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Spring is always a busy time at Penn as the semester winds down: this is the season when we celebrate the accomplishments of our graduating students and we welcome our alumni back to campus. It’s also the time when we are recruiting the new crop of graduate students and faculty to join our ranks, and the excitement generated by the prospect of new colleagues creates a buzz across the School. We know that the decisions we make today are laying the foundation for excellence in teaching and research for tomorrow.

One approach is, at the moment, in its pilot phase. We have begun an experiment in making “cluster hires”: multi-year, multi-disciplinary clusters of faculty searches centered around a single academic theme. We hope that this initiative will allow us to concentrate our efforts on overarching “big ideas”—for example, areas like energy or evolution. The process of generating proposals for cluster hires has itself already energized the faculty, and we anticipate that this approach will allow us to make the most of our resources by investing in new faculty who will interact with each other and have an impact across the School.

Among our graduate students, recent doctoral dissertations illustrate the combination of depth and breadth vital for the faculty of tomorrow: a dissertation at the intersection of religion, history and law; another that combines cultural anthropology, international relations and educational policy; and still another that brings together Latin American studies with health policy and communications, just to name a few. Our graduate certificate options are one tool we have developed to encourage such combinations: students in a doctoral program can pursue a concurrent certificate in areas such as global human rights, cinema studies or women’s studies, among others—programs that guide them to course work outside of their disciplinary paths.

Initiatives like these are just a few ways in which we are seeking to build the faculty of the future. Just as we know planning and careful spending are necessary for new facilities, we view the planning and investment in our people—faculty and graduate students alike—as critical to the success of both the School and the larger enterprise of higher education.
This past fall saw the launch of the Integrated Studies Program (ISP), designed specifically for College freshmen who have been accepted as Benjamin Franklin Scholars (BFS). The residentially based program—students live together during their freshman year in Riepe College House in the Quad—focuses on tackling big questions with a multidisciplinary approach.

Each semester’s ISP course consists of three concurrent lectures in humanities, sciences and social sciences. This not only provides students a diverse curriculum, but allows professors the chance to discover new avenues of teaching. “Political scientists aren’t always given the opportunity to probe different worldviews,” says Rogers Smith, the Christopher H. Browne Distinguished Professor of Political Science and one of the instructors in this past semester’s ISP course. “By studying political thought jointly with other subjects, the program has given students a broader introduction to the problems of politics and enabled me to aim for more in my teaching.”

The shared eating and living space has been so successful that a group of ISP students submitted a proposal not only to continue the integrated studies housing structure into sophomore year, but include non-ISP students. “Seeing how close the ISP community had gotten in Riepe, I thought it would be great to make a residential program that would also involve people outside of ISP” says Igor Baran, C’15, one of the organizers of the initiative. Baran, and fellow ISP student Emmett Wynn, C’15, created the basic structure for two themed semesters and presented their idea to the board of housing directors. “Harrison College House decided to pick up the program,” said Baran, “and now we have a very excited group of approximately 40 residents for next year.”

And it’s not just the students who are benefiting from the unique structure of ISP, says Peter Struck, Associate Professor of Classical Studies and the director of the BFS program. “We, as faculty, might never be here teaching if we hadn’t experienced that sense of wonder during one of our freshman college classes. That is what we’re trying to give back.”

The curriculum for the upcoming academic year will bring together the disciplines of philosophy, political science, classical studies, math, intellectual history and cognitive science around the themes of “Knowing” in the fall, versus “Thinking” in the spring.

—BC
In 2012 the Fels Institute of Government celebrated its 75th anniversary by turning its first-of-its-kind Public Policy Challenge into a national competition. In the contest’s third year, the winner of the challenge competed at the National Constitution Center against teams from four other public policy programs.

“The Public Policy Challenge encourages the spirit of the enterprise. This way, we can mark the anniversary by having a lasting impact,” said David Thornburgh, Executive Director of Fels since 2008. “It seems to me that the best way to celebrate what you’re about is to actually do it.”

Thornburgh conceived of the idea for the challenge when he discovered that public policy schools had no competitions equivalent to business plan competitions or law school moot courts. The research competitions that existed didn’t address the practical, applied emphasis that has guided the Fels Institute for 75 years.

“We really try to inspire students to think about how you get things done in a public atmosphere and environment,” he said. “There is no such thing as a significant community leadership role that doesn’t engage in political processes.”

The first Fels Public Policy Challenge opened in 2009 to immediate positive response. This year’s program had twice the number of applicants as last year from all over the University, and students from nine of Penn’s 12 schools participated.

“We always wanted it to be interdisciplinary,” said Kaitlyn Woods, Executive Director of the Public Policy Challenge. “It’s housed at Fels, but the other schools are well represented.”

The winning team from last year, Virtual Supermarket, had a goal to bring access to fresh food to all parts of Philadelphia. State Representative Dwight Evans, who served as one of the judges, and team member Rachel Cahill, a Fels student and employee at Drexel University’s School of Public Health, brought in FreshGrocer, Shoprite, Drexel community affairs and other community organizations to work toward implementing the project.

“One of my biggest takeaways of the public policy challenge is that if you have an understanding of market relevance,” says Cahill, “private entities will act upon it.”

That doesn’t make it easy. According to Sarah Besnoff, Fels student and a team member of one of this year’s finalists, planning and preparation is critical.

“A good idea can get people excited to talk to you, but the conversation will be all about the implementation specifics,” she said. Her project, Closing Schools, Opening Opportunities, aims to redevelop vacant schools. Her team’s initiative took first place, earning them $10,000 toward implementation of their proposal, as well as the opportunity to represent Penn at the national competition and compete head-to-head against other universities including New York University, Carnegie Mellon University, University of Washington and University of Chicago. The National Competition was held at the National Constitution Center on April 22, where the winning team walked away with the top prize of $15,000.

“This kind of national competition ought to be based at Penn based on our history and philosophy, and it ought to be in Philadelphia,” said Thornburgh.

—Kelly Andrews
Last fall Claudia R. Valeggia, the Francis E. Johnston Term Assistant Professor of Anthropology, was awarded the highest honor bestowed by the United States government on science and engineering professionals in the early stages of their independent research careers: the Presidential Early Career Award for Scientists and Engineers (PECASE).

Valeggia earned the honor for her work studying a group of Toba indigenous women and girls living in the province of Formosa in Argentina. Her ongoing project, which is funded by a five-year National Science Foundation CAREER Award, aims to better understand three biological transitions: the shifts from infancy to childhood, puberty and menopause.

A biological anthropologist, Valeggia combines quantitative data with qualitative accounts of what making these transitions means in a cultural sense—information that is primarily gleaned from interviews with the women and girls of her sample population. “Culture informs biology and biology informs culture; there’s no reason to try to disentangle them,” says Valeggia. “They both contribute to the way people go through these changes, and I’m trying to highlight their interaction in my research.”

Valeggia had the opportunity to go to the White House in October to receive the award from President Obama in a ceremony where he stressed the importance of women pursuing careers in the sciences.

—BS

### Scholarly Ambassadors

Several students and an alumna in the College have received prestigious awards that provide funding for graduate studies on the other side of the pond.

**Eileen Moison, C’12**, a senior in the Vagelos Program in Life Sciences and Management, is among 40 U.S. students this year who have been awarded a Gates Cambridge Scholarship to spend at least one year studying at the University of Cambridge in the United Kingdom. There, she will work toward a graduate degree in biochemistry and later plans to pursue doctoral studies in biochemistry and molecular biology.

In addition, seven College seniors and an alumna have received Thouron Awards, an honor bestowed as part of a graduate exchange program that provides recipients the opportunity to study at prestigious British universities, such as the University of Cambridge and the University of Oxford. **Besan Abu-Joudeh, C’12**, a statistics and international studies major, plans to study political economics. **David Dunning, C’12**, an English and mathematics major, will study history, philosophy and sociology of science, technology and medicine. **Alison Feder, C’12**, also a mathematics major, plans to study statistics. **Myles Karp, C’12**, an anthropology major, will study cognitive and evolutionary anthropology. **Michael Masciandaro, C’12**, a history and English major, plans to study British and European history. **Eliana Ritts, C’12**, majoring in business and public policy, will study anthropology. **Katie Wynbrandt**, a political science and English major, plans to study criminology and criminal justice. **Ava Childers, C’10**, who majored in classical studies and anthropology, will study archeological heritage and museums.

—BS
Ecologist and naturalist Daniel H. Janzen, the DiMaura Professor of Conservation Biology, was recently awarded the BBVA Foundation Frontiers of Knowledge Award in Ecology and Conservation Biology for his research on tropical ecology and the conservation of tropical ecosystems.

The BBVA Foundation, the social arm of the BBVA global financial group, lauded Janzen as “a supreme example of the complete ecological scientist” who merges “expertise in natural history with scientific rigor and innovative thinking.”

“He has applied his knowledge to the practical question of biodiversity conservation, and in the process shaped tropical ecology as we know it today,” the foundation stated.

Over the past 55 years, Janzen’s research has evolved from a study of the natural history of tropical animal-plant interactions to an exploration of the ecology of the interface between society and tropical wildland biodiversity. He has spent much of the last four decades in Costa Rica, where he helped establish the Área de Conservación Guanacaste, a set of protected lands and waters in the country’s northwestern province and one of the world’s most successful tropical forest reserves.

The foundation credits Janzen with launching the concept of “biodiversity-based development” by incorporating the people of Guanacaste into the management of the reserve, which has been named a UNESCO World Heritage Site. Through his initiatives, the local population has gained knowledge about their environment and transformed the forest into a source of wealth for the community.

Rebecca Bushnell, Dean of the School of Arts and Sciences, Thomas S. Gates, Jr. Professor and Professor of English, said Janzen’s recognition is well-deserved. “As an inspiration to generations of students, a pioneering scientist and a leading conservationist, Dan exemplifies the best of Penn’s tradition of applying knowledge in the solution of pressing issues,” she said. “He is truly one of the School’s great treasures.”

The award includes a €400,000 prize (around $530,000), which Janzen plans to devote to his work in Costa Rica.

Greg Guild, Chair of the Department of Biology, said Janzen has always been innovative in his thinking, hands-on in his work and global in his reach. “From dung beetles to caterpillars to DNA barcoding, he is always moving ahead,” Guild said, “and bringing the rest of us with him.”

—Greg Johnson
China has a large footprint on the Penn campus. It is the leading country of origin for Penn’s international students, with more than 1,300 graduate and undergraduate students in the fall of 2011. More than 200 Penn students per year earn credit for programs in China. And now Penn also has a center devoted to China.

The new Center for the Study of Contemporary China, which officially opened in January, is designed to advance Penn’s leadership in programs, research and scholarship in and about China. According to Avery Goldstein, the Center’s inaugural faculty director, David M. Knott Professor of Global Politics and International Relations and Professor of Political Science, the idea to establish a center sprang from President Amy Gutmann’s trip to China in March 2010. Goldstein was among the faculty who accompanied President Gutmann on that trip. “When we came back,” Goldstein said, “we decided that in order to make sure that the visit had a lasting impact, it would be important to have some sort of institutionalized home for the study of the issues at hand.”

