THE SONG HEARD 'ROUND the WORLD

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VALUE AND THE LIBERAL ARTS

by DEAN REBECCA W. BUSHNELL

As the Dean of the School of Arts and Sciences and a professor of English, I am naturally a believer in the power of the liberal arts—and naturally chagrined that the value of a liberal arts education seems in doubt. A difficult job market that has not improved greatly from the economic downturn of 2008 has focused much attention on the problems that college graduates have in getting jobs. Critics increasingly question the notion that a college education founded in the liberal arts is an essential preparation for a civilized life, and they reduce education to a proposition based on, “What job is this experience going to get me right after I graduate?”

I maintain that the arts of communication, quantitative and historical analysis, design, scientific inquiry and innovation are as relevant as ever. People with this kind of expertise are desperately needed to lead in our complex and diverse world, which is torn apart by misunderstanding, incompetence and ignorance. It is a world where you need “cross-training” and the agility to adapt to changing circumstances. A narrow professional training constrains you on a one-way track. A liberal arts education, in short, I believe, will set you free.

While I remain unshaken in my belief that a liberal arts education is one of the most important means of shaping the citizens, workers and the leaders of the future, I recognize that we need to adapt this education to future needs and embrace the challenges and opportunities of cross-disciplinary thinking and technology.

In many of our traditional subject areas, the boundaries of what is contained within that discipline are being dramatically redefined. Taking my home department as an example, English at Penn now includes, as described on our website, “the entire range of periods and subfields, from Medieval and Renaissance Studies to Gender and Sexuality Studies, Transatlantic Studies, Cinema and Media Studies, Postcolonial and Globalization Theory, Asian American Literature and Contemporary Poetics.”

Boundary crossing is evident across SAS: Associate Professor of Classical Studies Campbell Grey, for example, is studying for a Master’s in Environmental Studies as a means of advancing his research on the lives of Roman peasants in ancient Tuscany, while our Physics and Astronomy Department just recruited Alison Sweeney, a biologist whose work on the fluorescence of squid cells has great potential for the field of optics.

The integration of technology to the classroom introduces another set of questions to consider in defining the liberal arts education of the future. Without question, the Internet, the personal computer, the mobile phone, and now the tablet computer have fundamentally changed the nature of traditional on-campus classes. Beyond the classroom, the School of Arts and Sciences Learning Commons—an initiative of our College of Liberal and Professional Studies—offers full-credit courses every semester ranging from algebra to oceanography. And today, through Coursera, we are delivering liberal arts courses taught by some of our leading faculty to classes of students numbering in the tens of thousands. These courses are free of charge, non-credit, and are engaging students from all over the world.

So what does this mean for the liberal arts in the 21st century? It means that we are going to have to think very differently about the ways we approach our research and teaching. I have heard some faculty worry that their students will ask “Why come to class at all?” The answer is: for people. I believe that university campuses themselves will continue to flourish as spaces where people come together to debate, to connect, and to learn from each other, as a complement to the gathering of information that happens in a virtual space. Meanwhile, our academic structures must find ways to sustain the momentum created by interdisciplinary scholarship without dissipating the energy and rigor that have always defined the power of the traditional disciplines.

The liberal arts have defined American elite education for a century or more, and I believe that they will continue to do so. But it is clear that this relevance will come from our ability to meet the challenges of a changed environment, where the old ways of doing business will not suffice.
FELS CELEBRATES 75 YEARS OF EXCELLENCE WITH “QUIET GIANTS” AWARDS

Last month, the Fels Institute of Government marked its 75th anniversary with a dinner celebration, featuring speakers President Amy Gutmann, former United States Senator Arlen Specter, C’51 and former Governor of Pennsylvania Edward G. Rendell, C’65. “Fels’ 75th anniversary has been a tremendous reaffirmation of the purpose and impact of the program,” says Executive Director of the Fels Institute of Government David Thornburgh. “For this ceremony in particular, we wanted to bring together Fels students from across the last few decades to reconnect with each other and with us.”

The event included the presentation of the Fels Public Leadership awards, with honorees chosen for their ethics, bipartisanship and public service. Honoree James C. Greenwood represented Pennsylvania’s Eighth Congressional District for six terms in the United States House of Representatives. He now runs a trade group focused on biotechnology companies.

Honoree Estelle Richman is Senior Advisor to the Secretary for the U.S. Department of Housing and Urban Development. The nationally recognized expert in behavioral health has also served as Pennsylvania Secretary of Public Welfare, Managing Director for the City of Philadelphia, and Director of Social Services for the City of Philadelphia.

Recipient F. John White is Managing Director and Chairman of Public Financial Management. The financial advisory firm is a national leader in working with states and municipalities on issues including transportation, public power financing and higher education.

“These are quiet giants,” Thornburgh says of the honorees. “They’re not always at the front of the line when it comes to receiving awards and honors and that’s why we thought they were in need of this kind of recognition.” —BC

FROM LEFT: David Thornburgh, Executive Director of the Fels Institute of Government; Fels Public Leadership award winner former Congressman Jim Greenwood; and award presenter Marjorie Margolies, CEO, Women’s Campaign International, and former Congresswoman.
The University of Pennsylvania has established the Department of Africana Studies in the School of Arts and Sciences, making it the School's 27th department. Camille Z. Charles, Edmund J. and Louise W. Kahn Term Professor in the Social Sciences, is chairing the department in its inaugural year.

The Department of Africana Studies will be devoted to the study of the historical and contemporary experiences of Africans and people of the African diaspora. Currently, the department includes 11 professors from the School who now hold joint primary appointments with their original home department. The department will administer the Africana Studies undergraduate major and minor, Ph.D., and graduate certificate that were previously offered through the School’s Center for Africana Studies.

Rebecca Bushnell, Dean of the School of Arts and Sciences, Thomas S. Gates, Jr. Professor and Professor of English says, “Penn has a deep and eminent tradition of research and teaching excellence in Africana Studies. This new department will allow us to showcase and build on that great work. The faculty’s global, cross-regional approach to Africana Studies, one that draws on disciplines across Penn, will make the department distinctive in this important field.”

Penn has been known for distinguished scholarship in the field dating back to the late 19th century when W. E. B. Du Bois wrote the first scientific sociological study of race. The Afro-American Studies program was later established in 1972 and provides a foundation for the School’s newest department.

—BD

PROFESSOR OF CHEMISTRY WINS AWARD TO PURSUE SOLAR RESEARCH PROJECT

Professor of Chemistry Andrew Rappe has received an Energy Commercialization Institute Award for Alternative Energy Translational Research and Commercialization. The honor will help finance a collaborative research project to develop a thin-film process and solar cell technology based on a new class of materials—ferroelectric semiconductors—which are more cost-effective to produce. The ferroelectric semiconductors absorb visible light and then separate the leftover carriers. This method will help pave the way for the future of less expensive solar cell fabrication techniques.

Rappe was recently selected as a recipient of a 2011-2012 Lindback Award for Distinguished Teaching. He is also the co-director of Pennergy, the Penn Center for Energy Innovation, which launched in September 2009. The Center’s mission is to bring together world-class researchers to solve scientific and technological problems through the efficient use of current energy sources.

—BD
A new initiative is working to engage social scientists from every corner of the University. The Social Science and Policy Forum, launched in September, is an interdisciplinary hub for scholarly research on key social, economic, legal and policy problems facing the U.S. and the world. Utilizing workshops, public lectures, annual conferences and innovative courses, the Forum aims to reach a diverse audience both within the University and in the wider community. “We’re hoping to connect people with thought leaders in the social sciences who combine scholarly research with policy interest and experience,” says Thomas Sugrue, David Boies Professor of History and Sociology and Forum Director.

A new annual theme will be introduced each year. The first theme—the global economic crisis—will address issues such as unemployment, deregulation and international instability. Future Forum themes include “Immigration and Citizenship” in 2013-2014 and “New Media: Possibilities and Limitations” in 2014-2015. “Each of our themes draws upon the cutting-edge work our scholars are doing around the University,” says Sugrue, “as well as the broader social interests of our surrounding community.”

The Forum will award post-doctoral and pre-dissertation fellowships to students with innovative research proposals. In addition, it will hold a competition for grants designed to help standing faculty create forward-thinking social science courses for undergraduate and graduate students. —BC
NANCY BONINI ELECTED TO THE NATIONAL ACADEMY OF SCIENCES

Nancy Bonini, Florence R.C. Murray Professor of Biology, was elected as a member of the National Academy of Sciences, an honor considered to be one of the highest a United States scientist or engineer can receive. Members were chosen for their achievements in original research.

Bonini examines the mechanisms of human neurodegenerative diseases, including Huntington’s, Parkinson’s and Alzheimer’s diseases and ALS. Using the genetics of fruit flies, she creates models for human degeneration to provide insight into disease mechanisms and improve understanding of neural decline as a result of aging.

Bonini is the recipient of numerous other past honors, including an Ellison Medical Foundation Senior Scholar Award in Aging Research; the National Institutes of Health’s Exceptional, Unconventional Research Enabling Knowledge Acceleration Grant; and a David and Lucile Packard Fellowship grant. She was also named an Investigator of the Howard Hughes Medical Institute in 2000.

—BD

JOHN MACDONALD WINS THE DAVID N. KERSHAW AWARD

John MacDonald, Associate Professor of Criminology, has received the David N. Kershaw Award and Prize from the Association for Public Policy Analysis and Management (APPAM). The Kershaw Award was established to honor individuals under the age of 40 who have made significant contributions to the field of public policy analysis and management.

Rebecca Bushnell, Dean of the School of Arts and Sciences, Thomas S. Gates, Jr. Professor and Professor of English says, “John MacDonald’s research is addressing some of our nation’s most pressing social issues. This award is a well-deserved recognition of his important work and a great honor for the School as well.”

