department that turns out students who snag jobs at top universities.

"We have moved up substantially in the world," says Dietmar Bisch, chair and professor of mathematics.

Mathematicians don't make statements like this without proof. One of Bisch's strongest pieces of evidence is the department's performance in last fall's evaluation of the nation's graduate programs by the National Research Council.

In the NRC's 1995 ranking, Vanderbilt's math program was placed at 84, toward the bottom of the heap. According to department veterans, the old ranking didn't accurately reflect its quality. But they are quite happy with the new report that places the program



Bisch

squarely among the top 20 percent of the 127 Ph.D. math programs that it analyzed.

The second piece of evidence Bisch cites is the recent hire of Fields Medal winner, Vaughan Jones, from the University of California, Berkeley. Awarded every four years, the Fields Medal is generally considered the Nobel Prize of mathematics.

Jones himself says that his move to the College of Arts and Science was due in part to "the positive atmosphere at Vanderbilt compared to all the negativity in California." The new Distinguished Professor of Mathematics also cites the quality of the department and the greater ease with which he will be able to get things done here as major reasons for joining the school.

## Advanced Theories with Applications

When he arrived in August, Jones added considerable strength to one of the department's theoretical research groups, the Center for Noncommutative Geometry and Operator Algebras. The center is directed by Bisch and includes Stevenson Professor of Mathematics Gennadi Kasparov, Assistant Professor of Mathematics Jesse Peterson, and Professors of Mathematics Guoliang Yu, Dechao Zheng and Daoxing Xia.

They study the properties of "non-commutative" spaces where, for example, 4 times 3 does not equal 3 times 4. These advanced theories describe the properties of subatomic particles and a number of other scientifically important spaces. Such spaces also play an important role in the latest manifestation of string theory, which is based on the idea that elementary particles are tiny vibrating strings instead of infinitesimal spheres.

Another theoretical group consists of Centennial Professors of Mathematics Alexander Olshanskiy and Mark Sapir, Professor of Mathematics Mike Mihalik and Associate Professor of Mathematics Denis Osin, recognized experts in group theory, which has its origins



JOHN RUSSELL

in geometry. Group theory is a powerful way of studying geometrical objects and has a number of applications ranging from crystallization to DNA replication to cryptography. Where geometry focuses on objects like the rectangle, group theory concentrates on operations like rotation and translation that these objects undergo.

Some mathematical research is more down-to-earth, and the department works in several applied fields. One is constructive approximation, which specializes in finding simple techniques

There are very few aspects of life today that can function effectively without...mathematics.

that approximate the behavior of complex mathematical expressions. In the Center for Constructive Approximation, Professors of Mathematics Ed Saff and Doug Hardin developed a new method for evenly distributing points on curved surfaces, a procedure with applications ranging from digitizing curved surfaces to modeling the coastal effects of tsunamis. The center, made up of Stevenson Professor of Mathematics Larry Schumaker, Professors of Mathematics Saff, Hardin, Mike Neamtu and Akram Aldroubi, and Assistant Professor Alex Powell, also publishes *Constructive Approximation*, one of the world's most highly cited math journals.

### Talking Math

A key element in the department's growing reputation has been an annual lecture honoring Professor Baylis Shanks, MA'40, and education administrator Olivia Shanks, MA'39, a couple who played

major roles at Vanderbilt from the 1950s to the 1970s. The lecture, which emphasizes a different field of mathematics each year, allows the department to invite top mathematicians from around the world for an accompanying research conference that has developed a considerable following in mathematics circles.

It was an invitation to speak at the Shanks lecture that led to a collaboration with mathematician, Fields medalist Alain Connes of the College de France and the Institut des Hautes Études

Scientifiques (IHES). For nine years, Connes has directed an annual spring institute that combines lectures and workshops, attracting both senior and junior mathematicians to Nashville. (Connes also serves as Distinguished Professor of Mathematics here at Vanderbilt.) Because of these

activities, the department now hosts 300 to 400 visitors annually, an exceptional number for a math department of its size.

Another factor in the department's growth was Bisch's proposal to replace the short-term lecturers who taught many of math's 160 courses with post-doctoral researchers. This change freed up research time for graduate students, improved the quality of instructions and enhanced the research ambiance in the department significantly. It also brought the College of Arts and Science to the attention of departments nationwide looking for positions for their graduates.

This growing stature has attracted increasingly high quality students. At the undergraduate level, it recently added a new honors track specifically for students interested in pursuing careers in math research and its graduate students and postdoctoral fellows have been extremely successful in finding jobs despite the tough job market.

# Movies, Sex and Abu Ghraib

*Kelly Oliver looks at modern culture and asks the big—usually tough—questions.*

by MARDY FONES



Philosopher—the word evokes images of ancient, dour, self-absorbed thinkers who opine esoterica that has little to do with lives of ordinary people. Contrast that with Kelly Oliver, W. Alton Jones Professor of Philosophy, author and media critic. The dynamic professor's classes and research dissect current events and contemporary thinking by piercing the veil of the mundane, revealing the inner workings of modern life.

“Everyone is searching for meaning in his or her life. Philosophy is a reflection on the meaning of experience,” says Oliver, who examines these and other conundrums through the lens of contemporary issues. “We all wonder why are we here, what should we do and what can we hope for. To paraphrase German philosopher, Immanuel Kant, ‘Philosophy rekindles our natural curiosity about life.’”

## Forest Roots

Oliver's childhood laid the foundation for her philosophy career. “My family is primarily loggers and forest people from the Northwest. One of my grandfathers was a forest ranger, the other was a logger. The logger grandfather never went to high school, but he was thoughtful and reflective. He was a homegrown philosopher. He treated me like an adult and talked about the meaning of life and told amazing stories.”

When she was in high school, Oliver's biology teacher was studying philosophy and would talk to her about philosophy classes where they would ask “is this chair real?” which Oliver found intriguing. “Sometimes I'd intentionally give wrong answers on tests just so I could argue with him for fun,” she remembers. “I was a nascent philosopher even then.”

Although her parents wanted her to study accounting and go to law school, Oliver was drawn to philosophy. After her first semester at Gonzaga University, “I knew what I wanted and I never looked

JOHN RUSSELL

“We are relational beings, so trying to understand who we are can only be done by [understanding] how we relate to others.”

back,” she says. She went on to earn a master’s and doctorate in philosophy at Northwestern University.

Oliver’s research emerges from the study of Hegel, Nietzsche, phenomenology, Derrida, Kristeva and contemporary French philosophy. She delves deeply into the infrastructure and beliefs that drive the thinking, choices and lives of people. Whether people know it or not, Oliver says, philosophy is elemental and fundamental and at the heart of both conflict and its resolution.

“Throughout my work are common threads and questions of ethics, justice, social justice, relationships and how we relate to each other as well as the environment and animals,” she explains. This encompassing perspective makes it natural for Oliver to hold a joint appointment in women’s and gender studies.

### Media Philosopher

Oliver has authored numerous books and articles, frequently examining modern media and culture. “*Women as Weapons of War: Iraq, Sex and the Media* came about as a result of the photos from Abu Ghraib Prison and the uncanniness of the photos that were released. These smiling young people looked like they should be in a high school yearbook, yet were pictured giving a thumbs up over bodies,” Oliver says. “It brought me to the question ‘what would lead young people to do this for fun and then photograph it?’”

Media coverage of Abu Ghraib and women on both sides of the Iraq War fascinated her because of the way the women were involved. She was likewise intrigued by women who become suicide bombers and the media attention they attract. “Women usually are portrayed as young and innocent—instead, essentially, with suicide bombing, at least as portrayed by the media, the bombshell has become the bomb.”

“It struck me that women were figured as, and used as, weapons,” Oliver says. “In the Guantanamo prison, there were all-women interrogation units that were used because of the humiliation it would cause the Muslim men to be tortured by women. Women were being used as military strategy.”

The 2007 release netted her a spot on the ABC network’s *World View* and international exposure. “The book was well received in Britain where Muslim culture is more apparent and politicized than in the U.S. and also well received in Iraq and Egypt,” Oliver says. “It’s being translated into Arabic.”