The Center will convene a major conference on contemporary China each year and hire one postdoctoral fellow, as well as visiting scholars, to interact with faculty and students in a lecture setting. It will also host a formal speaker series with at least three speakers each semester. In addition, Goldstein hopes to form ad hoc panels to discuss related noteworthy events and says there is also the possibility of showcasing policymakers, either from the U.S. or China, to discuss international relations.

“One of our main objectives is to create a gathering place for all the people involved, in one way or another, with China,” says Jacques deLisle, the Stephen A. Cozen Professor of Law, Professor of Political Science and associate director of the center. “Now instead of people being scattered around the University and sometimes not even knowing about what others with contemporary China interests are doing, we are able to unite and build more programs and activities and encourage others to get involved.”

—BC
Three SAS faculty claimed 2012 Lindback Awards for Distinguished Teaching, the University’s highest teaching honor. Recipients included Mirjam Cvetic, Fay R. and Eugene L. Langberg Professor of Physics; Andrew Rappe, Professor of Chemistry; and Larry Silver, James and Nan Wagner Farquhar Professor of the History of Art.

In addition, Cvetic, whose research examines a variety of problems in elementary particle physics, was a recipient of this year’s Ira H. Abrams Memorial Award for Distinguished Teaching. Donald Ringe, the Edmund J. and Louise W. Kahn Term Professor of Linguistics, who studies historical linguistics, Indo-European linguistics and morphology, also received the award, which is considered the School’s most prestigious teaching honor.

Other recipients of SAS teaching awards include John Jackson, the Richard Perry University Professor in the Annenberg School for Communication and the Department of Anthropology, who won the Dean’s Award for Innovation in Teaching; Mélanie Péron, language coordinator for French studies in the Department of Romance Languages, who was awarded the Dean’s Award for Distinguished Teaching by Affiliated Faculty; Professor of Psychology Paul Rozin, who won the Dean’s Award for Mentorship of Undergraduate Research; Eric Jarosinski, Assistant Professor of German, who was awarded the Dean’s Award for Distinguished Teaching by an Assistant Professor; and Yvette Bordeaux, Director of the Professional Master’s Programs in Earth and Environmental Science, who won the College of Liberal and Professional Studies Distinguished Teaching Award for Affiliated Faculty.

—BS
Twenty students from the College of Arts and Sciences, the College of Liberal and Professional Studies, and the Graduate Division were recognized as 2012 Dean’s Scholars at this year’s Levin Family Dean’s Forum. This honor is presented annually to SAS students who exhibit exceptional academic performance and intellectual promise.

**College of Arts and Sciences**

- Robert Berg (Biochemistry)
- David Dunning (English and Math)
- Anna Dusenbery (Biology)
- Matthew Klein (Economics and Math)
- Shirley Leung (Biology and Earth Sciences)
- Michael Masciandaro (English and History)
- Michael Morse (Political Science)
- Ashley Reichardt (Physics and Astronomy)
- Nicholas Rosculet (Biophysics)

**Professional Master’s Programs**

- Caroline D’Angelo (Master of Environmental Studies)

**Graduate Division — Doctoral Programs**

- David Alff (English)
- Luigi Bocola (Economics)
- Peter Sachs Collopy (History and Sociology of Science)
- Jessica Ho (Demography)
- Heather Hughes (History of Art)
- Julia Lehman (Chemistry)
- Ian MacMillen (Music)
- Zeljko Rezek (Anthropology)
- Elizaveta Strakhov (Comparative Literature and Literary Theory)

**College of Liberal and Professional Studies — Undergraduate Program**

- Michael S. King (English)
The discovery of DNA and subsequent development of molecular biology offered a new method for paleontologists to study the echoes of the past. By analyzing the DNA sequences of present-day organisms, they could trace back the ancestral history stored in species’ genetic code and infer patterns of diversity and extinction. Molecular phylogeny analysis promised to fill in gaps in the fossil record where good specimens hadn’t yet been found.

But, according to Joshua B. Plotkin, Associate Professor of Biology and Computer and Information Science, “There has been a growing rift between fossil-based and molecular-based inferences of species diversity trends over time.” The glaring problem is that, while molecular phylogenetic analysis invariably indicated ever-increasing diversity in every species, “the fossil record clearly shows extinctions and long periods of diversity loss.”

Plotkin and his colleagues, in work originated by postdoctoral fellow Hélène Morlon, have developed a new approach to resolve these nagging inconsistencies. They began by examining one of the most complete fossil species records available: the cetaceans (whales, dolphins and porpoises). The cetacean fossil record, about 35 million years old and remarkably well-preserved, shows a peak of species diversity about 10 million years ago with about 150 species, diminished to 89 present-day species.

Previously, phylogenetic techniques incorrectly predicted ever-increasing diversity for cetaceans. Plotkin, Morlon and postdoctoral fellow Todd Parsons took a new approach to a newly published set of cetacean molecular DNA data from 87 of the 89 currently extant species. Their method included variables not considered in previous phylogenetic techniques, such as allowing for variable rates of diversification and taking into account different clades (groups of organisms sharing similar characteristics) separately.

Using these refinements, Plotkin and his colleagues found that the history of cetacean diversity inferred from DNA sequences was remarkably consistent with the fossil record, in both the rates of speciation and extinction. They show that most present-day cetaceans arose from four recent radiations (diversification from a single ancestor), as is reflected by the actual fossil samples.

The work represents a major step in solving one of paleontology’s most troubling conundrums. While there’s little chance that sophisticated mathematical modeling is going to put pick-wielding field paleontologists out of business anytime soon, Plotkin notes that models like this have the potential to offer “a more detailed view of the history of biological diversity on earth than fossils have been able to provide.” At the same time, Plotkin acknowledges that there are limitations to the technique. For example, to be effective, it requires a great amount of DNA data—data that just aren’t yet available for some forms of life.

In the meantime, there are many questions to be answered. It remains to be seen how the method developed by Plotkin’s group will perform in analyzing the phylogenies of other species. And, Plotkin notes, “The steps we’ve taken so far are simply to help reconstruct the pattern of species diversity through time. What remains is to understand the causes of these patterns.”

Even as he continues to study such questions, Plotkin remains entranced by the possibilities of this line of work. “We’ve attempted to reconstruct the history of species diversity in whales, some of the largest creatures ever to exist on earth … and we’ve relied on comparing the DNA molecules isolated from organisms today,” he says. “It’s still amazing to me that it’s possible to learn anything about such massive creatures going back so far in time, using only microscopic DNA samples from today.”

—Mark Wolverton
Writing something brand new about a literary giant is no small feat. But Paul Hendrickson, senior lecturer in the Department of English, is not a typical biographer. A feature writer for The Washington Post for more than two decades, Hendrickson applies the tools of investigative journalism to one of the towering figures of American literature in his latest book, *Hemingway’s Boat: Everything He Loved in Life, and Lost, 1934-1961*. In this critically acclaimed biography, Hendrickson uses Hemingway’s 38-foot cabin cruiser, *Pilar*, as a narrative device to guide readers through the final decades of his life. The book is also punctuated by on-the-record interviews with Hemingway’s sons.

Much of the more intimate material Hendrickson had on hand was the product of numerous interviews for a Post series called “Papa’s Boys.” In 1987, Hendrickson tracked down Jack and Patrick Hemingway, the two eldest sons, in their father’s home state of Idaho. He spent a night trout fishing on the famous Henrys Fork of the Snake River with Patrick, an experience he says he will never forget. But it was Hemingway’s youngest son, Gregory (affectionately known as Gigi), who would help Hendrickson delve deeply into the author’s psyche.

“I was getting ready to leave Idaho when [Gregory] called from Coconut Grove in Florida,” recalls Hendrickson. “He said, ‘If you can get here tomorrow night, I’d be willing to talk to you.’ I expressed doubt, given the distance, but he was adamant about his time frame. So I drove straightaway to Salt Lake and then flew to Miami where I spent a surreal five hours with him.”

Gregory’s own story is a complicated one. To outside observers he was an accomplished physician and family man, but privately he struggled with gender issues, eventually undergoing reassignment surgery. He ultimately died in a women’s jail after charges of indecent exposure. In an interview with Hendrickson, highlighted in *Hemingway’s Boat*, Gregory addresses his father’s response to his sexuality: “He was trying to help me, I knew it, no matter how it was killing him,” Hendrickson noted. “Listen Mr. Gig, I can remember a long time ago seeing a girl on a street in Paris and wanting to go over and kiss her just because she had so much damn red lipstick caked on. I wanted to get that lipstick smeared all over my lips, just so I could see what that felt like.” Hendrickson used these revelations to analyze the author’s own representations of gender in literature—a perennial topic, as Hemingway is often labeled a misogynist.

“Here is a man who went to his writing desk every day despite a mountain of both mental and physical ills—the drinking, the depression. Hemingway and his son were bonded through these challenges,” says Hendrickson. “They were both far braver human beings than we ever understood. The father had an outlet in his writing—therapy if you will. Sadly, Gregory did not have that same release.”

*Hemingway’s Boat* has received many accolades. It was a *New York Times*, and national, best-seller, and was among the top three best-selling books in London. It also appeared on many year-end “best” lists, including *The Wall Street Journal*, *The Washington Post*, *Chicago Tribune*, *The Economist*, and *Newsweek*, and is currently being translated into Russian. In addition, it was selected as a National Book Critics Circle finalist for best biography in the 2011 publishing year. Hendrickson, who was the recipient of the Provost’s Award for Distinguished Teaching in 2005, is currently at work on a book on Frank Lloyd Wright. The softcover edition of *Hemingway’s Boat* is set to release this summer.

—BC
Imagine you are watching a slide show and a photo of a beach flashes on the screen. You recognize the scene immediately—you don’t have to search for details. The next slide appears: a crowded city street. Though your heart may remain with the beach, your brain has moved on, registering this new location without the slightest hesitation. This ability, called scene recognition, has been the basis of Russell Epstein’s research for more than a decade.

“I was intrigued by how we’re able to understand and recognize complex visual scenes,” says Epstein, Associate Professor of Psychology. “We have known for quite some time that the brain can figure out what one is looking at very quickly—within a few hundred milliseconds—but we didn’t really know much about how it was done or what areas of the brain support this ability.”

To better understand the inner workings of scene recognition, Epstein has been using functional magnetic resonance imaging (fMRI) to measure blood oxygen levels within the brain, highlighting the areas that become active when subjects are shown images. In one recent study, performed in collaboration with Sean MacEvoy, a former Penn postdoc who is now a faculty member at Boston College, subjects were shown specific scenes: a kitchen, a bathroom, an intersection and a playground. They were also shown single objects that might appear in those same environments, like a stove or a bathtub. The pictures are only on the screen for one second—sometimes less.