MacDonald is the recipient of multiple research grants for his work in criminology and has authored numerous articles featured in scholarly publications. He was also named a Young Experimental Scholar by the Academy of Experimental Criminology in 2009.

In addition to his appointment as associate professor of criminology, MacDonald is chair of the Department of Criminology and director of the Jerry Lee Center of Criminology. He also serves on the Academic Policy Committee in the Fels Institute of Government and in the Population Studies Center.

—BD
Over the last few decades, India has undergone major economic, political and social reform. As the United States’ first academic research center of its kind, the Center for the Advanced Study of India (CASI) works to foster a dialogue on modern India among academic, business and foreign policy communities. The Center, which turned 20 this year, celebrated the milestone with the symposium “India: Two Decades of Transformation.”

Kapur says CASI’s success is fueled by its efforts to establish relationships on the ground. The Center’s Summer Study and Internship Travel Program places undergraduate and graduate students in competitive internships with Indian NGOs that support initiatives like educational opportunities for young girls and free health-care clinics. In an effort to bring some of the world’s most prestigious experts on India stateside, CASI’s Visiting Scholars and Fellows Program recruits four individuals a year to travel to the University to participate in Center events, engage in scholarly research and lead seminars.

Following in its tradition of reaching across the globe, the symposium featured panel discussions led by a wide range of policymakers, dignitaries, academics and business leaders from both India and the United States. “The panels dealt with important questions about India’s rapidly growing economy, but also social issues and external relations. It was a means of showcasing Penn’s intellectual relationship with India and our ability to bring in people from all over the world,” says Kapur. “It really speaks to the credibility the Center has within India.”

—BC
HUNTING THE HIGGS

The Higgs boson particle is not your ordinary white whale. By the time the elusive building block’s discovery was announced in July 2012, billions of dollars had been invested and more than 40 nations had joined the hunt. It was a race that Penn certainly wasn’t going to miss out on.

“There’s no question that the discovery is regarded as one of the most fundamental breakthroughs in science in nearly 50 years,” says Brig Williams, Mary Amanda Wood Professor of Physics, who has spent nearly two-thirds of his career chasing down the Higgs. “Standard Model physics, which is kind of a plain name but a very elegant theory, explains a tremendous amount about the interactions of all the fundamental particles of the universe, but it was missing one very big ingredient: We didn’t understand why these elementary particles have mass.”

Williams is part of the Penn team that uses the ATLAS detector (A Toroidal LHC Apparatus) at the Large Hadron Collider in Geneva, Switzerland to search for the Higgs and other new particles. The team includes three other faculty from the Department of Physics and Astronomy: Professor Joseph Kroll, Associate Professor Evelyn Thomson, and Assistant Professor Elliot Lipeles; as well as postdocs, graduate students and technical staff. One of Penn’s big contributions was to help build a specialized camera that allows them to reconstruct an “electronic image” of the actual interaction. This enables researchers to see how many particles came out of the very high-energy collision, what directions they were going in and what kinds of particles are present, so they can focus on a very specific set of particles one might expect the Higgs boson to decay into.

Elliot Lipeles leads a group that uses images from the camera and other information from the ATLAS detector to select events of interest. This is accomplished through the creation of a “trigger”—technology, composed of both special hardware and software, used to sift through collision data to extract useful pictures. The camera in question produces data of the same order as the rate of data throughout the entire Internet system in the United States. It registers 20 million frames per second, compared to your average television, which can only boast about 60 frames a second.

“The sorting system—the ‘trigger’—takes a rapid look at the data and decides how many muons or electrons are present in each event,” says Lipeles, whose group provided integral technology design for the trigger. “The first decision in the trigger system happens every 2.5 millionths of a second. And so there’s a lot of complication because you have to save enough information to actually understand what the data mean. If you throw out too much, then you won’t get a clear picture.” Ultimately only a few hundred events (images) per second can be saved.

Working closely with Lipeles is physics graduate student Josh Kunkle, who, along with a team of about 100 others, is scrutinizing a decay “channel” of the Higgs where it breaks down into two W bosons. The rate of decay, if larger than expected, could mean there is another particle at play, which could eventually lead to a reassessment of the Standard Model.

“Over 2,000 years ago the ancient Greeks were the first to ask ‘What is our universe made of?’ and thus began our search for the basic building blocks of nature,” says Kunkle. “That line of scientific inquiry continues now and the Higgs is yet another chapter in our quest for knowledge.”
Historian Beth Linker has a distinct stance on the medicalization of posture in the United States. Her forthcoming book, *Slouch: The Rise and Fall of American Posture*, examines how and why correct posture—which once had been seen primarily as a marker of social class and etiquette—was absorbed into “the purview of medicine” about a century ago. The pathologization of posture is a subject that has ramifications for the evolution of the country’s healthcare system as a whole.

“Starting in the late 19th and early 20th centuries, posture became an indication of overall health, and certain medical doctors went to great lengths to establish a scientific basis that would link poor posture to disease,” says Linker, an associate professor of the history and sociology of science. Her expertise lies in bioethics, the history of U.S. healthcare and other topics at the crossroads of social history and American medicine.

While researching *Slouch*, Linker became intrigued by the history of the diagnosis and treatment of idiopathic scoliosis, an abnormal curvature of the spine. Scoliosis screenings have long been conducted in America’s public schools, with dubious health benefits to students, according to Linker. “Not only do they diagnose scoliosis in children who do not really have it, but they can also lead those who do have a mild curvature to endure painful and unnecessary brace wear.” And although the U.S. Preventive Services Task Force deemed the school screenings unnecessary in 2004, they persist.

Linker says that risk-based screenings in general reflect a quintessentially American approach to wellness. “The attitude has been, ‘We need to hurry up and treat you before a problem can occur.’” Risk screenings provide a steady flow of patient referrals to medical specialists. Linker compares scoliosis screenings to annual mammograms. Annual exams were recommended for American women before guidelines for breast cancer screenings were updated several years ago. Risk screenings are “a reflection on the American healthcare system and the way it is set up,” Linker says. She notes that while the United States has an insufficient number of general practitioners, there is an overabundance of expensive subspecialists who treat disease—the fallout of a for-profit healthcare system.

Linker, who worked as a physical therapist before getting a Ph.D. in history from Yale University, remembers being drawn to the topic of scoliosis as a child, when she read Judy Blume’s classic young adult novel, *Deenie*, about a teenage girl who is diagnosed with idiopathic scoliosis. “That story stayed in my head,” she said. “Now I’m approaching scoliosis and posture in general as a scholar.”
A MORE GLOBAL PERSPECTIVE ON FEMINISM

Many people, even in academia, tend to have a rather parochial view of feminism, thinking of it as an essentially Western and European philosophy. But the truth is that feminist and gender studies is a discipline with an international scope. “There are very long histories of women’s activism all over the world that ask us to rethink gender relations,” says Ania Loomba, Catherine Bryson Professor of English. “So it’s intellectually very impoverishing to remain within the Western context in order to understand feminism.”

Her latest book, *South Asian Feminisms*, a collection of essays edited by Loomba and former Penn student Ritty A. Lukose, G’93, presents rich and provocative perspectives from the dynamic feminist activists and thinkers working on South Asia. “South Asia has been the site for a lot of really rich theorizing and thinking about gender,” notes Loomba, who was born and raised in India. “For third world feminists, especially those who are based in the United States, it remains an ongoing struggle to be included as central to feminist thought. Feminist theory often is derived out of Western models and experiences, and the rest of the world is seen as just a sort of add-on. But some of the richest rethinking and theorizing can happen and should happen by looking at developments elsewhere as well.”

Unlike many other academic collections, *South Asian Feminisms* includes essays by people outside of academia, such as lawyers and activists. “We felt that all of them together contributed to something exciting in terms of thinking about feminist theory as well as feminist activism,” says Loomba. “I think this volume really asks people to contemplate some of the established paradigms in the field.”

The idea for *South Asian Feminisms* arose during a series of conferences organized at Penn by Loomba and her co-editor Lukose, then in the School of Education and now at NYU. Loomba explains, “Our thinking at that point was that there wasn’t enough conversation about the non-Western world among feminists, and on the other hand, South Asian studies didn’t take gender and feminism as seriously as we wanted it to. So the conferences were also a way of getting these two fields to speak to each other.”

The *South Asian Feminisms* project evolved from the second symposium. “Not every conference makes a good book, but we knew even when it was taking place that this one would, because the conversations actually were extremely focused and at the same time they were very wide-ranging,” says Loomba. “We had women and men from the United States and Canada as well as from India, Pakistan, Bangladesh and Sri Lanka.”

Loomba believes that feminist thought, as well as feminist activism, can be enriched if we look at how sexuality and gender are viewed outside the West. “If you look at other histories, other paths, other philosophical traditions, they do allow us to re-think our concepts as well as shed new light on how to change our lives,” she says. “Several essays in the book explicitly engage with feminist theory and suggest why we need to think about these terms differently. Others show how feminist movements in South Asia are coping with issues as diverse as militarization, labor relations, sex work and religious identities. Today, if we can think about some things in terms of the global, why do we remain provincial about others?”
The National Geographic nature reel in which two male animals vie for the attention of a female has become ubiquitous. It’s an ancient spectacle that has existed throughout the ages, in every corner of the animal kingdom, whether land, air or sea. But what of the species that have transcended this traditional hierarchy? What does it mean to live in a society that encourages potential competitors to intermingle?

Noah Snyder-Mackler, who received his Ph.D. in psychology this past May, studies the socio-genetic structure of geladas, cousins of the baboon that live in the highlands of Ethiopia. He first became enamored with the idea of working with animals after a course in animal behavior his sophomore year at Penn. His academic advisers—Professor of Psychology Robert Seyfarth and Professor of Biology Dorothy Cheney—put him in touch with colleagues who were running a field course in Kenya. After spending a summer there, he was hooked. “I realized, wow, I can do this for a living. I like traveling. I like animals. I like science. And I can use these interests to advance our knowledge of animal behavior and human evolution.”