Oliver is continuing to focus on issues of gender and media in *Knock Me Up, Knock Me Down: Images of Pregnancy in Hollywood Film*. “Hardly a month goes by without a pregnant belly on the big screen,” Oliver says. “But what does it mean? While it’s true

there’s more openness in our culture today, there’s also a sexualization of pregnancy. And yet there’s a conservative undertone in many of these films that suggests that having a baby will solve all of the problems in the lives of women and girls,” Oliver says. The book, due out from Columbia University Press in fall 2012, explores the impact and portrayal of reproductive technology and pregnancy in Hollywood film.

### Life Affirming

To illustrate the covers of many of her books, Oliver uses the art of Spanish surrealist Remedios Varo. “Her work is melancholy, yet life affirming and full of a richness of plant, animal and human figures. There is a life force emanating from them,” Oliver says. Oliver’s *Animal Lessons: How They Teach Us to Be Human* is dedicated to her beloved cat, Kaos, and features a Varo painting of a cat on the cover, along with a poem Oliver wrote for Kaos.

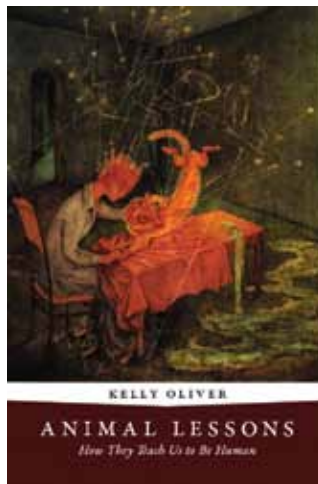
“On an existential level, we are relational beings, so trying to understand who we are can only be done by [understanding] how we relate to others,” Oliver says.

“And what about our relations with the animals around us, those familiar and those in our environment? Some philosophers argue that we should extend rights to animals most like us. But I ask, what about animals—and people—not like us? Do you have to be like me for you to be my concern? I’d say no.”

While she concedes it’s easier to acknowledge obligations to friends, family and one’s own culture, where to draw the line isn’t that clear.

“What about people whose values challenge mine?” she asks.

“Too many people think that they can exploit and kill people who challenge our values, people who are different,” Oliver says. “Fundamentally, that viewpoint is why we wage war. We need to question our own values and investment in them constantly, especially our investment in violence and killing. Doing so could mean less war and more peace.”



# THE CHOICE

*One Year Later*

*New first-year students are welcomed with cheers and move in help from now-sophomore Greshko and others on Vanderbilt's Move Crew.*

THE COMMONS CENTER, THE STUDENT CENTER LOCATED IN THE HEART OF THE MARTHA RIVERS INGRAM COMMONS AT VANDERBILT, HAS A BEAUTIFUL GRAND PIANO IN THE LOBBY, A GLOSSY, WHALE-LIKE MONUMENT TO MUSIC BEGGING TO BE MADE.

Sometime last September, I first heard it played, and after a second or two of confusion, I realized it was improvisational jazz—and it was good. I walked toward the piano in awe, hearing the musical mist around me swell to a torrent of bluesy riffs gushing from the unidentifiable pianist's fingers. When I found out who was manning the keys, however, I was flabbergasted: locked in frenetic concentration was one of my friends from Math 205. I had no idea he could play piano, much less improvise for 90 minutes straight. His unexpected, outstanding talent—reflective of the depth of Vanderbilt's student body—led me to only one thought:

This is why I love this school.

Six short months before, any statement of the sort seemed a distant pipe dream: As I sallied forth during my high school senior year—happily ready to do battle with everything life's capricious pitcher threw my way—one herculean task remained unfinished: my college choice.

My situation was difficult; I had been admitted to Yale but was awaiting scholarship notifications from other universities—including

Vanderbilt's College of Arts and Science. On March 12, 2010, a day I might start celebrating as “Incredibly-Understated-Yet-Life-Changing Email Day,” I received word that Vanderbilt had offered me the phenomenal Cornelius Vanderbilt Scholarship. How was I ever going to make up my mind?

On top of that, I had an additional question with which I had to grapple: How was I going to describe my choice to readers around the world?

### *The New York Times Calling*

This question had emerged during a lunchtime phone call in late February 2010, leading to one of those moments I'd never envisioned happening halfway through a ham sandwich: The call was from *The New York Times*, and they wanted me to outline my college decision-making process as a guest blogger for The Choice, the *Times*' higher education blog.

It was a once-in-a-lifetime chance, so I enthusiastically signed on—but I was also nervous. After all, the pressure to live up to the *Times* name was enormous, and I knew that sharing my life with the world would invariably summon the digital peanut gallery. I felt up to the challenge, though, so as I dove into my deliberation—replete with campus visits at Vanderbilt and Yale and talks with students,



admissions officers and deans—I made it my goal to have fun with every word going under my evanescent byline.

As spring progressed and I continued my blog series, my gut slowly but surely transitioned to Vanderbilt, my writing surprisingly serving as a means of distilling and clarifying my then-muddled feelings. After announcing my choice, I ended my blog series in late June with a hopeful analogy between a still-unfamiliar Vanderbilt and the Land of Oz, but as I submitted my final post, faint pangs of second-guessing began to settle in. Had I really made the right choice? I had no way of being sure until I arrived in Nashville in the fall. It was a risk, but I felt confident; after all, Dorothy and Toto thrived post-twister, so why wouldn't I?

### Not in Kansas Anymore

After finishing a lightning-fast first year in the College of Arts and Science, I turned out to be right; it has been an absolutely incredible start to what ought to be an unforgettable four years. My classes—covering everything from the significance of the nonhuman in German literature to the neuroscientific underpinnings of consciousness—have expanded my worldview and have pushed me in the ways I needed to be pushed. Outside of the classroom, I have also found some of the nicest, most talented people I have ever met: About two weeks into the school year, I auditioned for Vanderbilt Off-Broadway—probably the single best decision I made first semester—and performed in the group's production of the musical *Nine*. I also moonlighted as vice president of my Commons house, teaming up with administrators to bring a six-band concert to The Ingram Commons' end-of-year festivities.

But to mention what I have done is only part of the story, for I couldn't begin to describe how I have truly lived this first year: sweet potato pancakes shared with friends at the Pancake Pantry; Frisbee on the Peabody Esplanade; impromptu adventures through nighttime Nashville; hall discussions until 3 a.m. on the merits of the humanities; and every waking moment I spent this summer with Vanderbilt's VISAGE program in Costa Rica.

Throughout the year—no matter my exhaustion, stress or Lilliputian concern—I found myself constantly going back to the memory of the epiphany-inducing piano, the wonder of that moment echoed in a cappella concerts and rainforest hikes alike. The more I'm steeped in Vanderbilt, the more I love it—so much so that I applied to be a VUceptor for first-year students this fall. When thinking about the new students in the Class of 2015, I recall my senior year and the stress surrounding my college decision, and a thought comes to mind:

I know I made the right choice. I hope that they, too, will feel the same.

*Michael Greshko is a sophomore likely majoring in neuroscience and minoring in Spanish. His passion for writing recently led him to The Hustler, where he pens an opinion column. He also enjoys magic, long walks in the rainforest and peanut butter.*



JOHN RUSSELL

I had been admitted to Yale but was awaiting scholarship notifications from other universities—including Vanderbilt's College of Arts and Science.

# *Arts and Science*



# ON THE HILL

*Congressional staffers share passion and Vanderbilt experiences.*

by SANDY SMITH

For some, it was the fulfillment of a lifelong dream. Others fell into jobs and found a passion. No matter what drew them, though, College of Arts and Science graduates working as staff on Capitol Hill share one commonality: their Vanderbilt experiences equipped them well for Washington's political world.

"I don't know if Vanderbilt creates it, or if the same type of person is drawn to—and successful at—Vanderbilt that is successful here," says Conrad Schatte, BA'97, an economics and communication studies graduate who served as legislative assistant for U.S. Sen. Lamar Alexander, BA'62 (Tenn.). "It's the same sort of skills: a balance of the analytical and the personal."





HILARY SCHWAB

Jon Boughtin in the rotunda of the Cannon Office Building. Boughtin serves as senior legislative assistant for New York Congressman Bill Owens.

