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#### “The Music of the Spheres”
Over the summer my desk moved a few dozen yards to the east in College Hall, as I made the transition from serving Penn as Senior Vice Provost for Research to Dean of the School of Arts and Sciences. The move down the hall was a short one, but viewed through the lens of my long association with Penn, it’s been years in the making.

Among the people who will be finding this publication in the mailbox, there are many I already know: classmates from my days as a College undergraduate and then later as a graduate student in psychobiology, along with my former students in the Biological Basis of Behavior program. It’s a reminder to me that while I’m new as dean, this community has long been my home.

The past four months have underscored for me what I have known for many years: that Penn Arts and Sciences is an extraordinary place. I have already met with many of our outstanding faculty and had the opportunity to celebrate their considerable accomplishments, such as the MacArthur Foundation prize awarded to my colleague in psychology, Angela Duckworth (see p. 3). We have welcomed another cohort of exceptional undergraduates to the College Class of 2017, and recruited some of the most promising young scholars from across the country and around the world to our doctoral programs.

I have discovered something else exceptional about the School: this is a very busy place. So far this year, our undergraduate programs have continued their efforts to implement assessment plans with the goal of improving curricula and pedagogy. We are deeply engaged in exploring the potential of online learning, through both credit-granting courses offered by the College of Liberal and Professional Studies and the new frontier of massive open online courses we are making available through Penn’s partner, Coursera. We recently marked the formal opening of the Singh Center for Nanotechnology, a world-class facility shared with the School of Engineering and Applied Science that will enhance interdisciplinary collaboration and discovery in this cutting-edge field (see p. 2). Soon we will launch construction on the long-awaited Neural and Behavioral Sciences Building. And planning has begun for the Perelman Center for Political Science and Economics, which will provide a new home for two of our core social science departments at the corner of 36th and Walnut Streets, thanks to the generosity of Ronald O. Perelman.

In addition to all of the events and activities yet to come, we have embarked on a comprehensive strategic planning process that will build on the School’s existing foundation of excellence. Over the course of the year, my primary focus will be to engage with faculty, students, staff, alumni, and colleagues across the University, listening to their perspectives on the School’s strengths and challenges, and using this process to inform a vision for our future.

By reflecting priorities that are set by the School as a whole, the plan will be an invaluable tool in guiding us as we continually seek to direct our resources to those areas where we may achieve the maximum impact. The plan will also be an effective way for us to communicate our values and goals to a broader scholarly community, our Penn colleagues, our friends and supporters, and the general public.

In arriving at a shared vision for the School’s future, the process is at least as important as the result. In this process, the faculty, students, alumni, and staff of the School are already proving themselves extraordinary partners. I’m energized by the work being done and the sense of momentum all around me, and I count myself lucky to be back in my original academic home.
KRISHNA P. SINGH CENTER FOR NANOTECHNOLOGY OPENS

The University of Pennsylvania officially opened the Krishna P. Singh Center for Nanotechnology on October 4. It is the region’s premier facility for advanced research, education, and innovative public/private partnerships in this emerging field, one that has implications for everything from regenerative medicine and targeted drug delivery systems to innovations in electricity storage and creation.

Faculty from Penn Arts and Sciences, the School of Engineering and Applied Science, and others across the University will make use of the Singh Center’s state-of-the-art characterization and fabrication suites. Beyond serving engineering, physics, and chemistry, the Singh Center is open to individuals from all of Penn’s 12 schools.

“The Center’s facilities will allow researchers from a range of fields to analyze structure in the finest possible detail, from anthropologists working with ancient artifacts to biomedical researchers developing therapeutic molecules,” says Steven Fluharty, Dean of Penn Arts and Sciences and Thomas S. Gates, Jr. Professor of Psychology, Pharmacology, and Neuroscience. “Its impact will be felt far beyond the field of nanotechnology.”

The Singh Center will also help Penn-developed technology move from the lab to the marketplace via connections with local industry development leaders. Pharmaceutical companies, computer chip designers, and others in the region will make use of the Center’s facilities.

The Center won a 2013 American Architecture Award and a 2013 International Architecture Award, presented by the Chicago Athenaeum Museum of Architecture and Design and the European Centre for Architecture Art Design and Urban Studies.

VISUAL STUDIES CELEBRATES 10 YEARS AT PENN

“Every week I receive excited e-mail messages from prospective students all over the country who have discovered Penn’s Visual Studies Program,” says Professor of History of Art Michael Leja. Leja is the director of this undergraduate program, which is now celebrating its 10th year.

Visual Studies represents one of Penn’s unique interdisciplinary undergraduate offerings, sitting at the intersection of art and the science of vision and bridging divides between scientific and philosophical theories, historical and cultural thinking, and fine arts. Students in the major explore the science of vision and the workings of the brain, as well as the philosophical considerations of vision and the history of how humans have used vision for cultural expression. All visual studies majors must complete a senior project, which has both a written requirement and a visual component, called the “making,” which is displayed at the end of the year.

The program, according to Leja, continues to grow steadily. An architecture track is now available, and an active undergraduate advisory board hosts guest lectures and other events. He notes that prospective students say “They can’t find programs like it at other universities, and they wonder why. I can give them one good reason for the program’s rarity: It requires a particular configuration of faculty with intersecting specializations across five or six academic departments—psychologists, artists, philosophers, art historians, architects, cognitive scientists, and designers—all studying vision and images and wanting to do so collaboratively.”
ANGELA DUCKWORTH AWARDED MACARTHUR “GENIUS GRANT”

Angela Duckworth, Associate Professor of Psychology, has been named a 2013 MacArthur Fellow. The “genius grant” goes to individuals in the arts and sciences who display extraordinary ingenuity and dedication to their work. Duckworth might call that second aspect of the award criteria “grit.”

A research psychologist, Duckworth was tapped to be a MacArthur Fellow for “transforming our understanding of the roles that grit and self-control play in educational achievement.” Duckworth defines grit as the ability to sustain and work toward long-term goals, despite setbacks, and self-control as the regulation of one’s behavior through concentration and effort. These—more than intelligence, quality of instruction, family life, or income—determine a child’s educational achievement.

“It’s thrilling for us to see an individual as deserving as Angela receive this kind of recognition,” says Steven Fluharty, Dean and Thomas S. Gates, Jr. Professor of Psychology, Pharmacology, and Neuroscience. “From the time she came to Penn as a doctoral student she has been a valued colleague whose research, engagement, and teaching have been an inspiration to students and fellow faculty alike. It is an honor that we can count her as our own.”

Duckworth is currently researching ways to cultivate grit and self-control in children and in the education system. Through the MacArthur Fellowship she will receive a no-strings-attached stipend of $625,000 over five years. The annual fellowship is awarded to individuals who have a track record of compelling achievement and show promise for future advances.

Duckworth earned her doctorate in psychology from the University of Pennsylvania in 2006 and has been teaching at Penn since 2007.

BIOETHICS FOR UNDERGRADS

Starting this fall, undergraduates in the College of Arts and Sciences have a new academic option: a minor in bioethics. The first cross-school minor between the Perelman School of Medicine and the College, this interdisciplinary program involves perspectives from anthropology, history and sociology of science, philosophy, political science, and sociology, as well as medicine.

The bioethics minor is intended to give students a broad overview of the methods, central ethical questions, and content areas that comprise the field of bioethics. “Penn is the best place in the country, if not the world, to study bioethics, and all that expertise is readily available to our undergraduates,” says Jonathan Moreno, David and Lyn Silfen University Professor of Medical Ethics and Health Policy, of History and Sociology of Science, and of Philosophy. “Already I have bioethics minors in my graduate class. This minor recognizes that strength and will help to organize the way our students learn about the field.”
MARTHA FARAH TO DIRECT NEW NEUROSCIENCE PROGRAM

This fall, the University of Pennsylvania’s Center for Neuroscience and Society is partnering with Penn Arts and Sciences to offer a first-of-its-kind graduate certificate program that aims to educate non-scientists about the workings of the brain: the Social, Cognitive, and Affective Neuroscience program, or SCAN. For students from a variety of Penn graduate programs, SCAN provides insight into neuroscience’s relationship to a range of disciplines.

Martha Farah, the Walter H. Annenberg Professor in the Natural Sciences in the Department of Psychology and the director of the Center for Neuroscience and Society, is heading the program. “Many different fields are now incorporating the ideas and methods of neuroscience, from law and education to social sciences and even humanities,” Farah says. “Our aim is to empower graduate students in these areas to be leaders in this new interdisciplinary trend. We will equip them with a critical understanding of what neuroscience can and can’t do and the know-how to undertake their own good, rigorous, interdisciplinary work.”