“The goal is simple. Participants must either name the object or report whether it belongs indoors or outdoors,” says Epstein. “This is just to make sure that people are paying attention. What we’re really interested in is the perceptual processing of the scene. We monitor the neural signature using fMRI.”

In this study, Epstein found that an area of the lateral occipital cortex (LO) is involved in scene recognition—if the recognition is based on correlated objects. These results were a refinement of work that Epstein carried out during a postdoctoral fellowship, where he discovered that a different region of the brain called the parahippocampal place area (PPA) responded very strongly whenever a scene was being analyzed. Whereas the PPA may recognize scenes based on their overall appearance, the LO likely uses objects within the scene to recognize the whole.

Now, Epstein is pursuing further studies looking at the brain’s navigational abilities, working with Lindsay Morgan, a graduate student studying neuroscience. Epstein and Morgan have hypothesized that if a mapping function in the brain does exist, it would be capable of differentiating proximity between two objects and that the brain’s activity would reflect real-world distances. In order to test this, they used fMRI to measure the brain activity of undergraduate participants while they were shown pictures of prominent University landmarks like College Hall and Franklin Field. When students were shown two campus landmarks far apart from one another, activity spiked in the hippocampus—even though subjects were never explicitly asked about their locations.

“Previous experiments had shown that the hippocampus is involved in navigation, but we were the first to show that it acts like a map because its activity level tells you how far apart different places are,” says Morgan. “This shows that the mapping function of your brain operates automatically whenever you see a familiar place, like a GPS that’s always running in the background.”

Epstein and Morgan are now investigating the possibility that other brain structures might encode the direction in which participants are facing. This will likely involve showing students pictures of the same landmarks, but from varying sides of an intersection. “In order to navigate around the world, you have to know your bearings,” says Epstein. “The brain has to have its own compass.”

—BC
Otto von Bismarck is the man who created modern Germany. Although neither king nor soldier, he was able to unite Germany in the late 19th century into the European power that exists today.

“The office which German Chancellor Angela Merkel occupies is the office that Bismarck created,” says Jonathan Steinberg, the Walter H. Annenberg Professor of Modern European History. Steinberg is the author of *Bismarck: A Life*—a book that Henry Kissinger called “the best study of its subject in the English language” in the pages of *The New York Times*.

Steinberg, who has been interested in Bismarck since studying German history as a Ph.D. student at Cambridge in 1962, says he finds the chancellor so fascinating because he was “many sided” and complicated. “He was dishonest on some occasions and frank and honest on others,” he says.

Bismarck was never more than a soldier in the reserves but always wore a high officer’s uniform. He was a hypochondriac and a glutton and had paranoid dreams about people trying to undermine him. “On the other hand, he was a great, great rationalist who saw the world very, very clearly,” Steinberg says.

Bismarck served as chancellor of Germany from 1862 to 1890, mainly under William I, who died in 1888 at the age of 90. William I appointed Bismarck chancellor in order to resolve a political crisis with parliament. The king wanted to reform the army, but the parliament refused to appropriate the necessary funds unless they were given more say in affairs, which the king refused.

In this deadlock, the king turned to Bismarck.

“He was the last possible choice,” Steinberg says. Bismarck was a detested and loathed political figure with a terrible reputation. The army didn’t trust him, and most of his early moves were hated by the population. He never had a parliament that supported him, and he was not a great outdoor speaker. Yet he was successful in unifying Germany and organized three successful wars.

Steinberg attributes Bismarck’s achievements to his “public of one.” As long as he had the support of the king, he could overcome his detractors. The king, Steinberg says, treated Bismarck “like a brilliant and difficult son.” Chancellor Bismarck, in turn, treated the king “like a difficult and brilliant son would treat a father who is too weak to make the right decision.”

“I think the key to their whole relationship is not the politics, but the relationship between the king and his minister,” Steinberg says. He calls his book a kind of “psychological novel.”

—Greg Johnson
Proteins are at the very heart of life, controlling and regulating essential functions at the molecular and cellular level. One of the most important factors in how proteins operate is the way in which their molecular chains fold into different shapes. When misfolding occurs, protein function is disrupted and serious diseases can result. Yet despite our detailed knowledge of the human genome and the structure of many proteins, the folding mechanism of most proteins remains a mystery.

Feng Gai, Professor of Chemistry, explains why: “The folding occurs faster than the blink of an eye,” he says. The speed and complexity of the phenomenon have, so far, made it extremely difficult to observe with the detail and resolution needed to study it. But Gai and graduate students Arnaldo Serrano and Robert Culik, along with Michelle R. Bunagan, a former graduate student in the Gai Group and now a professor at the College of New Jersey, have developed a new technique for capturing protein folding in real time—an essential first step in understanding diseases caused by protein misfolding.

Gai and his collaborators examined the Trp-cage protein using a technique called T-jump (temperature jump) infrared spectroscopy. In this technique, a protein undergoes folding triggered by a laser heating pulse, while a tunable quantum cascade laser (QCL) acts as a “camera” to observe and follow the motions of the protein’s atoms. The different groups of amino acids that comprise the molecule can be compared to springs, which when excited by the QCL will vibrate at different frequencies according to their atomic mass. “Our ‘camera’ can detect the speed of that motion, and we can relate it to the atoms it’s made of and how that segment of the protein moves,” Gai says.

While the T-jump infrared spectroscopy of protein structure is nothing new in itself, the researchers have added an extra wrinkle to greatly improve the resolution of the technique. To help distinguish movements among highly similar protein bonds, the experimenters incorporated a carbon-13 isotope at a specific position within the protein. “We build upon the T-jump technique by using our tunable probe laser to look at multiple spectral signatures, some inherent to the peptide we studied, and some that we modified by incorporating a carbon-13 isotope into a specific position within the peptide,” says Serrano. “By monitoring these different frequencies, we were able to observe the interesting kinetics we describe in our publication.” Tuning the QCL to match the different oscillations allows separate portions of the protein components to be monitored as the peptide folds. Gai adds, “This will allow us to potentially see how a protein is misfolding in a disease.”

The team plans to extend this new spectroscopy method to study other more complex proteins and their particular folding quirks. “By understanding protein folding mechanisms, we can, for example, design proteins de novo with functions they wouldn’t have otherwise and understand the mechanisms of aggregation in neurodegenerative diseases,” Culik notes. “To begin this process, however, we first need to do basic research to discover the rules governing how proteins fold, which we can then apply and tailor more specifically to individual diseases.” —Mark Wolverton
Presidents are called on to do many things. One is to make guesses about the future, and in particular, about the possible consequences of actions on a geopolitical stage occupied by adversaries bent on manipulating events to their advantage. The crises faced by President Obama involve many such guesses, such as guesses about the consequences of expanding or contracting U.S. commitments in Afghanistan and Iraq, building a missile defense system over Russian opposition and attacking Iran.

In the best of circumstances, these guesses are the end product of the protracted exercise of imagination. Presidents may do their imagining alone, wandering through the Rose Garden or jogging around Camp David, but sometimes they assemble their diplomatic and military advisers in order to talk through various scenarios. Then the act of imagination is accomplished, in part, through the medium of language, or talk, and subject to its rules and vicissitudes.

To show why this matters we need better data than social scientists—rarely invited to sit in on Cabinet meetings—are normally allotted. However, almost 50 years ago, as he huddled with his advisers in the Cabinet Room to talk about Soviet missiles in Cuba, President John F. Kennedy flipped a hidden switch that activated a secret tape recorder. The result was an astonishing 20-plus hours of recordings of talk at the highest level of decision-making during the most dangerous moments of the Cold War, recordings that hardly anyone knew about until Watergate and that were only declassified in the mid-1990s.

This group, known as the Executive Committee of the National Security Council, or the ExComm, spent much of its time telling stories about possible futures: if we do this, the Soviets will do that, and so on. On the whole, these stories ended badly, with an escalating crisis looking likely whatever the United States did and the clouds of nuclear war visible in every direction.

Given this, how did Kennedy select a naval blockade over the main alternative, an immediate air strike? If Kennedy found a way forward, it was because the blockade plan was revisited again and again, and on each return
ExComm members were permitted to tell the story as if it had not been told many times before, judging from the lack of references to earlier tellings and the objections they elicited. This eventually made it possible for the group to tell a story about a blockade without an ending that had previously, and repeatedly, been affixed to it: that if, as everyone expected, it failed to force Khrushchev to withdraw his missiles and instead gave Soviet technicians time to ready some for firing, the U.S. could find itself bombing operational missiles a few days later, some of which could be launched, perhaps without authorization, against American cities.

Not everyone was willing to partake of this conversational amnesia, however. But when someone like Attorney General Robert Kennedy or United States National Security Advisor McGeorge Bundy tried to re-raise the alarm about the risks of bombing the missiles, they found themselves in various ways prevented from monopolizing the floor long enough to make their point—such as by being interrupted, or by being spoken over and ignored by subsequent speakers, as if no one had heard them.

Because of this, starting on October 18, 1962—three days after the missiles were discovered—Kennedy was able to repeatedly hear a story about a blockade that did not end in nuclear war. This made it possible for him to make a decision that made sense against the backdrop of recent talk, even though it meant choosing a plan of action against which much had already been said and even though after he announced the blockade he fretted about the perils thereby incurred to anyone who would listen.

All of this suggests that sometimes it is more important for a hopeful story to be told than for it to be entirely believed. Something similar happened during President Barack Obama’s 2009 Afghanistan-Pakistan strategy review. Faced with an eight-year war increasingly threatened by a resurgent Taliban, Obama summoned top military and civilian officials to talk about a possible troop increase. According to Bob Woodward’s 2010 Obama’s Wars—admittedly, a poor substitute for audio recordings—Obama sought a story that connected a modest increase to the desired outcome of (at a minimum) a stable Afghanistan inhospitable to al Qaeda. His principal military advisers, such as General David Petraeus and Chairman of the Joint Chiefs of Staff Michael Mullen, refused to provide one, however, insisting that a large increase was needed, while offering few guarantees that even that would be successful. The group talked in circles until, on November 23, Vice Chairman of the Joint Chiefs of Staff James Cartwright, representing the views of the Chiefs while Mullen was away, proposed the faster deployment of troops and their faster withdrawal arguing that the timeframe was more important than the size of the deployment (partly because it would motivate the Afghans to ready themselves to take over security operations when the drawdown occurred). Described later by attendees as a turning point in the deliberations, this was a key ingredient in Obama’s ultimate decision to send an additional 30,000 troops into Afghanistan for an Iraq-like “surge,” and to both deploy them quickly and begin withdrawing them in July of 2011.

Cartwright’s story gave Obama a way forward when, as in 1962, all options looked bad, though the plan was based on (at best) untested assumptions about how the principal actors (Afghan president Hamid Karzai, the Taliban and Pakistanis) would respond. Of course, all of this happened many months ago, and the situation in Afghanistan remains precarious. But if this crisis does not end as well for the United States as the one 50 years ago, it will probably have less to do with differences in the quality of the deliberative process, or the wisdom of the men (and this time around, women) involved, than hindsight will no doubt suggest.