*“Your degree matters... But a lot of people tell you that college is as much about learning how to think as what you need to know.”*

—Jon Boughtin, BA'05

### Well-Prepared

Currently, there are a dozen or more Arts and Science graduates working in Congress. Though specifics vary regarding experience, position or political party, most are legislative staffers handling a range of tasks, including monitoring legislation on specific topics (most will specialize in more than one), corresponding with constituents, communicating with the press, and serving as liaison with the elected official's committee assignments and those who lobby and advocate on connected issues.

Some, like Jon Boughtin, BA'05, majored in political science. Now Boughtin is a senior legislative assistant for Rep. Bill Owens (N.Y.), a role he describes as “entirely policy.” Owens is a member of the Armed Services Committee and Boughtin compiles briefings on bills and assists in writing legislation.

“Your degree matters,” Boughtin says. “But a lot of people tell you that college is as much about learning how to think as what you need to know. At Vanderbilt, there were a host of professors keyed into the local politics. Professors are willing to sit down with you and give you ideas, ‘Try interning here, look there.’”

Even without a field of study that directly correlated to her current role as health policy advisor to Alexander, a liberal arts education helped Mary-Sumpter Lapinski, BA'97. “We do a lot of writing, and I write very well because of my education,” the English and French graduate says. “When I was in college, everyone said, ‘What are you going to do with that major? Teach?’ I said, ‘You need communication skills in

every industry? I work with language every day, writing briefing documents, legislation, and memos and editing press releases. I had good training.”

But a lot of preparation happened outside of the classroom as well. “The rigorous academic environment teaches you that you’ve got to buckle down and maintain focus,” says Charlie Keller, BA’99. A political science graduate, Keller serves as chief of staff for Rep. Sandy Adams (Fla.). “One of the things I did at Vanderbilt was spread myself thin: club track and field, varsity cross country, alcohol education program and fraternity. I still graduated on time,” Keller says. “Doing all of that you have to truly learn to balance your time, even with all the fun things there are to do in Nashville. Putting all of those into one coherent mix prepares you for the future.”

Political science and public policy major Lindsay Mosshart, BA’05, says it was the mix of people she encountered that has helped most in her Washington work. “I really value the exposure I got to individuals from all parts of the country.

I learned to be more patient and understanding of others’ geopolitical views and political rationale by listening to my classmates discuss politics and world events,” says Mosshart, a senior legislative assistant for Rep. Gene Green (Texas). “In my job, I work with different personalities every day, and this background constantly comes in handy by allowing me to better collaborate and coalition build across the aisle and with constituent groups.”

### The Vanderbilt Influence

Located in a state capital, Vanderbilt has a natural connection for politics, with students able to engage politically early on. Additionally, while Tennessee is deep red, Nashville is not, offering opportunity for those on both sides of the political spectrum.

That is, perhaps, one reason Washington has such a strong network of Commodores. Reps. Leonard Lance, JD’77, (N.J.) and Ben Quayle, JD’02, (Ariz.) are graduates of Vanderbilt School of Law. Alexander and Rep. Steve Cohen, BA’71,



HILARY SCHWAB

*Charlie Keller says the multitasking skills he honed at Vanderbilt prepared him to work as chief of staff for Florida Congresswoman Sandy Adams.*



HILARY SCHWAB

Tennessee Senator Lamar Alexander's office has strong Vanderbilt ties—the senator himself is an Arts and Science grad. From left, alumni staffers Mary-Sumpter Lapinski, Allison Martin, former staffer and current Senate Rules Committee staff Lindsey Ward, Nick Magallanes and former staffer Conrad Schatte.

*...their Vanderbilt experiences equipped them well for Washington's political world.*

(Tenn.) are Arts and Science alumni. Numerous former senators and representatives also have Vanderbilt ties, including former Vice President and Senator Al Gore and Rep. Jim Cooper (Tenn.), who teaches at Owen.

In an environment that can radically change every two years—with Democratic staffers looking for work one cycle and Republican staffers the next—building strong connections is a valuable currency. Often young staffers land their first job working for their home-state senator or the representative from their district.

For Lindsey Ward, BA'02, Vanderbilt itself provided the opportunity to secure her first Washington job as a legislative assistant. The history major worked on Alexander's campaign staff immediately after graduation and when he was re-elected, "Vanderbilt provided my connection to Sen. Alexander. If I didn't have that, I seriously doubt they would have hired me," she says. Ward now serves as professional staff for the Senate Rules Committee.

Allison Martin, BA'98, graduated with a degree in political science. She previously worked for Senators Fred Thompson and Bill Frist, both of Tennessee and who employed a large number of Vanderbilt graduates. "We all figured out that we had a shared background and that made me feel a lot more at home," says Martin, a legislative assistant to Alexander.

Martin, Lapinski and Schatte all were in the College of Arts and Science around the same time, but didn't know each other. "Conrad and I figured out that we were at some of the same events and had some of the same friends," Lapinski says. Lapinski and Ward also were in the same sorority, though separated by a few years.

### Shared Experiences

Having that connection to the familiar in an unfamiliar town—one known for its sometimes ruthless politics—provided comfort. "It makes it helpful that everyone looks back so fondly," says economics/history graduate Nick Magallanes, BA'08, and another of Alexander's legislative aides. "You have good memories and good stories to exchange of those times at Vanderbilt. I didn't overlap with some of the others in the office, but it does provide a connection to be able to talk about the same places and experiences."

It also can provide a powerful network of mentors. Drew Brandewie, BA'07, who now works as press secretary for a senator, found that out when searching for a job a few years

ago. The communication studies graduate met with an older alumnus who brainstormed job opportunities with him, even though they hadn't met previously. "He did it solely because I was a fellow VU grad," Brandewie says. "A skillful networker will go a long way here, and relating to others through VU can be an excellent way to forge relationships no matter what field you're in."

### Beyond the Hill

Scores of Vanderbilt alumni work throughout Capitol Hill and many, many more in the organizations that work with the government.

"When we need to reach out to a certain office, or an agency, it helps to have someone that you have that shared connection of Vanderbilt with," Keller says.

It also helps that Arts and Science graduates previously in Congress work throughout Washington. Jennifer Romans,

BA'03, first joined then-Senate Majority Leader Frist's health care team after internships for a pharmaceutical company and in Frist's office. She is currently senior director of federal affairs for the Pharmaceutical Research and Manufacturers of America, where she uses what she learned from stints with Frist and Sen. Jon Kyl (Ariz.) to work with health policy issues and entitlements. She made the switch to the private sector after the grueling health care reform battle.

In her present role, as in her Capitol Hill experience, the English and political science graduate continues to use valuable lessons learned at Vanderbilt. "Every day, my job requires me to think critically and analytically, develop creative solutions, devise political strategies, and effectively communicate ideas," Romans says. "I am thankful that my A&S degree helped me develop these capabilities and gave me the tools necessary to lead, achieve and succeed."



**"It's beyond wonderful.  
The opportunity that I've  
been given is amazing."**

Angel Abbott, Class of 2012  
Undergraduate Scholarship Fund for Arts and Science  
Eugene H. Vaughan Undergraduate Assistantship in Geology



### CHANGE A LIFE— SUPPORT OPPORTUNITY VANDERBILT

Vanderbilt popped up on Angel Abbott's radar during her high school research project, which focused on the best college for a person with disabilities. Vanderbilt shone brightly, but financial aid was a necessity.

"Without Opportunity Vanderbilt, I never could have come here. I've come so far and done so much," she says. "It's beyond wonderful. The opportunity that I've been given is amazing."

Supporters like you help provide solutions for students like Angel, making certain that access to a Vanderbilt education is based on ability, not ability to pay. Consider a gift through Opportunity Vanderbilt to support the university's initiative to replace need-based undergraduate loans with scholarships and grants. Be a part of this year's goal to raise \$20 million. Help us change their lives so they can change the world.

# OpportunityVanderbilt

Make a gift to Vanderbilt online—[www.vanderbilt.edu/givenow](http://www.vanderbilt.edu/givenow). Questions—Jonathan Petty, [jonathan.petty@vanderbilt.edu](mailto:jonathan.petty@vanderbilt.edu), (615) 343-3118.