All participants will take two core classes that will introduce them to the foundations of neuroscience, with an emphasis on the neuroscience of human thought, feeling, and action. The other two courses will be chosen from advanced classes in neuroscience, courses on the impact of neuroscience on society, and “bridging” courses set in the student’s own discipline, be it law, business, education, or another field.

TWO STUDENTS WIN INTERNATIONAL REPORTING FELLOWSHIPS

In a pilot partnership with Penn’s African Studies Center, two students have been named 2013 Pulitzer Center International Student Reporting Fellows.

Diksha Bali, C’14, W’14, is interning in Ghana at the Yonso Project through Penn’s International Internship Program. She is reporting on trash disposal in the country, investigating the institutions and practices involved, and looking for solutions to unsanitary conditions and bad management. Bali is pursuing a double major in English and economics.

Luke Messac, a graduate student enrolled in a dual-degree M.D./Ph.D. program in the Department of History and Sociology of Science and the Perelman School of Medicine, is in Malawi reporting on the country’s ongoing economic crisis and the effects of health user fees, especially on the rural poor, at hospitals and health centers.

Bali and Messac are among nearly two dozen undergraduate and graduate fellowship recipients on assignment around the world. Writing under the “Untold Stories” section, the students receive professional support from Pulitzer Center editors and journalists. The Center supports in-depth coverage of international affairs, focusing on topics that have been under-reported or unreported.

You can read Diksha Bali, C’14, W’14, and M.D./Ph.D. student at the Department of History and Sociology of Science and the Perelman School of Medicine Luke Messac’s articles at: http://pulitzercenter.org/untold-stories
AN URBAN ETHNOGRAPHER GETS CORNERED

ABIGAIL MEISEL

Cultural anthropologist Philippe Bourgois has journeyed far afield to conduct studies documenting the lives of Americans living in poverty, but for his most recent investigation he traveled just 15 minutes by subway from his office.

Starting in October 2007, Bourgois, Richard Perry University Professor of Anthropology and Family and Community Medicine, immersed himself in the life of a five-block section of North Philadelphia, a corner of the city he describes as “a huge open-air market for the retail sale of some of the cheapest and purest heroin and cocaine available in the United States.”

Bourgois’ work combines anthropology and public health, and he holds joint positions in the Department of Anthropology and the Perelman School of Medicine. At first, he recalls, he gathered information in North Philadelphia by “hanging out on street corners.” But there were difficulties with being so exposed. “The police thought I must be an addict or involved in the drug trade and I was actually arrested at one point. Another problem is that I was perceived by the community as being a police officer and people were suspicious of me, so they wouldn’t talk to me,” he says.

To integrate himself into the neighborhood, Bourgois rented a set of rooms located in a “slumlord’s row house.” Once established, he observed the social networks of a community fraught with HIV, gun violence, substance abuse and environmental hazards—as well as what he calls “the hyper-incarceration of young boys, many of whom have been in jail by the time they are 20.”

About six months into his fieldwork, Bourgois found a boon to his research: History and Sociology of Science major George Karandinos, C’10. “George walked into my office and announced that he had decided to move into the very neighborhood I was studying in order to do his own ethnological fieldwork, and he wanted my advice,” Bourgois says. “I saw that he was writing brilliant field notes and I recruited him to help in my research. He provided a new perspective on the neighborhood, seeing it through the eyes of a 20-year-old.”

Bourgois’ team also includes his wife, Laurie Hart of Haverford College, where she is the Stinnes Professor of Global Studies and Professor of Anthropology. They will co-author a book based on his fieldwork: Cornered, a photo-ethnographic book that documents the effects of 21st century poverty and violent policing in North Philadelphia.

Bourgois is currently on a year-long sabbatical from Penn to write the book, and won both a 2013 Guggenheim Fellowship and a Collaborative Research Fellowship from the American Council of Learned Societies to fund his writing. Karandinos, now a student at Harvard Medical School, took a leave this year to work on Cornered with Bourgois and Hart.

“Philippe’s energy, accessibility, and genuine care for his students is a true inspiration and a model to live up to,” Karandinos says. “Working with him, I not only have learned a tremendous amount about social theory, research methods, and engaged critical scholarship, but also how to be a better human being.”
As a specialist in inorganic and materials chemistry, Assistant Professor of Chemistry Eric Schelter is truly in his element in the f-block, an area of the periodic table representing a group of 15 inorganic elements called “lanthanides.”

Lanthanides are a necessity of life in the 21st century. They are used in the manufacture of renewable energy devices such as wind turbine generators and the batteries for hybrid and electric vehicles. They are also used in the production of smart phones, flat screen panel displays, and fiber optics (which are essential for Internet communications). Currently, China mines and processes 98 percent of the world’s lanthanide supply. That market dominance caused international tension in 2009, when China drastically reduced its lanthanide exports, effectively putting a chokehold on the worldwide availability of these natural elements.

“After it was clear that China was reducing the worldwide availability of mined lanthanides, the U.S. government became interested in developing the chemistry and engineering necessary to restart mining of domestic supplies,” says Schelter.

Schelter believes that science should serve the national interest. He has been an outspoken advocate of developing the infrastructure and expertise to effectively mine lanthanides in the United States. Currently, there is only one operating lanthanide mine in the Western hemisphere, located in Mountain Pass, California.

Schelter’s research focuses on improving the chemical processes to obtain elements from ores and separate them, while minimizing negative environmental impacts. “The problem is that both the mining and processing of lanthanides cause significant environmental damage because of the toxic chemicals used to extract lanthanides from ores. We need to create processes to extract and purify lanthanides with minimal harm to the environment.”

Schelter notes the irony that “eco-friendly” products like hybrid car batteries must be produced with lanthanides. “People buying a Toyota Prius do not realize that their hybrid car battery may be part of a larger environmental problem with the current ways lanthanides are mined and processed,” he says.

He explains that environmental regulations for mining in China are weaker than those in the West. China began building the infrastructure to mine lanthanides in the 1980s, when the consumer market for electronics started booming. The Chinese government recognized that they had good sources of lanthanides and made an investment in mining them, cornering that market and giving corporations another justification for moving manufacturing facilities to China.

Schelter’s work has been recognized at the highest levels. Last winter he was the recipient of a Cottrell Scholar Award, given by the Research Corporation for Scientific Advancement (RCSA). The $75,000 award will help fund his research.

Long the purview of science, lanthanides have entered the realm of geopolitics, and Schelter believes that the answer to this dilemma lies in basic chemistry. “We must continue to improve upon the process of getting these elements out of the ground and bringing them to the market. Chemistry plays a critical role in doing that.”
Findings

**DEMOCRACY IS NOT ENOUGH**

**BLAKE COLE**

Democracy is not one size fits all. According to Brendan O’Leary, two places that espouse the same basic democratic principles might, in reality, have very different power-sharing structures—and be all the better for it.

O’Leary, Lauder Professor of Political Science, has firsthand experience in shaping governments. As a constitutional advisor for the United Nations, he promoted the re-building of Somalia. His ideas were influential in the Irish peace process. He has been hired in constitutional consultancies on power-sharing in coalition governments in South Africa and in Nepal. And after 2003 O’Leary acted as an international constitutional advisor to the Kurdistan Regional Government in Iraq.

O’Leary’s 2013 collection *Power-Sharing in Deeply Divided Places*, co-edited by then post-doctoral fellow at the Penn Program in Ethnic Conflict Joanne McEvoy, arose out of the Andrew W. Mellon Sawyer Seminar Series, which in previous years had brought together eminent scholars to examine the question of power-sharing. The volume features analytical studies of power-sharing systems past and present, as well as critical evaluations of the role of electoral systems.

“The absence of despotism or of overt monopolization of government does not necessarily mean a democratic system involves power-sharing,” says O’Leary. “Normal democracies with majority rule can indeed become mechanisms of ethnic, religious, or nationalist tyranny, and quite lawfully within the canons of democratic theory. In order to have an objective view, you need to inquire whether power-sharing is required in a particular place and address the very important question of whether power-sharing works.”

There are two main forms of power-sharing, O’Leary says. The first is the consociational system, under which executive power is shared by representatives of multiple ethnic communities. Proportionality rules apply and group-based veto powers exist. Individual ethnic groups enjoy some autonomy and self-government in regards to religion, language, and control of schooling. Though this structure may have its disadvantages and appear alien to Americans who have embraced the melting pot mentality, O’Leary says, allowing different ethnic groups to maintain their autonomy and share power has been effective. This approach has made the recurrence of violence less likely, and achieved higher-quality democratic outcomes.

