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Our Tradition of Scholarly Inquiry

In the fall 2013 issue of CUNY Matters, Nobel prize-winning chemist and CUNY alumnus Jerome Karle, who passed away in June, was celebrated for his contributions to his field and to the university. Karle’s legacy is extended by CUNY scholars, men and women who advance the fundamental mission of the University: preserving, transmitting, and generating new knowledge. That work is embedded in CUNY’s DNA, passed from mentor to student, each identifying critical questions, unpacking data and positing new approaches and answers.

Perseverance is essential. Jonas Salk, another CUNY alumnus and the creator of the polio vaccine, is said to have observed, “Nothing happens quite by chance. It’s a question of accretion of information and experience.” Flashes of inspiration and intuition may come, but only after countless equations have been solved, reams of source material reviewed, dozens of theories discarded.

It’s particularly satisfying to witness our students embrace this tradition of scholarly inquiry. From Salk Scholars — undergraduates awarded scholarships for medical study based on their original research papers — to doctoral fellows pursuing interdisciplinary research through the Advanced Research Collaboration, their work, like that of their mentors, is expanding the boundaries of knowledge.

This is one of the aims of the University’s research agenda, demonstrated most emphatically by the development of CUNY’s Advanced Science Research Center. When it opens in fall 2014, the building, designed as a collaborative, interdisciplinary science park — an “intellectual crossroads,” as Vice Chancellor for Research Gillian Small calls it — will encourage new dialogue and fresh connections.

The scope of CUNY’s research is also reflected in the work of the Research Foundation, which celebrates its 50th anniversary this year. A scan of its yearly reports (www.rfcuny.org) documents the development of treatments for spinal cord injuries, the creation of programs to support at-risk teenagers, improved understanding of the effects of climate change on urban areas, and much more.

Among the questions posed by Salk was one that serves as a guiding principle for every CUNY scholar: “Are we being good ancestors?” The best scholarship embraces a vibrant intellectual tradition to build a more civil, humane and informed future.

— Interim Chancellor William P. Kelly is a distinguished scholar of American literature.
Since opening last year, Via Verde has attracted attention from architects around the world, who are impressed by the stunning design that combines affordability with energy efficiency and programs geared toward a healthy lifestyle. The $99 million development boasts 40,000 square feet of green roof space featuring a grove of evergreen trees, an apple orchard and a vegetable garden for residents. The innovative design came from Dattner Architects and Grimshaw Architects, which teamed with two developers, Phipps Houses Group and the Jonathan Rose Companies.

But beyond providing homes for working-class residents and reviving a blighted block in the South Bronx, Via Verde seeks to transform the architectural world’s vision and the public’s view of urban affordable housing.

The story of Via Verde is a testament to how small ideas can take root, inspire a dialogue, change opinions, then blossom into homes for more than 200 families. The project’s success stems largely from the dozens of architects, developers, urban planners, housing experts, community groups, banks and government agencies that came together to create Via Verde, and throughout the process, two CUNY professors also played a pivotal role.

Lance Jay Brown, professor in the Bernard and Anne Spitzer School of Architecture at The City College of New York, served as adviser on the two design competitions that led to Via Verde. Brown agreed and was instrumental in CUNY becoming a primary sponsor. Response to the first competition was so great that organizers decided to hold a second competition in 2006. But this time, the winning architect-developer team would design and build an apartment complex.

Four criteria were used to select a winner: affordability, sustainability, aesthetics and replicability.

Lance Jay Brown, professor at Bernard and Anne Spitzer School of Architecture at City College

“It’s also helping, in a time when there is a paucity of affordable housing, to participate in showing the way. It’s not just participating in the production. It’s celebrating the way.”

— Lance Jay Brown
City College architecture professor

“It’s also helping, in a time when there is a paucity of affordable housing, to participate in showing the way,” Brown said. “It’s not just participating in the production. It’s celebrating the way.”

Setha Low, professor of environmental psychology and anthropology at the CUNY Graduate Center, served on the jury that selected the winning architect-developer team for Via Verde. Low raised key issues about the economic and social needs of low-income residents.

A new book, The Legacy Project, New Housing New York: Best Practices in Affordable, Sustainable, Replicable Housing Design, chronicles the development of Via Verde. The 256-page work, co-authored by Brown, includes a forward by Mayor Michael Bloomberg and an epilogue by Shaun Donovan, secretary of Housing and Urban Development, who was trained as an architect.

Via Verde grew out of two international design competitions that sought to excite interest in the design of affordable housing. In the past decade, notable architecture firms have turned away from housing to design more lucrative projects like museums and cultural institutions. Even architectural school assignments for student projects on housing have diminished, according to Brown.

The American Institute of Architects sponsored the first contest in 2004 and asked Brown to serve as the competition adviser. Brown agreed and was instrumental in CUNY becoming a primary sponsor. Response to the first competition was so great that organizers decided to hold a second competition in 2006. But this time, the winning architect-developer team would design and build an apartment complex.

Four criteria were used to select a winner: affordability, sustainability, aesthetics and replicability.

Brown said the main reason for publishing the book was for other cities and developers to use the story as a primer on what needs to be done to make this happen. He also hopes to use the book in the classroom to inspire architecture students to pursue projects in affordable housing.

“All this feeds back into what I do when I’m in the studio, and when I’m teaching. I can bring that knowledge and information back to the campus. And that’s important to me,” he said.
New Yorkers Get Their 10-Year Physical

SOME NEW YORKERS are being asked for information about their medical history to help researchers get a better understanding of urban health. Nearly 3,000 New Yorkers have been randomly selected to participate in the New York City Health and Nutrition Examination Survey, or NYC HANES.

CUNY School of Public Health and the New York City Department of Health and Mental Hygiene are conducting the large representative study on the health of city residents. Participants are asked to take a brief physical exam and a computer-based survey, and researchers will analyze the blood, urine and saliva samples to test for conditions like exposure to second-hand smoke. Funding for the NYC HANES study was provided by the deBeaumont Foundation, with additional support from Robert Wood Johnson, Robin Hood and New York State Health Foundations.

A study as in-depth as NYC HANES reveals many things that one could not get from a standard health survey, says Lorna Thorpe, who is the lead investigator of the study and a professor of epidemiology at the School of Public Health. “It actually tells [researchers] what the burdens of chronic conditions are and how much New Yorkers have been exposed to certain environmental hazards,” adds Thorpe.

Of the 3,000 people selected for the survey, researchers are aiming for a minimum of 2,000 participants. “We’ll be working hard to get a high enough response rate for the results to be meaningful. It’s very difficult to find New Yorkers at home and when we do reach them they are skeptical and wary and we need to persuade them to participate in the study,” says Thorpe. But participants will not have to divulge information that makes them uncomfortable and the survey does not include questions about immigration status. There is also a $100 cash incentive for people who participate in both the survey and the physical exam.

This is the second time the city has conducted the NYC HANES, and results from the 2004 study revealed that one in four adult New Yorkers had high blood pressure and high cholesterol with an elevated risk of heart disease and stroke. In response, the city banned the use of artificial trans fat by restaurants. “We have a number of municipal policies we are trying to evaluate to see if they have improved health and we’ll use the new data to inform new policies,” says Thorpe.

Lab results from the first survey also indicated that nearly one in three New Yorkers with diabetes didn’t realize they had the disease. And, it found that mercury levels in New Yorkers were three times higher than the national average. This led to the removal of dangerous products in stores and an increased effort to educate the public about hazardous levels of mercury found in some fish.

“There was one survey participant who had extremely high levels of mercury in her urine. Turns out she was using a skin-lightening cream purchased from the local bodega. We actually passed a commissioner’s order banning the sale of that product in the city,” says Thorpe.

Thorpe hypothesizes that we will see some improvements in the city’s health but we won’t know until the results are available, which may not be until the fall of 2014. “There have been aggressive efforts to make New York City a healthy environment. At the same time some of these efforts may have been offset by a worsening economy. So it’s hard know how what we’ll see.”

President Obama in Brooklyn: ‘What’s

It was a special day for students at Pathways in Technology Early College High School. President Barack Obama had come to visit the Brooklyn institution he hailed as a national model of technology education.

President Obama sat in on algebra class and addressed students at the school that he had highlighted in his February 2013 State of the Union. “What’s going on at P-TECH is outstanding and I’m excited to see it for myself,” said Obama, who also reminded students that he once lived in Brooklyn—across the street from Prospect Park.

A six-year high school, P-TECH is a public-private collaboration of CUNY, the New York City Department of Education and corporate partner IBM that opened in 2011. Students can earn associate degrees from New York City College of Technology. The school focuses on information technology, computers, engineering, math and science. And IBM provides students with mentors, internships and a shot at a job at IBM.

During his October 2013 visit Obama praised the program, which trains high school students for jobs in engineering. “We live in a 21st-century global economy… Companies [are] looking for the best-educated people, wherever they live … and if you don’t have a well-educated workforce, you’re going to be left behind,” said Obama.