Geladas feed on protein-rich grass, a seemingly limitless resource in the region. Their diet and habitat allow for them to form some of the largest aggregations of any nonhuman primate, resulting in herds consisting of over 1,200 individuals within half a square kilometer. Due to the sheer size of the group, complex and fluid social structures are a necessity, which in some cases means the males are seemingly adapting by abandoning traditional competitiveness.

“The benefit to having multiple competing males in a unit is to rebuff a potential competitor. This can be considered a kind of ‘proto-cooperation,’” says Snyder-Mackler. “If a predator is present, the geladas are going to want to form larger groups. This ‘selfish herd’ effect dilution requires tolerance among the individuals in the herd.”

The field site where Snyder-Mackler works was established in 2005 by Thore Bergman and Jacinta Beenhker of the University of Michigan. He estimates a gelada population of about 3,000 to 5,000 individuals in the immediate area, about 500 of which his team regularly follows. The team first identifies the adults and catalogues them based on nicks and cuts present on their ears or face—they do not participate in tagging. Tracking the herd in this manner allows for a more structured observation. “The goal as a researcher is to be a fly on the wall, to get there and just have the monkeys ignore you and continue what they’re doing,” says Snyder-Mackler. “You have to habituate the animals to your presence. It may start that they’re scared to death of you when you’re half a kilometer away, but then eventually they’ll let you get within 20 meters, so that we can be mixed in when they’re foraging.”

Because it’s a young project, establishing a genetic mapping of the target group was crucial. Snyder-Mackler began by collecting DNA samples from feces and bringing them back to the U.S. Working with Susan Alberts, a colleague at Duke University, he was able to genotype and assess relatedness for the geladas at the field site. This allows him to better trace individual adult gelada movements. Units, which include an alpha male, multiple females and, sometimes, the important subordinate ‘follower’ males, come together to form herds, which Snyder-Mackler and his fellow researchers then follow to determine a predictable hierarchical structure. “The central question is, ‘Why would the males, especially, tolerate the presence of all these competitors in their herd?’” says Snyder-Mackler. “And the answer is that by living with potential competitors, even if you risk resources, such as exclusive access to your females, the benefit of shared defense far outweighs the costs.”
It’s illuminating to examine literature through the window of culture. But what happens when the culture is evolving day to day?

“It’s like trying to hit a moving target,” says Rita Barnard, a professor of English and comparative literature and an expert in the writing of post-colonial South Africa. Barnard is the author of *Apartheid and Beyond: South African Writers and the Politics of Place*. Originally published in 2006, just a decade after South Africa amended its constitution to end apartheid, Barnard’s book has recently been released as a paperback.

Barnard—a native of Pretoria, South Africa—explicates literary works of South African writers in the context of “place and power.” She writes both about luminaries of contemporary fiction and authors less familiar to the Western canon. Her subjects—a total of six writers—include two winners of the Nobel Prize in Literature, John Maxwell “J. M.” Coetzee and Nadine Gordimer; the internationally renowned dramatist and poet Sindiwe Magona; and Miriam Tlali, the first black South African writer to publish a novel.

“Place and space have restricted South African writers,” Barnard explains. “Black women writers, in particular, have had trouble finding a room of one’s own,” she says, explaining one facet of the relationship between space, authorship and creative output.

Barnard focuses *Apartheid and Beyond* not only on writers but on specific sites of literature and places that are key to the culture of South Africa: “the black township, the white suburban house and the game park,” she says, naming a few of the quintessential “spaces” of her homeland.

Dedicated to introducing South African literature to a broader audience, Barnard served as an expert commentator on Alan Paton’s classic *Cry, The Beloved Country* when it was the selected novel for the Oprah Winfrey Show’s popular book club nearly a decade ago. A virtual discussion leader, Barnard answered readers’ questions and prompted thoughtful exchanges on the show’s website.

In a similar vein of “unpacking” South African literature, Barnard authored the chapter on post-colonial writing in the *Cambridge History of South African Literature* (2012). This volume, written in English, represents the first comprehensive history of writing created in all eleven official South African languages, including Afrikaans, in which Barnard is fluent.

When she’s not teaching a seminar for Ph.D. students or her undergraduate course, “Cinema and Globalization,” Barnard is busy editing a forthcoming book of essays about Nelson Mandela, to be published by Cambridge University Press. “Each chapter will deal with a different aspect of his life,” Barnard says, “[including] Mandela’s relationship with [his wife] Winnie, his work as a lawyer, and the power of his personal charisma—his ‘magic.’”

In addition to her teaching and current scholarly pursuits, Barnard is undertaking a second Ph.D., a doctorate in creative writing from the University of Pretoria via distance learning.

Her next original nonfiction project will center on “global modernities,” partly focused on Africa. “Africa as a continent has long been regarded by Europeans as the antithesis to modernity,” Barnard says. “In fact, post-colonial modernism has been dominant in the arts in South Africa since the end of apartheid.”
AND IN LOCAL NEWS: PUSSY RIOT

KEVIN M. F. PLATT

Thomas Phillip O’Neill, Jr., also known as “Tip” O’Neill, famously pronounced that “all politics is local.” O’Neill’s aphorism is undoubtedly as true today as it was in the mid-twentieth century. Yet international events of the past several months demonstrate that in the present, paradoxically, all politics is at the same time global. As we have seen, a video privately produced in California and posted on YouTube is capable of sparking riots in the Middle East. And a small-scale, high-concept protest by the feminist punk collective Pussy Riot can attract the whole world’s attention to the flaws of the Russian political system. The global reach of the Internet, turbocharged by social networking services, means that public speech in any part of the world can potentially influence any number of other local political contexts, no matter how distant, and whether the original speakers intend to reach those other audiences or not.

The Pussy Riot case provides an intriguing example of the increasingly complex relations between local and global speech. On February 21, 2012, the group staged a protest in Moscow’s Church of Christ the Savior before a handful of onlookers. Yet the remixed video of their assault spread like wildfire through Russian social media, provoking outrage from some and expressions of solidarity from others. Following the arrest and imprisonment of three of the group’s members just a few weeks later, reports on the protest and ensuing legal action went viral in international blogs, social media and news coverage. In sum, a tiny five-minute “happening” brought more global awareness of Russian political events than public protests involving tens of thousands had managed to do in the course of the preceding year.

Since the summer months, it has seemed that the entire world is rooting for the three arrested women of Pussy Riot, as they have been separated from their children, jailed, subjected to a circus-like trial and finally sentenced to prison terms for an infraction that would have brought a slap on the wrist in any Western society. Madonna, Sting, the Red Hot Chili Peppers, Paul McCartney and any number of other public figures came out in support of the activists. Every major Western news publication has covered the affair extensively. Most recently, Yoko Ono and Amnesty International recognized Pussy Riot with the Lennon Ono Grant for Peace, and the group has been nominated for the European Parliament’s prestigious Sakharov Prize (named for a famous Soviet dissident).

How can we explain the phenomenal response to Pussy Riot? One may point to the technological acumen of the group, its appealing aesthetic, and an open-ended protest message (combining feminist revolt, opposition to Putin’s
political machine, protest against the Russian Orthodox Church’s political entanglements, etc.). Yet there was also probably a healthy dose of simple luck involved, too. Possibly something is at work akin to the “butterfly effect” of mathematical chaos theory, which holds that in certain, unpredictable situations, a butterfly flapping its wings can lead to the formation of a hurricane some weeks later and a continent away.

Yet the story of the volatile ricocheting of the Pussy Riot affair around the world has taken additional twists over the past months. As public discussions have proliferated, the very openness of the Pussy Riot message has enabled Western observers to tailor their responses to suit their own, often quite local, purposes. Madonna’s statements about the group have focused on LGBT rights. An American Civil Liberties Union blog post, while arguing for the release of the Pussy Riot women, also took the opportunity to bring readers’ attention to bear on incarceration rates in the United States.

Upping the ante an additional notch, several pundits have proposed that the Western response to Pussy Riot is in general opportunistic, serving more than anything else the narrow interests of American global power. Vadim Nikitin, writing in The New York Times, asked whether the Western establishment would have been as supportive of Pussy Riot if the group had staged their protest in the West: “What Pussy Riot wants is something that is equally terrifying, provocative and threatening said about Russia elsewhere in the world: imagine The Washington Post publishing a round-up of 15 global reports on Obama’s foreign policy positions. In just this manner, in a final boomerang flight of the Pussy Riot story across the globe, Nikitin’s comment was translated and reposted across the Russian blogosphere, where it demonstrates to Russian readers that even Western commentators concur that Western censure of the prosecution of Pussy Riot is politically motivated—and therefore easily dismissed.

What are the implications of this episode, in which local and global contexts of various scales intersect in chaotic manner? With the public crossing borders as never before, we face a new responsibility to consider the distant consequences of our speech, which may reach to far flung locations and gain new meanings beyond our intentions. This, in turn, means that we need as never before to know about those distant political contexts. Ultimately, the global media flows link us all together in a single, complex arena of political discourse and speech, rendering us all citizens of the world, whether we know it or not. Local politics, in the end, is also global politics.

Kevin M. F. Platt is the Edmund J. and Louise W. Kahn Term Professor in the Humanities and a professor of Slavic languages and literatures.
Carol Muller wants to teach you—wherever you are, and however she can. Anchored in the Music Building, where she conducts her perennially popular “World Music and Culture” and other classes, the professor has stretched beyond Penn’s campus by sending students to research the use of music in West Philadelphia, through a summer class that is half online and half on the ground in South Africa, and with internet-based courses for undergraduate and LPS students.