“The danger of consociational systems is that they have the potential to create circumstances in which groups will be more rigid,” O’Leary says. “But often it has the opposite effect and over time the various groups’ concern about historic rivalries decreases, and eventually you see a slow dissolution of hardened group identities.”

O’Leary cites the Netherlands, which for many years had a pillarized society in which Calvinists, Catholics, and secular people went to separate schools and universities, read separate media, and had separate social organizations, including separate factories. But through successful power-sharing and the avoidance of violent conflict, there’s been a softening, which allowed the development of a shared Dutch identity.

The second form of power-sharing is the federation—more familiar to Americans. In this model, power is shared between federal and regional or state governments. And while many would agree this system has been successful in the States, it can go terribly wrong if the American model is applied to the wrong place. The U.S. model, for example, has never empowered a racial, linguistic or non-Protestant minority to be a majority at the level of an individual state. Elsewhere multi-national federations, built around territorial autonomy for minority groups, have been very successful: “I think of Canada or Belgium; think of the re-building of India’s states around its major linguistic communities.” One key consideration, O’Leary says, is that no two places are alike, and efforts to nation-build in areas with established ethnic or religious autonomy are often counterproductive.

“In contemporary Syria, for instance, there are highly mobilized, highly self-conscious Alawites, Sunnis, Christians, Kurds, Druze, and Ismailis. So instead of demanding an imaginary Syria in which ‘we’re all just Syrians,’ why not use these groups as the building blocks of a new political settlement? The idea that there can be a democratic peace in Syria merely on the basis of majority-rule and equal citizenship is illusory.”
Ever heard a song on the radio that you just had to know the name of? Emily Dolan’s path to her new book, *The Orchestral Revolution: Haydn and the Technologies of Timbre*, began in much the same manner.

“I was in my car, dropping a friend off, when I heard the sound of an instrument on the radio,” says the associate professor of music. “This was in early 2000, shortly after I had mailed off my graduate school applications. We sat there listening, transfixed, and they announced afterwards that it was Adagio and Rondo, K. 617 by Mozart. But what was the instrument that was playing? It fascinated me to hear this sound that I had never experienced before.”

It turned out to be a glass harmonica, one of Benjamin Franklin’s many inventions. Dolan was so struck by the mysterious instrument, and by the kind of listening its sounds engendered, that it got her thinking about how people in the classical period of the 18th century must have experienced new sounds. Were they as astonished as she was?

Dolan’s quest would require her to immerse herself in the history of the orchestra and the relationships between instruments. “The idea of timbre, the underlying concept that distinguishes why a violin sounds different than an oboe, even if they’re playing the same pitch and same volume, dates from the 18th century,” says Dolan, a cello player in her own right. “Initially, timbre was used to describe how good an instrument sounded—how closely it resembled the voice, which throughout the history of music has been considered the most ideal instrument.”

The concept of timbre originated during a period rife with change on the musical front, namely, the consolidation of the orchestra as an institution. In the 18th century, the orchestra expanded from a disciplined core of strings to include more instruments as regular members. The idea of a community of different sounds that all have their unique place formed. “During the classical period, the discussion moved away from people talking about what sounds were better or worse, to ‘What is the character of each instrument?’” says Dolan. “Trumpets had been used as instruments of war, trombones for vocal accompaniment in the church, but later this idea of *use* turned into the idea of *character*.”

No composer better embodied this evolution than Austrian Joseph Haydn. In her book, Dolan uses Haydn’s storied career, which spanned the late baroque period through the classical period of the 18th century, to contextualize the solidification of the orchestra and the focusing in on instrument-specific composition. Haydn was employed for most of his career at the Esterházy court. Through publishing and circulating his music he eventually gained an international reputation, and by the early 19th century he was being played from London to Paris to Calcutta to Philadelphia. “The famous story is that, when he was approached to perform abroad, Mozart said he shouldn’t, because he was too old, and he didn’t speak enough languages,” says Dolan. “Haydn supposedly said, ‘My language is understood all over the world.’”

During his travels, Haydn was exposed to larger orchestras—he wrote his first symphonies with clarinets in London—and began to compose around the panoply of different instrumental characters, a perfect example, Dolan says, of how the landscape of music was changing forever. “What separates Haydn from someone like Mozart is that Haydn was not afraid to make instruments sound a little funny occasionally,” she says. “He brings out the grittiness and really gets to the core of their sound. It points to the larger debate about how to write for specific instruments, what it meant to abuse an instrument, and what it meant to write well. The stories we tell about the late 18th century today tend to completely ignore this.”
Biologists study questions ranging from how cells produce protein to why human beings act the way they do. One Penn professor is taking on the whole span: Associate Professor of Biology Joshua Plotkin and his research group recently published journal articles on both of those diverse topics.

Plotkin, who also has an appointment at the School of Engineering and Applied Science, uses mathematics and computation to study questions in evolutionary biology and ecology. His team was interested in what sets the pace of protein production: the “initiation rate” of how quickly the ribosomes start moving along the gene, or the “elongation rate” of how quickly they move. The researchers developed a “very, very detailed” computational model to keep track of the 30,000 or 40,000 entities involved, and discovered that in the vast majority of genes, it is the initiation rate that determines the pace.

“Proteins are the building blocks for all of life, so we wanted to know what the throttle point is,” says Plotkin. “Reconciling this was important to us because as evolutionary biologist it only made sense that the cell would be controlling protein production at the initiation rate. The ribosomes that produce protein are very costly for the cell to produce, so that having an oversupply of them would be wasteful.”

On the other hand, he and his associates used just “pencil, paper, and math” to expand understanding of the classic game theory model the Prisoner’s Dilemma. In the game, if both players cooperate, both receive a payoff; if neither cooperates, both receive a smaller payoff. If only one cooperates, the cooperating player receives a smaller payoff than the other player. In other words, it pays to cooperate, but it can pay even more to be selfish.

However, by assuming a population of players that changes and evolves, much as it would in life, Plotkin’s group showed that only generous strategies would succeed in the long run. The finding leads to other questions, such as what happens to a cooperative population when the environment changes: Does the fact that the population is cooperative make it more likely to adapt, or make it fragile and prone to extinction?

The two projects seem very different, and yet, “Somehow we all have lunch and happy conversations,” says Plotkin of his group. “It’s because in the end we are all interested in evolution: What happens in an evolving population? How does the way a cell evolved tell us what are the most important set points in protein production?”

Plotkin comes from a math background, but had second thoughts about his specialty partway through graduate school. “Being a professional mathematician is sort of like solving complicated crossword puzzles all day long,” he says. He’d taken a course in evolution in college, and decided he liked the questions it raised: “Everywhere you looked you could find a problem that begged explanation.” Members of his research group have backgrounds ranging from physics and biology to statistics and computer science. He’s also inspired by his fellow faculty, with whom he has “hallway conversations, sometimes chalkboard conversations, and once in a while an experiment.”

“It’s just lots of fun,” Plotkin says of his work. “Most of our research requires a confluence of skills. When the group is diverse, it is so much more than the sum of its parts.”
How did a native of Northern Ireland become a scholar of the 19th-century American South? For Christopher H. Browne Distinguished Professor of History Stephanie McCurry, the connection she felt to the period and place was instinctive: “Something profoundly touched me.” Through her teaching and writing, she wants to help others find that same immediate connection to something—or some time—they might never have dreamed would interest them.
McCurry grew up in Belfast, “in the middle of a military occupation and what many would call a terrorist movement.” As a teenager she moved to Toronto and a different world, carrying intellectual aspirations she couldn’t name and political observations with no outlet. The first in her family to attend college, she took a required course in American history and lucked into a great professor and the Civil War.

“I didn’t know it, but it was a movement of a set of concerns about ethics and power and violence and legitimacy from one historical area to another,” she says. She and her peers were looking at history from the bottom up, with a lot of room to do work requiring new methods and sources.

While the history of slavery was one of the seeds of the movement, McCurry feels that women’s history was kept very separate, “almost ghettoized” in the ’70s and 80s. “We didn’t care what the kings did, what was everybody else doing?” she says. She and her peers were looking at history from the bottom up, with a lot of room to do work requiring new methods and sources.

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“THE CIVIL WAR IS THE TEST OF SELF-GOVERNMENT: CAN THIS REPUBLIC SURVIVE OR NOT?”

as the ethical problem of American history,” says McCurry. Thomas Jefferson, author of the Declaration of Independence, owned slaves: “How could both of these early ’80s. “It never seemed to have to do with the big political story of revolutions and civil wars and empires. It does now, but it took my generation of feminist

thought of herself as a Civil War historian, a title that signals military history. “That’s a particular lockbox to get into,” she says. “For me, the whole set of questions

that I’m interested in circulate around questions of power and its uses in human history.” She has found, however, that the enormous interest in the Civil War has led to opportunities for her to write for popular publications—unusual for an academic: “I can’t think of many fields where you have these built-in bridges to a popular audience.” She writes a bimonthly column, “Her War,” for the magazine America’s Civil War, relishing the chance to take her scholarly research and distill it into a narrative story—one of special interest to women.