David Gibson is an assistant professor of sociology at Penn. His forthcoming book, Talk at the Brink: Deliberation and Decision During the Cuban Missile Crisis, explores the secret taping of talks between John F. Kennedy and his top advisers regarding the discovery of the Soviet nuclear missile sites in Cuba.
“Ben Horton is a climate liar,” an Internet headline screamed just days after his groundbreaking study was published in the Proceedings of the National Academy of Sciences. Horton’s 2,000-year overview of the link between the fall and rise of global temperature and the ebb and flow of sea level also found an unprecedented rise of ocean waters starting at the dawn of industrialization.

Benjamin Horton is an associate professor in the Department of Earth and Environmental Science and director of the Sea Level Research Laboratory. A coastal geologist, he studies how coastlines change under the effects of shifting landmasses and a restless sea. “Sea level rise is a potentially disastrous outcome of climate change as rising temperatures melt land-based ice and warm ocean waters,” he explains.
Because his research touches on the fraught subject of global warming, bloggers and talking heads like to take shots at him. “Oh, I’ve had emails from people calling me all names under the sun,” he notes. Some responses are smart and substantive, offering plausible challenges to the science, but many attacks hurl criticism with blustering, talk-show disdain for the formidable data that he and other scientists have piled up.

“What do they think I do when I come to work?” he wonders. “Do they think I recruit graduate students and then tell them to lie—that we’re going to make up some numbers that show the sea level is rising? The science isn’t perfect, but take any variable that has to do with climate change—temperature, ice cover, glacier volume, sea level—and it’s hard to make a case that it’s not happening.”

The 2009 United Nations Climate Change Conference in Copenhagen was “an earth science disaster,” he laments. Despite a near unanimous consensus in the scientific community that human-induced climate change is underway, world leaders couldn’t agree on a treaty that set limits on greenhouse gases. Still, that doesn’t mean opinion on global warming should be “a matter of belief,” he comments, or an ideological marker on the fractious landscape of America’s political discourse.

“Why can’t we be honest and say that the fiscal implications of mitigation are too severe in this economic climate to do anything about it? I’d be fine with that. But to insist that it’s not occurring just makes you look stupid because the data is so very clear.”

From his chair, Horton gestures toward a wall-size map of the world in his Hayden Hall office, sweeping a hand across coastal regions where he has carried out fieldwork on earthquakes, tsunamis and sea levels in lands that touch the Atlantic, the Pacific and the Indian oceans. The map’s fixed boundaries, where green continents touch bright blue oceans, give an illusion of terra firma. But earth scientists like Horton know that air and land and water comprise an interlocking system of never-ending, planet-wide flux. If you want to see it, you have to observe over long timescales—or else devise a finely calibrated instrument that can measure minute changes.

“If we refuse to mitigate climate change,” he maintains, “then we’re going to have to adapt, which means we’ll need to understand how coastlines respond to sea level. To do that, you have to go back in time and find out.”

Although he didn’t invent a time machine, Horton did pioneer a method for determining past sea levels, with a high degree of precision, by looking at microscopic life forms called foraminifera. On coastal salt marshes, different species of the microorganism inhabit very specific ecological niches, tightly defined by levels of salinity, which is related to how much water flows in. He applied the technique to work out the first-ever continuous 2,000-year reconstruction of sea levels. The grants supporting the project, he stresses, were written not to confirm a hypothesis about global warming but to test whether his unusual approach would hold up when used to track sea level fluctuations far into the past.

“Salt marshes live just above sea level,” he explains, “but they need to be inundated twice a day by the tide. If sea level falls, they move seaward; if sea level rises, they move landward. They’re in equilibrium.”

That delicate balance is recorded in layers of sediment that contain the signal species of foraminifera. By identifying and surveying which species of microfossils had accumulated, investigators can calculate where sea level had been.

To do that, Horton and his team of graduate students examined the foraminifera left behind by nearly 1.5 million high tides that flowed into and out of salt marshes on the Outer Banks of North Carolina. They drilled into the mud, pulled out eight-foot cores of sediment, wrapped them in plastic and drove them back to walk-in freezers at the Sea Level Research Laboratory.

On Penn’s campus, postdoc Andrew Kemp, Gr’09, set about the tedious job of cataloguing and counting the species of foraminifera in the cores, one centimeter at a time. He also needed to determine the timeline for when the minuscule creatures lived in the layers of mud he was analyzing. For that, microscopic fragments of coastal grasses picked out of the core slices were radiocarbon dated to establish when the cross section was laid down by the sea.

But carbon dating won’t work for the near past. For the last 250 years, the scientists improvised, using the history of colonial and modern America to provide clues for time horizons in the sediment cores. Colonists kept diary accounts of plants they brought from Europe for farming, and pollen that drifted into marshlands from vegetation they introduced told the sea level researchers what year of sediment they were looking at. Traces of lead spewed into skies by the invention of automobiles (or its decline due to the removal of lead from gasoline)
as well as the appearance and disappearance of cesium-137 from atmospheric testing of nuclear weapons helped establish dates of other core strata.

The investigators analyzed two cores from sites 75 miles apart. The 2,000-year stories they told about sea level change were identical, and 70 years of sea level data recorded by nearby tide gauges further confirmed that the reconstruction was reliable.

Horton then worked with an international group of climate scientists to see how ocean levels in his model lined up with two millennia of global temperatures, which have been well established in studies of tree rings, ice cores, coral and other proxies.

Looking back in time, the researchers found that temperatures and sea level had been relatively stable from 200 B.C. to A.D. 1000. Beginning in the 11th century, during a warm period called the Medieval Climate Anomaly, sea level rose annually by about half a millimeter for 400 years. That was followed by a second period of ocean stability associated with a cool period known as the Little Ice Age, which persisted until the late 19th century. At that point, as global warming got underway, sea level has risen by more than two millimeters each year.

“So we’ve got this relationship for 2,000 years showing that temperature is driving sea level,” Horton observes. “The rate of change we see in the 20th century is far greater than anything we’ve seen for 2,000 years. It’s another piece of very, very strong evidence to show that the climate in which we have been living in the 20th century is so very different from what we had been living in prior to the industrial revolution.”

Horton cautions that scientists talk about relative sea level, which means there is no absolute ocean surface: sea level is always related to where and when a measurement is taken. In the same time period, it can be different along different coasts or even along the same coastline. “Trying to understand this very, very abrupt rise in sea level and how different the record in the Carolinas might be from other sites on the Atlantic coast or anywhere else in the world is what’s driving our research at the moment,” he says.

A $1.5 million grant from the National Oceanic and Atmospheric Administration is funding Horton’s study of the whole Atlantic coast and the development of models to predict sea level rise as well as the flooding effects of hurricanes. Core sampling from Maine to Florida reveals that sea levels had varied along the coast in some time periods of his reconstruction, but in the 20th century, all the measurements show a sudden and steep rise in ocean waters.

In the spring, he’ll meet with coastal managers, business people and shore residents to help seaside communities plan and prepare for swelling ocean waters. “We’re just going to describe our project,” he says. “We’re not going to debate climate change.”

In the summer of 2009, near a field site in Georgia, Horton and his grad students rented a house on an estuary in Savannah. They were there on an Earthwatch expedition with 10 high school kids who wanted to learn something about what real scientists do.

The landlady told the group, “I don’t believe in climate change.”

“She was a lovely woman,” Horton observes, “and she had made that decision like it was something to do with faith. I tried to convince her about the data behind climate change,” he says. “I always try to show that scientific investigation is about the search for truth, but she was having none of it.”

Meanwhile, each day Horton and his crew of young scientists put on their boots and sun block and mosquito-net hats and walked out the door into a heat wave, painstakingly compiling the data connecting climate change to Georgia’s ever-shifting coastline, in the hopes that the evidence will speak for itself.

“I’m not telling anyone what they should do,” says Horton. “I’m just saying, ‘Look, guys. Sea level’s rising.’ That’s the data.”
HIGH-YIELD INVESTMENTS

Those of us who are not scientists may have some difficulty understanding what scientists do—but we should all understand science’s impact. Francis Collins, the director of the National Institutes of Health, pointed out at a recent conference that the $4 billion in taxpayer support that went into the human genome project from 1988 to 2003 helped drive $796 billion in economic impact and generated $244 billion in personal income.

Not all science investments yield economic returns on this scale—but overall, these investments are our best bet to developments that make life healthier, easier and better.

At the School of Arts and Sciences, a commitment to science is evident in an astounding breadth and pace of discovery. In just the past few months, SAS biologists have uncovered genetic differences in populations adapted to life at high altitudes; psychology faculty have overturned the previous understanding of the timetable for language acquisition in infants; physicists have paved the way for fast, easy manufacturing of carbon nanotubes; and chemists can now watch proteins fold in real time—essential in understanding the many diseases that result from misfolded proteins.

I’m happy to report that many of you share our commitment to investing in discoveries like these. Thanks to our supporters, critical projects like the Singh Center for Nanotechnology and the Neural and Behavioral Sciences Building are moving forward and will provide the infrastructure needed for pioneering research. Other investments are helping to keep Penn a top choice of undergraduates interested the sciences, for example through innovative offerings like the Vagelos Integrated Program in Energy Research.

Yet there is always more to be done. In today’s challenging science funding environment, support from our donors for priorities including facilities, endowed chairs for science faculty and funding for graduate students—critical members of any research team—are especially important. Investments like these can make the crucial difference in keeping Penn at the forefront of discovery.

John Zeller
Vice President for Development and Alumni Relations
INCREASING ACCESS TO INTERNSHIPS

For three years, Biological Basis of Behavior (BBB) major Esther Baranov, C’12, has worked as a research intern in the Children’s Hospital of Philadelphia laboratory of Brenda Porter, an assistant professor of neurology at Penn Medicine who’s working to identify changes in the brain that cause epilepsy. Baranov has been an active participant in the endeavor, conducting online research, examining brain tissue under a fluorescent microscope and serving as an author on several papers, including one that’s already been published. Baranov calls it “an amazing experience.” She says, “When you’re in biology or chemistry class, memorizing lists and taking tests, you may not understand how it’s applicable to the real world ... but when you’re in a lab doing research, you understand the importance of knowing the basics. Applying this knowledge made me more interested in the classes I was taking.”

Because this kind of practical, real-world knowledge greatly augments undergraduates’ classroom education and strengthens their professional preparation, the School of Arts and Sciences is working with alumni and parents to expand research and internship offerings in all disciplines.

Summer is an ideal time for internships, says Associate Professor of Biology Marc Schmidt, who co-directs the BBB program, because undergraduates can immerse themselves in the experience without the pressures of their course work. Cutting-edge laboratories at the Perelman School of Medicine, the Hospital of the University of Pennsylvania, the Philadelphia VA Medical Center and the Children’s Hospital of Philadelphia welcome BBB majors. However, not all students can participate because many internships are unpaid. For those needing to earn money between semesters to help pay for their education, participating in an unpaid internship is virtually impossible.