Now her audience has increased by an order of magnitude: This summer she led an online class for 36,000 people, two-thirds of whom lived outside the United States. Her students ranged in age from their late teens into their 90s and in location from New Jersey to Kazakhstan. Appropriately, the topic was “Listening to World Music.”

The class was conducted through Coursera, a research-based online teaching initiative developed by professors at Stanford. Thirty-three universities, including Penn, Princeton and Duke, are partnering with the initiative to increase access to elite education for people around the world. When Muller heard about the opportunity, she says, “My gut reaction was,
“My goal in teaching is not just to make students reproduce knowledge, but to make their knowledge matter in their lives.”

that’s it. This is something I want to do.” A native of South Africa, she understands the need for quality instruction in many parts of the world. The chance to make a piece of a Penn education available to more people, for their own enrichment and that of their communities, she says, “is like the perfect vehicle for me.”

Muller seems just as ideal for Coursera. Her ethnomusicology career is rooted in her background growing up in apartheid South Africa, where even music was affected: radio stations were segregated, language differences divided people and musicians were censored and harassed if they stepped over the line. Her father was a minister who strongly believed in the power of music to draw people together. When she was in her teens, he moved into a ministry of reconciliation, going into the townships, setting up churches and communities and illegally ordaining the first black elder in his white church. Muller says, “He was a very gentle soul, but he just believed that you love God and love your neighbor, and your neighbor could be in a township, right?”

As a student at the University of Natal (now KwaZulu-Natal), Muller learned to gumboot dance by illegally going with a colleague into the townships in Durban. Gumboot dancing, which she likens to tap dancing with heavy boots on, began in South African gold mines. Forbidden to speak to each other, miners slapped their Wellington-style gumboots to send messages. It evolved into a working class art form known to every black South African, but Muller had no idea it existed before a professor introduced her. “It was a completely life-transforming experience,” she says. “There were States of Emergency declared while we were in the townships. One time I really think my mother thought she might never see me again.” But they developed good relationships with the dancers, who would call to warn them when it wasn’t safe to come.

She says, “For me, music has been the door through which you begin to communicate across difference. I think having lived under apartheid and realizing what cultural separation does to people, maybe that is the thing that really pushes me to find a way, a common space, a common ground.”

Because of her interest in reaching out through teaching, the School just awarded Muller the new title of Fellow in Digital and Community Engagement. Digitally speaking, she’s come a long way since 2003. She had just gotten tenure at Penn when the School of Arts and Sciences launched online teaching and asked her if she would be a pioneer. “I’d never even used PowerPoint,” says Muller. She also had to digitize the audio and video clips she used, an average of 15 per class. She taught the class from a makeshift studio.

Nine years later, videos and CDs seem like artifacts and her online classes for undergraduates and students in the College of Liberal and Professional Studies are polished, popular, and as interactive as those in the classroom. They use the Arts and Sciences Learning Commons, a system which provides course materials, communication and learning tools for Penn’s online classes. Through the Commons, class time is a real-time meeting between Muller and her students. With a live chat, students text questions and comment on the material as she’s teaching, as well as about assignments, deadlines and concerts.

“It becomes a much more efficient way of conveying material,” says Muller. “I ask a question and everyone’s responding immediately.
Students know what other students are thinking, I know what students are thinking, and while I’m teaching, the graduate student teaching fellows are answering those questions in the live text. You can do two things in the same moment. Whenever and however she teaches world music, she starts with the sound. “I require them to listen to music they may not even define as music—to their ears it doesn’t feel like music—and listen repeatedly, and at least it becomes familiar, not so alien,” she says. “They might not like it at the end, but they understand the internal logic, how it works musically, acoustically, socially and culturally and politically and religiously. Initially, it’s sound; it’s music when you understand how it works.”

Penn’s Academically Based Community Service (ABCS) classes have given Muller another opportunity to stretch her teaching beyond the campus. Over the last seven years, she and her students have run an expanding web site, West Philly Music (http://www.sas.upenn.edu/music/westphillymusic), to archive research resulting from classes which focus on cultural music traditions in the neighborhoods around Penn. The students meet and work with residents to research gospel, jazz and Islamic performance. “They’re going out and generating actual material,” says Muller. “They’re in conversation with other histories and finding how to work together with people.” The class has evolved along with the Internet. This year students will go back to review and recontextualize research from past years, using a blog linked to the website. The material will eventually become chapters in a book about the history...
“Initially, it’s sound; it’s music when you understand how it works.”

of gospel that Muller and the community want to produce.

Muller’s summer “Penn in Grahamstown” course also puts students in the field, this time in Africa. Beginning with four web sessions, the class then meets up live in Grahamstown, South Africa, during the National Arts Festival, experiencing a live festival in a digital age. The trip is challenging. “While it’s full of pleasure, they have to learn to pace themselves, manage on the run, keep their wits about them, take photographs, keep thinking,” says Muller. Students track all the input with individual blogs, contributing some entries to a public website. After the trip, they write a reflection paper to help them process the experience.

And now she’s added Coursera, which Muller calls “a thinking work in progress.” After nine years of online teaching experience, she found that a fully global audience posed new challenges: time zones, cultural and technological differences, and having to find new, publicly accessible music samples. She and her students addressed and reconciled issues as they arose, and the enormously diverse class learned and interacted, not only from Muller but from each other.

“The cultural stuff—that’s what makes Coursera great for the humanities,” says Muller. “The insider perspectives, so that you really are learning different ways of doing things and hearing.” Students organized groups using Facebook and other social media, shared their own experiences with the music and linked to samples from their cultures. “I didn’t even know some of this music existed,” she says. “It was pretty exciting.”

No matter the forum, Muller’s teaching experiences all meld to inform her pedagogy. In Grahamstown, the festival made her class think anew about the power of art in life, inspiring her to ask her ABCS students this year to create a piece of art designed to raise questions. Her Coursera experience persuaded her to try peer grading with her smaller online courses. She’ll provide a rubric for discussion forums and students will grade each other’s contributions. “It means that students know what other students are thinking,” she says. “So I think that there is much to learn from that.”

Muller’s dedication to improving and expanding her teaching is taking her research and publishing in new directions, as well. She’ll follow her most recent book, an important publication on women and jazz in South Africa, with a textbook for Oxford University Press that will supplement the lectures.
and slides for her online world music course. The text will also offer research projects and other information that can be explored more by smaller user groups afterward.

Muller hopes all her courses—in any format—will open up students’ playlists. “That could just mean listening to hip hop in Turkish or Mandarin, to see how it translates in these places,” she says. She wants them to be aware of world music when they hear it, like “pygmy pop” used in commercials, and to ask about its background. “There are all these access points where they can experiment, explore, go a little beyond what they usually do, to learn.”

Ultimately, she says, “I want students to travel abroad at the end, and to say ‘I want to go to Senegal instead of Paris to learn French.’ My goal in teaching is not just to make students reproduce knowledge, but to make their knowledge matter in their lives. I want to push students to really think about things because life is so rich.”
Extraordinary Donors = Extraordinary Results

It’s the season for giving thanks and we have so much to be grateful for at the School of Arts and Sciences. You—our loyal alumni, parents and friends—made last fiscal year (ended June 2012) one of the most successful fundraising years in the School’s history. Throughout the Making History campaign, your support helped us accomplish many of our highest objectives. For example:

• With more than $33 million in funding from generous supporters, the Neural and Behavioral Sciences Building project will become a reality. This building represents a major achievement of Rebecca Bushnell’s tenure as dean, and will reunite—for the first time in 30 years—the faculty and research programs of the School’s distinguished psychology department. The new building will also house the Biological Basis of Behavior program and the Roy and Diana Vagelos Program in Life Sciences and Management.

• Renowned scholars and dedicated teachers, our faculty members are the heart of SAS. During the course of the Making History Campaign, generous friends endowed 24 professorships in the School, three Penn Integrates Knowledge professorships, and two directorships—enabling us to continue recruiting and retaining academic stars since the Campaign began.

• Thanks to many gifts, we are able to deliver on Penn’s promise to maintain need-blind admissions and eliminate student loans from financial aid packages. During the Campaign 353 endowed scholarships and 23 term scholarships were established to support students in the College.

Because of your generosity, the School is stronger than ever. It’s been a long journey during a challenging economy, but your energy, commitment and support have sustained us. And while Making History is not over yet—the Campaign concludes on December 31st—it’s never too early to express our gratitude for a remarkable year, and for your extraordinary support.

Jean-Marie Kneeley  
Vice Dean for Advancement

To view a list of alumni, parents and friends who generously supported the School of Arts and Sciences in fiscal year 2012 (July 1, 2011 - June 30, 2012), please visit  
www.sas.upenn.edu/supporting
Q&A WITH
RAMANAN RAGHAVENDRAN
ENG’89, W’89, LPS’13

by Susan Ahlborn
SAS Overseer Ramanan Raghavendran is a managing partner in Kubera Partners, a private equity firm specializing in cross-border investments, and co-founded Impact Partners, the first venture philanthropy fund in India. He’s also a board member for the Center for the Advanced Study of India (CASI) and its sister in New Delhi, the University of Pennsylvania Institute for the Advanced Study of India (UPIASI); and he’s made time to go back to school for a Master of Liberal Arts (MLA) in the College of Liberal and Professional Studies. We asked him what’s behind his strong support of the School.

Q: How did you come to Penn?
A: As the son of a fighter pilot in the Indian Air Force, I grew up on bases across India. I applied to both Indian and American colleges, and got very lucky and had great choices on both sides. I chose Penn because I felt that an American undergraduate experience was more well-rounded—and because the photos of College Green were just enchanting!