The same desire to reach an audience drives her work as a teacher. McCurry was on the faculties of the University of California, San Diego (UCSD) and Northwestern University before coming to Penn. In addition, she has served as director of the California History Project (a K-12 initiative) and as undergraduate chair in the history department at Penn. She does a one-week Civil War seminar each year for the Gilder Lehrman Institute of American History for K-12 instructors.

Of teaching at Penn, she says, “I think students are often shocked that history as we teach it is as interesting to them as it is.” McCurry labels textbooks the kiss of death, and describes Advanced Placement history as “swallow the textbook—it’s just one thing after another.” Her antidote is to link the specific history of the problem with something that touches the
human condition. “And that’s not hard. And if you teach with that mentality, students are more likely to understand the stakes.”

History is intrinsically interesting, she believes, but faculty have to think as hard about their teaching as they think about their writing. “Just out of graduate school, it is easy to underestimate how much work is involved in writing good lectures. It isn’t a charisma exercise.” She taught her own first class as an assistant professor at UCSD. “I was 29, there were 350 students and seven teaching assistants,” she says. “You learn how to teach to save your life in those circumstances. There’s a learning curve. You have to find your own style.”

Now McCurry teaches undergraduate classes, graduate seminars, public lectures, and students who “are computer scientists and, God bless them, are paying for this course and coming at night after work.” Next semester, however, she’s again taking herself out of her comfort zone. Through Coursera, Penn’s global partner for massive open online courses (MOOCs), she will teach History of the Slave South to thousands of students online around the world. “I felt I needed an intellectual challenge,” she says. “I wanted to try something new and be part of a larger conversation. Coursera seemed one way to do that.”

McCurry also believes that, although the online class is separate from her responsibilities in the history department, the department and its graduate students need someone to have this experience and knowledge. Very few historians anywhere have taught MOOCs before. “Online teaching is here,” she says. “I wanted to figure out how to do it and what parts of it work and what don’t.”

For Coursera, McCurry is prerecording her lectures, which her students will then watch, taking quizzes to help track their progress. “It’s a very different thing than I’ve ever done before,” she says. “It’s still unclear to me how my energy and passion and personality and ability as a
"I think the world is a far more interesting place to be in and live through if you have some sense of where things came from."

Teacher will be conveyed in this forum. It’s challenging to me in a way that is still very sobering.”

Though she feels that some aspects of her “in person” class at Penn won’t ever be available through an online format, she is already seeing a productive carryover from the experience. “It’s shaking things up in the way I had hoped it would. But it will be a demanding semester.”

Online or in class, her goal remains to make a connection between her field and her students. “There are people where you touch something, and they have to figure out what it means for them. It’s a very ineffable thing, but I still think it’s what we’re here for,” she says.

“I think the world is a far more interesting place to be in and live through if you have some sense of where things came from,” says McCurry. “You can’t just cut into a problem in the present and understand it. You would feel adrift. People set themselves up for a far more interesting life if they have some sense of how we got here.”

To view McCurry’s Coursera course page, visit:
https://www.coursera.org/#course/slavesouth
The Future of History

“They come to us for an elective, and then they stay,” says Stephanie McCurry about Penn undergraduates who decide to major in history. “But it takes more and more creative strategies to make the value of education and knowledge apparent, and also just to be open to new media like Coursera.”

When McCurry became the Department of History’s undergraduate chair, a post she held from 2009 to 2012, the number of history majors was dropping at Penn and across the country. The same was true for many other humanities disciplines. She believes a general trend toward business-oriented commercial education was greatly heightened by the financial crisis and recession.

McCurry and the other faculty reworked the curriculum. They added a new world history survey focusing on transnational approaches to history. Because a historian’s expertise is usually location-based, professors co-teach. They’re also holding seminars on topics of interest; right now, the history of capitalism is hot.

Some of it is marketing, but McCurry knows there is an audience for history and the humanities. “You let kids go to college, you don’t know what they’re going to find interesting. Our majors, many of them do wind up on Wall Street, and they’re very good at it. They can write. They can reason. They can think. They can make a case,” she says.

“Conan O’Brien’s a history major,” she points out. “Intelligent, astute, observant, funny people—that’s what we turn out.”
Scott Poethig is a big fan of subtlety. He has to be, because he studies something that’s around us all the time and profoundly affects our lives, yet few people hardly ever notice: leaves.

Colorful flowers naturally attract our attention and admiration, notes Poethig, Patricia M. Williams Professor of Biology. “Humans focus on color. Because leaves are almost always green, they look the same to us. Most people think ‘a leaf is a leaf,’ but every leaf has its own identity. They may look the same, but they’re distinctive in many different ways.”

Those differences, and how they manifest as morphological and genetic changes as plants develop and grow, are the focus of Poethig’s research, a phenomenon called vegetative phase change. “I like to call it the most important unsolved problem that nobody knows about,” Poethig says with a laugh.

Soft-spoken with a gentle demeanor, Poethig is nonetheless passionate about his work, studying the switch from juvenile to adult development in plants. He first encountered the topic during his post-doctoral years, first at Stanford and later in a USDA lab with Dr. Edward H. Coe at the University of Missouri. The phase change from juvenile to adult had been identified in corn decades earlier, but never studied in detail. Poethig was working with a class of mutations in maize called Teopod 1, 2, and 3, and it became clear that the Teopods were involved in developmental timing. “What was happening in the mutant corn was that juvenile vegetative traits were being prolonged in their expression,” Poethig says, “and I wanted to know why.”

Usually when biologists use the terms juvenile and adult, they are referring to nonreproductive (or more precisely, pre-reproductive) and reproductive stages: Adults produce eggs or sperm and juveniles don’t. But for plant biologists such as Poethig, the terms retain their original meaning, referring not only to the pres-
ence or absence of structures involved in sexual reproduction, but also to differences in the character of vegetative organs, like leaves and buds. Poethig cites a particularly apt illustration for the Penn community. “Anybody at Penn is familiar with the juvenile stage of ivy, because that’s the kind of ivy that’s on all the plaques all over campus. That’s juvenile ivy. Adult ivy has a completely different type of leaf. I like to joke that the Class of 1927 must have had a botanist in it, because that’s the only plaque on campus that shows adult ivy.”

One hardly need be a botanist to spot the difference between flowering and non-flowering plants, but that’s only one type of phase transformation. “Plant biologists are fond of flowering, because it’s a dramatic transformation,” Poethig points out. “You go from making a leaf to making flowers. Nobody can miss it. They are also interested in flowering because it makes seeds, and we eat seeds. But the vegetative transformation is just as dramatic as the transition to flowering in some species. The question of what drives that is what has fascinated me ever since I was a postdoc.”

Poethig continued his work on corn after coming to Penn in 1983. After briefly growing specimens at Morris Arboretum, he rented a field from a New Jersey farmer. Although Poethig had learned how to pollinate corn and do corn genetics at the University of Missouri, that didn’t prepare him to be a farmer: “I had to lay out my own irrigation pipes and pumps, do all my own hoeing, and so on. I had to teach myself these things when I got to Penn. As the farmer who worked my field will be happy to tell you, I was a lousy tractor driver.”

When not tending his corn in New Jersey, Poethig was back in his lab at Penn, studying corn mutations and probing their molecular basis. Along with studying mutations that prolonged juvenile development, he found mutations that made the juvenile to adult transition occur earlier than normal, so-called precocious mutant plants. Then a breakthrough came along from an unexpected direction.

Biologist Victor Ambros, at Dartmouth College at the time, had been working along the same lines as Poethig but in the animal kingdom, studying the phase transformation from juvenile to adult in roundworms rather than plants. In 1993, he found that one of the genes involved, lin-4, was associated with a small RNA molecule, only 22 nucleotides long, that had never before been identified. At the time, Ambros thought it merely an oddity, something unique to the C. elegans roundworms he was studying.

But he had discovered something far more significant. Poethig explains, “In 2001, three groups, his [Ambros] included, cloned microRNAs out of humans and flies and nematodes and it turned out there’s lots of them. In humans, at least 30 percent of all genes, involved in all sorts of processes, are thought to be regulated by these...”
Scott Poethig at his lab bench, cross-pollinating mutant Arabidopsis plants. The flowers of this plant are so small that they must be cross-pollinated with the help of a dissecting microscope.
microRNAs (miRNA). People used to call them the dark matter of the genome because they are so numerous and nobody knew about them.