P-TECH founding principal Rashid Ferrod Davis described Obama’s visit as historic because it placed a national spotlight on the Crown Heights neighborhood institution, helping people rethink the
TURTLES
CUNY’s Excellent Partners for a Habitat Restoration Study

Turtles are caught and released after blood samples are taken and analyzed for health, diet, toxins and genetics.

They’re only turtles but they may be the key to helping CUNY researchers figure out how wildlife is affected by habitat restoration. Eugenia Naro-Maciel and a team of student researchers at the College of Staten Island and the Graduate Center are studying the snapping, painted and red-eared slider turtles of the reclaimed ecosystem at Freshkills Park.

The Staten Island park was once the site of the world’s largest landfill and while the garbage has been covered, the ecological threat may still linger, says Naro-Maciel, the principal investigator and an assistant professor of biology at CSI.

“We’re using the turtles to figure out how well the restoration process works. My Ph.D. student Seth Wollney is looking at the turtles to see if they have accumulated toxins, which would be a strong reflection of their habitat,” says Naro-Maciel.

The team will catch the turtles and release them after taking measurements and blood samples. Back in the lab the samples will be analyzed to find out about the diet, health, demography and genetics of the freshwater turtle communities living in the ponds of the 2,200-acre park.

The turtles make ideal subjects to study because they are relatively sedentary, they are high up on the food chain and they have long lifespans, which means they can be monitored over an extended period of time. They are being studied over a period of five years and results are expected in 2016. Study collaborators include researchers at Freshkills Park, the Staten Island Museum, the Staten Island Zoo and the American Museum of Natural History.

“We have something very important going on in our own backyard with the reclamation of Freshkills. CSI students are working in the field during the summer, so it’s wonderful that they can get involved in conservation in their own community,” says Naro-Maciel.

Going On at P-TECH Is Outstanding’

President Obama speaks to the students at P-TECH.

“Look at the conversation surrounding the United States slipping in science, technology, engineering and mathematics. To continue to be competitive, [programs like P-TECH] are one way to ensure more Americans are hired for tech jobs,” said Davis.

Shortly after his visit, Obama announced a $100 million competition, based on innovations such as P-TECH, to find new ways to better prepare high school students for the global high-tech economy.
Spotting the Elusive ‘Hofstadter Butterfly’

A TEAM OF SCIENTISTS who set out to study a new type of material inadvertently confirmed a nearly 40-year-old physics theory that predicts a pattern of energy. Researchers from CUNY and several other universities had been studying sheets of extraordinarily thin and strong mineral graphite, called a graphene. Only a single atom thick and nearly transparent, graphene is an excellent conductor of heat and electricity.

But the marvels of graphene, in this instance, are secondary to the wonders of scientific thought, where a prediction made decades earlier is at last confirmed.

While studying the ultrathin material, researchers observed a rare effect — a repeating, butterfly-shaped energy spectrum. It’s known as the “Hofstadter Butterfly,” named after the American scientist Douglas Hofstadter who developed a theory in 1976 to predict the behavior of electrons in a magnetic field.

But although there had been many attempts to prove the theory over the years, none had been successful.

“Like many interesting discoveries, it was accidental,” says City College physics professor Cory Dean, who is the author of the study “Hofstadter’s Butterfly and the Fractal Quantum Hall Effect in Moiré Superlattices.”

“We were studying properties of graphene . . . and once in a while we’d see features in our data that we didn’t understand. We ended up putting all the pieces together and realized it was a complete manifestation of Hofstadter’s prediction.”

The pattern arises naturally when a sheet of graphene sits atop a sheet of boron nitride at an angle. Once positioned properly, a secondary hexagonal pattern emerges on the overlapped sheets.

“We were fortunate in our ability to discover a system that actually revealed [Hofstadter’s butterfly],” says Dean.

“I get asked a lot, ‘What’s the real-world application of this study?’ At this point we just don’t know. I can say with assuredness we have discovered a new type of material that is exhibiting a new type of property that hasn’t been explored,” says Dean.

However, there is certainly a possibility that the material will enable new optical electronics, says Dean. “Will this lead to flatter TVs? Possibly, but at some point one can only get so flat.”

“Will this lead to flatter TVs? Possibly, but at some point one can only get so flat.” — Cory Dean

City College physics professor

GREENER LIVING
Through Chemistry

AT KINGSBOROUGH COMMUNITY COLLEGE, chemistry students are learning to synthesize biodiesel from vegetable oil found in their kitchen cupboards. Other innovative chemistry lessons include teaching student chemists to de-polymerize plastic bottles from recycling bins and how to extract the naturally occurring hydrocarbon, limonene, from an orange, instead of using a petroleum-based chemical.

The revamped lessons and curriculum are just a small part of Kingsborough Community College’s involvement in the Green Chemistry Commitment. In July, Kingsborough and 12 other colleges and universities signed up for the Green Chemistry Commitment, which is intended to increase the number of green chemists in the United States and help industries develop safer, nontoxic chemistry materials.

“Our commitment is to transform the way we teach chemistry so that students practice principles of Green Chemistry,” says Kingsborough chemistry professor Homar Barcena. “Not only do they perform green labs, but they also assess how efficient these procedures are using “green metrics.”

Kingsborough chemistry students stand to gain a competitive edge in the job market by learning green chemistry principles, Barcena says. The green chemistry industry is expected to grow to more than $100 billion worldwide by 2020, according to a recent Navigant Research Report.

Along with Kingsborough, the 12 other colleges that adopted the Green Chemistry Commitment are: the University of California-Berkeley, University of Minnesota, Northeastern University, Bridgewater State University, Gordon College, Grand Valley State University, Michigan Technological University, Simmons College, South Dakota State University, St. Catherine University, University of Wisconsin-Whitewater and Washington College.

Barcena says he decided to sign Kingsborough onto the educational initiative last year after meeting Amy Cannon, co-founder and executive director of the nonprofit group, Beyond Benign, which developed the Green Chemistry Commitment.

After the meeting, Barcena worked to change Kingsborough’s core chemistry curriculum, using $5,000 in funding from the Kingsborough President’s Faculty Innovation Award.

Barcena and his colleagues revised Organic Chemistry I and II courses and created a new laboratory manual, “Greener Organic Experiments,” that debuted in classrooms in Fall 2012.

In addition, new experiments in green chemistry are being developed in undergraduate research projects. Barcena says he is also applying for grants to support student research on green chemistry.

Currently, there are only about 50 students majoring in chemistry at Kingsborough. However, many students from other majors such as pharmacy, nursing and pre-med are required to take organic chemistry.

“At Kingsborough, not only does the subject matter capture students’ attention, but also prepares them to be aware of sustainability and chemical toxicity while providing them practical experiences,” Barcena says. “We are poised to build a learning community that focuses on green science.”
UNY RESEARCHERS are doing their part to help the city create an antiterrorism plan to deal with the release of hazardous airborne material. Last summer, New York City College of Technology was the hub of a field study investigating how these contaminants may disperse in the city’s streets and subways.

“We want to understand what may happen to a plume of radioactive, biological or chemical material if it were released in New York above ground and within the subway system. We investigated both where the plume may spread, and if we had to send first responders, to what locations should we send them first?” says City Tech physics professor Reginald Blake, who was a team lead researcher of the Subway-Surface Air Flow Exchange study.

The dispersion of a “dirty bomb plume” was studied by releasing a gas called Perfluorocarbon tracer (PFT). PFT is a chemically inert, colorless and odorless gas, with no known harmful effects. During three days in July 2013, PFTs were released within the city and the concentration of the gas was measured at different locations and within the subway system.

The measurements were carried out by a team of 90 students who traveled to parts of the Bronx, Brooklyn, Queens and Manhattan from 96th Street to Battery Park. The data the students collected will be used to optimize an emergency response following the release of hazardous materials and to refine evacuation plans.

The airflow study was expanded and synergized with Blake’s National Science Foundation Opportunities for Enhancing Diversity in the Geosciences grant to create a three-week internship. Students were also taught about the geosciences, covering topics such as climatology, hydrology and meteorology.

“They got to experience real world, practical service learning by going out and taking these measurements. But then they got more — they got a baptism into the exciting and dynamic nature of the geosciences.” The students learned about geophysics, participated in workshops and wrote a research papers on geoscience topics, such as fracking, hurricanes and heat waves, says Blake.

While students had the opportunity to participate in a study to make the city safer, they will never know the results of their research, as it will not be shared publicly Blake says. “When analyses are complete we won’t know what the data show, and it’s something that certainly can’t be discussed since it was done with the Department of Homeland Security,” says Blake.

The study was commissioned by the NYPD and funded through a $3.4 million Department of Homeland Security Transit Security Grant. City Tech researchers worked in collaboration with scientists at the Brookhaven National Laboratory, who will analyze the data. A similar study was conducted in New York City in 2005 on a smaller scale when a trace gas was released on the streets of Manhattan.

“It’s not a matter of ‘if’ but a matter of ‘when’ we will suffer another terrorist attack. We have 8.25 million people in New York City and our subways are used heavily. We want to minimize casualties and minimize the damage that could be done.”

— Reginald Blake
City Tech professor
JONATHAN WACKS, founding professor of Brooklyn College’s Barry R. Feirstein Graduate School of Cinema, discusses what unique qualities the new film school — scheduled to open in the fall of 2016 on a working production lot — will bring to both students and the industry.