Q: How did you get involved in CASI and UPIASI?
A: Director Devesh Kapur’s intellectual insights, its unique position in U.S.-based policy research on India, and my professional and personal interests combined to make CASI a natural place to focus. UPIASI was logical because of the time I spend in India. The dual board positions help me add value within both, and in providing input into Penn’s overall India strategy.

Q: Why did you enroll in the MLA program?
A: I was in the management and technology program as an undergraduate. That curriculum is a jewel in Penn’s pedagogical landscape, but it’s demanding and did not leave room for some of my other intellectual interests. So more than 20 years later, I decided to pursue the academic study of Indian history and sociology. I learned that Penn’s MLA program offers unparalleled flexibility. And it turns out that taking Amtrak is a great way to catch up on reading!

The most exciting thing about the program is the quality of the teaching. I am stunned by the caliber of the faculty. They are engaged, engaging and interested in helping students. This is one of the most rewarding things I have done. It has changed my entire perspective on life.

Q: Why do you believe the liberal arts are important?
A: One reason is lofty: the search for pure knowledge. The other is somewhat less earth-shattering—a desire to get back to articulating thoughts in “long form,” after two decades of increasing dependence on bullet-pointed PowerPoint slides, brusque emails sent from mobile devices, abbreviated text messages and 140-character tweets.

Q: How does supporting liberal arts fit in to your philanthropic philosophy?
A: The double helix of practicality and pure knowledge is in Penn’s DNA, and it’s a combination that defines my non-profit philosophy. Both ornamental and useful, the liberal arts are critical to the growth of the young men and women Penn educates. A contribution there—of time and of funds—seems to have a multiplier effect that goes far beyond a simple economic analysis.

Q: What do you want to accomplish as an Overseer?
A: If I can look back on my tenure as an Overseer and claim a contribution to three SAS initiatives, I will feel that I’ve made some progress towards living up to this signal honor. These are: helping to create summer and full-time internships for SAS students in Asia, helping to further define and enhance SAS’s online strategy and helping to further define and enhance SAS’s India strategy.
FOR THE LOVE OF THE LIBERAL ARTS

SAS DONORS SHARE THEIR REASONS FOR SUPPORTING THE SCHOOL

by Tracey Quinlan Dougherty

Between the two of them, Scott Bok, C’81, W’81, L’84, and Roxanne Conisha Bok, C’81, have launched an investment banking firm, renovated an historic inn, started a horse farm, published a memoir and raised two children. What do they say helped make it possible? The intellectual curiosity they developed in their liberal arts courses in the College. That’s why they give back to SAS at every chance, supporting everything from a faculty chair in the humanities and student scholarships to the renovation of Bennett Hall and the establishment of the Integrated Studies Program (ISP). Through ISP, College students in the Benjamin Franklin Scholars program live together in Riepe College House and participate in courses specially designed to bring together the humanities, social sciences and sciences to examine the key concepts of our world. “We don’t like to be narrow in how we give our support,” says Scott Bok, a University trustee and former SAS overseer. “If you believe in the institution you should give them some latitude. We try to do whatever our circumstances allow and touch on as many aspects as possible.”

For both of them, the breadth of the liberal arts is what’s key. “Who knows what’s around the corner?” asks Roxanne Bok, who was an economics major. “This kind of education makes you a thinker who can be nimble and adjust.” Scott Bok, who majored in political science, echoes this, saying, “Whatever your career focus is, you really ought to have a core education in things like history, literature, philosophy and art in order to understand the world more broadly.”

The Boks are certainly not alone in their belief. Time and again donors to the School have underscored the value of the liberal arts to their own lives, to those of future students, to the University and to society as a whole.
ENRICHING LIVES

Eric Levin, C’92, feels his double major in history and economics and minor in art history gave him much more than the skills to run his business: They spurred interests that enrich his life. “I never would have taken art history if it hadn’t been a requirement, but I loved it, and I continue to be interested in art to this day,” he says. “I wanted to pass that on to another student.” So he and his wife Jennifer Levin have created two scholarships to give College students from South Florida the same opportunity. Eric says he was influenced in part by the generosity of his father, Stephen Levin, C’67, who showed his own commitment to liberal education by endowing the annual Levin Family Dean’s Forum—SAS’s premier event showcasing leading intellectual figures and recognizing outstanding students—in Eric’s honor in 2008. “I was overwhelmed that he would do that,” Eric says. “I’d like to do the same thing for my children one day.”

CONNECTING STUDENTS TO THE WORLD

Elizabeth Flynn Granville-Smith, C’91, WG’96, recently created a scholarship for College students and a fund for summer language study for participants in the Huntsman Program in International Studies and Business. Having majored in economics and history with a heavy emphasis on Latin American language and culture, she says she made her gift because she views the humanities, particularly language studies, as a “window into culture and background that builds a connection between people.” Now the managing director of an investment firm and a member of the Huntsman advisory board, she says, “For any young person coming out of college today, having language as part of their toolbox will allow them to be more productive and better at what they do because they’re going to be working in a global environment.”
**ENRICHING THE CAMPUS EXPERIENCE**

Daniel Nir, C’82, W’82, and his wife Jill Braufman see an investment in the humanities as a boon to the entire Penn community. Their scholarship for College students participating in creative writing and their support for Kelly Writers House are vivid examples. “Attracting creative kids creates a strong cultural center,” Braufman says. “The richer and more varied a university like Penn is perceived to be makes it more appealing to a broader range of students, and that enriches everybody’s experience.” Nir agrees. “The people I met were the single biggest influence on me at Penn. When I graduated, someone I had met at school hired me and got me started in my career,” says the former history and marketing student who went on to found an asset management firm. “Expanding the breadth of students and faculty at the University changes the opportunities for all students to learn from different people with different interests.”

**IMPACTING SOCIETY**

When Jane Pollock, C’85, and her husband Philip Berney recently added to the scholarship they had established in memory of Philip’s father, Joseph H. Berney, W’33, they chose to designate it specifically for College students. Pollock, who’s worked in advertising and fundraising and is now working on a documentary and series of essays about breast cancer, sees the scholarship as a chance to impact not only an individual student but the larger society as well. “With a liberal arts education, who knows what students can become,” says the one-time intellectual history major. “Who knows what teacher will influence them, what subject, what article, or what poem. There’s that serendipity of not knowing what the spark will be, but it’s really exciting to know they’re going to have the opportunity to be sparked by something. No one knows what the future is, but if people are broadly prepared for it, maybe they’ll go out and do something specific and huge and incredible.”
NEW LEASE ON LIFE SCIENCES AND MANAGEMENT

by Tracey Quinlan Dougherty

Penn’s unique undergraduate program in life sciences and management has received the promise of a new home and a long future thanks to an extraordinary gift from College alumnus P. Roy Vagelos, C’70, PAR’90, HON’99, and his wife Diana Vagelos, PAR’90. They recently contributed $9.8 million to fully endow the Roy and Diana Vagelos Program in Life Sciences and Management (LSM) and give it a permanent home in the School of Arts and Sciences’ planned Neural and Behavioral Sciences Building.

LSM, a dual-degree program administered by the College of Arts and Sciences and the Wharton School, was established through a gift from the couple in 2005. “LSM would not be what it is today if not for them,” said Philip Rea, professor of biology and LSM’s Rebecka and Arie Beldegrun Distinguished Director.

LSM is just one of the premier undergraduate programs the Vageloses have helped establish at Penn. They also have founded the Vagelos Integrated Program in Energy Research (VIPER), which is offered by SAS and the School of Engineering and Applied Science, and the Roy and Diana Vagelos Scholars Program in Molecular Life Sciences, based in the Department of Chemistry.

“The interest, generosity and support Roy and Diana have given the College’s science programs and students are breathtaking. We are able to compete successfully for the best undergraduate science students in the world and produce outstanding graduates who enhance our reputation because of these signature programs,” says College Dean Dennis DeTurck.

The LSM program, which combines rigorous scientific and business training, in many ways mirrors the career of Roy Vagelos, who was a visionary scientific and corporate leader at Merck & Co. “It’s absolutely crucial, whether we’re looking at the clinical sector, big pharma, big agriculture or humanitarian engagement,” says Rea of LSM’s raison d’être, “that the people who have to make decisions about resource allocation have sufficient knowledge to either reach their own conclusions on the basis of their scientific understanding or be in a position to evaluate in a meaningful way the advice that their scientific advisors give them.”

“We don’t know of another undergraduate program like it in the United States of America. We’ve been saying that now for seven years,” Rea adds. The Vageloses’ new gift enables Penn to continue providing this unique blend of scientific and business education for generations to come. “The key thing about their gift is that it ensures the program will have all the dedicated resources it needs.”

Rea adds he’s also “rather excited” the program will finally have dedicated space of its own. And it’s not just any space. The program will be housed in the state-of-the-art Neural and Behavioral Sciences Building, to be constructed at the heart of Penn’s biomedical facilities. “The intersections between LSM students and scientists will increase hugely,” he says. With this proximity, those in the program will gain a better sense of the scientific endeavors being carried out at Penn, while faculty and students in a range of other disciplines will become more aware of LSM. Rea says this interaction will take the program “to the next level scientifically.”

The new facilities also will provide an improved setting for everything from the interactive freshman proseminar to the team projects of seniors participating in the capstone class (for more on this class, see p. 32) to the informal talks that bring scientific and business leaders to campus to engage with students over pizza.
MAKING HISTORY
Penn Arts & Sciences

CAMPAIGN PROGRESS TO DATE

The Making History in the Arts and Sciences Campaign is an integral part of the University's $3.5 billion Making History campaign. The graph below shows progress toward the School's fundraising goal of $500 million as of October 31, 2012.