Ambros’s discovery turned out to be a major piece of Poethig’s puzzle, but not the complete answer. “It turns out that this switch from juvenile to adult development in plants is directed by microRNAs in the same way as the transition in worms.” By this time, Poethig had shifted his studies from corn to Arabidopsis thaliana, a small flowering plant that is often called “the fruit fly of the plant world.” Its rapid life cycle, small size, and general adaptability make it a much more flexible experimental subject than corn.

In 2006, Poethig identified the particular miRNA, called miR156, that serves as the master regulator of the Arabidopsis juvenile to adult phase transition. “After decades of working in the dark and not knowing, I had no confidence that I would ever understand the molecular basis for this phenomenon,” he says. “Amazingly, the Teopod mutations in corn that first attracted me to the problem of vegetative phase change also turn out to encode miR156.”

Poethig briefly considered following in his father’s missionary footsteps, but was interested in science and anthropology from a very early age. He enrolled in the College of Wooster at Ohio “because that was the school where the kids of Presbyterian ministers went,” and since the school didn’t offer an anthropology major, he chose biology. Fascinated by microscopes, he did his senior honors thesis at the Ohio Agricultural Research and Development Center in Wooster, where he studied infected corn leaves, looking for viruses and bacteria. That experience, plus some courses in genetics and developmental biology, set him on the path to a doctorate from Yale and his life’s work.

Raised in the Philippines as the son of a Presbyterian missionary, Poethig developed a keen awareness of the importance of plants. “I grew up in Manila. I wasn’t a farm kid, but in the Philippines you certainly became aware of your dependence on agriculture,” he says. “The Philippines at that time was not self-sufficient in food. When a new variety of dwarf rice was introduced, it was really transformative. In fact, the variety came to be known as ‘miracle rice.’ More than anything else I’ve done at Penn, I’ve probably gotten more publicity for teaching a course on the biology of food, which I introduced about five years ago. That course grew out of my childhood experience.”

Poethig realized that phase change in trees might be relevant to agroforestry, because ultimately agriculture can’t be separated from the rest of the plant world. “For cultivated plants to be healthy, you have to have forests, you have to have a healthy environment, you have to have watersheds,” he says. “For our agricultural terrain to be healthy, you also have to have forested terrain.”

He came home to Philadelphia with new questions to explore. Working on a National Science Foundation grant, Poethig is now studying the evolution of vegetative phase change in Acacia, a plant group of both professional and personal interest. Phase change in plants was first described in Acacia in 1875, and the phenomenon is especially well-demonstrated in its Australian varieties. The tree is widely used in sustainable agroforestry systems because of its nitrogen-fixing characteristics and abil-
ity to restore degraded soil. Also, says Poethig, “We had an Acacia growing outside the house I grew up in. Acacias are everywhere in the Philippines.”

Poethig obtained seeds of about a hundred Acacia species, concentrating on Australian types, and planted some of them in the department’s greenhouse, where they’re already threatening to take out the roof. “They’re only a year old, but already some are about five meters tall,” he notes.

Pinning down the microRNAs as the major player of vegetative phase transition has hardly answered all of Poethig’s pressing questions. “I really want to understand how phase change is regulated, what’s the ultimate timing mechanism,” he says. “We don’t know why miR156 changes its expression pattern, and since this change is responsible for vegetative phase change, we need to understand this switch.” And the big question still remains: “Why do plants have juvenile stages? All plants have a juvenile stage to one extent or another, but it’s a huge open question as to the specific functional consequences. What makes a juvenile plant different from an adult plant?” For Scott Poethig, the answers can be seen and appreciated in the green leaves of Acacia, Arabidopsis, and the other plants that are such an important part of our world but that most of us, as Holmes once remarked to Watson, “see but do not observe.”

A UNITED NATIONS OF TOMATOES

Scott Poethig isn’t driving tractors or farming anymore, but he’s still growing things outside of the lab. His main hobby is tending a 10 x 15-foot plot in the Schuylkill River Park Community Garden, where he specializes in tomatoes—all very carefully chosen. This year, he based his selections mostly on a recent paper in the journal Current Biology on the metabolomics of tomato taste, in which various varieties were ranked and rated based on taste panels and chemical analysis. Since the analysis considered varieties from all over the world, Poethig ended up with a highly eclectic international crop.

“Ailsa Craig is a Scottish tomato that ranked highly, so I got that one,” he says. “Matina is a German tomato that also ranked highly. One guy in the garden wanted me to maintain seeds of a Thai tomato, so I grew that one. My wife’s from Croatia, so I decided to grow some Yugoslavian tomatoes; I have a Yugoslavian variety, Crnkovic, that we got from an Amish family that we know. Then I got one from Croatia, several from Macedonia, then I have a Japanese one called Momotaro. And a couple of American ones, Brandy Boy from Burpee, Lemon Boy, Amana Orange. Penn State recommended its top two varieties. I have about 13 varieties.” Ever the scientist, Poethig identifies each plant “with a little laminated label with the name of the variety and a little bit about it, its history and genetics.”

“I get a lot of produce out of my little plot,” he says proudly. “Probably harvested at least 80 pounds of tomatoes this summer.” He has even bigger plans for the future. “My wife Maja Bucan, Professor of Genetics at Penn, and I bought a second home last summer in Lancaster, near Mount Joy, which comes with 10 acres of woods. So now I can start thinking more about trees.”
JUSTICE BY THE NUMBERS

BY BLAKE COLE

PHOTOGRAPHY BY SHIRA YUDKOFF
TO SAY JOHN MACDONALD’S FAMILY HAS AN AFFINITY FOR ACADEMIA WOULD BE PUTTING IT LIGHTLY. HIS FATHER AND SISTER ARE PROFESSORS OF ENGINEERING, AND HIS BROTHERS HOLD ADVANCED DEGREES IN MATHEMATICS AND PHYSICS, SO IT WOULD BE ONLY LOGICAL TO ASSUME MACDONALD WOULD NATURALLY CHOOSE SCHOLARSHIP. BUT IT DIDN’T START OUT THAT WAY.

“These were obviously some big academic shoes to fill,” says MacDonald, Associate Professor of Criminology and Sociology, Chair of the Department of Criminology, and the Director of the Jerry Lee Center of Criminology. “But I never thought of it that way, and my parents never pressured me into getting a Ph.D., even though it was the path my siblings had taken. Originally I wanted to be a lawyer—I wanted to find a way to advocate meaningful policy change, and I think that same thread is what drew me to teaching.”
MacDonald’s path to criminology began at the National Institute of Justice, the research arm of the Justice Department, where he worked while finishing his doctoral degree. What initially seemed like the logical extension of his interest in crime and justice—government service—quickly led to malaise and a feeling of separation from the research he was working to fund. To get his research fix, MacDonald started work for the RAND Corporation, a nonprofit institution that helps improve policy and decision making through research and analysis. “While I was doing research for RAND I worked mostly in crime and criminal justice-related projects. But I also did some research in public health and national defense. And even though it provided the opportunity for hard research, I realized how much I missed the teaching I did during my doctorate program,” says MacDonald.

When MacDonald transitioned from RAND to Penn in 2006, the Department of Criminology was still in its infancy. One of the main draws was the other talent, and the sense that they were building something together. He arrived alongside trailblazers in the discipline: Professor of Criminology and Statistics Richard Berk; Richard Perry University Professor of Criminology, Psychiatry, and Psychology Adrian Raine; the world’s premier bio-psychologist of crime and violence; and former Penn professor of criminology and sociology Lawrence Sherman. “I was attracted to the Penn program because of its interdisciplinary focus on creating cutting-edge research that informed policy,” says MacDonald. “And the chance to be on this kind of team was truly a once-in-a-lifetime opportunity.”

It was critical to MacDonald that he applied the program’s central idea of evidence-based policy—using research to improve public policy—to his teaching. The first challenge, he says, is communicating the importance of applying criminology to everyday life, given that the field can often seem esoteric to the uninitiated. MacDonald notes that, like him, up to a third of his students aspire to be prosecutors or defense attorneys. Out of that group there’s another half seeking a career in public service. “Those are the kids that are easy to reach, and it’s great to have them in class, but often it’s the 20 percent that have no idea what criminology is about where I think, well, if I can reach them, then whatever important positions in society they may hold in the future, maybe they’ll remember something about criminal justice and apply that knowledge there.”

MacDonald’s philosophy that research should have an impact on community was recently put to the test when he undertook a project involving a systematic analysis of the effectiveness of the Penn police department, which boasts over 100 full, sworn officers and is the country’s third-largest university police force. “The anecdotal evidence that the force had had a positive effect on deterrence was good, but they were lacking a systematic evaluation.”