Recognizing this, an anonymous donor created an endowment to provide funding for BBB students participating in research internships. “I’m incredibly grateful someone is willing to donate to enhance the educational opportunities of our students,” says Schmidt. “What makes this major so special is our emphasis on research ... this gift is a way to pay for room and board for the summer so the student has a place to stay and enough
money to eat and can dedicate the whole summer to working in the lab.”

BBB students aren’t the only ones benefiting from such generosity; alumni and parents are generously supporting undergraduate internships in several areas.

**PROVIDING INTERNATIONAL EXPOSURE**

Father-and-son alumni Steve, C’87, W’87, and Marty Alloy, W’62, created a fund for international relations internships in honor of their 25th and 50th reunions. They’ve supported international relations since Steve was an undergraduate in the program. They feel working in another country—using another language, being part of an international community, seeing how others work and live—is crucial for a well-rounded education in the field, but they realize travel costs can prevent many students from doing so, particularly if their internship is unpaid. “If you’re going to choose to be an international relations major, it goes with the territory that you’d have an international experience, but there are plenty of people at the University that that would be a hardship for,” Steve says.

**SPARKING CREATIVITY**

Bonnie Tannenbaum Eisler, C’79, Par’11, and Clifford Eisler, W’79, Par ’11, have funded an internship through the Kelly Writers House for students interning with cultural organizations. They were inspired by the experience of their daughter Kim, C’11, who enjoyed her creative writing experiences at Penn and once had to secure her own funding when researching the megachurches of the South. Seeing how excited she was by her project, they decided to establish a fund to provide similar experiences for other young writers. “I hope it will give them the opportunity to see that they can make things happen. It’s one thing to have an idea, but it’s another thing to make it a reality,” Bonnie says. “If this opens doors for them via a certain institution or getting published, I think that’s wonderful.”

**SHAPING CAREER PATHS**

As a founding member of the advisory board of the Roy and Diana Vagelos Program in Life Sciences and Management (LSM), Marty Silverstein, C’76, Par’11, supports internships for LSM students. This joint-degree offering of the College and the Wharton School requires its majors to complete two internships, one in life sciences and one in business. “The summer internships are one of the key elements, and benefits, of the program. They equip the students to make a key choice as they approach graduation,” Silverstein says. “LSM students will be faced with great opportunities—whether pursuing a Ph.D. program in the life sciences, a professional degree or entering the workforce. And if they do the latter, they’ll likely have the option to consider professional services such as banking or consulting as well as opportunities at some of the most innovative life sciences companies. They’re not prepared to make these choices without having had an inside view of what these places are really about. That’s what the internships can do.”

—Tracey Quinlan Dougherty
Penn Starts Here

The School of Arts and Sciences has reached an important milestone in its Making History Campaign. With a total of $33 million in external support for the Neural and Behavioral Sciences (NBS) Building, this critical priority has now entered the formal design phase—a major step in moving a new construction project from concept to reality.

The project, according to SAS Dean Rebecca Bushnell, is significant on many levels. “It’s really providing a new model for us in terms of how we think about facilities projects,” she said. “In the past, we typically approached new buildings as a way of meeting the needs of a specific department. But our approach with the NBS Building is driven by more strategic, collaborative thinking—we’re designing a building that will support the School’s priorities across departmental lines. This includes advancing exciting lines of research, attracting the best faculty in the life sciences and providing first-rate facilities to support some of our most popular undergraduate programs.”

“Collaborative” may be the best word to describe the project’s funding as well. Unlike many building projects at Penn, where most of the support comes from a single naming gift, support for the NBS Building has come from major gifts from 18 donors. A number of these gifts came from members of the SAS Board of Overseers, who pulled together last fall to bridge the financial gap required to allow the project to proceed. SAS Board Chair David Silfen, C’66, noted that he and other members of the board were “inspired by Dean Bushnell’s vision for the School, and we recognized that this project is critical to her vision and to the success of SAS’s campaign.” Taken together, gifts from SAS overseers account for two-thirds of the funds raised to date for this project.

The NBS Building will be situated next to Kaskey Memorial Park and will connect the Carolyn Lynch and Leidy Laboratories, creating a life sciences corridor for the School of Arts and Sciences right next door to major facilities of the Perelman School of Medicine. This location is expected to foster interaction and collaboration across school and department boundaries. State-of-the-art teaching spaces such as a 150-seat sunken auditorium and new teaching laboratories will benefit the large number of Penn undergraduates who major either in biology, psychology, or the Biological Basis of Behavior (BBB) program. In addition the building will provide a dedicated home for the psychology major as well as BBB—one of Penn’s signature interdisciplinary majors.

The building will also expand on Penn’s commitment to sustainability. The project architects, SmithGroup, are experts in sustainable design, and design features are consistent with Silver-level LEED certification. The building’s distinctive design has already been recognized with a Virginia Society AIA Jury Citation for Excellence in Design and an Honor Award from the Washington, D.C., AIA.
CREATING INTERNATIONAL DIALOGUE IN JEWISH STUDIES

“It’s a marriage of so many of the things that matter most to Marc and to me,” says Julie Beren Platt, C’79, of a new program in the Herbert D. Katz Center for Advanced Judaic Studies that she and her husband, Marc Platt, C’79, have helped create.

The new initiative, a summer school for graduate students in Jewish studies, is a partnership between the Katz Center and the Hebrew University of Jerusalem. Its 10-day summer seminars will feature an international faculty and will provide a forum for intellectual exchange among emerging Judaic scholars in the United States, Europe and Israel.

The highly selective program will be held in Jerusalem and Philadelphia in alternate summers. It will offer formal presentations, informal conversation, visits to sites important to Jewish history and learning, and opportunities to build connections that will be important for participants’ scholarly careers, says program co-director David B. Ruderman, the Joseph Meyerhoff Professor of Modern Jewish History and the Ella Darivoff Director of the Katz Center.

“The idea of the center is to create communities of learning, and that’s exactly what we’re doing. We’re beginning the process even before the students are finished with their doctorates so that they realize that structures of learning that transcend their own institutions are extremely important,” Ruderman says. “We’re trying to broaden their horizons.”

As a University Trustee and member of the Katz Center’s Board of Overseers, Julie Platt has supported many areas of the Center’s work, but this program is especially appealing to her. “It’s a trifecta,” she says. “We are very supportive of Israel in our philanthropy, and this gives us an opportunity to support the academic mission of Penn in addition to the academic mission of these students in Israel. The third part is that we hold Dr. Ruderman in extremely high esteem and have tried to be supportive of his mission, particularly where the Katz Center is focused. It’s all the things we care about colliding.”

This summer’s inaugural seminar, designed around the theme “Mingled Identities: Rethinking the Notion of Identity in Jewish Culture,” will be hosted by Hebrew University and will take participants to key sites in Jerusalem and on the Sea of Galilee. Next summer’s seminar, which is still being planned, will be in Philadelphia and will be sponsored by the Platts.

“They’re extremely generous people,” says Ruderman. “I feel extremely privileged that Julie has singled us out for service. I’m enormously grateful for her and Marc’s support.”

The summer school is the latest effort in the Katz Center’s long tradition of exchange with Israeli and European scholars. It’s modeled on the center’s highly successful fellowship program, which brings 20 Judaic scholars to Penn each year to participate in international dialogue and to conduct research on a common theme. Over the years, the fellowship program has brought together approximately 350 scholars from the across the United States, Europe and Israel—including medieval Jewish historian Israel J. Yuval of Hebrew University, who will co-direct the new program with Ruderman.

—Tracey Quinlan Dougherty
OPENING DOORS TO OPPORTUNITY

School of Arts and Sciences parents tell us why they support scholarships at Penn.
Tracey Quinlan Dougherty

Seeing all that a liberal arts education has given our children, we wondered how we could give back. They’ve each had such an amazing experience in the College. They’ve learned how to learn and how to adapt and gain new skills and continue to grow. Although our daughter is still at Penn, our son has graduated and works in business. He has received the feedback that he’s a good writer and a critical thinker, both things that his liberal arts education has given him. We’ll be empty nesters soon, and providing scholarships is a way to stay engaged with Penn and with young adults. It just made sense that if we were going to help that this would be the way, to give others a chance to receive the same educational and life experiences that our own children have received. We’re very happy to be able to help other young people realize their dreams.

Pictured above are Charlie and Claudia Vieth and their children, Charlie C’11, Caitlin, C’12, and William.

Charles Vieth, WG’82, Par’11, Par’12, and Claudia Vieth, Par’11, Par’12, Reisterstown, Md.

Abdul Aziz, Par’13, Par’15, and Dilshad Aziz, Par’13, Par’15
Dallas, Texas

We as parents of Penn students recognize the value of making an investment where Penn is uniquely positioned to make significant advances and contributions to society. Penn has long been renowned for its deep commitment to fostering intellectual exchange, discovery and imagination. And because the undergraduate years are a time of great personal and intellectual discovery, we have decided to become partners with Penn.
Our endowed scholarship gives a preference to students from Puerto Rico and to cinema studies majors. The ability to make preferences really personalizes the experience for us. We have two children who are benefiting tremendously from their Penn education, and we wanted to ensure the same access to other deserving students. Learning about the student recipient of our scholarship in letters from the Dean has been terrifically satisfying and inspirational.

Robert Carrady, Par’14, Par’15, and Mercedes Carrady, Par’14, Par’15
San Juan, P.R.

Often, all that stands between a great education and a terrific, brilliant person is the money. What a better society we would have if we could get that great education to those who would be able to make the most of it. Penn’s commitment to provide aid in the form of grants rather than loans allows today’s students to graduate without the debt that burdened earlier generations. Graduates can move on and do great things, making a difference to their lives, to their parents, to their communities and eventually to their own children. Being a part of this impactful program was really important to my family. The students at Penn are brilliant; they’re so deserving of the opportunities that are there. I’m glad to be able to break down the financial barrier for the few that we’re able to help.
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 May 1, 2012.

$434 million raised toward our $500 million goal.
Making a Difference, Making History...
IT’S EASIER THAN YOU THINK!

Bequests are one of the easiest ways to support Penn’s School of Arts and Sciences. Bequests have helped shape the character of SAS since it was founded, and to this day provide endowed scholarships and fellowships for future generations of students, support faculty research, and create opportunities for new and revolutionary ideas.

**BENEFITS OF A BEQUEST:**

✔ Establishes a lasting legacy
✔ Enables you to make a significant contribution that may otherwise not have been possible during your lifetime
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The Speed of Sound

Words by Blake Cole
Illustration by Jason Termini

Charles Bernstein and Al Filreis work to spread poetry to the four corners of the world.