What is the vision for the program? That is being formulated every day and it runs from the design of the building to that of the curriculum. There is a public context as well. The school intends to reach out to find those voices that are not being heard a lot. In New York City we are in an environment which is blessed by a wonderful diversity of people. That will be the essence of this film school.

How will you address changes in the cinema business itself? I feel very fortunate to have the opportunity to develop a set of curricular ideas that are responsive to the changes going on in the business. There are technological changes but also changes in the means of production, distribution, exhibition and the financial structures.

Today, a screen can be in a movie theater, at home or on a mobile phone. The distinction between television and cinema is rapidly blurring. We are going to address all those issues at Feirstein, including writing for television, writing for mobile, writing for YouTube etc. At the end of the day, it is all about storytelling and filmmaking, whether you are using a 35 mm camera or an iPhone. The question is: What do you want to say?

What role did the faculty in the undergraduate film department play in this? A significant role. They developed the initial curriculum; it’s a working document. And some of them will be teaching in the graduate program. But there will be new professors hired, as well.

Why has there never been a film school on a working lot before? Film schools didn’t exist till the ‘60s and the people who worked in the industry came up through the ranks. The idea that you could actually learn how to make a movie at a university was in some ways antithetical to the way studios worked or the way universities worked.

And today? Or better said, tomorrow, at the Feirstein School? What I like about our school is that it will
give students a chance to be very focused. It will address the fact that there is an industry out there and students are going to leave this school prepared. Everybody may want to direct. I do think it is important, though, that someone who wants to be a cinematographer takes courses in other areas as well. This also speaks to the advantage of being at Steiner Studios in Brooklyn. Students will be on a campus where film professionals are actively engaged in their work. The plan is also to offer internships on these productions so that our students can take advantage of our location.

In regard to the development of our building, itself, one of the wonderful things is that we are not trying to shoehorn a film school into an existing building, which often happens. When you do that it is all about-compromise. The big plus for us is that we have an architectural plan for the school—and 69,000 square feet of space to develop it in.

Speaking of jobs, can a student take what he or she uses in film school to work elsewhere? We will be giving students the tools to think through and create as filmmakers. These are tools that have relevance to many other endeavors they may wish to pursue. We will teach our students how to think critically and to problem solve. And that is relevant to everything you do in life.

Are you still working as a filmmaker? When I got involved in academia, I had to pretty much put on hold whatever else I was doing except for screenwriting because I can do that and have a day job. I tend to write either dramatic fiction or comedy but the project I am working on right now is neither. It’s actually an adaptation of a police procedural called Coldsleep Lullaby, a book by Andrew Brown. I just wrote a comedy called Stuck which is about some college kids in Santa Fe, N.M., trying to get out of town. They can’t get any traction on their lives. Another project is an immigrant story. It takes place in the early part of the 20th century and it is about a Lithuanian Jewish immigrant who falls in love with an African girl.

I’ll end with a question that I hope does not make you weary. Tell us about “Repo Man.” Not at all. When I got out of film school at UCLA, I wanted to write and direct and so did two of my pals. We all agreed that whoever got the screenplay written first would direct and the two others would be producers. Three weeks later Alex Cox came back with “Repo Man” and Peter McCarthy and I produced it. The film that I am most proud of is “Powwow Highway,” a feature film, the first feature I directed. It brought together the political and the spiritual through the eyes of two Cheyenne Indians. It was “Repo Man,” though, that got me working on films that were fictional, even if “Repo Man” isn’t really fiction.
MOST ADVANCES in science these days tend to come out of laboratories with the very latest and most sophisticated equipment. And then there is the groundbreaking science emerging from Ofer Tchernichovski’s lab at Hunter College. You won’t find much in the way of high-tech, big-ticket instruments in his Laboratory of Vocal Learning. What you’ll see are walls lined with Igloo coolers — 50 of them, stacked in rows and turned on their sides, covers facing out but rarely opened. The coolers have been repurposed from mobile beer fridges to miniature behavioral labs. Each one is soundproof, climate-controlled and equipped with lighting that simulates day and night. And each is occupied by a single bird — a young zebra finch — and its live-in lab partner of sorts: a plastic version of a similar bird outfitted with a tiny speaker that pipes in a repertoire of chirps recorded from adults of the species. From the day a young bird arrives at four weeks of age, the faux finch is its personal singing teacher. And for the next 50 days, 24 hours a day, every chirp of the student’s performance will be documented. By the end there will be a million chirps, sometimes twice that many — all of them recorded, analyzed, classified and entered into a database by software Tchernichovski developed.

For nearly 20 years, Tchernichovski, a research professor in the Hunter Department of Psychology, has been studying how songbirds learn songs. But it’s not just about the birds. By a quirk of nature, their brains and ours have a peculiar thing in common that makes newborn songbirds a stand-in for human babies in one of the more challenging frontiers of child-development research. Humans and songbirds are two of the few species that are “vocal learners,” meaning they develop the ability to imitate and modify a range of sounds, and sound combinations, by listening to adults of their species.

Humans and songbirds are two of the few species that are “vocal learners,” meaning they develop the ability to imitate and modify a range of sounds, and sound combinations, by listening to adults of their species. It doesn’t work that way with dogs or horses or cows: Calves come out of the womb knowing how to moo — and a moo is pretty much a moo. Puppies have to be trained to wait until they’re outside to do the most natural thing, but that other most natural thing is inborn and fixed: You can’t teach an old dog a new bark. Even primates, our closest evolutionary and genetic relatives, arrive at their calls innately. But there is something about the brains of human babies and young songbirds that makes their acquisition of sounds a process of listening to those around them and repeating what they hear.

“Songbirds even have local dialects,” Tchernichovski says. “Birds of the same species but come from different places don’t make the same sounds. Go right here to Inwood Forest and listen to the cowbirds, then go to Poughkeepsie, and it’s a completely different song. They change the song very locally. And the females only like the local guys.”

Human language, of course, is a far more complex form of vocal learning than that of songbirds and the few other species that learn sounds by listening to them — dolphins, whales and, some research suggests, elephants and bats. It’s partly that complexity that makes childhood language and speech development — and impairment — a hard thing to study. That and this: “You can’t put babies in a cage,” as Tchernichovski’s colleague Dina Lipkind puts it. But you can put zebra finches in Igloo coolers and control what they hear, record and analyze what they repeat and compare it to a database of infant babbling sounds.

That’s what Tchernichovski, Lipkind and their colleagues did, and this spring they published a major study in the journal Nature suggesting that the key to vocal development in babies — how they convert babbling to speaking — isn’t merely learning different sounds. It’s learning to make the difficult connections, or transitions, between those sounds. The researchers, including collaborators at New York
University and the Riken Brain Science Institute in Japan, showed that babies seem to use the same step-by-step learning process as songbirds.

It’s been known since the 1970s that the ability of songbirds to sing comes from a specific area of their brains that is similar in some respects to the part of the human brain that’s responsible for speech. The new research takes the parallel a leap forward, identifying for the first time the elaborate process at the heart of vocal learning. The findings, and the inventive method Lipkind devised to reach them, have gotten the attention of language-development researchers because they could lead to new understanding of developmental disorders in children, and perhaps even to treating speech deficits caused by strokes in adults.

Tchernichovski never expected his studies of songbirds to cross over into the science of human-language development. He is a zoologist and veterinarian by training and began his CUNY career in the biology department of City College. Until four years ago, his focus was on the cagey way that young songbirds learn complex sounds by imitating adults during a critical period of development. “If you expose a three-week-old nightingale to 50 different songs, a year later the bird will start singing back each one of those 50 songs,” Tchernichovski says. “And it all happens within a few weeks of babbling, without any further input during that whole year, like a miracle.”

That much has been known since early in the last century. The mystery has been how they do it: What happens in the bird’s brain that allows it to master so many different combinations of sounds, seemingly out of nowhere? To explore that big question, Lipkind, then a postdoctoral student in Tchernichovski’s lab, had come up with a way of simulating the lessons young songbirds get from adults in the wild, but in a tightly controlled way that might allow the researchers to isolate and observe the components of the learning process with extraordinary precision.

“What Ofer had found was that if you put a bird alone in a soundproof chamber and just let him hear the sounds of an adult bird, he will learn that song,” Lipkind says. “What I did was design a way to teach the birds a second song. The first one has a certain order of sounds. For example, A-B-C, A-B-C. Then I give them the same sounds but in a different order: A-C-B, A-C-B. And after a while the bird will change to the new song. What’s important is that the birds don’t have to relearn any sounds. They just have to learn a new order of the sounds. The question is how does this ability develop?”

In 2009, Tchernichovski published a paper in Nature describing how his lab’s method of raising young zebra finches in the isolation of the coolers demonstrated that both nature and nurture were at work in the birds’ “culture” of vocal learning. Among the readers most fascinated by the paper was Gary Marcus, a prominent research psychologist who studies how infants learn language and directs NYU’s Center for Language and Music. Marcus wrote Tchernichovski “a fan
In Learning to Vocalize

Continued from previous page

to Vocalize

letter,” he says, and it led to an invitation to the songbird lab — and to a collaboration. They set out to use Lipkind’s method to break down the elements of vocal learning and see, perhaps, if birds and babies use a similar process.