MacDonald’s team, which included Professor of Law Jonathan Klick, received data on crime patterns over a six-year period. They charted boundaries surrounding the Penn campus to study the effectiveness of concentrated police coverage. This included a special unit assigned to active criminals involved in car break-ins and robberies. For violent street crime, they determined there was around a 60 percent drop, and for general crime, about a 45 percent reduction. The one exception was theft from buildings, a crime Penn police have identified as needing special attention.

“We made it abundantly clear when we accepted this task that we would be unbiased and forthcoming about the results—however they turned out,” says MacDonald. “But what we saw was pretty convincing evidence of a big reduction in crime within outer University boundaries, evidence that you couldn’t
explain by any other clear method.”

MacDonald says one of the reasons the Penn police force has succeeded where city police forces haven’t is the employment of place-based tactics. “Penn police are very effective at focusing in on specific problem areas. If it’s a rash of burglaries or robberies, they’ll put police there, camp down for a while and try to catch people in the act, prevent it from becoming a cycle. The greater Philadelphia force is trying to do that more, but it is harder when you have an entire city with big swaths of poverty and crime.”

MacDonald recently published an article related to this work in one of the premiere scholarly journals in the field, Law & Society Review. He also plans to use the knowledge gleaned from the Penn police study and others to author a book on place-based approaches to reducing crime and improving health. Using insights from criminology, as well as the public health sphere, the goal is to show how public policymakers can harness the role of location in designing policies for everything from public transit to sidewalks to cleaning up vacant lots, so that crime can be reduced and health outcomes improved by encouraging people to walk and actually feel safe.

It’s not the first time MacDonald has worked with the police. He has dedicated much of his career to studying racial and ethnic disparities in criminal justice, and accusations of racial bias are often directed toward arresting officers. To this end, MacDonald helped create an internal benchmarking program designed to help police identify problematic officers with a history of bias. Developing this model has also led to other projects using similar approaches to create comparison groups to study the effects of zoning changes on crime, as well as residents’ perceptions of racial discrimination by their local police.

But issues of bias on the street often begin with policymaking, MacDonald says, and for this reason, criminologists are often required to pick through local legislature in order to determine how it is affecting the well-being of minority groups. He cites a policy in California he examined that was designed to reduce the use of prison for drug offenders. “Most people don’t go to prison for their first drug offense,” MacDonald says. “They typically have a prior violent conviction of some kind. So when California enacts this policy to try to positively impact incarceration rates, they automatically exclude inmates with prior records. What this means is that a law targeted to help a certain group of offenders is actually working against them.”

The notion that criminology can influence public health and social justice was first championed at Penn by Thorsten Sellin, who taught the University’s first criminology course in the 1920s and is credited with furthering the idea of approaching criminology with scientific evidence. “Sellin was responsible for shaping criminology by emphasizing the need for rigorous empirical research. This was the grandfather of criminology at the University, a guy we all looked to,” says MacDonald. “But he also never lost sight of the big picture. Social justice was always one of his primary concerns. He was a big opponent of the death penalty because he viewed it as racially biased in its practice, a contentious view given the time period.”

Sellin’s legacy remains strong at Penn. The Jerry Lee Center of Criminology is dedicated to facilitating research projects and events around efforts to prevent crime. It houses several research grants and contracts that involve working with state, local, and federal agencies on topics including community-based corrections, probation and parole monitoring, and reducing youth violence. The center also hosts guest speakers and events promoting evidence-based approaches to criminal justice policy in the U.S. and abroad. Recent events have included a group of scholars from Latin America working on efforts to use evidence to inform criminal justice policy, and a program promoting knowledge learned from field experiments in Philadelphia on different aspects of crime prevention and justice.

“Criminology’s potential to affect social change is largely due to its weaving together multiple disciplines: the sociological tradition, the psychological tradition, and the economic tradition,” says MacDonald, who last year won the Association of Public Policy and Management’s David N. Kershaw Award, one of the highest honors in recognition of work related to public policy and social science. “Many of the criminologists that came out of the 1960s trained specifically in sociology. So when I walk into a classroom today, to teach a bunch of fresh faces criminological theory, it’s important that I honor this legacy, and present the material in a way that will encourage them to get out there and make a difference.”
THE TEACHABLE MOMENT

SOCIOLIGIST TUKUFU ZUBERI INVITES AUDIENCES ALONG ON SCHOLARLY ADVENTURES

by Loraine Terrell

Photography by Jabari Zuberi
“Do you know how Glenn Miller died?
How, why, when, where?”
I have to admit, I don’t. And so I ask.
“There you go—I got you. You wanted to know.
Once you want to know, then that’s it. You want to
get people to ask the question, ‘What are you talking about?’”
This is the roller-coaster ride of conversation with Lasry
Family Professor of Race Relations, Professor of Sociology,
and Professor of Africana Studies Tukufu Zuberi: diverging
and digressing, persuasive and provocative. He’s an expansive
person with an expansive mission. He’s on a journey toward
a better understanding of “what it means to be a human” and
“what human freedom, liberty, and justice look like.” And
he wants us to come along with him and enjoy the trip.

In 2013, Zuberi brought this quest for understanding
directly to audiences across Philadelphia and around the
world. His feature-length documentary *African Independence*,
which tells the story of the continent’s struggle to emerge
from enslavement and colonization, was released in January.
He curated an exhibition for Philadelphia’s Independence
Seaport Museum, called *Tides of Freedom: African Presence on the
Delaware River*. And across town at the Penn Museum, he opened
another exhibition, *Black Bodies in Propaganda: The Art of the
War Poster*, featuring 33 posters from his personal collection.

Zuberi’s giant step—from Penn teacher and scholar of race,
Africa, and African diaspora populations to teacher on a much
more public stage—actually came not in 2013, but in 2003. That
was when he signed on to a new show that PBS had developed
called *History Detectives*. The highly successful series has enjoyed
10 seasons, and Zuberi was recently at work on season 11, set to
air in the summer of 2014. He has appeared in over 70 segments,
covering subjects that run the gamut from the first African-
American ventriloquist dummy act to a Ku
Klux Klan “hit” song
that shared a recording
studio and engineer
with Louis Armstrong.

Zuberi says that working
on *History Detectives*
taught him some important
lessons, including
how to hook an audience, tell a good story, and reach a lot of
people. When he was told that his first episode had a Nielson
rating of 3.4, he says, “You start thinking about the millions of
individuals that you have most likely touched. ... People sit there
and they hear me talk about race in the United States, or they
hear me talk about class differences, or about the hierarchy of
history. ... That had a profound impact on what I feel is my re-
sponsibility. Once I’ve established a rapport with these folks, and
they’re interested in what I say, I have both an opportunity and a
responsibility to educate them. Which is what my vocation is.”

Samia Nkrumah, daughter of Kwame Nkrumah and leader of the Convention Peoples Party,
stands under a statue of her late father, the first President of Independent Ghana and a
leader of the African Independence movement.
This realization formed the backdrop for Zuberi’s entry into documentary filmmaking. He wanted to see what he could do with the stories that are important to him, and there was no better place for him to start than the story of Africa. As a doctoral student in demography, he had aimed to do his dissertation research in Botswana, but health problems intervened with his plans. Once he arrived at Penn as a newly recruited assistant professor, he says that he immediately “sat down with my senior colleagues and I said, ‘Okay, I have to do Africa. I know I just got here but I need to go off to Africa.’ And they said, ‘We totally understand.’” Zuberi spent several years doing research and teaching at Makarere University in Uganda and the University of Dar es Salaam in Tanzania. He wrote Swing Low, Sweet Chariot: The Mortality Cost of Colonizing Liberia in the Nineteenth Century, a detailed demographic study of the impact of the mass migration that involved thousands of African Americans.

He was series editor of General Demography of Africa and director of the international African Census Analysis Project (ACAP). He also developed over time a large and broad network of friends and acquaintances in Africa, ranging from health care workers to heads of state—an invaluable asset when he turned his attention to filming a documentary.

Zuberi says that his goal in making African Independence was to help people better understand “what is going on in Africa and why that’s important.” He set out to establish in his viewers a sense of connection with the people of Africa and to move them beyond the “politics of pity” to a place of empathy and recognition of shared humanity.

The film explores the global experience of World War II, where Africans and Europeans shared the horrific disruption of everyday civilian life. It also seeks to connect with viewers through a concept that looms large in America’s collective consciousness. “Independence is meaningful to most Americans…. We all get,” Zuberi notes, that the “colonization” of Poland and France by Nazi Germany was “devastating for those people in Poland and France.” And so it goes with the colonization of Africa: “It’s devastating to the people in Ghana, it’s devastating to the people in Nigeria, it’s devastating to the people in Zambia, it’s devastating to the people in Mali. So these people then try to gain their independence. It’s a movement that we can all recognize is important for human beings.”