BRIEFS

## No Tea For GOP

Gary Gerstle's essay, "Minorities, Multiculturalism and the Presidency of George W. Bush," has attracted international media attention, including the *Washington Post* and *Financial Times*. Gerstle, James G. Stahlman Professor of American His-



Gerstle



tory, examines Bush-style conservatism and how it might have offered minorities "reason to rethink their traditional hostility to the GOP." Media experts say that ultimately, Bush's policies conflicted with those of other Republicans and may have contributed to the deteriorating relationship between the GOP and the Tea Party. Gerstle's essay was published in the book *The Presidency of George W. Bush: A First Historical Assessment*.

## The Signs are There

*Political lawn signs, that is. Love them or hate them—Associate Professors of Political Science Cindy Kam and Elizabeth Zechmeister have proof that they work.* In recent studies, they found that name recognition—such as that which lawn signs can produce—gives candidates an advantage in political races in which voters know little about any of the contenders. And consider this: races in which little information is known about the candidates are the rule, not the exception, in American politics, Kam says.

## What the Fungi Know

**BEHIND SLAMMED DOORS, MOST TEEN-AGERS FERVENTLY WISH AT LEAST ONCE THAT THEY COULD BELONG TO ANOTHER FAMILY.** One that was

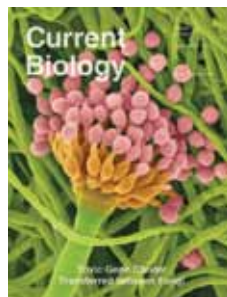
hipper, permissive, richer—somehow more in line with their needs. Turns out a group of fungi—23 genes to be exact—successfully pulled off this swap, switching families millions of years ago. The discovery of this leap by a College of Arts and Science researcher is helping recast Darwin's lasting metaphor of the tree of life.

In *Origin of Species*, Charles Darwin diagrammed his theory of the evolutionary process from parent to child, down through generation after generation (now known as vertical gene transfer), resulting in Darwin's famous tree of life.

But a recent discovery by Antonis Rokas, assistant professor of biological sciences, reveals that Darwin's sketch may not show the full picture of evolution. Rokas' current research focuses on how fungi change over generations, leading to better understanding of the evolutionary relationships among living organisms and how diversity has evolved. The Rokas Lab found that millions of years ago, a cluster of 23 genes jumped intact from a strain of mold commonly found on starchy foods to an unrelated strain that lives in dung and specializes in breaking down plant fibers.



STEVE GREEN



He and research associate Jason Slot reported their discovery in the journal *Current Biology* earlier this year. Their finding came as a major surprise to scientists because there are only a handful of cases in recent evolutionary history where this type of gene transfer between organisms, known as horizontal gene transfer, has been found in complex cells like those in plants, animals and fungi. Rokas' findings have even made "Sminton," a science-based Web comic strip that riffs off recent newsworthy scientific publications.

"The fungi are telling us something important about evolution...something we didn't know," Rokas says.

The interspecies transfer that Rokas discovered suggests how fungi developed their remarkable metabolic diversity, including the ability to produce highly toxic compounds. It also supports the notion that similar jumping genes played a significant role in fungal evolution. The fungal kingdom currently presents the best place for genomic research because complete genome sequences are already available from more than 100 species.

The research was supported by funds provided by the Searle Scholars Program and the National Science Foundation.



## That's Heretical Talk!

AS A SPEAKER OF ENGLISH, FRENCH, DANISH AND GERMAN (AND WHO READS SWEDISH, NORWEGIAN, SPANISH AND ITALIAN), VIRGINIA SCOTT MIGHT BE FORGIVEN FOR THINKING IT'S EASY TO BECOME MULTILINGUAL. On the contrary: she is dedicated to increasing awareness of how people can learn other languages.

Scott, professor of French and academic director of the new Center for Second Language Studies, delves into the processes involved in learning a second language.

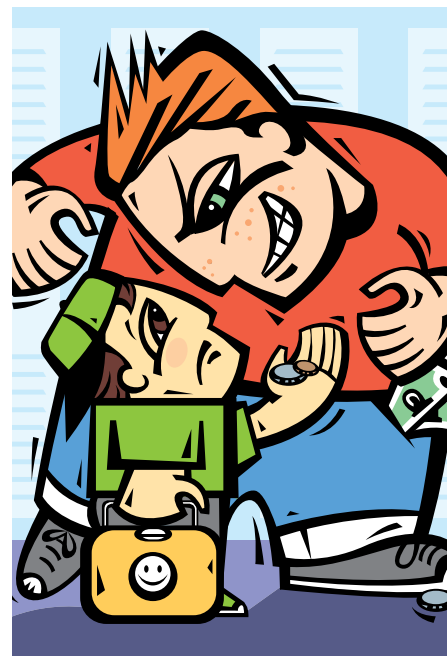
Her research has led her to believe that a learner's first language may play a significant role in learning a second language. That's "a bit of a heretical take," Scott says. Current teaching practice holds that exclusive use of the second language in the classroom is the only way to learn—although any teacher will tell you this approach is difficult in reality. Scott acknowledges that input and interaction in the new language are essential—but

she thinks using one's native language to analyze and understand grammar structures may lead to greater proficiency.

In Scott's research, students received language problems and were asked to talk aloud in their first language about how they were solving them. Others were asked to do the same, but limited to using their second languages. Scott found that the students required to use the second language had more difficulty solving the problems.

Scott theorized that it is possible to capitalize on what people know and do with their native languages. "Language is a way of interpreting the world," she says. Her study of dynamic systems theory led her to explore the ways languages interact in the mind of one speaker-hearer. In her book, *Double Talk: Deconstructing Monolingualism in Classroom Second Language Learning*, she describes how this research compels rethinking current approaches to teaching and learning second languages.

## BRIEFS



### How Not to Raise a Bully

Children who believe their fathers work too much and don't spend enough time with them are more likely to develop bullying behavior, according to research by André Christie-Mizell, associate professor of sociology.

"The findings about fathers and mothers are important because it turns what most of us think is conventional wisdom—that mothers have the most influence on children—on its ear," Christie-Mizell says.








Christie-Mizell

"What this research shows is that while it's equally important for kids to spend time with both parents, fathers need to make an extra effort." His study recently was published in *Youth & Society*.


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**Alumni Association**

The October after his graduation from the College of Arts and Science was arguably one of the darkest months in Jake Ramsey's life.

Teaching math at Nashville's Maplewood High School through nonprofit organization Teach For America, Ramsey, BA'09, had reached the phase of working in a high-poverty setting that might be labeled "despair."

Less than a third of his students could add or subtract negative numbers, though they weren't far from his own age. Gang members sorted out grievances with a razor fight. One student—who had taken honors geography—called Florida another country.

The economics major was learning, all too well, the unspoken agreement present in many classrooms and one which affected his ability to teach: "It goes like this," Ramsey says. "I won't make you do any real work, or stress you in any way, and you don't misbehave."

Sure enough, the Teach For America corps member—one of thousands who make a two-year commitment annually toward closing the achievement gap of low-income students by teaching in high-need areas—had moved beyond his initial phase of excitement. It had been followed by disillusionment. The idea of rejuvenation seemed as far away as the possibility of graduation for a high school class with an average grade of 43 out of 100.

"For the first time, I couldn't work hard enough to make things happen," he says. "But the beauty of Teach For America is that you cannot participate in this—you cannot survive those two years—and not be forever changed. You cannot come to know these kids in such a way as I have and not care about education for the rest of your life."



*Jake Ramsey was part coach, part confidant, part disciplinarian... and all teacher to his TFA students. He continues those roles at a Nashville charter school.*

JOE HOWELL



# *forever* CHANGED

*Two years with Teach For America challenge  
new alumni and the students they reach.*

by FIONA SOLTES

## Highest of Expectations

During his two-year stint, Ramsey discovered what many Teach For America alumni do: that investment and belief in students can make a remarkable difference in grades, attitudes and outcomes. Studies consistently show that Teach For America teachers—most of them prepared only by a six-week intensive summer training program rather than a four-year degree in education—have an impact on student achievement that's equal or greater to traditional first-year teachers. The large majority of TFA teachers take part in the 20-year-old program immediately after graduation, when the idealistic incentive to change the world might peak.