The first step was for Tchernichovski and Lipkind to try to tease out precisely how birds do it. They knew it was an arduous process — that it took many thousands of chirps for a zebra finch to go from A-B-C to A-C-B. But was it a sudden advance, like a button being pushed, or did it happen incrementally, in stages? Even more intriguing, was it a matter of random trial-and-error, or was there an identifiable pattern — a system?

What emerged from the computer analysis of those many millions of chirps was striking. The birds didn’t go directly from singing the first song to suddenly one day singing the second. There was a bottleneck in the progression, and it was the surprising difficulty they had in learning to switch the order of just two syllables. “If they can sing A-B, you would think it should be easy to sing B-A,” Tchernichovski says. “But it’s not. It takes them a long time of training themselves to learn the transition. It’s not that they need to keep hearing it again and again. They heard the sequence only 20 times a day. But they had to practice it thousands of times before they mastered it. The transition was happening in their minds.”

The breakthrough discovery was that learning a new arrangement of three notes was always a three-step process, even when the first note stayed the same. “To change their song from A-B-C, A-B-C to A-C-B, A-C-B, they first say A-C, then C-B and finally B-A,” says Tchernichovski. “Only then can they switch to the new song. It’s a stepwise process, where new transitions appear one by one, with gaps of days or weeks between them.” And in many cases, the birds could learn the individual transitions but not the entire set.

The findings were exciting to the researchers, but not, initially, to the peer reviewers of Nature. They were wary of applying the results with the zebra finches too generally. So Tchernichovski extended the collaboration to a birdsong researcher he knew at the Riken Institute in Japan. This colleague, Kazuo Okanoya, worked with Bengalese finches, which use more complex combinations in their songs than zebra finches do. Okanoya used Lipkind’s method and gathered data demonstrating the same learning pattern in the smarter birds.

Finally came time to test the idea that human babies might use essentially the same process. It was a head-on challenge to the widely accepted thought that humans are born with an ability that allows them to make an almost seamless transition from babbling to speaking starting around one year of age. “The idea is that we have this language-learning machine,” Tchernichovski says. “But maybe it’s not like that. Maybe babies are like birds.”

Lipkind and a graduate student in Marcus’ lab at NYU analyzed a database of infant language, called CHILDES, that goes back 30 years and has been cited in more than 3,000 studies. “These are huge data sets of recordings of babbling babies, taken every two weeks, that someone listened to and transcribed,” Tchernichovski said. “We took the database of nine American babies and looked at the connection of each syllable, like ba, gu or di, and how it developed over time. “The data look very much like song development in birds. Every time an infant babbles he learns to produce new syllables, but connecting them together seems much more challenging. For example, it takes the infant 20 to 30 weeks to connect a new syllable type to other syllable types.”

The study was published in May by Nature with Lipkind as the lead author. It amounts to the discovery of “a previously unidentified component” of how we learn to speak, she says. Tchernichovski adds, “Now we see that this notion that humans are born with the capacity to rearrange vocal elements is incorrect. It develops very slowly, either by maturation or by learning, or both. The ability to rearrange elements is not the starting point of vocal development, it’s a laboriously achieved end point.”

Marcus, who has published several popular books on the human mind and is a contributor to The New Yorker, wrote on the magazine’s website: “Nobody had ever really explained why babbling took so many months; our birdsong data has finally yielded a clue.”

The researchers hope the findings might be a foundation for new understanding of speech and language disorders in children and adults. “Can we predict developmental disorders in human infants based on the development of their combinatorial abilities?” Tchernichovski asks. “Can we improve treatment of aphasia — speech and language — after stroke? The similarities between song development and speech development suggest a shared, primitive mechanism that we and others can now explore.”
FOUR RECENT Queens College theater graduates sat chatting with instructor Claudia Feldstein about the Capulets, the Montagues and the major Shakespearian roles they would soon play at Flushing Town Hall.

And then the talk turned to boot camp. For the college’s drama students, “boot camp” is not a military requirement or an exercise program but rather a nickname for a free, three-year-old, intensive — and successful — MFA preparatory course.

It was conceived by Feldstein with professor Susan Einhorn, who had chaired the theater department, and Charles Repole, the current chair. Feldstein teaches the course, directing a small group of graduating seniors to identify, probe and rehearse the modern and classic monologues that they perform to audition for graduate drama programs.

This year the four students who chatted with Feldstein made up the entire class. And all were accepted into prestigious programs. Gabrielle Georgescu to the London Conservatory of Music and Dramatic Arts; Thomas Stagnitta to San Francisco’s American Conservatory Theater; Shaunette Wilson to the Yale School of Drama; and Rosanny Zayas to Juilliard.

Each student had a different story to tell about choosing acting. Stagnitta, for example, originally came to Queens to study physics and mathematics, while Georgescu says she can’t remember a time when she didn’t want to act.

Over the past four years, six other boot camp students have attended MFA programs at the American Conservatory Theater, the American Repertory Theater at Harvard, Rutgers, NYU and Yale.

Feldstein agrees that there are many routes for actors. But as a Queens College alum who also went on to the Yale School of Drama, she believes that actors should have graduate school training, specifically in theater.

“It makes them greater at what they do,” she says, emphasizing the importance some schools put on having students collaborate with their teachers and other professionals. “It shows them what it takes to be a theater actor … and if you are trained as a theater actor, you can do anything. You can do film. You can do television.”

Feldstein encourages her students to try the very monologues that challenge them in order to show the breadth of their talent. “I also ask them to find stuff that moves them emotionally. Something they would like to spend a few months working on, something they believe in.”

Zayas says Feldstein builds confidence. By the time she entered the graduate audition rooms, she says, “I knew I was good enough … There is a little switch in your belly and Claudia is the one who gets it to turn on.”

After Yale, Feldstein had a bustling career in theater and television. But she was traveling a lot for regional theater roles and when she became a mother — her son Ethan is 8 — she began to concentrate more on the teaching she had been doing and loved before he was born. An adjunct for 20 years, who often directed plays in her spare time, she became a full-time lecturer in September 2012.
HERE’s the scenario,” musician and composer Michael Bacon tells his students on the first day of their film-scoring class at Lehman College. “I’m a film director and you’re the composer. My film is in trouble and I say to you, ‘This scene doesn’t feel sad enough. Or it’s too sad. And this scene isn’t exciting enough.’”

There are a dozen students, each sitting at a supersized Apple desktop paired with a keyboard — the kind that generates music, not words — in Lehman’s high-end Multimedia Center. Their semester’s work will be to compose original music for scenes clipped from familiar movies. The first thing Bacon wants them to know is the first thing that happens in the real world — or doesn’t. Before a note is written, he says, the composer and director have to be in sync in the way they hear — and feel — music.

“Film people, all they’re thinking about is their film,” Bacon says. “But music is a very powerful thing in their film. And if you can give them the impression that you control that power for them, then they won’t be able to work without you. They will hire you for the rest of their lives.” Of course, the opposite is also true: A filmmaker won’t rehire a composer who’s on a different wavelength.

Bacon speaks from long and varied experience. He’s been a top film and television composer for decades, an Emmy winner much in demand particularly by producers of top-shelf historical documentaries for PBS and HBO, among others. But he’s also still the rocker he’s been since he was a kid growing up in Philadelphia. He spends 50 nights a year as half of the Bacon Brothers, the duo he formed with his younger brother, the actor Kevin, nearly 20 years ago.

The difference between those two parts of Bacon’s professional life is like night and day. The Bacon Brothers is carefree creativity, no restraints. “We have a little tiny following, and we control the whole thing ourselves,” he says. Film scoring, on the other hand, comes with conditions, like any livelihood. “It’s not an art; it’s a craft. Because art has no bounds. In film you’re a team player.”

In 2009, the year he turned 60, Bacon added a new gig: teaching at Lehman, his midlife alma mater. He earned a degree in music at the Bronx campus in 1995, 25 years after he’d quit the University of Denver to join a band. He maintained ties with Lehman faculty over the years, and he and his brother made a few benefit appearances at the school. When the college was opening its new $16 million Multimedia Center, complete with a state-of-the-art recording studio, the center’s director, Jerry Barnard, asked Bacon if he’d be interested in coming back to teach.

“I never saw myself as a teacher,” Bacon says, “but when this opportunity came up I said I’ll try it. And I ended up liking it.” He turned out to be a natural as a mentor, guiding music students with the talent and interest toward potential careers in film scoring. It’s a fertile job market, he says, especially for those who look beyond the glamour of feature films.

By Richard Firstman

He turned out to be a natural as a mentor, guiding music students with the talent and interest toward potential careers in film scoring. It’s a fertile job market, he says, especially for those who look beyond the glamour of feature films.
when I started. Now there are hundreds, and they all have original programs, and all the programs need composers, and all those composers need help.”