African Independence is circulating through screenings and festivals around the world. To date it has been shown at more than 10 film festivals, and it has won major awards at three of them including Best African Film at the San Francisco Black Film Festival, and Best Director and Best Documentary at the San Diego Black Film Festival.

Zuberi’s work as a curator was likewise fed by his experiences with History Detectives. It was there that he
learned the lesson that “you want to give people a multimedia interaction. You want to give them something that establishes context for why they’re standing where they’re standing.” In the Tides of Freedom exhibit, the place where people are standing includes, among other things, a replica of an auction block where kidnapped Africans would stand as they were sold into slavery. The exhibition combines stage elements like this with artifacts and videos to illuminate 300 years of African-American history along the Delaware River. It will be on display at the Independence Seaport Museum until 2015.

The Penn Museum exhibition, Black Bodies in Propaganda, focuses on images that were used to mobilize people of color in conflicts beginning with the Civil War and ending with the African struggle for independence. Video clips provide additional context for the posters, and visitors are given space to share their thoughts on the contradiction inherent in the exhibit: that people who, Zuberi notes, “were not full citizens in their own country ... went to fight and preserve democracy.” The exhibit will run through March 2, 2014.

Multimedia successes aside, Zuberi is quick to note that he has not “given up on the transmission of information by the book.” Zuberi dove right into the center of an academic fray with one of his best-known books, Thicker than Blood: An Essay on How Racial Statistics Lie, in which he traces the intertwined history of statistical analysis in the social sciences and the search, up to the mid-20th century, for an intellectually defensible rationale for racial stratification. This was followed by a multi-author volume called White Logic, White Methods: Racism and Methodology, which Zuberi co-edited with Eduardo Bonilla-Silva of Duke University. In his introduction to White Logic, Zuberi describes the troubled reactions of some colleagues to Thicker than Blood and maintains that social science journals propagate the “misuse of statistical methods in the analysis of race.” He and Bonilla-Silva were eventually honored with the American Sociological Association’s Oliver Cromwell Cox Award, which recognizes books that make significant contributions to the eradication of racism.

Zuberi is currently on sabbatical, and he is using the time to strike out in a new direction. “I’m retooling,” he says, “and I’m including and embracing South America in my retool.” He was an observer at last summer’s Autonomous Conference of Black, Afro-Colombian, Palenquero, and Raizal Peoples, held to chart next steps in securing the place of these groups in Colombian society. He’ll also be developing new courses to teach in the future, and will be continuing his film work. On top of that, he’ll be working on his Spanish—a skill that might be especially useful since a Spanish edition of Thicker than Blood is now available. Of this latest leg of his long journey, he says, “I’m still trying to better understand our world. ... I take great heart in being a sociologist who can take what I know and give it to a more general audience, and to help educate people so that they also can understand our world better.”
Health policy intersects with many areas of life, but we often neglect the connection between health policy and criminal justice. They are related to each other in deep and important ways, and precisely for this reason, it's important to think how improving one might improve the other.

Their connection is driven, in part, by sheer force of numbers. The number of Americans in prison has grown enormously over time. In 2010, there were over 2.4 million prisoners and parolees under supervision, roughly eight times more than there were in 1968. The U.S. remains, by a wide margin, a world leader in its incarceration rate. If you translate the incarceration rate—representing the number of current inmates—into the number of former inmates, the number is, of course, even larger. Most inmates serve relatively short sentences and are released while still in their 20s. Even allowing for recidivism and higher mortality among releases, the total number of former inmates is large.

In 2004, four million men were previously in prison or on parole. Considering both current and former inmates together, about 5.5 percent of adult males and an astonishing 17 percent of adult black males are or were in prison.

The growth of the prison system is creating a large number of vulnerable individuals. Of course, the vulnerabilities of many former inmates stretch well beyond their incarceration per se, so it’s worth asking if incarceration adds more beyond poverty, for example. The evidence suggests a criminal record makes things worse, often much worse.

This is no less the case with respect to health and health care. Although inmates are provided health care in prison and many report improvements in health as a result, the availability of coverage after they are released is much more limited, as are their opportunities in many other areas of life.

This is important for a number of reasons. Many former inmates struggle to find employment, especially the sort of employment that provides health benefits. Others struggle to reenroll in Medicaid after their benefits are terminated (if they are eligible). Moreover, all this happens when former inmates need health care most. Former inmates tend to suffer from more health problems than those without a history of incarceration, and at least some of their problems result from incarceration itself.

Furthermore, former inmates tend to suffer from the type of health problems that present serious hurdles to reentry. Psychiatric disorders are common and, if left untreated, can increase the likelihood of reoffending. This is especially the case for substance abuse and impulse control disorders, but other psychiatric disorders play no less of a role in reentry (if not reoffending) and are often neglected. Our own research suggests that major depression is common among former inmates, that a prison sentence makes depression worse, and that depression significantly increases disability in work and social domains.

Society asks a lot of former inmates, often in the name of personal responsibility, but without providing some assistance for their health problems, all their other difficulties are multiplied.
were talking only about the situation of former inmates, but they are not the only ones affected by the growth of the prison system. In sufficiently large numbers—as we see in states such as Texas and California—former inmates can affect the functioning of the entire health care system.

This is not only a matter of state budgets, although states certainly spend a large part of their budget on prisons and health care. By law, no one can be denied services in an emergency room based on their ability to pay. For this reason, the uninsured often receive care through emergency rooms.

Incarceration adds to the equation. Incarceration increases the number of people who are uninsured, including family members who might ordinarily be insured through an employed breadwinner. But it also increases the demand for care insofar as former inmates return from prison either sicker than they were before or more aware of their existing health problems because of a mandatory health screening. With few other options available to them but with a recognized need for care, former inmates contribute to the burden of uncompensated care. Uncompensated care, in turn, affects the capacity of hospitals to provide a range of services to others.

The Affordable Care Act will likely improve the situation. Both the expansion of Medicaid and the creation of tax credits for low-income individuals will increase the availability of insurance among former inmates. In addition, recent federal legislation will address some of the particular needs of former inmates, including the Mental Health Parity and the Mental Health Parity and Addict Parity Act. Yet the success of the ACA depends on its roll-out. Some of the states that are choosing not to expand Medicaid are also states that incarcerate a large number of their residents.

In addition to political influences, some cultural influences won’t help matters. We tend to regard criminal justice and health care in very different ways. Criminal justice is about public safety, sanctioning, and social control. Health care is about treatment, prevention, and care. Furthermore, the behaviors behind health and crime are interpreted in very different lights. We tend to regard criminal behavior as a choice, whereas we regard poor health as an accident or at least something that is worthy of treatment regardless of its cause.

Yet there are reasons for optimism. Indeed, criminal justice is increasingly a “purple” issue. Support for reducing the size of prisons, for instance, is a rare issue that attracts support from both the left and right, from Bernie Sanders to Grover Norquist. Some of this broad appeal, of course, reflects concern over reducing the financial obligations of state and federal agencies. Yet part also reflects genuine appreciation that we may have overcriminalized some offenses. At the same time, there is greater recognition that former inmates need more support than we usually provide them. In the end, enthusiasm for reform is consistent with America’s deep support for second chances. The situation of former inmates will improve further when we recognize the role of health in creating opportunities and when we see the connection between the situation of former inmates and functioning of the health care system more generally. Inmates may be locked up, but no matter what we do, they remain part of the social fabric.

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With Class

VARIATIONS ON A THEME
STUDENTS BECOME CURATORS IN THE SPIEGEL CONTEMPORARY ART FRESHMAN SEMINAR

BY BLAKE COLE

In a small, box-shaped room the projection of a solo female dancer flickers on the wall, her movements in sync with the endlessly looping compositions of neo-classical composer Steve Reich. Opposite the dancer, oil-stick paintings treated with black diamond coal dust shimmer in the shifting light. Welcome to the Spiegel Contemporary Art freshman Seminar’s “Each One As She May: Ligon, Reich, and De Keersmaeker” exhibition, born of five student curators’ creativity and hard work.

The seminar course, offered by the history of art department, began in 2006. It has since resulted in five exhibitions at the Institute of Contemporary Art (ICA). Instructor Gwendolyn DuBois Shaw, Associate Professor of History of Art, and affiliated faculty in Africana Studies, Cinema Studies, and Women and Gender Studies selected the central subject of the current exhibition: Glenn Ligon, who was previously featured in a 1998 ICA exhibit called “Unbecoming.” The students’ first assignment was to immerse themselves in his work, a process that involved researching the archives at Van Pelt Library, multiple trips to New York to examine his works, and eventually a studio visit with the artist himself.