TFA teachers receive one-on-one mentoring in addition to first-year teacher pay and benefits, and two-thirds end up staying in education, “with the largest portion of that group as classroom teachers,” says Taylor Imboden Brown, BA'08. Brown, a communication studies major, was so inspired by her own TFA experience in St. Louis that she became a manager of teacher leadership development for the program, now offering ongoing training and support to 35 corps members.

“My two years in the classroom showed me the importance of always holding myself and my students to the highest of expectations—academic and otherwise,” she says. “Seeing students achieve in individual classrooms over the short term gives me hope and evidence that we can close the achievement gap in the long term.”

Brown is far from alone in her beliefs—and she and Ramsey are far from alone in crediting the College of Arts and Science for aiding in their success.



“Seeing students achieve in individual classrooms over the short term gives me hope and evidence that we can close the achievement gap in the long term.”

—Taylor Imboden Brown, BA'08

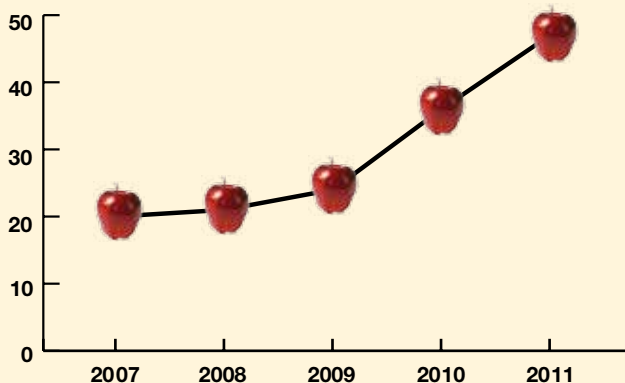
TFA seeks out participants with demonstrated leadership and achievement among other attributes, and often draws highly motivated and successful students as a result. Add in the fact that, the former students say, Vanderbilt strongly encouraged them to give back through community service, think critically and strategically as part of a larger group, excel in challenging environments, interact with diverse populations, and be involved in numerous areas simultaneously, and it's no real wonder that the school is among the top contributors of graduates to the program in the country. In 2011, Vanderbilt placed seventh among medium-sized college and university contributors, with 47 graduates headed for TFA placements last fall.

## “It Was Terrifying”

“There's no doubt that students in these underserved communities lack a lot of skills we take for granted,” says Matthew Specht, BA'09, a political science major who taught math to fourth- through eighth-grade students in Kansas City. “Especially if you've gone to Vanderbilt, you've probably seen success academically. You've probably gone to good schools. For me, seeing seventh and eighth graders struggling to subtract with borrowing was humbling. But it gave me that much more motivation, recognizing that in one year, we needed to make two years' worth of progress.”

Outside of the classroom, Specht says, “it's very difficult to have an appreciation for how many moving parts there are in a day of teaching, whether planning lessons or units, or just planning for 150 students who come through 25 at a time. The goal is not to have a relationship with one class, but with

## Vanderbilt graduates selected by Teach For America



*Vanderbilt consistently has ranked in the top 20 medium-sized colleges and universities contributing the greatest number of teachers to the program.*

### THE PROBLEM:

In America today,

- 9-year-olds in low-income communities are already three grade levels behind peers in high-income communities.
- Half won't graduate from high school.
- Those who graduate will read and do math, on average, at the level of eighth graders.

### PART OF THE SOLUTION:

- Teach For America corps members in 43 regions.
- More effective new teachers.
- Today, 67 percent of TFA alumni work full-time in education, lifelong proponents of educational opportunity.

“...in one year, we needed to make two years' worth of progress.”

—Matthew Specht, BA'09

each of the 25 students in that class. You don't give attention to that one entity, but to building relationships with every single one, every single day.”

As such, TFA teachers recount endless hours spent before and after school with students and parents, doing whatever they could to make a difference. Ramsey recalls being shocked early on when a student told him he'd seen more of Ramsey than his father in the previous three years. “I asked the class who else that was true for, and 80 percent of the hands went up,” he says. “It was terrifying. They were seeing me for an hour and a half every day. Even if they had dads at home, they were working hard hours and asleep when the kids were awake.”

### Huge Sense of Responsibility

Miron Klimkowski, BA'10, just finished his first year as a ninth-grade English teacher in Dallas. The political science major hadn't really considered a job in education, he says, but an Alternative Spring Break project opened his eyes to the possibility. He spent ASB as a teacher's assistant in a Rome, Ga., elementary school, and loved the experience. “I saw the impact that I could make in just one week. I had a couple of friends who had done Teach For America, so most of my senior year I knew I was going to do it,” he says. He was fortunate, he says, to have had great teachers growing up in the Memphis public school system, teachers who instilled a pay-it-forward attitude. But nothing could really prepare him for what TFA would be.



JOHN RUSSELL

*Now in his second year with Teach For America, Miron Klimkowski says he feels a huge sense of responsibility to help his students advance.*

“For the first time, I couldn’t work hard enough to make things happen.”

—Jake Ramsey, BA’09



JOE HOWELL

*Teach For America inspired Neily Todd to stay in teaching beyond her two-year term. She says she now goes through the day thinking about what’s best for her students.*

“I had to grow up really fast,” he says. “The gravity of the achievement gap becomes real to you, and you start to feel this huge sense of responsibility. Now it’s my job.... But they were all such great kids. There wasn’t one that I didn’t like. And that impassioned me to work all the harder for them.”

Although Klimkowski says it’s too early to tell whether he’ll keep teaching after the program is over, other TFA participants have continued in education. Specht has deferred his enrollment in law school to work at a New York City charter school. Ramsey is a teacher at KIPP Academy, a college preparatory public charter school in Nashville, and is pondering fundraising for education or possibly starting his own school. And English major Neily Todd, BA’09, says her time teaching algebra in Nashville has led to a solid commitment to continue the work she began with TFA. She, too, teaches math at KIPP Academy.

“When you’re in college, so much of your day-to-day life is about you, your classes, your grades, your studies, what you want to do,” she says. “That’s just that phase of life. But having had this experience, working with these students, I go through my day now thinking about what’s best for them, and how I can teach them things in a way that they’ll understand.

“There’s such a deeper sense of contentment now that my life is more than about just me, and that my actions are impacting others in a positive way,” Todd says. “When I got into Teach For America, I really did believe that all students can learn. And after two years in the classroom, I know that all students can learn. It’s been a cool experience to see that this is true.”

**Beth Bachmann**, assistant professor of English, has won the Poetry Society of America's 2011 Alice Fay Di Castagnola Award for a manuscript in progress.

Assistant Professor of Physics **Kirill Bolotin** has received a Faculty Early Career Development award from the National Science Foundation. The five-year award supports exploration into the conductivity of grapheme, a recently discovered material that conducts electricity better than copper, has mechanical strength greater than steel and can be patterned into structures smaller than a virus.

Professor of Physics **David Ernst** has won the 2011 Distinguished Professional Mentor Award from the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS).

**Steven D. Hollon**, Gertrude Conaway Vanderbilt Professor of Psychology, has received the 2011 Florence Halpern Award for Distinguished Professional Contributions to Clinical Psychology from the Society of Clinical Psychology—APA Division 12.



JOHN RUSSELL

Randall

**Alice Randall**, writer-in-residence in African American and diaspora studies, was invited to spend a month at the famed Yaddo artists' community in Saratoga Springs, N.Y. Randall used the residency to revise her fourth novel, *inFATuation*, which draws on her research into soul food and research being done at Vanderbilt on personalized medicine. James Baldwin, Saul Bellow, Langston Hughes and other distinguished writers have also served residencies at Yaddo.

Three Arts and Science faculty members were called to the podium to receive awards from Chancellor Nicholas S. Zeppos during Vanderbilt's Spring Faculty Assembly. **Robert Barsky**, professor of French and comparative literature, was awarded the Alexander Heard Distinguished Service Professor Award. **David Furbish**, professor of Earth and environmental sciences, received the Harvie Branscomb Distinguished Professor Award. **Bunmi Olatunji**, associate professor of psychology, received the Ellen Gregg Ingalls Award for Excellence in Classroom Teaching. This award is determined by the chancellor based on nominations from students.



Furbish



STEVE GREEN

McLean with students

**John McLean**, assistant professor of chemistry, was recognized for excellence in teaching by Vanderbilt student members of the American Chemical Society.