Penn Sound
Imagine reading the lyrics to your favorite song for the very first time. The only catch? You never get to hear the music. It’s not so different with poetry, professors of English Charles Bernstein and Al Filreis will tell you—to fully experience the art, you need to hear it performed. Their solution is PennSound, an online database of poetry readings that includes tens of thousands of recordings in an easily digestible audio format, from both up-and-coming poets and giants of the genre. It’s a project that is not only changing the way we experience the poetry we love—it’s also offering up a case study in how technology can pave new paths in the liberal arts.

A resource this vast might seem too good to be true to poetry lovers, and for a while, it was. In 1995, Bernstein, the Donald T. Regan Professor of English, was working with the Electronic Poetry Center (EPC) in Buffalo, which was, at the time, the most extensive and innovative project to present poetry on the newly emerging World Wide Web. The only drawback was that the EPC was entirely text-based, and due to technological constraints, the idea of hosting recordings of readings online was a pipe dream. But Bernstein—who has published close to 50 books and pamphlets of poems, essays, libretti and translations—remained committed to the idea that audiences needed to hear the sound of the poems, qualities like rhythm and tone, to truly appreciate them.

A public radio show that Bernstein began hosting, called “LINEbreak,” finally provided a bridge to this goal. Breakthroughs in audio formats were changing the landscape of Web-hosting capabilities. This eventually allowed him to place the show’s original recordings of readings online, via RealAudio files, giving his program’s listeners and the public alike the chance to experience the poems as they were meant to be heard. “This was before MP3s were easily downloadable. Back then you didn’t have the high-speed connections,” says Bernstein. “There was a barrier to the size of sound files you have now. Getting them online was a huge priority, because it revolutionized the way poetry was consumed and archived.”

In 2003, when Bernstein came to Penn, he found an ally in Al Filreis, the Kelly Family Professor of English, Director of the Center for Programs in Contemporary Writing (CPCW) and Faculty Director of Kelly Writers House (KWH). Along with an active community of poets and writers, Bernstein encountered an entirely new pool of recorded readings that KWH had accumulated over the years.

The unassuming KWH, nestled alongside Locust Walk, looks almost out of place set against the backdrop of the high-rise dorms. Inside, however, is a bustling space for the literarily inclined, who will tell you the aging cottage’s appearance is all part of its appeal. The House had already been cultivating a rich literary community for almost a decade by the time Bernstein arrived at Penn, hosting performances featuring a wide swath of notable poets from all around the country—a perfect resource for what was to become PennSound. Combining Bernstein’s recordings from his time at The State University of New York (SUNY), Buffalo, and readings from KWH archives, the CPCW launched PennSound with Bernstein and Filreis as co-directors, and the world’s first comprehensive online database of poetry readings was born.

Soon, PennSound began receiving recordings from all reaches of the community, including those of Robert Creeley, Bernstein’s colleague from SUNY, Buffalo, and a past Kelly Writers House Fellow. “Robert Creeley, the great poet then living in Bolinas, California, fetishized the reel-to-reel tape player,” says Filreis. “He captured conversations with poets who’d just show up at his house. After he died, his son Will delivered his father’s tapes to us.”

Because poetry isn’t known for its lucrative earnings, permission to host readings of previously published material turned out to be a non-factor. “There’s not the conflict in the case of poetry as there is, say, in a new
Hollywood movie,” says Bernstein. “The new Hollywood movie costs a fortune to make and will generate millions of dollars. What we are doing is putting a great deal of value, through PennSound and the University, in archiving and preserving the material that otherwise has no real potential for revenue, which, in turn, grants these poets an increased reader base.” This open-source environment allowed for PennSound to host audio from masters like Ezra Pound and Gertrude Stein—content that lent credibility to the project in its infancy.

“One of my favorite poets, a guy named Peter Gizzi, who had apparently never really taken to Ezra Pound, happened to download his readings and put them on his iPod for a driving trip. We get a letter from him soon after saying the experience changed his life,” says Filreis. “And so here we have Gizzi finally able to ‘hear’ Pound. And who knows, at some point, years from now, when Peter Gizzi is gone, and somebody’s writing criticism about him, maybe they’re going to say there’s this point in his work where Pound starts to become a tremendous influence, and we’ll know why.”

Filreis and Bernstein hope to foster even more experiences like Gizzi’s through Jacket2, a revival of a first-of-its-kind online magazine that originated over a decade ago. A section of the publication is dedicated to identifying captivating recordings from the PennSound database, which are then contextualized by handpicked poets and scholars. This commentary, in tandem with the recordings, allows for a much more intimate experience for listeners, and is yet another way in which PennSound is redefining the Web’s role in the literary community.

“We have people participating actively in writing and thinking about poetry and poetics in real time from all over the world,” says Jessica Lowenthal, the director of KWH and associate publisher of Jacket2. “Jacket2 commentators provide briefs and backgrounds on items in the PennSound archive so that PennSound listeners now have textual guides to supplement their listening. The combined effect is a breakthrough not only for PennSound and KWH, but for the greater subject of literature, which, in the past, hasn’t necessarily been the closest of allies with technology.”
“I was in line at the grocery store one day and the guy in front of me was moving kind of slow so I glanced over his shoulder and he was listening to PennSound on his iPod. I said, ‘That’s me, I helped make this!’” Filreis laughs. “What better way to shop, after all, than to modern poetry?”

In one Jacket2 commentary, Filreis detailed a visit by poet Charles Alexander, who had come to KWH in 2001 to celebrate the life of legendary Philadelphia poet Gil Ott. Alexander read from a series of experimental sonnets called Near or Random Acts, an acronym for his daughter, Nora. “I wrote a kind of bibliographical, contextual piece,” says Filreis. “I posted photographs and links to the readings and described the event in detail, then put it up on Jacket2. You could do this with tens of thousands of our recordings—there’s a story behind all of them.”

Taken together, PennSound and Jacket2 are proving to be a powerful combination in engaging new audiences with poetry far beyond the Penn campus. “We have a staff member here named Amelia, who knew of the Writers House because her instructor in Olympia, Washington, used the materials in his classroom, specifically readings from the Writers House,” says Lowenthal. “So the space was familiar to her, even though she had never stepped foot in the building. She contacted us and said, ‘Can I do an internship at the Writers House? Is there anything like that available?’ And because we knew her professor through the project we said, ‘Yeah, Amelia, come on down.’”

In addition to their work on PennSound, both Bernstein and Filreis host “radio” shows—available through iTunes and through PennSound’s Web site—committed to enlivening the poetry community. Bernstein hosts a program called “Close Listening,” which includes readings of selected poems followed by a conversation with the poet. “The show provides listeners with not only a voice for the poem, which will hopefully lead to a new understanding and appreciation of the text, but also a deeper window into the poet,” says Bernstein. “Some of the shows even involve questions from Penn undergraduates.” Filreis’ program, “PoemTalk,” gathers three poets to discuss a single reading from the PennSound archive. Jacket2 posts summaries of these discussions, along with links to the full episodes. “PoemTalk” is additionally available through the Poetry Foundation.

PennSound’s collection continues to acquire new material at an exponential rate, including international readings from New Zealand, Australia, the U.K. and Canada. A page on the site, called PennSonido, even features Spanish-speaking poets.

In their pursuit to expose poetry to an even wider audience, Filreis and Bernstein have launched multiple new initiatives, including PennSound Cinema, a collection of films that are in one way or another related to poetry. The movies are currently streamable on the PennSound site and Bernstein and Filreis are constantly working with different filmmakers to make more poetry-related films available. PennSound Radio, the most recently launched project, streams over the Web and can be accessed on smartphones. Readings from the PennSound archive are shuffled in an attempt to expose audiences to myriad poetic experiences. Bernstein and Filreis hope these various media will advance their goal of delivering poetry to a global audience.

“I was in line at the grocery store one day and the guy in front of me was moving kind of slow so I glanced over his shoulder and he was listening to PennSound on his iPod. I said, ‘That’s me, I helped make this!’” Filreis laughs. “What better way to shop, after all, than to modern poetry?”

Visit PennSound at http://writing.upenn.edu/pennsound/.
The stories historians tell, even when guided by dates and data, are powerfully affected by assumptions, emphases, interpretations and points of view the storyteller brings to the narrative. In other words, the notion that historians tell us the history of America is a claim to be doubted. But they can tell us a history that illuminates something from the past that was likely missed, or at least unappreciated, in some other telling of the tale.

Richter has made a career out of uncovering and telling some of the histories that make up the bigger story of colonial and pre-colonial North America. He is the Roy F. and Jeannette P. Nichols Professor of American History and the Richard S. Dunn Director of the McNeil Center for Early American Studies. An expert in colonial and revolutionary North America and Native American history, he majored in history as an undergrad because he believed it was a good preparation for law school. A course on U.S. constitutional history, which required the class to write Supreme Court briefs on past cases, taught him how little he enjoyed legal research and argument. “I became a historian because I didn’t want to be a lawyer,” he jokes, “but my history classes introduced me to the idea that it was possible to explore the worlds of people very different from us who lived in the past.”

Reconstructing chronicles of long-ago worlds involves much more than lining up and reciting the facts that scholars know about the past. Sources are often incomplete or biased or ambiguous, and historians use a prudent creativity to make connections and fill in the blanks. “The past isn’t just there telling you its own story,” he stresses. “It doesn’t come up and knock on the door saying, ‘Here is what I mean!’ Part of the fascination—and the hardest part of history—is disciplining your imagination to find ways to get across the gaps.”

In his most recent book, Before the Revolution: America’s Ancient Pasts, Richter unravels the violently intersecting chronologies of Native Americans and Europeans from a half century before the landing of Columbus through the “gloomy and dark days” of racial hatreds and mutual massacres at the dawn of the American Revolution.

“I think there’s still a narrative in people’s heads that says, sometime around 1620 a group of English people came to North America to get free somehow,” he suggests, “and then suddenly they had a revolution.” According to this conventional way of telling the story, the colonial period is little more than a historical antechamber to the rebellion and war waged by 13 colonies against British tyranny and the achievement of independence for a new nation.

“From the Pilgrims to George Washington—that’s 150 years!” Richter exclaims. And that’s not even counting everything that came before the landing at Plymouth Rock—in Europe and in North America. “Isn’t there an awful lot that must have happened, and shouldn’t there be a history that we can talk about?”

That’s the story Richter’s book gets at. “For historians,” he adds, “the field has blossomed with all kinds of
local histories and micro-histories. If there ever was an overarching way of putting all that together, it dropped out of the picture."

He had already flipped around the usual way of looking at history in an earlier book, *Facing East from Indian Country: A Native History of Early America*, where he imagined colonial America’s western frontier from the other side. “[O]ur usual perspective on early American history faces west,” he writes. “The plot lines flow from Europe across the Atlantic and thence to the Mississippi.”

The Facing East exercise wasn’t a matter of getting inside the heads of 17th- or 18th-century Native Americans, which he thinks is presumptuous for a 21st-century white man. The scholarly task he set for himself was more a careful reportage that tried to imagine and build up, with sparse sources, a story told from a viewpoint in Native America. From the vantage of peoples looking out from the continental interior, “the process by which one particular group composed of newcomers from Europe... came to dominate the others becomes a much more complicated, much more interesting, much more revealing, if no less tragic, tale,” he writes. The book was a 2002 Pulitzer Prize finalist.