“I worked largely with the ICA archive housed in Penn’s Rare Books and Manuscripts Library,” says Alina Grabowski, C’16. Grabowski, along with classmates Chloe Kaufman, Iris-Louise Williamson, and Vincent Snagg, and Andrew McHarg, LPS ’13, comprised the seminar’s roster. “For me, it was a lot of looking at the correspondence between Ligon and the curators at ICA, and seeing through these documents how the

The student curators were involved in every aspect of the exhibition, including its design and fabrication.
‘Unbecoming’ exhibition came together. Collectively, we spent the first semester really delving into Ligon’s influences and contemporaries. We wanted to be familiar not only with Ligon’s work, but the works that shaped his own art.”

Ligon started as an abstract painter. In the early ’90s, he participated in an exhibition in New York City called “Black Male,” which was curated by Thelma Golden and dedicated to exploring the perception of black men in the media and in the arts. In the years since, he has become an icon of the art scene and was just recently featured in a mid-career retrospective at the Whitney Museum of American Art. His signature works include “text paintings”—displayed prominently in the student exhibit—in which he repeats the same phrase or sentence over and over again, using the same stencil. “He used deeply metaphoric phrases taken from various literary sources like, ‘I’m turning into a specter before your very eyes, and I’m going to haunt you,’ that would start out very clear, but then degrade over time. It was his way of addressing the complex cultural identity of the black male in America,” says Shaw.

The turning point in the class came when they traveled to Ligon’s personal studio to meet with him face-to-face. Though the students had immersed themselves in studying his career, meeting the actual artist was invaluable in contextualizing his works. “It was a surreal experience,” says student curator Chloe Kaufman. “Not only did we see his studio and chat with him for over three hours, but it was the first time I experienced his work in person. His paintings are very tactile, and although sources that we read in class discussed this distinct element of his work, I did not truly understand his ability as a painter and the dimensionality that his work contained.”

As a kind of icebreaker, the students asked him what kind of music he had been listening to. His answer was Steve Reich, a composer well known for his use of tape loops to create rhythmic patterns of music. When Ligon played Reich’s “Come Out” for the students, they were able to connect the visual, physical aspect of the repeating words in Ligon’s work to the aural looping component of Reich.

But something was still missing. For the exhibition’s theme the students had settled on repetition, or “phasing” as they referred to it, but it needed something kinetic to bring it to life. That’s where dancer Anne Teresa De Keersmaeker came in, a choreographer who had tailored her performances to Reich in the past. “De Keersmaeker’s company, Rosas, was willing to let us use video of the dances, but they had a few requests—namely a projector capable of 9 million lumens, and that the performance was shown from up above on a bed of sand,” Shaw laughs. “We said, ‘That would be great, but it’s not feasible.’ But in the end it worked out and everything looks fantastic.”

The students were involved in every aspect of the exhibition, which drew its name from Gertrude Stein’s “Melanchta: Each One as She May,” a story Ligon cited as an inspiration for its examination of race, sex, and gender through a repetitive narrative structure. “The guidelines for constructing the exhibition were very open-ended, and because the course was so unique, there was no precedent to look to for ideas,” says Kaufman. “We developed a wide range of concepts for the exhibition and spent a lot of time fleshing them out before making a final decision.”

In addition to the physical construction, the students handled everything from advertising to press releases and posters. They harnessed social media using Facebook and Wordpress, and a Tumblr blog for updates. And as a final touch, each student curator authored an essay for the exhibition catalogue. “We each picked something that we felt had really impacted us during the curatorial process,” says Grabowski. “They were more about how we connected to the exhibition, rather than trying to analyze our influences. It allowed me to think about how working on it had come to mean something to me not only intellectually, but personally.”

The most rewarding moment though, Shaw says, was when Ligon personally attended the opening. “He really opened up to these students. And for him to come and speak in this space they had created with all their hard work—it was great to see.”
Tom Heller, C’95, has loved movies ever since he was a kid. Childhood classics like *E.T.* eventually gave way to science fiction, like *Back to the Future*, before Heller graduated to the likes of *Pulp Fiction*. What was once a childhood fascination has turned into a successful career as a producer at Everest Entertainment, a New York-based film finance and production company. With a resume boasting award-winning, critically acclaimed movies like *Precious, 127 Hours, Mud, Mother and Child*, and *Win Win*, and more projects on the way, Heller isn’t slowing down any time soon.

**Q:** Tell me about your time at Penn.

Penn was formative in how it impacted my career trajectory. I was an English major, and my literature classes expanded my love for great storytelling and honed my ability to identify and appreciate compelling narratives. My courses with [Kelly Family Professor] Al Filreis, in particular, stand out as among the most interesting and satisfying. I also took some film-specific classes, like “Film Theory and Screenwriting,” and while at the University, I worked on my first film set as an intern on the Terry Gilliam movie *Twelve Monkeys*.

**Q:** How does one go about entering the film production business?

There was no one “big break,” but a number of experiences had a large influence on what I am doing now. Working at a talent agency right after Penn helped me to develop the skills to spot talent, recognize good stories, and most importantly, trust my instincts about filmmakers and their material. The time I spent at Miramax Films gave me invaluable insight into many aspects of the filmmaking process: development, production, business affairs, marketing, publicity, and distribution. Producing encompasses a lot of different roles. My career has been an ongoing process of learning and developing new skills.

**Q:** How do you go about selecting the movies you produce?

They’ve each come together in different ways, but persistence, research, luck, and a willingness to take risks all played a role in their conception. I look for stories that are unique, compelling, and possibly challenging, that can be told in an entertaining way. Good stories can come from anywhere, and I try to listen to my gut when I assess material. It can be a very long process to get a movie made, so it is important that I am extremely passionate (almost to the point of being obsessed) about something before I get involved.

**Q:** Several of the films you’ve produced have been recognized by the Academy. How important is it to the film’s success in the long run?

My goals for each film are that it gets seen by as wide an audience as possible and that it does well financially. Being honored by the Academy definitely brings attention and expands the profile of a film. Hopefully more people will want to see something if they know it has been nominated. On a personal level, it is nice to get validation from the Academy for my work and it’s certainly fun to attend the Oscars. But as a film lover, I know that it is impossible to pick a “best film.” I want each of my films to be lasting, but I never set out to make an “awards movie” since it is impossible to predict what the Academy will go for in a particular year. The biggest reward for me is hearing how one of my films has affected, inspired, or impacted someone. I’m always amazed by the power of movies to inspire and move people emotionally, and I love playing a role in that process.

**Q:** Is there a hands-on aspect to producing? If so, do you have any anecdotes about time on a set, or interactions with an actor, writer, or director?

Producing is extremely hands-on, as I like to be involved in a project through the entire process, from its conception to its release in theaters. I’ve loved the experiences I’ve had on set, whether it was on the Mississippi River, a tenement in Spanish Harlem, an Indian reservation in New Mexico, or a high school gym in Long
Island. The hours during production can be long, but by the end, the cast and crew feel like a family. It is extremely fulfilling when everyone is working together well as a team and there is the sense of camaraderie that we are creating something special. Shooting *Precious* in Harlem in the middle of the winter was a particularly challenging shoot, but overall, it was one of the most satisfying experiences that I’ve had as a producer. I feel extremely lucky to have worked with directors and actors that I admire, filmmakers like Lee Daniels, Rodrigo Garcia, Danny Boyle, Tom McCarthy, and Jeff Nichols; and actors like Matthew McConaughey, Samuel L. Jackson, James Franco, Naomi Watts, Paul Giamatti, and Gabourey Sidibe. It is amazing working with creative and passionate people and helping them realize their vision.

**Q: What upcoming projects are you involved in?**

My next film is *Foxcatcher*, which will be released in 2014. It is a fascinating and bizarre true crime story about the murder of Olympic athlete Dave Schultz by an eccentric multi-millionaire named John du Pont. It is a project that is very close to my heart, as I have been working on it for over 10 years. The director is Bennett Miller, who directed *Capote* and *Moneyball*, and it stars Channing Tatum, Steve Carell, and Mark Ruffalo. I am very excited to share it with audiences next year.
As part of its focus on violence, the 2013-14 Penn Humanities Forum presented *Biennale: A Comic Opera* by Richard L. Fisher Professor emerita of English Wendy Steiner. In the opera, an animation called “The Music of the Spheres” launches the heroine into a fantasy at the Venice Biennale. Animation still, Andrew Lucia, GAR’08.
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