- Faculty Support: $201,358,571 / $200,500,000
- Undergraduate Financial Aid: $116,273,588 / $150,000,000
- Graduate Fellowships: $24,717,614 / $30,000,000
- Undergraduate Programs: $57,893,995 / $54,000,000
- Neural and Behavioral Sciences Building: $33,370,210 / $25,000,000
- Expansion/Other Facilities: $42,963,355 / $40,500,000

95% of goal reached

$476.6 million raised toward our $500 million goal. You can help us reach our goal.
While the election is behind us, the campaign rhetoric lives on in public discourse. The two visions of America presented by the campaigns—one that combines individualism, faith in free markets, and a limited role of government versus an America built on commitment to social community, a strong role for government, and strong social safety nets—are the latest manifestations of a philosophical divide that has a long history in American politics and culture. Bringing in their expertise from political science, philosophy and ethics, three SAS faculty take a look back at the competing visions expressed through the Romney and Obama campaigns, answering such questions as: What can a historical analysis of each party’s origins teach us about their policy plans? How do we define what a “moral” government is? And how might other models illuminate issues within our own governing body?
The term “liberal” has become a lightning rod of sorts, worn like a badge of honor by those on the left, and used as a condemnation by those on the right. Its derivation might not only surprise you, but also act as a crucial guide to understanding the visions each candidate’s campaign came to represent. “The Republican Party’s economic position evolved from what’s called ‘classical liberalism’—fathered by figures like Scottish philosopher Adam Smith, and classical economists like David Ricardo and Thomas Robert Malthus,” says Samuel Freeman, Avalon Professor in the Humanities and Professor of Philosophy and Law. “Laissez-faire capitalism—now endorsed by big-business Republicanism—grew out of this same movement.” On the other hand, today’s Democrats, Freeman says, “represent what’s often referred to as ‘new liberalism,’ which emphasizes the welfare state, and is thus defined by programs like Social Security and Medicare.”

The evolution of liberal public assistance has roots in The Poor Laws, says Freeman, which were first enacted in 1601 in Elizabethan England to ensure the poor wouldn’t starve to death and that shelter would be provided for orphans and other helpless people. The Republican Party, historically, accepted this as the government’s responsibility, though they often argued it was the duty of individual states. “It’s not that the Romney camp was opposed to health-care coverage, because he himself instituted it in Massachusetts,” says Freeman. “They just believed that it was a duty for states and not for the Federal Government.” Democrats, he says, have become the party of social insurance, distinguishable from public assistance—what was called poor relief in England. This includes benefits like disability insurance, unemployment insurance and health-care. “The idea of social insurance is that everyone earning an income pays into it and the government itself pays back when people need the care—a philosophy supported by the Obama campaign.”

When Romney nominated Paul Ryan as his running mate, a new political philosophy was introduced into the race. “Ryan and his budget are distinctive from both classical and new liberalism,” says Freeman. “Ryan is what we call a libertarian. Libertarians don’t believe government should have a role providing for the poor or anyone else. They believe private charity should replace public welfare, particularly when the country faces such a large federal deficit.”

It’s not all apples and oranges, though, Freeman says. The face of liberalism is still changing. “Obama has always been economically conservative—he’s basically a classical liberal himself in many respects. When he came into office, he chose some people from George W. Bush’s economic team and continued many of the same policies. So we’re definitely at an interesting crossroads—the ‘new liberal’ Democrats are moving to the right, and the ‘classically liberal’ Republicans are verging on extreme right libertarianism.”

Samuel Freeman is the Avalon Professor in the Humanities and a professor of philosophy and law.
The University of Pennsylvania’s founder Benjamin Franklin may have hit the nail on the head with his claim about death and taxes, and though taxes may be an inevitability, that doesn’t mean tax policy should be immovable. It’s an issue that has plagued both political parties for decades, greatly impacting the campaigns both Obama and Romney ran. “The issue is we’ve had 50-plus years now of having it both ways,” says John DiIulio, Frederic Fox Leadership Professor of Politics, Religion, and Civil Society and Professor of Political Science, who likes to think himself as the “plumber” counterpart to political philosophers. “If you increase spending and cut taxes at the same time, you’re going to create deficits and a debt problem that will have to be faced. We can’t continue to be operationally liberal while being philosophically conservative.”

The solution to this stark reality, DiIulio says, is that taxes across the board must be reevaluated if we expect to enjoy the same social insurance commodities. “Republicans refuse to raise taxes on the rich, while Democrats view tax increases on the middle class as political kryptonite.”

The other option is to drastically cut spending, which has been met with frustration and filibusters in congress. The Paul Ryan budget, for instance, viewed as one of the most aggressive answers to fiscal debt, offers social welfare cuts as a potential solution. But the controversial cuts, DiIulio says, would barely put a dent in the deficit—and would come at a great cost. “When the economy falters, as it did for my own grandmother during the Great Depression, and the church and the community don’t have the resources to help, one of the only places to turn is to the largest political community: ‘Mr. Roosevelt,’ as my grandmother used to say, or in other words, the national government.” But it’s not just a moral or philosophical question, the plumber in DiIulio says. If you add up all the cuts to social welfare in the Ryan budget, it only amounts to three or four percent from total government (federal, state, and local) spending, over the next decade.

So what’s the solution? DiIulio says when bipartisanship fails politicians must turn to non-partisan commissions like Bowles-Simpson, whose debt reduction plans cut discretionary spending and reform the tax code. “Relatively less government spending in return for relatively more government administration of government programs should not be off the table. It’s often demonized, but in many instances, government works.”

John DiIulio is the Frederic Fox Leadership Professor of Politics, Religion, and Civil Society and a professor of political science.
Do morality and politics go hand-in-hand? Amidst lofty—often conflicting—rhetoric from both campaigns, how does one tell right from wrong? What it means to be a moral society is at the heart of Kok-Chor Tan’s research. Tan, Associate Professor of Philosophy and author of Justice, Institutions, and Luck: The Site, Ground, and Scope of Equality, examines society through the lens of egalitarianism. Of utmost importance, he says, is a candidate’s vision for caring for the unfortunate, an issue that sharply divided the Obama and Romney platforms.

“Egalitarianism believes that providing for those who can’t provide for themselves due to misfortune is a matter of justice, and that people who are to be beneficiaries have a rightful claim to these things,” says Tan. “When these beneficiaries are made to depend upon private charity, they can be grateful when they get it, but have no cause for complaint if they don’t. A lack of institutional guarantee is an important difference. You don’t have to say, look, when I’m getting a wage next month, it’s going to be based on the goodwill of my boss.”

The Ryan budget, which fails to provide institutional guarantees, is at odds with the egalitarian model. Tan cites the budget’s Medicare reform plans as an important example. “If Medicare were to transition to a voucher system, expectations of care would be left to the vagaries of the marketplace. The voucher is a credit against future expense, while coverage under Medicare is a guarantee.”

Egalitarianism must also be applied to tax reform, he says. Because redistribution is inevitably required if resources to support the disenfranchised are too scarce, money must float downward. Obama’s extension of the tax cuts passed during George W. Bush’s presidency is a failed opportunity under this model.

In regards to social justice, Tan cites two different rubrics. Egalitarians advocate a doctrine of respect as a way of understanding what kind of government restriction and intervention might be acceptable. “Restricting gay marriage does not accord equal respect,” says Tan. “A ban on an arrangement between two mutually consenting adults is a violation of this principle.” Another social justice guideline Tan cites is philosopher John Stuart Mill’s “harm principle.” Mill believed that people should be free to pursue whatever course they desire, as long as it doesn’t harm other persons. “Social policies and laws reflecting a certain view of social morality risk exceeding the limit set by the harm principle.” Ryan’s claim that he would repeal Obama’s mandate requiring insurance providers to cover birth control is an example.

One potential flaw in any egalitarian society is the possibility that a subset of the public might abuse support offered by the institution, a theory that the Romney camp cited, most infamously in a secretly recorded video featuring Romney remarking that 47 percent of the population are “victims” that depend on government support. The egalitarian philosophy believes that this group is relatively small, and that very few self-respecting individuals would abuse aid. Free speech can be seen as an analogy, Tan says. Some will abuse that right in order to participate in hate speech, but most members of society realize these anomalous individuals are part of the cost of the expectation of an authentic majority. “In the end, the egalitarian model requires a certain moral vision,” says Tan. “If we don’t care for those who are facing misfortune, we are alienating ourselves from one another.”

Kok-Chor Tan is an associate professor of philosophy.
Quick—what were you doing last Tuesday night at around, say, 7:30? Where did you park your car this morning? When’s your mother’s birthday, and did you send her a card? Did you remember to pick up bread and milk on your way home last night?

Whether or not you’re able to readily answer those questions, they all involve memory—one of the human brain’s most powerful, useful, and yet puzzling and sometimes frustrating abilities. “We form memories every moment of our lives and store them away,” notes Michael Kahana, professor in Penn’s Department of Psychology and director of the Computational Memory Lab. “They may be very hard to retrieve, but it doesn’t mean they’re not there. And sometimes when we least expect them, they pop up. Sometimes when we most want them, we can’t seem to find them. And the fact that we’re actually able to find them as often as we can is kind of a miracle.”
Studying how human memory works, the different neurological structures and pathways that make it possible, and how the brain puts it all together in the processes of learning and behavior is Michael Kahana’s passion. “What drives me when I wake up in the morning and come into the lab is that I want to understand this amazing human capacity, the ability to form and retrieve memories,” he says. In that quest, he harnesses a wide variety of techniques ranging across multiple disciplines including experimental psychology, neurobiology, computer science and applied mathematics. Such a broad approach is necessary because memory is a highly complex and elusive scientific target that manifests itself in different forms.