In *Before the Revolution*, Richter shifts back and forth between eastward-looking and westward-looking storytelling to construct, if not a grand narrative, then a more inclusive survey of the centuries preceding American independence.

“[T]o understand fully the society that grew up in North America after 1776,” he writes, “the cultural forms that accumulated before anyone dreamed there would be a United States need to be excavated—and understood on their own dynamic terms.”

That approach led him to put together a layered story, a “geology” of periods tied to six sequential cultural strata defined by people he calls progenitors, conquistadores, traders, planters, imperialists and Atlanteans.

“What I was searching for was a way to think about chronology and development,” he explains. “The idea is that these cultural forms structure everything that’s laid down on top of them. Understanding the sequence in which these forms come into being and build upon and sometimes destroy parts of what was lying underneath is maybe a useful way of seeing historical change.”
Richter’s story begins in Indian Country with two examples of great Native American cultures flourishing around the year A.D. 1000: the ancestral Puebloans of the Southwest and the peoples of Cahokia, a political, cultural and trading center in the Mississippi Valley. Using largely archeological evidence, he discusses patterns of politics, warfare, kinship, trade, religion and land use in the civilizations of these North American progenitors. He also points to a period of medieval global warming that fostered new forms of agriculture—including the cultivation of corn, beans and squash—that spread across the continent.

“Stuff was happening,” he insists. “People weren’t just sitting around in paradise waiting for Columbus to show up and ruin everything.”

Soon, English, French, Dutch and Spanish imperial states were competing and conniving for expansion in Europe and North America. Some Native American nations were adept at playing one power against another to their own advantage, maintaining their independence while advancing their prosperity. But Richter maintains that the wars and revolts that flared up in the struggle for dominance among the imperialists were a “blood-drenched disaster” for Native Americans and colonists.

As things cooled in the latter part of the 18th century, North America, Europe and Africa were bound together across the Atlantic on vigorous imperial and economic networks. The planters imported slaves and exported agricultural goods, which reinvigorated the transatlantic seaborne commerce that had served the earlier traders. Native Americans were integral partners along with colonists in the exchanges that crisscrossed the ocean in a British-dominated culture that Richter calls “Atlantean.”

Along with sugar, tobacco and slaves, ideas moved freely along the Atlantic trade routes—ideas about liberty and independence, the tearing down of old institutions and establishment of constitutions that articulate individual rights. “They’re not American things,” Richter contends. “They’re Atlantic things. It’s all these connections of that Atlantic world that come together to create this thing called the American Revolution. It’s part of this great global phenomenon of the 18th century.”

All of the strata in Richter’s layered story of early America would be covered over by the revolution, “but those ancient worlds remain beneath the surface to mold the nation’s current contours,” he writes.

The suggestion is troubling because Before the Revolution tells a dark and brutal tale of continuous violence: Europeans against Europeans; Europeans against enslaved Africans; Europeans and settlers against Native Americans; Native Americans against colonists; and Native Americans against other Native Americans. It’s a way of telling America’s history that Richter would like people to think about more.

“It’s not always a comforting and affirming story,” he says, “but I think one of the jobs of a historian is to make readers uncomfortable. If I’m right that these layers of our past are what structure our society, then maybe we haven’t looked into them very much because we don’t want to see what’s there.”
This past year, tensions surrounding social and economic inequality came to a boil in cities around the world, from New York to Oklahoma to London. Protesters have picketed in droves against what they perceive as corporate greed and a lack of regulatory oversight of financial districts like Wall Street. The Occupy, or 99 Percent movement, has become a household term and has divided large portions of society along ideological and political lines. Three SAS faculty provide their perspectives on lessons history can teach us about social and economic inequality and where we go from here.
A vast and unbridgeable economic and social gulf separated a wealthy member of Rome’s senatorial aristocracy, who resided at Rome for the parts of the year that suited him before fleeing to his seaside villa on the Bay of Naples during the summer months, from the small farmer renting a portion of one of his many estates, who might in addition undertake periodic waged labor and, perhaps, farm his own small holding in pursuit of sufficient produce to satisfy his family’s subsistence needs. As much as 90 percent of the population of the Roman world might be categorized as the “have-nots,” as against the fabulously wealthy elites whose written works and physical monuments dominate modern perceptions of that world.

However, this immense inequality was, in part, mitigated by two phenomena. First, embedded within Roman society was an ethos of patronage, a mutually binding, reciprocal relationship between individuals of unequal status. Indeed, textual evidence attests such relationships even between the senator and tenant farmer mentioned above. Second, Roman aristocrats acknowledged the close connection between wealth and social standing, on the one hand, and responsibility to the community, on the other. Public beneficence, in the form of building projects, distributions of grain and other foodstuffs, the provision and endowment of public religious festivals, even the payment of a community’s collective tax burden, was part and parcel of a wealthy Roman’s self-representation and self-perception.

The Roman world was undeniably characterized by economic gulfs every bit as vast as the greatest that exist today. It is reasonable to ask how widespread the phenomena emphasized here were in reality. Nevertheless, for some of the disadvantaged, at least, economic inequality was in some small measure mitigated by practices of giving and beneficence that were ingrained in the culture of Roman society’s wealthiest members.
don’t worry that much about inequality. Sociologist Seymour Martin Lipset has argued that America’s distinctive value system—which prizes personal liberty at the expense of either collective endeavor or equality of results, and as a result leads us to accept wide income inequalities rather than contesting them politically—has such deep historical roots as to be nearly immutable. Indeed, our national narratives and myths surrounding income and wealth, from Horatio Alger to Bill Gates and Steve Jobs, would seem to support this view. But we can’t explain a variable (the political acceptability of inequality) with a constant (American culture)—so we need to look elsewhere for an explanation of why inequality is suddenly a hot political topic.

Another explanation is the rise of the Occupy movement. One scholar found that from October 2010 to September 2011, the word “inequality” regularly occurred in about 400 articles per month in U.S. newspapers. But in October 2011, after the Occupy protests began, the number jumped to over 1,200. The use of “greed” and “richest one percent” rose even more dramatically. The Occupy movement, by raising awareness of an issue and giving us language with which to discuss it, might be responsible for this shift in public discourse.

But while the Occupy movement has without a doubt influenced the debate—perhaps most importantly by making it harder for Republicans to tar political critiques of unbridled capitalism as “class warfare”—the emergence of the movement is more likely a result of the rising salience of the issue of income inequality, not its sole cause. Income inequality has become more salient because in the economic context of 2011, the steadily eroding wages of middle-income Americans finally became unbearable. The credit crunch and housing crisis reduced Americans’ ability to finance consumption through debt, and layoffs reminded many Americans that earnings sufficient to allow for some saving for a rainy day were really a must. At the same time, the bank bailout and the continuing revelations of malfeasance in the mortgage industry have given finance—the perceived home of many of America’s top earners—a bad name. The combination of rising grievances, a visible set of “perpetrators,” the very effective political framing of the issue by the Occupy movement and the political opening presented by a Democratic president with weak approval ratings and little to lose, created the perfect climate for the emergence of inequality as a new political issue.
WHAT HAPPENED TO ECONOMIC INEQUALITY IN THE GREAT RECESSION?

Dirk Krueger
Professor of Economics, Director of Graduate Studies

Scholars studying economic inequality in the early 1970s concluded that this area of research was about as exciting as watching the grass in your backyard grow. For a long time, not much had happened. But starting in the second half of the ‘70s, economic inequality increased massively along many dimensions, a trend that continued, albeit at a slower pace, in the 1990s and the early part of the last decade. Then, the most severe economic downturn since World War II—referred to among economists as the “Great Recession”—hit the U.S., and the world. Although the Great Recession has been dated by the National Bureau of Economic Research as lasting from December 2007 to June 2009, and thus is now officially over, unemployment remains high at 8.3 percent and economic activity has recovered little relative to its long-run trend.

But what has happened to economic inequality in the Great Recession, and how does it compare to previous economic downturns and to the long-run trend in inequality? This is a complex question, not the least because the answer depends on how inequality is measured (earnings, income and consumption inequality) and compared to whom (households at the top, middle or bottom of the distribution). There is little doubt that household earnings inequality has risen sharply in the recession, continuing a trend of rising inequality in income derived from labor that started some 30 years ago. During the Great Recession most of this increase is attributable to rising inequality at the bottom of the earnings distribution (as measured by the 50/20 ratio, the ratio between median household earnings and earnings at the 20th percentile of the distribution). Earnings inequality at the top (measured by the 95/50 ratio) in contrast rose only modestly during the Great Recession. This development is typical of previous economic downturns, but much more pronounced in magnitude. It happened against the backdrop of a long-run rise in earnings inequality that was driven in substantial part by a widening of earnings differences between top and median earnings households.

But most economists think of earnings as a means to an end and envision lifetime economic well-being as determined by consumption and leisure. Even though current disposable income might also only be an imperfect proxy for lifetime consumption and leisure possibilities, it gives a more accurate picture of at least the current ability of households to consume and save. This picture differs significantly from that of earnings. Disposable income inequality displays the same long-run increasing trend, especially at the top of the distribution. However, during the Great Recession, and in contrast to earnings, disposable income did not become significantly more unequally distributed, neither at the top, and perhaps more surprisingly (in light of the earnings inequality trends), nor at the bottom of the distribution. The 50/20 ratio for disposable household income in 2010 and 2011 is roughly at the same value as in the early 2000s. Public social insurance payments, especially unemployment benefits, play a prominent role in explaining this divergence between earnings and disposable income inequality. Consistent with disposable income inequality, inequality in consumption expenditures has remained fairly steady through the Great Recession.

The recent trends in economic inequality are multifaceted. However, even those that take comfort in the fact that disposable income inequality has not changed much during the Great Recession should be reminded of two facts: (a) inequality in disposable income is significantly larger now than it was 30 years ago, and (b) during the Great Recession median income levels fell, and therefore those at the bottom 20 percent of the distribution might not have seen a fall in their relative incomes but still a fall in their absolute incomes.
Sophomore Aelita Parker recently had to go three hours without using the letter K in speech. On another day, she had to count all the windows in Harnwell College House. These weren’t initiation rites for a social organization. They were penances imposed by her classmates for breaking the rules in her religious studies class, “Living Deliberately: Monks, Saints and Contemplative Life.”

Justin McDaniel, Associate Professor of Religious Studies, designed the course to give students an understanding of the ascetic traditions underlying major religions around the world.

“Most religious traditions worldwide have some form of asceticism or monasticism embedded in their religion. Often it’s seen as the ideal of the religion,” McDaniel says. “Why is that? Why do you have a global history of people believing that in order to get to some sort of paradise they have to place restrictions on themselves in this life?”