Bacon himself arrived at film scoring as a career seemingly by a combination of happenstance and necessity. Music was always central in his life, a passion infused by his parents, a city planner and a nursery school teacher who moved their family of five kids into a Philadelphia row house in the late 1940s, a time when city dwellers were moving out in droves. “My parents were urban pioneer types,” Bacon says. “They thought the city was a better environment for kids than the suburbs. They valued creativity above everything else. We had music lessons, art, singing, acting. That was what they cared about. They didn’t care about grades.”

Bacon started playing cello when he was 8 and later took up the oboe, but it was folk and rock that got his ear. His older sister, Hilda, taught him the guitar and he added the banjo when he discovered Pete Seeger. Kevin Bacon, nine years Michael’s junior, 

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has said his earliest memories of music were whatever his brother brought home or played. The first Bacon sibling band was Michael and Hilda, and Kevin recalls sitting on the basement steps as a young boy and listening to them practice.

Michael Bacon went off to college thinking that music was to be played and loved but not studied as one might study, say, international relations. So he majored in international relations. Perhaps not surprisingly, he left before his senior year to go on the road as a singer and guitarist with a band called Good News. They had some success — a record deal, national tour and a moment of glory opening the fifth day of the 1970 Isle of Wight Festival — “in front of 250,000 cranky hippies” awaiting the likes of Jimi Hendrix, the Moody Blues and Leonard Cohen.

Bacon played on his own after the group broke up, sometimes backed up by a band that included his kid brother on percussion. And he focused on his songwriting. His tastes and talents matched the times — “acoustic guitar songs with confessional lyrics” in the vein of James Taylor and Joni Mitchell — and eventually he landed a job on the songwriting staff of a major Nashville music publisher. One of his songs was recorded by Jerry Lee Lewis, another by Peter Yarrow.

Familiar pop music story, so far. Then came one of those life-altering, one-thing-leads-to-another sorts of discoveries. A friend asked Bacon to write some music for a film he’d made. It was a documentary of sorts: “Safe use of pesticides for farmers,” as Bacon describes it. (Opening lyrics: “Mites an’ ticks an’ skunks an’ slugs/Weeds an’ weeds an’ hundreds of bugs ...”) “It got around that I was good at writing cool songs for strange subjects,” Bacon says. Writing music for movies eventually started feeling like a possible career path. But for one thing. “I realized I had too many holes in my musical upbringing. I was a professional songwriter with records out, but for this sideline of film scoring I needed real training in theory, composition, the things all the conservatory guys knew.”

Bacon moved back to Philadelphia, studied composition and theory and built a studio in his garage. In 1985, he moved to New York to pursue film scoring full time and spent a year making demo reels and sending them out to filmmakers. One of them, documentarian David Grubin, finally hired him to score a film on the artist Andrew Wyeth for his PBS series “Smithsonian World,” adapting music by the artist’s daughter.

The film was Bacon’s big break — the episode won an Emmy — but his education wasn’t finished. He enrolled at Lehman for the chance to study with one of its faculty — John Corigliano, a member of the pantheon of internationally renowned American composers. (He has since won a Pulitzer Prize and an Oscar and remains a Distinguished Professor on the Lehman music faculty.) Bacon studied closely with Corigliano and considers his return to school at age 43 a major turning point of his career. “Lehman was a great force for me,” he says. “So much of film scoring is the confidence that you know everything there is to know. Studying with John Corigliano gave me that confidence.”

Bacon has since become a prolific film composer himself, scoring 12 feature films and hundreds of hours of documentaries for television on figures ranging from the Kennedys (for PBS’ “American Experience,” for which he won an Emmy) to Marie Antoinette.

Teaching the craft nowadays is a world apart from when Bacon was learning from the masters. For today’s students and aspiring composers, computer technology can make up for some of the gaps in musical education Bacon felt he needed to fill when he was younger.

“When I first started, it was sitting at a piano and orchestrating a score with a pencil,” he says. “Now it’s kind of a hybrid of traditional and contemporary composing skills,” the contemporary, of course, being the ever-advancing technology that allows a single electronic keyboard and computer program to generate the complex sounds of an orchestra. But making something broadly known as Musical Instrument Digital Interface sound natural is another thing. “Believability is what I’m trying to teach,” Bacon says, and there are a few techniques — “secret weapons,” he likes to call them — that the modern film composer uses to convert a recording session with just a few live musicians into the (virtually) true sound of a MIDI orchestra. For instance, using just one live violinist to create the sound of 25 will sound artificial. “But if you have three violins playing on top of the orchestral samples, all of a sudden the idiosyncratic movement of their fingers and intonation gives believability to the orchestra.”

To be sure, Bacon wants his students to work with live music so they learn how to combine the two elements and make them compatible. So he brings in the first instrument he ever played. “The cello helps them go through the process of writing the piece, spotlighting a part for me to play and recording it into their system, mixing it, adding reverberation and that sort of thing.”

There’s another reason: “Working with MIDI and working with a human being are totally different. Live players are temperamental. If things aren’t clear they get frustrated. I want them to have as many negative experiences as possible because that’s how they learn. I’ve had 40 years of negative experiences. You have to know the pitfalls.”

He spends 50 nights a year as half of the Bacon Brothers, the duo he formed with his younger brother, the actor Kevin, nearly 20 years ago.
LIZZETTE BONFANTE GONZALEZ, 23, is moved to tears when she discusses the importance of food education in the inner city. “My purpose is to share fairness and goodness,” she says. “For me it’s all about food justice and food education, and if there’s Community Supported agriculture or a farmer’s market in your community it should be supported.”

It is with this optimism that the Brooklyn College senior began working with a local organization two years ago to bring affordable organic foods to her Parkchester neighborhood in the South Bronx. “There are plenty of farmers’ markets in Manhattan but there are hardly any organic foods available in the Bronx, and I feel like we need to have this in every community,” says Gonzalez, who became a volunteer with the Parkchester Community Supported Agriculture program as part of her coursework at Brooklyn College.

Members subscribe to the program, paying upfront for a share of a farm’s crops during the 23-week growing season from June to November. Parkchester CSA works with the W. Rogowski family farm in upstate New York. Members pay $435 for seasonal vegetables distributed weekly at a local church. Each delivery contains seven to 10 kinds of vegetables, which is enough to feed a family of four.

Supermarkets promote disconnection between consumers and food producers, says Gonzalez. “But when you know the farmer, you have a special relationship with your food, with the land and with the person who grows it. I think that it’s important for families to experience this.”

When she joined the group, Gonzalez, a double major in business administration and marketing and fine arts with a 3.8 GPA, was tasked with creating a marketing strategy for a small business. The semester-long project was assigned in a senior marketing course at Brooklyn College, but Gonzalez took it a step further and became the organization’s membership coordinator.

“When the program first started in 2009, it was going really well, but two years later it slowed down and I didn’t want it to disappear,” says Gonzalez. In an effort to increase membership, Gonzalez created a marketing plan that included strategies to strengthen community outreach like hosting “meet-the-farmer” events.

“One of the challenges that the CSA faces is that people don’t really know what it is, so we began setting up tables at local community events to answer questions and give out free samples,” she says. She also beefed up the CSA’s online presence by updating its blog and Facebook page. She surveyed community members and learned that 83 percent of survey takers weren’t satisfied with the produce selection at local supermarkets and yet they were unaware of the savings Parkchester CSA could afford them.

At a basement distribution site at St. Paul Evangelical Church earlier this fall, member Rhonda Lamb confessed that being able to avoid supermarkets was one of the draws for her. “But that’s not all of it. It’s enlightened me about nature’s process,” says Lamb, a mother of two. “I learned about the foods that we eat, and knowing it is pesticide free puts me at ease.”

Before starting her class project, Gonzalez assumed the cost would be a major challenge in attracting members. “They don’t get to see or choose what they’ll get for their money,” she says. So she told them about her market research, which found that residents spend about $34 a week on vegetables. But Parkchester CSA members spend less — only $19 a week.

“I thought Lizzette really connected all the dots between business, agriculture and academic knowledge,” says Brooklyn College professor of business and marketing, Veronica Manlow. “She looked at what she was learning about marketing, management and consumers and connected that to an actual project that was meaningful to her. That’s what makes her a top student.”

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AFTER A BUSY, HEARTBREAKING NIGHT as a pediatrician for a neonatal unit in a city with the highest infant mortality rate in the country, Dr. Ayman A.E. El-Mohandes decided that if he really wanted to help as many patients as possible, he needed to study public health.

That was in the mid-1980s in Washington, D.C. Today, El-Mohandes is also an epidemiologist — and an internationally recognized public health trailblazer.

In May, he was appointed dean of CUNY’s School of Public Health, the only public institution of its kind in the nation to span public health education from the associate degree to doctoral-level training. Previously, he was dean of the College of Public Health at the University of Nebraska Medical Center, where he oversaw major expansions. A George Washington University professor emeritus, he has been a National Institutes of Health researcher on infant mortality reduction in minority communities. He has conducted research in Egypt, where he was born and educated as a physician, South Africa, Indonesia and in American Indian and Alaskan native communities.