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“My lab has mainly been focused on studying two types of memory: verbal memory and spatial memory,” Kahana explains. “Spatial memory is, imagine yourself in Disney World, and you’re walking down Main Street USA, and in front of you is Cinderella’s castle, and I tell you, point to Space Mountain. Students who have been to Disney World even just once or twice will typically point to the right. Although it is unlikely that they memorized a map of the Magic Kingdom, they have a general sense that Space Mountain is to the right. Building that representation involves linking landmarks or objects with their locations.”

Perhaps even more important is how information is remembered in its temporal context. “A more general kind of learning is linking aspects of an event to the time in which they occurred,” Kahana says. “That’s what we call episodic memory, learning about an item in its context, where context uniquely specifies when the item was encountered.”

Kahana notes that episodic memory is basically the conscious form of memory that we use all the time. “Where did I park my car, what did I eat for breakfast, who did I meet at the party, all of these things involve linking an item to its time and place,” he says. “Episodic memory and spatial memory are really two sides of the same coin: putting an event, an item, in a position either in time or space or both. In my lab, we are concerned with identifying the neural and cognitive mechanisms that support these memory functions.”

Much of Kahana’s data is collected from electroencephalograph (EEG) recordings from electrodes placed on the scalps of healthy volunteers, most of them Penn undergraduate or graduate students. Scientists have been performing EEGs for decades now, but the technique has definite limitations. Kahana explains that because the strength of electrical signals drops off rapidly with distance, “you can’t know with scalp recordings where the signals are coming from in the brain. If you’re all the way out at the scalp, all those signals inside the brain blend together. It’s sort of like listening to the orchestra from a mile away and trying to pick out a particular instrument.”

But thanks to a special collaboration with the Penn medical school and Thomas Jefferson University Hospital, Kahana is one of the few researchers in the world who is able to go further. “We record from the brains of neurosurgical patients, patients with epilepsy, patients with Parkinson’s disease,” he says. Such patients may have electrode arrays placed in their brains to monitor seizure activity or to electrically stimulate certain brain regions, and many of them volunteer to participate in Kahana’s projects. “From these recordings we can observe the responses of individual cells, neurons, in the brain, as well as the responses of the electrical field surrounding those neurons, during the learning and recall of items or objects learned in a particular context.” This allows Kahana to examine how networks of nerve cells give rise to memory.

As the name implies, not all of the Computational Memory Lab’s work involves human patients and volunteers. Kahana says, “To make sense of the behavior and the neurophysiology, you need to build mathematical or computational models. We then test these models to gain a deeper understanding of those things which we can’t observe, but must infer. The big challenge in the field is to have models that can relate measurements of neurons, of fields of neurons, of entire brain activity, all the way up to actual behavior.”

Kahana never set out to become a brain...
Kahana credits Penn’s dedication to undergraduate education for forcing him to think of his own work in new and fresh ways. “When I came to Penn my department chair informed me that I was to create a new undergraduate course at the introductory (100) level that should survey the field of human memory. Because every other university that I know of teaches human memory to advanced undergraduate and graduate students, I could not find a suitable text, so I created lecture notes that eventually turned into a book, Foundations of Human Memory, which was just published by Oxford University Press. In creating this book I sought to take material that normally would be treated at a graduate level and think about how to present it to some very talented college freshmen and sophomores. It was a lot of fun to do that.”

researcher. “As an undergraduate engineering and physics student I never imagined that I would become a psychologist or a neurobiologist.” A computer programming gig for a psychology professor got him interested in neural network modeling and mathematical psychology, in which he earned his Ph.D. from the University of Toronto in 1993. But even when he became an assistant professor at Brandeis University, “I had absolutely no interest in the brain, I had never taken a biology course in my life,” he says.

Then in the fall of 1996, a chance meeting with Harvard neurosurgeon, Dr. Joseph Madsen, resulted in a dramatic change in Kahana’s research career. Madsen invited Kahana to give a “grand rounds” lecture on human memory to the neurosurgery department, and even better, an opportunity to “scrub in” and observe a neurosurgical procedure. “I was stunned to discover that neurosurgeons were routinely implanting electrodes in people’s brains, recording from these electrodes for many weeks while the patients played games, watched TV, and spoke with their family, and then, after the patient had their surgery, the data were simply deleted. They were deleting the data because they didn’t have enough storage capacity to save it.” Inspired to combine his computational modeling work with neurobiology at its most direct and fundamental level, Kahana decided to change his professional direction. “It went better than I could have anticipated,” he says. So did his move to Penn in 2004. Kahana stresses that his work at the interface between basic science and clinical medicine would be much more difficult in most other institutions. “It is quite unusual to be at a world class university that has its scientists and physicians working in such close proximity. It makes it much easier to build the kind of collaborative efforts you need to collect these kinds of data, which are massive undertakings involving a lot of different people each with their own area of expertise.”

So does Kahana have any special insights on how the rest of us might do a better job remembering where we parked? “Being that I’m a memory researcher, what I do is walk out of the garage and forget where I parked my car, and then explain to my wife that I study memory because I am so forgetful,” he jokes. But he denies that people tend to expect a memory researcher to remember things any better than the rest of us. People are so polite about that. My wife should give me such a hard time. I asked her about this, and she said, well, you never had a good memory, so it doesn’t bother me,” he laughs.
Theoretical physicists tend to have a hard time at cocktail parties. Other scientists can discuss their cancer research, or their quest for life on other planets, or even the new floor wax compound they formulated—concrete, real-world matters that even the non-scientist can understand. But when theoretical physicists try to explain their highly abstract work to the uninitiated, whether at a party or before a Congressional committee, they usually evoke blank stares and polite smiles, followed by the inevitable question: That’s all very interesting, but what good is it?
It’s a question that Penn physicist Charles L. Kane has certainly faced more than once. As a dedicated theorist, he’s aware that the sort of scientific advances most people think of as “useful” are the result of practical experimentation, not theoretical explorations. But in the past several years, Kane and a number of colleagues have proven that every once in a while, the theorists can also come up with something that’s not only scientifically fascinating but possibly even incredibly useful.

Kane’s specialty is condensed-matter or solid-state physics, essentially the science of solid matter. A major part of this particular branch of physics involves the design and function of the semiconductor materials at the heart of computers and all our other wondrous electronic devices. Although such inventions are also the product of experiment rather than theory, theorists such as Kane help to lay the groundwork for the experimentalists to explore and build upon. “The kind of theory I do tends to be analytical as opposed to computational,” Kane explains. “I build models and characterize the models, and that’s been a pretty successful line of work for me so far.”

It’s been so successful, in fact, that Kane has received several major prizes in 2012 alone. Aside from the Buckley Prize, awarded for outstanding contributions in condensed-matter physics, Kane received a $500,000, five-year research grant from the Paul Simons Foundation. Most recently, he became the first Penn professor ever to receive the Paul Dirac Medal and Prize from the Abdus Salem International Centre for Theoretical Physics.

The accolades have come in recognition of the importance—and yes, potential applications—of an entirely new type of material called a topological insulator (TI), first predicted in Kane’s theoretical work. A topological insulator is a type of solid material with the intriguing quality that it’s mostly an electrical insulator such as wood or glass—but only on the inside. On the surface and edges, it does conduct electricity, but in a very special way. Kane says, “The way in which the surface conducts electricity is different from ordinary conductors.”

Those differences open the door to some extraordinary possibilities.

In usual conductors, impurities or disorder in the atomic structure of the material, such as a few molecules of another element mixed in, can impede or even stop the flow of electrons. That results in what physicists call a localized state: The electrons are literally stuck in a particular location. But the surface of a TI is absolutely impervious to such problems. The electrons simply “skip” along the surface in discrete quantum steps, moving all in the same direction. This characteristic of the TI surface is dictated by some highly intricate quantum mechanical properties that can’t be changed no matter what else is done to the system, a phenomenon physicists call “topologically protected” — hence the name “topological insulator.”

“At that point, people really started noticing that this was something real. The floodgates opened and now there are people all over the world who are doing experiments and theory, and it’s become one of the biggest fields in condensed matter physics.”
“The surface different,” Kane says. “With an ordinary two-dimensional conductor, if you make it dirty, if you make it disorderly, which everything in the real world is on some level, then the electronic states will become localized and it won’t really be a conductor. So the thing that’s special about the TI is it can’t be localized.”

Another difference from ordinary conductors is that the TI surface electrons arrange themselves according to their “spin,” a quantum property of fundamental particles, like positive or negative charge. “Spin up” electrons flow only in one direction, while “spin down” electrons flow in the other. This comes in handy for spintronics, a burgeoning field of electronics that uses electron spin instead of charge to carry information.

The TI concept grew out of studies back in 2004 by Kane and a Penn colleague, Professor of Physics and Astronomy Eugene Mele, on the unique properties of graphene, the one-atom-thick, sheet-like form of carbon. Kane recalls, “It’s a material that’s right on the boundary of being a metal and a semiconductor. So the question I asked was, why is that?” Kane and Mele theorized that electrons would move through graphene in a way involving a quantum phenomenon called spin-orbit interaction, which led to the idea of a new state of matter that was an insulator on the inside but had conducting states on its edge.

At the time Kane and Mele published their ideas, it was only an interesting theory, but it attracted the attention, both of other theorists such as Joel Moore at the University of California at Berkeley and Shoucheng Zhang at Stanford, and of experimentalists such as Laurens Molenkamp at the University of Würzburg in Germany. By 2007, Kane and the others had fleshed out more of the theory and Molenkamp...
had experimentally proven the existence of topological insulators. The following year, a team at Princeton found TIs in other common materials such as bismuth selenide and bismuth telluride.

“At that point, people really started noticing that this was something real,” says Kane. “The floodgates opened and now there are people all over the world who are doing experiments and theory, and it’s become one of the biggest fields in condensed matter physics.”