To help students draw their own conclusions, McDaniel, an expert on monastic traditions who once spent time in a Buddhist monastery, imposes a unique set of course requirements that mimic the ascetic behaviors common to monasteries around the world. In class, students adhere to a strict dress code, participate in chants, enter and leave the room in silence and refrain from eating, drinking or using electronic devices. Outside class, they follow an increasingly stringent set of rules that culminates in a month-long vow of silence. They must wake at 5 a.m. without an alarm clock. They must meditate. They must practice a daily act of kindness. They cannot use electric devices except for light bulbs. They cannot touch other people. They can eat only unprocessed food and only during daylight hours. An infraction committee imposes punishment on those who misstep.

The aim of these rules, says McDaniel, is not to advance a particular religious viewpoint, but to increase students’ awareness. “I thought the best way of doing this would be to have students try restrictions themselves, not just studying about people, but studying from people. In that way, I think they take it more seriously. In class we might discuss fasting. Well, if you’re on a fast yourself, you’re going to pay attention to it more,” McDaniel says. “In the sciences we have labs, but in the humanities we don’t often have hands-on experiences. We’re trying to do something different.”

Far from being a deterrent to potential participants, the course and its offbeat rules are actually extremely popular. Ninety-six students from all four undergraduate schools signed up for the 15 spots available last semester. McDaniel talked with all 96 beforehand to make sure they fully understood what would be expected of them. Not a single student who began the class in January withdrew.

The course has no tests, papers or required readings. The students self-grade in consultation with McDaniel and an assigned partner from the class. McDaniel says the participants are usually quite hard on themselves, but they typically do well in this course and in those they take alongside it.

“I’ve never had a student that hasn’t done better in their other courses when you take away all Internet, all TV, all radio, all headphones, email, Facebook, any electronic communication whatsoever,” says McDaniel, who’s now offered the course three times. He says his fellow faculty members have been quite supportive of his students’ unusual requirements and have given them leeway in completing their coursework in a way that...
doesn’t impinge on their restrictions. Students are permitted to speak in their other classes when required, but they usually print out hard copies of Web-based assignments before the technology ban goes into effect and hand-deliver completed assignments to their professors instead of submitting them electronically. Professors who provide reading materials online often forward the materials to McDaniel so he can distribute paper copies to the participants in his course.

Is there a benefit to living an ascetic life? Parker, who now knows there are more than 1,200 windows in her college house, thinks there is. Freed from the distractions of texting, social media and idle conversation, she had a lot more time to think. She was able to get to know herself better and to consider what she’d like to do with her life, she says. “I’m not positive what I want to do yet, but I know that to know that I have to know myself. I have to know my passions, my beliefs, what moves me, what sustains me,” she says. She’s currently double-majoring in criminology and psychology, but participating in this course has led her to consider other options. “We write in a journal every half hour, and it’s made me remember how much I love writing,” she says.

As a result of the course, she’s thinking about changing her major—right after she indulges in a pizza and some hazelnut chocolate.
CLOSE ENCOUNTERS

On a December expedition to Uganda, nature photographers John J. King II, C’74, and his wife Pam spent two days tracking wild mountain gorillas through a rainforest. On the third day, the Kings woke to find the gorillas had in turn tracked them and were strolling through their camp.

Videos of this incredible interaction have attracted nearly six million viewers on YouTube and garnered international attention for The Common Flat Project, the couple’s online initiative to showcase their wildlife photography and underscore the importance of biodiversity and conservation. Since his days as an anthropology major, he’s been a crab fisherman in Alaska, started four high-technology businesses and served as senior vice president of Merck Research Laboratories. Since his retirement four years ago, he and his wife have been traveling the world to document its remaining natural places.

Q: There are only about 800 remaining mountain gorillas. As one of the few who’ve interacted with them so closely in the wild, how would you describe your experience?

King: At the time it was of course very surprising. We never imagined they would stop or there’d be any kind of interaction. I just happened to be sitting with a movie camera, and as they were walking by, one of the young ones stopped. So I just tried to remember what I was coached to do, which was to be passive. I could feel the breath of the young gorillas as they were grooming me. And then when the sub-adult female came by, it escalated because she’s a much larger animal, and she was behind me, and she had both hands on me. So I remember being totally energized. It was a little disconcerting knowing that the silverback was also sitting right behind me. He’s a really large animal and extremely protective of his family. Later, we were euphoric.

Q: What other species have you photographed?

King: We’ve traveled to all seven continents, and we’ve photographed everything we’ve seen. We live on Cape Cod, and when we’re not traveling, we spend time in the wild here. We’ve spent a fair amount of time following and photographing humpback whales here, as well as in Alaska and the Caribbean. We just came back from an experience off the Dominican Republic where we were able to snorkel with humpback whales, particularly newly born calves with their mothers. We’ve also been diving with white sharks in South Africa, and we’re among the fewer than 250 westerners who have ever seen and photographed a snow leopard in the wild.

Q: You’ve spent most of your career in biotechnology. What led you to this new effort in conservation and biodiversity?

King: My wife and I like to travel, and we realized about four years ago, when we shifted gears professionally, that there were a lot of wild portions of the world that we hadn’t seen. We wanted to see them and if we could, record them. We had been interested in photography for a long time and realized we could raise awareness of the importance of biodiversity by documenting unusual encounters. For example, recently we collaborated with the African Wildlife Foundation [http://www.awf.org/] so that the millions of viewers of our gorilla encounter could be connected directly to their great work in support of mountain gorillas and other wildlife. We use proceeds from the sale of our photographs to support charities that we think are consistent with this conservation message. Pam and I also collaborated on a book of photography called Wild Cape Cod, which is due out this summer. So it’s just kind of taken off.

—Tracey Quinlan Dougherty

To view King’s video, Touched by a Wild Mountain Gorilla, please visit: bit.ly/king-gorilla
BROTHERS OF INVENTION

What do cell phone antennas, recording studios and jet planes have in common? They’re just a few of the areas in which innovative brothers Ashutosh, C’93, and Vinit Phatak, C’92, have made a mark on their native India.

Ashu, a former economics major, is a successful composer and musician who created the integrated music company blueFROG to energize and professionalize the Mumbai music scene. As India’s first full-service, professionally run music recording, production and performance facility, blueFROG offers local and international musicians amenities like high-quality recording studios, a popular performance venue and professional composing, branding and promotion services all in one spot. He recently opened a second blueFROG in Delhi and hopes to expand to other areas.

Meanwhile, Invision Air, a fleet of small executive jets started by his brother Vinit, who studied philosophy, is helping to open burgeoning areas of rural India to business travelers. The telecommunications supply company he started in 1996 provided the base station antennas for nearly all of India’s wireless telephone operators just as the industry was beginning to boom there, and his Meridien Inflatables provides marine and aviation safety devices for the country’s shipping industry and military.

Q: Vinit, you’re involved in aviation, but you’ve also been successful in other industries. How did one thing lead to another?

VP: I’ve always been fascinated by airplanes. When I was 10, a family friend took me up in a Cessna 172, and I was hooked. After I graduated from Penn, I spent a year working for a start-up real-estate finance company in Los Angeles, but aviation was all I could think about. I moved back to India and tied up with an aviation equipment manufacturing firm in LA to sell their products in India. Unfortunately, within a few years the Indian airline industry collapsed, and I knew it was time for me to move on but with the thought that I would return to aviation one day. The next thing seemed to be telecommunications, which was transforming the way we communicated.

Q: How did you create a space for yourself in the communications industry?

VP: After much research, I realized the antenna was a critical component in the network infrastructure. I found out whose were the best in the world—Kathrein, Germany—gave them a call to ask if I could sell their products in India, and the business began. The safety equipment business came up when a banker friend asked me to help him when his father passed away and left him with a small business that manufactured and supplied niche products for military aircraft and ships. As I was looking to diversify, it seemed like a good opportunity. Then in 2005, a friend and colleague who worked with me on the telecom business and was also a former air force pilot pointed out that there was a completely new kind of jet being developed with space for
only four passengers, low capital and operating costs and great performance. It also could land on very small rural runways. From our telecom business we knew that significant growth was happening in rural India, but physical connectivity to these locations was still extremely poor. So why not do

and a half. These jets allow executives to reach their locations very easily, making them much more efficient. One can actually go to multiple cities in one day, which is impossible by commercial airline. Last month we carried someone to six cities in one day for meetings.

with light jets what we had done with antennas? Using antennas, we helped parts of India get connected via voice; using light jets we could help parts of India get connected via travel.

Q: How have light jets changed the nature of doing business in India?

VP: Light jets allow business people to travel to up to 200 destinations in India, while traditional airlines only cover 80 destinations. India is growing at a pace of about 7 percent per year, and a significant part of this growth is in rural areas. But getting there by car or train can take anywhere from seven or eight hours to a few days. With a light jet, you can reach these areas within minutes or at the most an hour

Q: Ashu, your company also has been transformational in its industry. What makes blueFROG different from existing night clubs or recording studios?

AP: Our focus is on programming, and we do it six days a week in two venues. We also curate music festivals, have a music consultancy business and have state-of-the-art recording studios, all of which work in a synergistic manner. Apart from this, the fact that it was set up by musicians makes it unlike any other company of its kind.

Q: What has its creation meant for artists and music-lovers in Mumbai and elsewhere?

AP: The idea popped into my head out of frustration. As a musician who wanted to create and perform independent music (non-Bollywood), there was nothing—no venues to play in, no label to support and not that many great studios. So the only way out was to create a situation that would enable and empower musicians to follow their dreams and passions. The intention was to be a catalyst in a musical revolution, and I’m proud to say that we have done just that.

Q: Both of you have incredibly multifaceted professional lives. What does it take to be successful in careers encompassing such diverse fields?

AP: I guess I enjoy every moment of everything I do, and I never feel like I’m working. I love composing music, and composing for advertising has taught me a lot, as I’m often doing multiple commercials for different products, with different genres of music, in one day. I see blueFROG with its multiple businesses as an extension of this.

VP: Surround yourself with good people and be constantly curious. When handling diverse fields you cannot be an expert in all areas, so you need really good specialists in each sector whose integrity and domain knowledge is impeccable. You have to have a strong personal and trusting relationship with them that allows for the real truth to flow through to you no matter how good or bad it is. Besides that, a constant desire to learn and curiosity about the details is what keep me going.

—Tracey Quinlan Dougherty
What does this painting reveal to you? A couple stranded, in need of rescue; or bathers reveling in the moonlight—or perhaps something entirely different? Mystery is all part of the plan, says Fine Arts major Becky Bailey, C’12, who in 2010 studied at the International School of Painting, Drawing, and Sculpture in Italy on a Kelly Family Travel Fellowship and in February 2012 was awarded a Kelly Research Grant. “The piece, called The Beginning, represents an enigmatic moment within a larger, unknown story.” The painting is part of a series inspired by storytelling.

The Beginning, 4’ x 6’, oil on canvas, 2011.
Though the college experience varies from one generation to the next, every Penn graduate is linked by the history and traditions of a common campus. Penn Back Then is a chance to learn about university life across several decades, as told by the people who know it best.

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