Of the clinical days in Washington, El-Mohandes says, “I was taking care of one prematurely born or sick infant after another, running after gurneys carrying pregnant women at high risk. It was a tremendous drain on the families who loved and cared for these children. One night in the intensive care unit I pondered the predictability of the scenario and thought there must be a better way to help. Once the patient left the clinic I could only be concerned in a very theoretical way. But in public health I am dealing with the grass roots.”

Can you define “public health”? Public health is the system that is not recognized until it breaks. When you walk into the shower and the water is hot, abundant and clean, you don’t recognize the need for public health. But if you put the shower on and all that comes down is a trickle of foul smelling water, you immediately think: Public Health!

“Today 70 percent of the workforce in public health does not have a master’s degree. And we are offering master’s and doctorate of public health programs. But we can also offer certificates and associate degrees in public health, which is important because many departments of health today are hiring high school graduates.”

— Dr. El-Mohandes

So, how do you fix the water — and so much more? It takes looking at things on a deeper level — the very significant challenge of understanding the combined psychosocial and environmental risk factors that engulf communities. Behind disease lie factors that may not be biological in nature. And this is true whether you are talking about bronchial asthma in children, obesity, preterm birth and infant death, occupational hazards and more. As you study the ecological and the broad, comprehensive global path of risk progression you always end up with common problems that manifest themselves in different ways. One time it may be because a bus terminal is polluting a community. Another time it is because there is no outlet for fresh fruits and vegetables. Or the streets are not safe and people can’t take a walk. Or people don’t have access to good housing or good education.
What role will the CUNY School of Public Health play in this?
The school here is newly accredited. It will offer a unique platform that I don’t think any other university in the United States has. Today 70 percent of the workforce in public health does not have a master’s degree. And we are offering master’s and doctorate of public health programs. But we can also offer certificates and associate degrees in public health, which is important because many departments of health today are hiring high school graduates. That is all they can afford. Even our competitors in the region, which are Ivy League schools, cannot offer this continuum. And the affordability here is obvious.

How will you work with the entire University community?
We are already a consortium of three colleges [Brooklyn, Hunter, Lehman] and the Graduate Center. But now I am reaching out, and others are reaching out to me. The school is an umbrella seeking to expand its partnerships. For example, the School of Professional Studies is interested in providing public health certificates to people who are already in the field or in related ones. John Jay is looking at the interface between criminal justice and public health. We are starting to have a tremendous diversity of programs at the master’s level. Lehman College, for example, has started a program in geographic information systems. I feel like I am partnering with a winning team and public health is all about teams.

Are you and your family enjoying New York?
I loved Omaha. It is economically vibrant; it is the Lichtenstein of the Middle West. But Cairo, as a huge metropolis, gave us the skills for living here in New York, the ultimate urban environment. My wife — she was born in Alexandria and works for the Export-Import Bank of the United States — and I feel so at home here. We have two daughters in California. We are very close to them and they are very excited that we have moved here.
Giving Back in a Big, Big Way

By Ronald E. Roel

In the fall of 2010, Mayor Michael Bloomberg agreed to host a small dinner party for a select circle of colleagues: fellow billionaires. Among the guests were Warren Buffett, the renowned investor and philanthropist, and Microsoft founder Bill Gates, along with wife, Melinda, now co-chairs of the Bill & Melinda Gates Foundation. The goal of the evening was to persuade other attendees to sign on to the Giving Pledge, a campaign spearheaded by Buffett and Gates to encourage the wealthiest people in the world to commit to giving at least half of their fortunes to charity.

One of the guests, Leon G. Cooperman, the chairman and CEO of Omega Advisors, a New York hedge fund, later wrote to Buffett, noting that the Giving Pledge was an “intriguing and meritorious” concept. Cooperman and his wife, Toby, who also attended the event, enthusiastically agreed to take the pledge. “Toby and I feel it is our moral imperative,” said Cooperman, “to give others the opportunity to pursue the American Dream by sharing our financial success.”

Earlier this year, the Coopermans reaffirmed their sentiment, pledging $25 million to Hunter College — the largest gift ever given to their alma mater.

The Coopermans pledged $25 million to Hunter College — the largest gift ever given to their alma mater. Both graduates of Hunter’s Class of 1964, the couple say they felt committed to contribute to organizations that made a difference in their lives. “We were both lower middle class with a high value on education,” says Toby Cooperman. “I think we were very blessed to be able to give back.”

The gift will be split — $15 million will go toward the completion of The Leon and Toby Cooperman Library, while $10 million will fund a named scholarship program for gifted students. With the Coopermans’ gift, the library’s $45 million renovation, under construction since mid-2012, is now only $9 million short of its goal.

“We were both lower middle class with a high value on education. I think we were very blessed to be able to give back.”

—Toby Cooperman

The library is one of our signature projects and a strategic effort to improve student performance in the 21st century,” says Hunter President Jennifer Raab. The newly imagined library has many innovative features, including more open spaces for communal learning and state-of-the-art student learning centers. “It’s a transformative project and funding has come almost entirely from private philanthropy,” says Raab, adding that the Coopermans’ gift made it possible.

The scholarship fund will have a similar impact on Hunter’s future, says Raab. The Coopermans’ endowment will enable the college to offer “about $500,000 every year,” Raab says. “What it allows us to do as an institution is amazing. We won’t have to turn away anyone because of need.”

Affordable education has long been of interest to the Coopermans, who attended public schools in the Bronx. Lee was the son of a plumber; Toby’s father sold bed linens. Neither set of parents went to college. “I’m all about equal opportunity,” Lee Cooperman says, “knowing that the world does not always provide equal outcomes.”

The Coopermans attended Hunter’s Bronx campus, which eventually became Lehman College. “It was a first-class education for $24 a semester,” says Lee Cooperman. “It served as an excellent foundation for the future.” Hunter also served as the foundation for the Coopermans’ long life together. They met during their sophomore year in French class: “She helped me with my French,” recalled Lee. Toby, who became class president (while Lee was vice president) says, “I came into my own in my four years at Hunter.” It was Toby who asked Lee to the junior prom, in May 1963. “I accepted the offer,” he says. “It was a night out, no cost.” They were married the following summer.

During his senior year, Lee Cooperman initially decided to pursue a degree in dentistry but quickly changed course, focusing on economics instead. He went on to earn an M.B.A. at Columbia Business School and the day after graduation he joined Goldman Sachs. At the time, he had “a National Defense Education Act Student Loan to repay, had no money in the bank, and a six-month-old child to support,” recalled Cooperman in his letter to Buffett. Still, he ended up having a successful 25-year run at Goldman Sachs, followed by the last 19 years at Omega — “years of happiness and good fortune, with a few bumps along the way.”

Toby Cooperman, who majored in history and political science at Hunter, recently retired after spending...
25 years in the special education field.

Earlier this year, as the couple contemplated the 50th anniversaries of their graduation from Hunter and their marriage, they began thinking of ways to express their appreciation for their college. “We’ve always given back,” says Toby.

Lee Cooperman said that he has considered four options for managing great personal wealth: One could consume it (“we don’t have a lifestyle to do that”); give it to your children (“a reasonable sum”); leave it to government through estate taxes; or give it to needy organizations (which he prefers to do during his lifetime or through the family foundation, to be managed by his two sons and grandchildren). The case for philanthropy, he adds, has been profoundly articulated over the centuries, citing, for example, the words of Winston Churchill in the 1930s: “We make a living by what we get, but we make a life by what we give.”

Raab says the Coopermans’ gift will continue to send a powerful message, not only to the wider world, but also to Hunter alumni in particular. “Lee made his career as a ‘value investor’ — putting people’s money into what he thought would yield an enormous return. To see him support Hunter in this way is a demonstration of his belief that we are a good investment for future generations,” Raab says. To Hunter’s alumni body, she adds, the gift sends the message that it’s important “to do what you can at your level. And it shows students that someone cares about your education enough to support them. Who knows, the next Lee Cooperman might be sitting in our library right now.”
IT’S HARD TO BELIEVE. But true. Kam Wong was not always a stellar student. Today, the distinguished Baruch College alumnus and donor is president and CEO of the Municipal Credit Union of New York, with more than 350,000 members and almost $2 billion in assets.

Wong has been a key player in the growth of the historic downtown Manhattan institution’s unprecedented recovery after 9/11, ensuring that the credit union would not only endure, but prosper.

But the 1981 CUNY graduate had struggled during his early years as a student in Hong Kong.

“I did not do too well in high school,” Wong says candidly. “Actually, I kind of failed all subjects except English. I failed math. I failed Chinese. I failed Chinese history... but somehow, because I did pretty well in English, I was able to get a job in an office environment.”

Wong knew he needed more education, and when his grandfather asked him and other family members to emigrate and join him in New York, Wong had his chance. He agreed, but only if he could go to college in the United States.

Ambitious and determined, Wong completed his college education, graduating from Baruch with strong grades, and ascended quickly in the professional world. He rose from an entry-level job at MCU to supervisor, then to assistant controller, and then chief financial officer. He became president in 2006 and CEO a year later.