The American Council of Learned Societies announced **Elizabeth Shih Meadows, MA'06, PhD'10**, lecturer in English, was named to the ACLS New Faculty Fellows Program for 2011 and that **Edward N. Wright-Rios**, associate professor of history, was awarded an ACLS 2011 Charles A. Ryskamp Research Fellowship. ACLS is a private, nonprofit federation of 71 national scholarly organizations.



SUSAN UPRAY

**Barbara Tsakirgis**, (right) associate professor of classics and history of art, was presented with the Vanderbilt University Alumni Association Alumni Education Award. The award is given annually by the association's board of directors to a full-time faculty member who has contributed substantially to alumni education programs. She received the award during a surprise classroom visit by, from left, Associate Vice Chancellor for Alumni Relations James Stofan, Dean Carolyn Dever, and Alumni Association board member Elizabeth Clarke Gerken, BE'90, MBA'92.



# A Race to the Death (or Close)



Valerie Kazmer Matena,  
BA'08

PLACE OF RESIDENCE  
Charlotte, North Carolina

SPOUSE  
Daniel Matena

FAVORITE PLACE TO VISIT  
Australia (Adelaide is my husband's hometown)

FAVORITE BOOK  
*Running with the Buffaloes* by Chris Lear—One of my inspirations to compete collegiately.

FAVORITE MOVIE  
*The Da Vinci Code*

**I DIDN'T FINISH THE RACE. FORTY HOURS INTO THE DEATH RACE AND A MERE FIVE HOURS FROM THE END, I QUIT.** In my four years as a Vanderbilt athlete, I had never failed to make it to the finish line. I had faced disappointment, failed to meet goals, even finished last, but I had never simply stopped. Now that the haze of physical and mental exhaustion has worn off, I'm left to question what happened that Sunday morning and to somehow reconcile everything leading up to those last few moments.

The Spartan Death Race is a 48-hour endurance competition that takes place each year in Pittsfield, Vt. The organizers are notorious for keeping the race details secret until the last minute and challenging competitors with unexpected and extreme physical and mental feats. They boast that only a miniscule number of competitors complete the event. Its website is [www.youmaydie.com](http://www.youmaydie.com).

I have always enjoyed pushing myself. I majored in economics in the College of Arts and Science while also running track and cross-country at Vanderbilt. I learned to balance the high-pressure demands of being an SEC athlete while thriving academically, chal-

Everything would soon become a tangle of mind games and physical pain.

lenged by interesting professors and subjects while competing as both an individual and team member. I now know how to defend my thoughts on a case (thanks, Professor Damon) as well as how to surge in the final lap (thanks, Coach Keith).

That mindset did not disappear upon graduating. So one day in June, I left work without explaining why I was disappearing for the weekend. Using precious vacation days to suffer would be seemingly illogical to my peers.

## Tangle of Mind Games and Physical Pain

The Death Race began on a rainy Friday night in Pittsfield. I was one of 155 participants who filed into the town church for a race debriefing. No one knew what we were about to endure. There was





*After a wood splitting exercise (left), Matena (No. 44) and her race teammate hauled logs up and down the mountain.*

no course map, no set distance and no defined finish line. Tasks were given as the race progressed and everything would soon become a tangle of mind games and physical pain. The possibilities of what might lie ahead were limitless and the anxiety of those in the Pittsfield church tangible; I found myself excited and eager for the race to begin.

After the debriefing, racers were divided into groups and given a circle of large rocks to lift. One clean lift was getting the rock up to your chest and lowering it to the ground. Once around the circle, or 13 clean lifts, was one lap. I was to complete 150 laps, repeating the lift hundreds and hundreds of times for nearly six hours.

The rocks were only the beginning. Sometime during the early morning hours, I was sent walking miles upstream in a cold river, pitch-black except for the headlamps of racers dotting the darkness like fireflies, and silent but for the rush of the current and the occasional splash of a racer losing his footing.

### Pushing Through

Sunrise found me swimming seven laps across a freezing pond, carrying a lit candle around an open field between laps, silently praying that my body's violent shivering wouldn't extinguish the flame and force me to add a penalty lap.

After splitting a stack of wood, I was sent up a trail carrying a log so heavy I could barely hoist it onto my shoulder... only to carry it back down again after committing a Bible verse to memory. After other tasks, including an eight-hour hike carrying my full pack plus a small log, night set in again.

I was 24 hours into the race. Fatigue, both mental and physical, began to take its toll. A sudden storm rolled in. I faced another mountain hike, marked only by small orange flags hanging in the woods. I plodded along, focusing only on moving forward one step at a time. Then I reached the barbed wire. I remember shining my light ahead and seeing the barbs strung across the path for probably 400 meters. I remember sitting down to rest for a minute before having to maneuver through the spikes.

And then I don't remember much. My friend and teammate for the race later told me that I stopped responding to him, barely speaking and only inching forward as he coaxed me under the wire. I was somewhere in the early stages of hypothermia. Crawling along the dark trail, face inches from pools of mud, I had no choice but to keep moving forward.

I eventually struggled to the top, and after some time warming up at the checkpoint, made it back to the base of the mountain just as the sun rose for the second time. I pressed onward, tasked with cutting down trees, moving more rocks and slowly trudging forward. Fewer than 50 racers, strewn across miles of trail and hours of competition, remained on the course.

### Ending with Integrity

Then late Sunday morning, I stopped. I had been competing for over 40 straight hours and was in 12th place. The race officials told me I had more than 15 hours left of the competition. I knew I'd have to sleep before continuing for that long. Monday's workday loomed in front of me. Enough. I shared a congratulatory hug with my teammate and we headed home, confident in our decision and proud of our accomplishment. It was not the finish, but for us it was the end.

I got the call that night.

The race had ended at 45 hours wherever you were on the course, and those remaining 35 racers were told they finished. The finish line was yet another trick.

I was devastated, and for weeks wished I had slept in the rest tent for five hours, essentially tricking the race directors instead of letting them trick me. But that's not the philosophy with which I toed the start line when I wore a gold V on my chest. Nor would it represent the values instilled in me over my Vanderbilt years, during the Arts and Science classes that were my academic barbed wire, when I didn't think I would pass or the easy way out seemed tempting.

I didn't finish the Death Race, but I competed with integrity for 40 hours and pushed my body harder than I thought possible, and I can say that with my head held high.

# Watch This

*CEO combines a love of history and experiences as he brings a luxury brand into the 21st century.*

by FIONA SOLTES

**JAMES “JIM” SEUSS, BA’85, HAS BEEN SURROUNDED BY LUXURY THROUGHOUT HIS CAREER.**

Holding positions of leadership with Tiffany and Co., Harry Winston Inc., Cole Haan, Stella McCartney Ltd., and currently, high-end watch retailer Tourneau, Seuss knows about the finer things. But to him, the most luxurious items of all don’t have much to do with expense. Luxury to Seuss is found instead in a home-cooked meal with quality ingredients (including, perhaps, a spice brought back from a trip to Morocco), time spent with Scarlet, his beloved Welsh springer spaniel puppy, or even just sleeping past 6 in the morning.

“For me,” he says, “it’s about the experience, not the cost.”

Looking back, he’s amassed a wealth of experiences since his days studying history in the College of Arts and Science.

## Retail at Tiffany’s

Seuss took a job in a men’s haberdashery while a high school student in Memphis, Tenn. He was drawn to quality and branding even then, he says, and knew that later he would want to go to business school. He came to Vanderbilt with several friends, seeking a good, diverse liberal arts background that would offer a strong base for a future MBA. That came via George Washington University, but it was his time at Vanderbilt, he says, that opened doors to uncharted territory: an educational program that landed him in China.

“One of the professors from Vanderbilt put me in touch with the program since I was interested in international business,” Seuss says. “It was concentrated on Asia Pacific, or Far Eastern history, as it was called at the time. The program was geared toward archaeology and language, and gave me further exposure.”

It also lit a fire about business potential in that part of the globe; when Seuss took his first job in retail in New York City, it was with Tiffany’s international division. He began working on Japanese business for the luxury jeweler known by its iconic blue box, eventually opening some 50 stores for Tiffany throughout Asia.

“I stayed with Tiffany for 13 years and decided that would be what I would do: stay in higher-end retail,” Seuss says. “Then I just stuck with it.”