The excitement is all due to the fact that topological insulators have the potential to revolutionize electronics and lead to other major physics discoveries. One of these is confirming the existence of a long-sought exotic particle called a Majorana fermion. According to theory, Majorana fermions occur only in special superconductivity states -- such as those that may occur by combining the surface of a TI with a superconducting material. But Majorana fermions are of far more than merely academic interest, because if they exist and can be controlled, they offer a powerful method for storing and manipulating quantum information. This may lead to new technologies for quantum computation. Even without superconductivity or Majorana fermions, the special conducting properties of TI surfaces promise new technologies for low-power electronics.

With the field still so new and evolving in so many different directions, it’s difficult to be too specific yet about practical applications. Kane notes, “I think it’s pretty hard to predict those kinds of things. Twenty years ago, there was this discovery called giant magnetoresistance, which was pretty interesting and people studied it. Now it’s the reason your iPod works.”

A quiet, unassuming man who plays classical guitar in his rare free time, Kane admits that “this whole thing has blossomed in a way that I never imagined would happen. When I look at the list of people who’ve been awarded the Dirac medal, many of my heroes, it’s pretty humbling. It’s a big honor to have my name on that list.”

Still, it’s neither the awards nor the ultimate practical benefits of Kane’s work that get him to work every day in his office in David Rittenhouse Laboratory. “There’s a real beauty in this set of ideas that we’ve developed,” he says. “And really, what drives me, to be honest, is that beauty. That’s one of the reasons it’s such an honor to get a prize named after Paul Dirac, because that’s what drove him as well.”

And when people ask, what good is it all? “I appreciate the importance of having things be useful,” he muses. “I’ve had many sleepless nights throughout this entire ride I’ve been on. But they’re not from thinking about what one can do with topological insulators. It’s how the ideas fit together into this beautiful framework. That’s what I lie in bed awake thinking about.”

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Every Friday afternoon, small groups gather on campus to formulate strategies for bringing to market some of Penn’s most promising biomedical technologies. They pore over scientific papers, PowerPoint slides and interviews with industry experts to consider every angle of the technologies. They weigh factors such as the physiopathology of the target disease, the potential for the new therapy, the unmet clinical need, the potential for clinical trials, the likelihood of funding and possibilities for marketing. They have the ear of leaders from influential firms like J.P. Morgan, Bain Capital, Bristol-Myers Squibb and Merck & Co. They aren’t, however, tenured scientists or Penn’s experts in technology transfer. They’re seniors in the Roy and Diana Vagelos Program in Life Sciences and Management, participating in the program’s capstone course.

After spending three years learning the fundamentals of scientific investigation and business management, the students in this unique dual-degree program offered by the College and Wharton are ready to put their knowledge to the test. They break into teams and spend a full academic year researching a promising technology derived from Penn’s biomedical research enterprise and strategizing for its capitalization. The true test comes at the last class.
meeting, when students pitch their plans to LSM Advisory Board members, leaders in fields like biotechnology, medicine, pharmaceuticals and venture capital who pull no punches in evaluating their presentations. In 30 minutes, the students must communicate the science behind the technology, the need it fulfills, the business model they’re recommending and the options for commercialization and funding.

“It really pushed the limits of our education,” says senior Nick Wilcox, C’12, W’12, who participated in last year’s course and now mentors this year’s participants. Wilcox and his team studied a novel treatment for chronic lymphocytic leukemia developed at Penn Medicine that had been featured in The New England Journal of Medicine and named one of the world’s top scientific findings for 2011 by Discover magazine.

The course is led by Steven Nichtberger, M.D., C’83, W’83, an LSM senior fellow and SAS Overseer whose career embodies the intertwining of the two fields he teaches. A medical doctor and business executive, Nichtberger has founded a biotechnology firm, headed Merck’s global marketing effort and launched a profitable internet-based company. He says his goal is to give students “a transition from the academic world to the real world.” He does this not only by assigning real-life projects but also by bringing leaders in science and industry into the classroom each week as guest lecturers and having them meet with each team to help hone their projects.

“I was very impressed by the guest lecturers,” said Joan Li, C’12, W’12, who participated in the course last year and studied an antiviral technology conceived in the School of Dental Medicine. “They took time out of their busy schedules to come to Penn to speak with us, and they all offered to email with us or speak with us on the phone afterwards if we had any questions. It really showed me how supportive the scientific community can be.”

In addition to the team projects, which count for two-thirds of their grade, students are also marked on the leadership behaviors they display throughout the year. Nichtberger encourages attributes like self-awareness, self-control, and respect for team dynamics because they’ll help students fully utilize their knowledge down the road. “It taught me a lot about myself and how I behave and react in team situations,” said Li, who’s now applying what she learned at a management consulting firm where she specializes in health care issues.

What makes the course work so well, Nichtberger says, is the strong collaboration among the College, Wharton, the Perelman School of Medicine, and Penn’s other schools that’s made possible by their location on a single campus. As an example, he cites the proactive, ongoing involvement by the investigators responsible for the technologies that the students work on. Nichtberger merely invites them to come to one class to present their discoveries, but almost all of them begin attending every class.

Nichtberger says the experts involved with the course are always “in awe of the students and the quality of their work and their presentations.” One project convinced an investigator with no interest in capitalizing on his discovery that it had true market potential. Another showed an investigator in what areas he’d need to do further research before seeking investor funding for his technology. And the CEO of a company formed around another technology the students worked on was so taken with their presentation that he asked to use their materials in his efforts to obtain funding for the company.

Interacting with such a distinguished group is what Wilcox liked best about the course. “It was an electrifying atmosphere,” says the senior, who landed a summer position in the lab of an investigator behind the technology his group studied. He’ll graduate in December and plans to take a research job before applying to medical school. “It prepared me pretty well for the next step.”
Determination is nothing new to Desiree Dubon, C’00, W’00, WG’05, a real estate asset manager who triple-majored in international studies, French and finance in the Huntsman Program in International Studies and Business. Over the last eight years, she’s scaled high-altitude peaks on five continents, becoming the first American woman to summit Nepal’s Manaslu, the eighth-highest mountain in the world, in 2009.

Q: How did you get involved in high-altitude climbing?

Dubon: While I was a student at Penn, I joined a Leadership Venture to climb Mt. Kilimanjaro, and that was my first high-altitude climb. It’s not something I had ever thought about doing, but I really enjoyed the experience. I’d never been to Africa. I’d never climbed a mountain, so I wanted to try to do it. Since 2007, I’ve done at least one big expedition a year.

Q: What has been your most challenging climb?

Dubon: My last climb was on Ama Dablam which is a technical peak above 22,000 feet in the Himalaya in Eastern Nepal. It was a month-long expedition and particularly exciting. It was the furthest I’ve been from my comfort zone, and I had to manage my fear. You’re climbing rock or ice most of the time, and the exposure is pretty much constant and unrelenting. It was definitely unforgettable though. From the summit you can see some of the highest and most dramatic mountains in the world. You’re looking at Everest, Cho Oyu, Lhotse, Shishapangma, Makalu, all these incredible peaks.

Q: How do you prepare for something like that?

Dubon: The best way to train is to climb other mountains. Breathing at altitude is more involved, and your heart rate’s definitely elevated, so cardio is really important. I work with a trainer, and I run a lot. As far as the mental aspect of it, you can’t necessarily prepare for that part.

Q: Even with the best preparation, things don’t always go as planned—what then?

Dubon: In the mountains, a lot of things can go wrong. There’s weather, accidents, human error. Many people don’t plan well or have contingencies in place. When I was in Peru climbing Alpamayo in 2010, the day after we summited, someone came to our tent at four or five in the morning to tell us there’d been an accident. An Argentinian climber had fallen from high on the route and died. As he fell, he seriously injured three Austrians climbing below him. One
climber had sustained a broken back and had to be stabilized and carried down the mountain. So my team decided to give up our attempt on the next peak, Quitaraju and shift into executing a rescue. You’d be amazed at how much effort and how many people it takes to do something like that. It involved rope lowers on steep ice pitches, traverses over vast crevasses and negotiating rock slabs and boulder fields. It took about 25 people and over 18 hours to get him down from high camp. We were relieved to learn he had no damage to his spinal cord after all that. It definitely makes you think about the risk of what you’re doing.

Q: What else has climbing taught you?

Dubon: Discipline and humility. I think you discover who you are when you’re that challenged. It’s definitely been life-changing for me. It teaches you patience, mental focus and determination,
just pushing past when you think you’re at your limit. And you’re certainly looking at the world from a very different place. You think about where you are and where you come from and how different things are. It changes how you look at things.

Q: Where next?

Dubon: I haven’t decided. I’ve thought about going back to the Alps. I’d like to climb the Matterhorn. When I climbed in the Alps a few years ago, I was hoping to climb Mt. Blanc and the Matterhorn and the Eiger, but we had really bad weather. Although it was summer, the Matterhorn was iced out. It’s such an iconic, beautiful mountain, I really want to go back and climb it. I’ve also thought about doing more climbing in the states, maybe in the Tetons.
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After graduating Phi Beta Kappa from the School of Arts and Sciences with a degree in zoology, Richard Cronk, C’60, went on to medical school and established a successful orthopedic surgery practice. Following his 50th reunion, Dr. Cronk and his wife, Robin, established the Cronk Family Scholarship, which gives preference to undergraduates from Oregon studying in SAS. Dr. Cronk worked with Penn’s planned giving team to establish the scholarship as part of his financial and estate plans. “Making the decision to establish a scholarship was easy because the School made it easy,” he says.

You can also create a legacy at the School of Arts and Sciences. To learn more, contact Lynn Ierardi, JD, Director, Gift Planning, lierardi@upenn.edu, or 215-898-6171.

“I will always be obligated to Penn because the University helped me early on by offering me a scholarship. If I had not received that aid, I’d probably not be where I am today.”

- Richard Cronk, C’60