While he was an assistant controller at MCU, it took over a credit union in deep trouble — and tied to what was then the Brooklyn Democratic machine. The credit union, Hyfin, for “Help Your Friend in Need,” was using the same collateral over again to lend large amounts of money. It was a storied episode in New York financial circles involving a political leader’s suicide, $2 million in assets — much of what Wong found in Hyfin’s basement — Rolls-Royces and more. Wong was able to return all funds required to the federal government while building up MCU with the takeover.

On Sept. 11, 2001, Wong was chief financial officer of MCU when the first plane hit the Twin Tower about 500 yards away from the credit union’s office at 22 Courtlandt St. He evacuated all the employees, but Wong stayed because he was concerned about the computer system. And then he saw the second plane hit.

“The fireball is just coming at you, and I saw paper melt,” he says. “This is going to be a war zone,” he told himself. He knew there was a lot of cash in the credit union’s vault and its ATMs. “I made a decision and locked down everything. I predicted that it would be a lockdown zone... Unfortunately my guess was right.”

In the end, he decided to buy all new computer equipment and start the operation up from scratch at another site, setting a limit on the amount of money people could withdraw each day during the crisis.

He hadn’t imagined himself in such a decision-making position when he arrived in New York on May 9, 1975. One day later his grandfather found him a job in a restaurant, and in between working hours he found high schools and middle schools for each one of his four younger brothers and one sister.

And then he researched schools for himself — and applied to CUNY. College education was not without its challenges for him, and that’s just one of the reasons the University remains so special for Wong, who is a recipient of the Baruch President’s Medal.

At first he attended Bronx Community College, an hour and a half subway commute from his home in Brooklyn, working hard to master coursework he had little experience with and often had to start from scratch.

FROM YOUNG, DETERMINED IMMIGRANT TO NEW YORK CEO
But when I went to Baruch there was some sort of culture shock,” Wong says of the transition to the senior college. On his first accounting test, he got a 30.

“I panicked,” recalls Wong, who also has an MBA in finance from a Long Island college. “But I worked very closely with the professor,” Martin Benis, who died in 2010 at 83 after teaching at Baruch for 30 years.

Six years later, he had a bachelor’s degree from Baruch and the confidence that came with “A” grades in math and accounting. “The message is loud and clear. … We have great faculty members,” Wong says. He adds that group study classes with other Baruch students also helped — as did sharing their “cultural” experiences at the Hop Lee Restaurant in Chinatown and the Blarney Stone bar on 23rd Street.

After he became a CEO, Wong says, “I started to think about where I came from. I came from Baruch College.” In 2009, he asked the college to design a training program for his staff, and in 2011 he returned to Hong Kong with a Baruch administrator to recruit international students and give them scholarships. He is as modest about his donations as he is about his accomplishments. They include the $10,000 a year he now gives, saying it is merely a “gesture from my heart.”
In America ON HIS OWN
New York City's 1613 Solo Immigrant

By Lenina Mortimer

MEET JUAN RODRIGUEZ — New York City’s first immigrant. He’s also a historical figure who went unrecognized for centuries. But now researchers at City College have come together to set the record straight.

Rodriguez was born in Santo Domingo or Hispaniola (present day Haiti and the Dominican Republic) — the first European colony established in the Americas. He was part of a crew that arrived in Hudson’s Harbor aboard a Dutch ship in 1613, probably sailing from the Spanish colony of Hispaniola. Rodriguez was also a free, dark-skinned man, according to Dutch notarial documents published by the CUNY Dominican Studies Institute.

“The story of Juan Rodriguez belongs to the history of all New Yorkers,” says Ramona Hernandez, director of the institute and professor of sociology at City College. “It shows that immigration and Dominicans are as old as apple pie. And it shows that New York has had interactions between different races and ethnicities since the very beginning.”

Rodriguez has been labeled the first because “he is simply the first individual for whom a historical record exists who is known to have lived in the Hudson Harbor area for several months (1613-1614), far from his society of origin, with only the local Native Americans as companions,” says Anthony Stevens-Acevedo, the assistant director of CUNY DSI.

It is likely that while living on the island of Santo Domingo, Rodriguez was hired to work as a sailor for the Dutch. The fact is that we find Rodriguez on a Dutch expedition destined for New Amsterdam and the Netherlands in 1613. But once Rodriguez arrived in Hudson’s Harbor he adamantly refused to leave, according to “Juan Rodriguez and the Beginnings of New York City,” a monograph published by the institute. Dutch notarial documents reveal that he lived and worked in New Amsterdam for at least eight months between 1613 and 1614.

Paraphrasing the few written statements that survive about Rodriguez, Hernandez says: “He was left here because he told whoever hired him, ‘I’m staying right here. And if you don’t leave me, I’ll jump overboard!’ We don’t know why he said that but I think this is a spirit of rebellion that you’ll find among many immigrants.” Hernandez adds that Rodriguez was paid for his services in goods — like hatchets — before the expedition sailed on to Holland without him.

“It’s particularly exciting to have a guy connected to the city exhibit that kind of self-assertion,” says Stevens-Acevedo, the lead author of the monograph. “It’s an important history lesson for children to learn that there was a free man of African descent who worked alongside Europeans during slavery.”

The monograph describes Hispaniola as a colony that was wild and rebellious. “Early Dominicans constantly defied Spanish authority by trading with foreigners [like the Dutch] to avoid paying taxes, which in their eyes were unfair. And the attitude and behavior Rodriguez exhibits toward his employers appears to be typical of the culture in which he belonged,” says Hernandez.

Despite the historical significance Rodriguez’s story went untold until Dutch historian Simon Hart mentioned him in 1959. Rodriguez was virtually unheard of in American history until the 1990s when black scholars interested in the early history of African-Americans in New York began to discuss him. “They wanted to show that we didn’t only come in on ships, with our hands and our feet tied — we also came as business people,” says Hernandez.

“We would like to think history books narrating the story of this country would now include this story so that children of all races will learn about Rodriguez. His story shows the complexity of the human family and that we’ve been a diverse society from day one,” says Hernandez.

After 400 years, New York’s first immigrant was recognized when a three-mile stretch of Broadway from 159th Street to 218th Street was named in his honor. “Broadway is in the imagination of almost everybody who’s heard of New York. I think it was the perfect street to be named after him,” says Hernandez.

Still, there is very little known about Rodriguez or what he did during his stay in New York City. “We’re not letting this rest because there are lots of questions. It’s simply a matter of time before more questions about his life are answered,” says Hernandez.
IN PARTS OF AFRICA, baboons can be controversial. Some people consider them pests, while others value the lessons they teach us about human behavior.

Queens College anthropology professor Larissa Swedell has studied the behavior, environment and evolution of baboons in Africa for almost two decades. Swedell uses her research to inform conservation strategies and help humans and baboons to coexist.

In Cape Town, South Africa, stories about human-baboon conflict appear regularly in the media, says Swedell. “We’re just trying to be an objective voice presenting accurate and useful information about baboons. We try to help people understand that they’re not your enemies and they won’t eat you. They just want your food,” says Swedell, whose research focuses on the social behavior and mating patterns of baboons.

She is currently involved in two field projects: one on hamadryas baboons at the Filoha field site, located in the Awash National Park in Central Ethiopia, and the second on chacma baboons in the Tokai Forest outside of Cape Town.

Swedell and her team observe baboons in their natural habitat and collect behavioral data on each individual. The researchers record everything that the baboon does over 15-minute periods, taking notes on grooming, mating, feeding and socializing habits. Over time, enough samples are collected to be representative of an individual baboon’s behavior.

Swedell’s fieldwork on hamadryas baboons focuses on the role of females in this unusual multi-layered social system, which she became interested in because it is so male-dominated. Her other research program, on the chacma baboon, examines their relationship with their human neighbors. It’s interesting because “there are a lot of potential stressors for the baboons in South Africa that are unique,” says Swedell, “such as being chased by people and having things thrown at them.”

Swedell contends that by studying baboons we can learn more about the evolution of humans and the biology behind modern human behavior. “When I watch baboons they remind me of humans, their position in the social hierarchy impacts how much food they eat, where they sit and who they interact with ... and that’s not very different from our own behavior.”
An adult female chacma baboon with her juvenile daughter in the Tokai Forest outside Cape Town, South Africa
Before and after Earp’s death in 1929, Josephine was determined to tell his tale, warts deleted. In particular, she wanted to stay out of her husband’s story — and did not want anyone to know that Earp’s third mate descended into alcoholism and despair and then committed suicide. Josephine seems to have feared that it was her fault; Earp left that woman for her. She began to create a biographical trove for Earp that, although filled with myths and omissions, put her far ahead of her time as an image maker.

“I think that the ability to spin the legend of Wyatt Earp was what made her such a modern woman,” Kirschner says. As a child in Jackson Heights, Queens, Kirschner watched television westerns with her older brother, Joey, who dressed up in cowboy gear when the shows came on. “Joey was my hero,” she writes. “And Marshal Earp was his.” In a recent interview she added, “But I had a sense of having grown up with an incomplete picture of the frontier ... there were no real women in it.”