©JEFFREY LANGLOIS/THE PALM BEACH POST

## Appreciating the Timeless

His latest executive position is as CEO of Tourneau in New York, his first stint with a multibrand retailer rather than a monobrand company.

That offered new challenges and opportunities for growth, he says, and under his careful eye, Tourneau has implemented a wide-ranging plan to rebrand the more than 100-year-old retailer as “friendly, reliable and discreet.” The rebranding included the recent opening of a 3,000-square-foot, uniquely designed Madison Avenue location that is intended to eliminate the somewhat intimidating atmosphere of jewelry shops and make watch shopping fun.

Tourneau represents brands like Breitling, Cartier, IWC, Jaeger-LeCoultre, Panerai and Rolex. Typical customers, he says, are in their 30s to 50s, but a growing number of the youngest generation



VICTORIA PICKERING

is becoming re-engaged with watches after Gen Y’s reliance on cell phones and other technology to track time instead.

“There’s a sense of nostalgia about it,” he says. “Everything is so modern and automated now, and a watch can represent something else. It’s handmade, handcrafted and took six months to produce. That represents something unique to a generation that’s grown up with everything automated.”

“I’ve always thought there was so much to be learned from history.”

—Jim Seuss

Seuss’ own private watch collection features about 20 pieces, including a Jaeger-LeCoultre that was his grandfather’s. He also treasures a Panerai given him by fashion designer Stella McCartney at the second anniversary of their doing business together. “It’s engraved with the company and date, which makes it even more special to me,” he says. “There are many great pieces that I received at great moments.”

### Life of Curiosity

Leading companies known for quality and excellence, Seuss has a passion for doing things to the best of his ability—and pushing others to do the same. Ask him what people would be surprised to know about him, and he responds that he’s not quite the perfectionist that some would believe. Not only that, but even with his haberdashery background, his own closet isn’t as organized as it could be, he admits.

For someone who has held so many high-profile positions—he was president and CEO of Cole Haan, president of Harry Winston and CEO of Stella McCartney—Seuss has kept a rather low-key media profile. It’s not that he seeks privacy, per se, but rather that he has aimed to put his employers first.

“I’ve always wanted the company to speak more than one person,” he says. “Whether that’s Harry Winston or Cole Haan, I’ve wanted to push the company first.”

Those companies have afforded him the chance to visit more than 60 countries—though not yet the Galapagos Islands, he laments—as well as enjoy his personal pursuits of waterskiing, snow skiing, scuba diving and playing the cello. He has studied a half-dozen languages and maintains the love of Chinese culture and archeology that deepened during his time in the College of Arts and Science—including being an avid collector of contemporary Chinese art and 17th century maps.

“I’ve always been very curious about other parts of the world, other cultures, other civilizations,” he says. “I’ve always thought there was so much to be learned from history.”

His own history has been a rewarding one, Seuss says, made all the richer by being curious, asking questions and continuing to dig a little deeper. His years at Vanderbilt encouraged him to care about others, to enjoy himself and to be smart with his time, he says, and it’s that last thing that’s most luxurious of all.

“Some things just have to fall by the wayside,” he says, admitting that his schedule has caused him to lose touch with friends and give up some activities he formerly enjoyed. All the same, he still encourages the pursuit of having as many different experiences as possible, including traveling, reading, learning and listening—not to mention, every so often, marking the time on a meaningful watch.

### Connecting Back

Seuss currently serves on the Board of Visitors for the College of Arts and Science, which provides strategic advice and counsel to the dean. To help build global experiences for students, Seuss is funding a scholarship for international undergraduates.

# On the Cusp of Discovery

from *How Old is the Universe?* by David A. Weintraub

Professor of Astronomy David A. Weintraub is the award-winning author of *Is Pluto a Planet?* which won great acclaim for its fascinating and approachable style. His new book, *How Old is the Universe?*, answers another compelling astronomy question. In the following excerpt, Weintraub recounts how the work of one astronomer at the turn of the 20th century was critical in determining the age of the universe.

## From the Introduction

Ask any astronomer why she believes the universe is 13.7 billion years old, and she will tell you that she does not believe that it is 13.7 billion years old; she knows that it is 13.7 billion years old—give or take a hundred million years.... But why exactly do twenty-first century astronomers think that 13.7 billion years is the right answer? Why not 20 billion years? Why not 6,000 or 50 million or 1,000 trillion years? How do astronomers know that the universe even has an age—that it is not eternal?

## From Chapter 15

...[Henrietta] Leavitt graduated from Radcliffe College, known then as the Society for the Collegiate Instruction of Women, in 1892 and went to work in 1893 as a volunteer computer\* at the Harvard College Observatory. Soon thereafter, [Observatory director] Edward Pickering assigned to Leavitt the job of identifying variable stars, these being stars for which the output of light varies as a function of time; she quickly became an expert in this task. After three years of unpaid work, she delivered a summary report of her work to Pickering and departed Cambridge, spending the next two years traveling in Europe and then four more years in Wisconsin as an art instructor at Beloit College. Finally, in the summer of 1902, she contacted Pickering and asked permission to return to her work

identifying variable stars. She clearly was very good at her work because Pickering immediately offered her a full-time, paid position with a wage of thirty cents per hour, which was significantly above the standard rate of twenty five cents per hour. This decision was one of the wisest Pickering would ever make.

The prototype of the variable stars known as cepheid variable stars, which Henrietta Leavitt would make famous, is Delta Cephei, discovered by John Goodricke in 1784. Cepheids do not simply get brighter and fainter and brighter again with periods of a few days or weeks; as they brighten, they also change color and temperature... becoming cooler and redder when brighter, then warmer and yellower when fainter. In addition, cepheids are distinct as variable stars because of the peculiar ways in which they brighten and fade... from the moment at which they are faintest and begin to brighten, they brighten very steadily, but when they reach maximum brightness and begin to fade, they fade continuously but not steadily. First they fade at an apparently constant rate. But when they are about two-thirds of the way back to minimum brightness, they begin to fade just a little bit less quickly. Then, when they are about seventy-five percent of the way to minimum light they fade much more quickly again. Despite the quirky nature of this pattern, the pattern is dependable and repeatable.

Early in 1904, Leavitt discovered several variable stars in a set of photographic plates of the Small Magellanic Cloud. Later that year, she found dozens more in both the Small and the Large Magellanic Clouds. Her discovery rate rose to hundreds per year and eventually she would identify 2,400 such stars. In 1908, Leavitt published under her own name “1777 Variables in the Magellanic Clouds” in *Annals of Harvard College Observatory*. ...For all but 16 of these stars, she was able to determine “the brightest and faintest magnitudes as yet observed,” but for the remaining 16 of these 1777 stars, which she identified in Table VI of her paper, she also was able to determine their periods of variability...[She wrote that] “it is worthy of notice that in Table VI the brighter stars have the longer periods.” With historical hindsight, this is one of the most understated and important sentences in all of astronomical literature.



Four years later, Leavitt would conclude her work on the variable stars in the Small Magellanic Cloud in a brief, three page paper, “Periods of 25 Variable Stars in the Small Magellanic Cloud,” published as a Harvard College Observatory Circular under the name of Edward Pickering, though Pickering’s first sentence states that “the following statement...has been prepared by Miss Leavitt.” Leavitt focused her attention on the 16 variable stars specifically identified in 1908, along with nine newly identified ones, all of which “resemble the variables found in globular clusters, diminishing slowly in brightness, remaining near minimum for the greater part of the time, and increasing very rapidly to a brief maximum.” These are the cepheids, and those identified by Leavitt had periods that ranged from 1.25 days to 127 days. She then notes, with characteristic understatement, “A remarkable relation between the brightness of these variables and the length of their periods will be noticed...the brighter variables have the longer periods.” That is, brighter stars blinked slowly, fainter stars blinked more quickly.... The keen insight that makes this discovery so important comes next: “since the variable stars are probably at nearly the same distance from the Earth their periods are apparently associated with their actual emission of light.”... Truly, the brighter stars were brighter, the fainter stars were fainter.

What does Leavitt’s discovery mean? If we can measure the period of variability for any single cepheid variable star, we instantly know the absolute [brightness] of that star. Since we can directly measure the apparent [brightness] of the cepheid, the combination of the period (which gives the absolute [brightness]) and the apparent [brightness] yields the distance to the star. This is an incredibly powerful discovery...

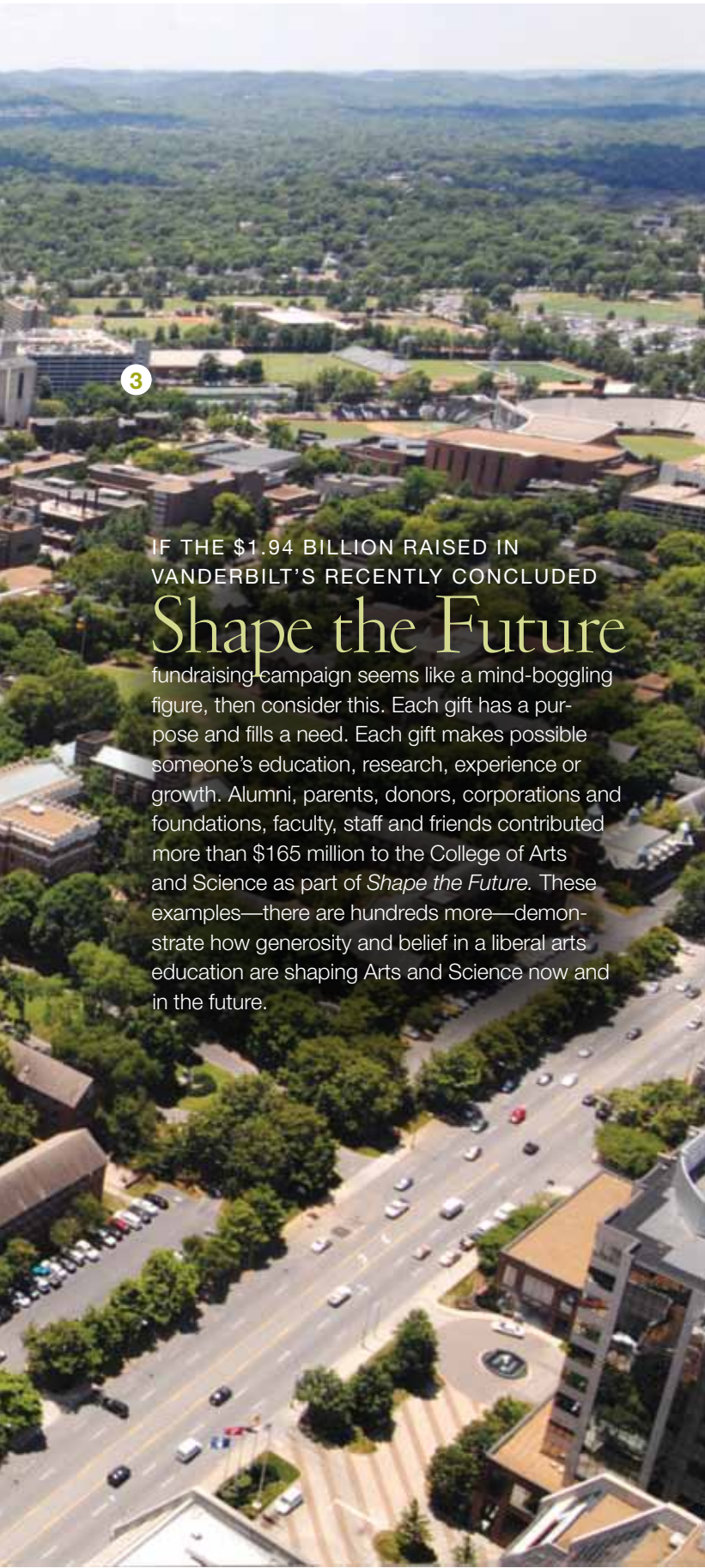
The identification of cepheids in spiral nebulae would enable astronomers to measure the distances to these enigmatic objects, proving once and for all that the spirals were distant galaxies.

By using Leavitt’s variable stars, astronomers were on the cusp of a decade of absolutely monumental discoveries: first, the identification of cepheids in spiral nebulae would enable astronomers to measure the distances to these enigmatic objects, proving once and for all that the spirals were distant galaxies; then, the discovery that the distances and velocities of these galaxies are correlated would lead to the discovery of the expanding universe. Ultimately, the expanding universe measurements will give us [a] method for determining the age of the universe.

*\*A term originally used for a person who makes calculations, especially with a calculating machine.*

Excerpted from *How Old is the Universe?*, published by Princeton University Press. Used by permission, all rights reserved.





3

IF THE \$1.94 BILLION RAISED IN VANDERBILT'S RECENTLY CONCLUDED *Shape the Future* fundraising campaign seems like a mind-boggling figure, then consider this. Each gift has a purpose and fills a need. Each gift makes possible someone's education, research, experience or growth. Alumni, parents, donors, corporations and foundations, faculty, staff and friends contributed more than \$165 million to the College of Arts and Science as part of *Shape the Future*. These examples—there are hundreds more—demonstrate how generosity and belief in a liberal arts education are shaping Arts and Science now and in the future.

- 1 Since the *Shape the Future* campaign started, the number of endowed faculty chairs in the College of Arts and Science increased to 78. One new chair is Sandra Rosenthal, the Jack and Pamela Egan Professor of Chemistry. In Stevenson Center, Rosenthal studies semiconducting nanocrystals, which might be used for new methods of drug delivery and more efficient light sources.
- 2 If more entrepreneurs come out of Arts and Science, credit in part the Hoogland Family Foundation, spearheaded by Keith Hoogland, BA'82, and Susan Moore Hoogland, BS'82. The foundation supports entrepreneurial studies in the managerial studies program, based in the FEL Center building.
- 3 One of campus's most interesting buildings is the E. Bronson Ingram Studio Arts Center. Built in 2005, the structure was named for the late Board of Trust president through a lead gift by his daughter, Robin Ingram Patton.
- 4 Douglas W. Grey, BE'83, understands the importance of financial research. In 2010, he established the Douglas W. Grey Faculty Research Fund in Economics, supporting the economics faculty in Calhoun Hall.
- 5 Spanish classes in Furman Hall made Mike Malloy want to double major in the language. Now a senior, Malloy couldn't have attended Vanderbilt without the Lummis Family Scholarship funded by Claudia Owen Lummis, BA'76, and Frederick R. Lummis II, BA'76. More than \$79 million for scholarships and financial aid was raised during the campaign—and the need for more continues.
- 6 Family counselor Gayle Fambrough Snyder, BA'56, credits Vanderbilt with teaching her to think as a scientist. She's helping draw outstanding psychology graduate students to do the same through the Gayle Fambrough Snyder Graduate Fellowship for clinical studies in Wilson Hall.
- 7 *Of Rage and Redemption: The Art of Oswaldo Guayasamin* included Vanderbilt Fine Arts Gallery, now housed in Cohen Memorial Hall, on its national tour. That was made possible by a donation from Susan Braselton Fant, JD'88, and Lester "Ruff" Fant, BA'63.
- 8 Not all Arts and Science programs take place on campus. Donors such as Sandra and Roger Deromedi, BA'75, and Frances Von Stade Downing, BA'78, and John Downing, BA'78, have established funds that support travel and study abroad opportunities for undergraduates, grad students and faculty.

JOHN RUSSELL

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*A publication of*



COLLEGE OF ARTS AND SCIENCE  
VANDERBILT UNIVERSITY

*Where Are You?* Answer: On the second floor of the Sarratt Student Center, gazing down into the nook in the Susan W. and Eugene H. Vaughan (BA'55) Lobby.

#### JUST HATCHED

*This baby alligator and about 40 of its siblings decided the first day of fall classes would be a great time to hatch. Ph.D. student Duncan Leitch, BA'06, helped the alligator break out of its egg, much as a mother alligator would. Leitch, a student in the Vanderbilt Brain Institute's Neuroscience Graduate program, studies American alligators under the direction of Ken Catania, Stevenson Professor of Biological Sciences. They're interested in the reptiles' ability to sense movement using specialized sensory receptors along the edge of their jaws and how that might relate to neural processes in humans.*



STEVE GREEN