Surprised by a friend’s comment that Wyatt Earp is in a Jewish cemetery, Kirschner learned about Josephine — buried next to him — and was inspired to write the book. “Josephine’s Jewish background was the spark for the book,” she agrees. Kirschner’s first book, Sala’s Gift, describes her mother’s experience in Nazi labor camps during World War II. “But her religion did not turn out to be a major factor in Josephine’s life,” Kirschner says. “Had I wanted to write a book just about Josephine as a Jewish woman, I would have been mightily disappointed ... She didn’t hide her Jewish background. She was just indifferent to it ... Yet, at the greatest crisis of her life — Wyatt’s death, she turned back to her Jewish roots and buried him next to her parents.”

To research the book, Kirschner enlisted the assistance of her students, now graduates. To help shape her vision of Josephine, she discussed her research with them. They were her sounding boards. And in turn the students learned how authors write books. “I had one of the most memorable weekends of my life working with Ann,” says graduate Dan Blondell, now the content manager at the Central Park Conservancy. “We went to Massachusetts to view a never-before analyzed and barely read archive of Josephine’s letters ... research is detective work.”

About her writing process, Kirschner says she has never taken a leave to write her books. She sometimes researches while traveling, writes in the early mornings and on vacations. As for her next book, she says she’s waiting to feel “an itch. Books are like mosquito bites. They itch. It’s not there yet.” Nothing yet to compete with the story of Josephine Sarah Marcus Earp, which the University dean calls “a magnificent obsession.”
Here is a collection of new books written by CUNY authors:

**Harvard Square**
Graduate Center Distinguished Professor of comparative literature André Aciman
W.W. Norton

This novel is a tale of the wages of assimilation—a moving story of an immigrant’s remembered youth and the nearly forgotten costs and sacrifices of becoming an American. An Egyptian Jew attending graduate school at Harvard in 1977 meets a brash, charismatic Arab cab driver nicknamed Kalashnikov—Kalaj for short—for his machine-gun vitriol. The student finds it hard to resist his new friend’s magnetism, and before long he begins to neglect his studies and live a double life: one in the rarified world of Harvard, the other as an exile with Kalaj, carousing on the streets of Cambridge. As final exams loom and Kalaj has his license revoked and is threatened with deportation, the student faces the decision of his life: whether to cling to his dream of New World assimilation or risk it all to defend his Old World friend.

**Out of Many, One: Obama and the Third American Political Tradition**
Graduate Center professor of political science Ruth O’Brien
University of Chicago Press

Feared by conservatives and embraced by liberals when he entered the White House, Barack Obama has since been battered by criticism from both sides. In *Out of Many, One*, O’Brien explains why. We are accustomed to seeing politicians supporting either a minimalist state characterized by unfettered capitalism and individual rights or a relatively strong welfare state and regulatory capitalism. Obama, O’Brien argues, represents the values of a lesser-known third tradition in American political thought that defies the usual left-right categorization. This book sheds critical light on both the political and philosophical underpinnings of his presidency and a fundamental shift in American political thought.

**New York and Los Angeles: The Uncertain Future**
Edited by Queens College associate professor of sociology and UCLA professor of sociology David Halle and Queens College professor of sociology Andrew Beveridge
Oxford University Press

This book provides in-depth comparative studies of the two largest cities and metropolitan areas in the United States. Chapters of the book compare politics, economic prospects and the financial crisis and a host of social issues, including reform movements in education, immigration, racial and economic segregation and environmental issues. This comparative framework reveals that old paradigms of urban “decline” or “resurgence” are inadequate for grasping new complexities. Each city is responding in similar and different ways to the challenges created by the events that defined the last decade. These regions act as harbingers for other U.S. cities, the entire nation and cities worldwide.

**My 1980s and Other Essays**
Graduate Center Distinguished Professor of English Wayne Koestenbaum
FSG Originals

Koestenbaum’s essay collection opens with a series of manifestos—or rather, a series of impassioned disclosures, intellectual and personal—and then proceeds to wrestle with a series of major cultural figures, the author’s own lodestars and lodestones: literary (John Ashbery, Roberto Bolaño, James Schuyler), artistic (Diane Arbus, Cindy Sherman, Andy Warhol), and simply iconic (Brigitte Bardot, Cary Grant, Lana Turner). It amounts to a kind of intellectual autobiography that culminates in a string of passionate calls to creativity: arguments in favor of detail, nuance and attention; and a defense of pleasure, hunger and desire in culture and experience.

**Dressing Constitutionally: Hierarchy, Sexuality, and Democracy from Our Hairstyles to Our Shoes**
CUNY School of Law Distinguished Professor Ruthann Robson
Cambridge University Press

The intertwining of our clothes and our Constitution raises fundamental questions of hierarchy, sexuality, and democracy. From our hairstyles to our shoes, constitutional considerations both constrain and confirm our daily choices. In turn, our attire and appearance provide multilayered perspectives on the United States Constitution and its interpretations. This book examines the rights to expression and equality, as well as the restraints on government power, as they limit and allow control of our most personal choices of attire and grooming.

**Bodies of Subversion: A Secret History of Women and Tattoo**
Lehman College assistant professor of English and CUNY Graduate Center School of Journalism associate professor of Journalism Margot Mifflin
PowerHouse Books

Margot Mifflin has updated and resplendently illustrated this new edition of *Bodies of Subversion: A Secret History of Women and Tattoo*, which was first published in 1997. The new edition arrives at a time when, according to a 2012 Harris Poll, American women are more likely to be tattooed than men. No longer a rebel emblem, tattoos are a mainstream fashion statement, according to Mifflin.

Her research has unearthed some choice tidbits of social history: Following the upper-class social trend of the late 19th century, Winston Churchill’s mother had a tattoo of a snake eating its tail (the symbol of eternity) on her wrist.

**Hardhats, Hippies, and Hawks: The Vietnam Antiwar Movement as Myth and Memory**
School of Professional Studies assistant professor of Labor Studies Penny Lewis
Cornell University Press

In popular imagination, college students and elite intellectuals drove opposition to the Vietnam War, while the supposedly reactionary blue-collar workers supported the war. In *Hardhats, Hippies, and Hawks: The Vietnam Antiwar Movement as Myth and Memory*, Penny Lewis challenges the collective memory of class polarization. Through close readings of archival documents, popular culture, and media accounts at the time, she offers a more accurate, “counter-memory” of a diverse, cross-class opposition to the war in Southeast Asia that included the labor movement, working-class students, soldiers and veterans, Black Power, civil rights and Chicano activists.
The Favelas of Rio
— IN MINIATURE
on Queens College Campus
While it began as a game played by teens in one of the working-class Rio de Janeiro neighborhoods, or "favelas," today Projecto Morrinho has evolved into an art installation meant to inspire social awareness and international dialogue on the Queens College campus.

A permanent installation, Projecto Morrinho, which is Portuguese for "little hill project," was built on the campus by visiting Brazilian artists and 30 student volunteers.

Two tons of bricks — flown in from Brazil — were painted and stacked to recreate the Rio's neighborhoods. Three separate sites were built at the college during the Fall 2013 semester. The largest of is on the steps of the Rosenthal Library Plaza. Although Projecto Morrinho installations have been built in Europe, the three on the Queens campus are the first in the United States.

Teenagers in Rio's Laranjeiras neighborhood started building favela models in 1998 as a means of play and an escape from the police and drug-trafficker surrounding their community. Some of those teens — now adults — traveled to Queens College to build the Projecto Morrinho installations, not only as a means of play but also as a cultural exchange, says Queens College anthropology professor John Collins.

"The model has both an Empire State Building and a Christ statue so it's not just an import from Brazil but rather a collaboration between young people from these two cities," says Collins, who taught a semester-long course, Space in Brazil that offered students the opportunity to work on the project. "The installations offer students an opportunity to exchange ideas and help change perceptions of what life is like for those in Rio and New York City," adds Collins.

Documenting part of the college’s Year of Brazil, student McLane Teitel photographed Projecto Morrinho as it rose on campus.
An Innovative Guttman Makes the City Its Campus

YEAR AFTER the Stella and Charles Guttman Community College opened its doors, some students say it offers more than innovative instruction—it also creates the perfect marriage of city and campus life. “This college paved the way with its brand new educational curriculum. But they’ve also paved the way in campus life—the college has been able to add something more to make me feel like this is my second home,” says second-year student Stephen Icaza.

Guttman Community College, formerly known as the New Community College of CUNY, opened in the fall of 2012. It’s the first CUNY community college to open in more than 40 years, and it was renamed after the University received a $25 million gift from the Stella and Charles Guttman Foundation. The donation, the largest to a community college in New York history, was given to support the college and other community college initiatives to boost student retention and graduation rates.

Located in Midtown Manhattan, the college is housed in a seven-story, 92,000-square-foot building overlooking Bryant Park. While it may be limited in space, the city serves as an extended campus, says Icaza. “We’re near Times Square, there is a park right outside and we have a huge library next door. It’s like our campus is as large as our surroundings,” says Icaza, speaking in the Information Commons—the college’s nontraditional library.

The Information Commons, described as “a library for the 2.0 world” on the college website, is a social space where students access an extensive digital library and online database. Surrounding city institutions, such as the main branch of the New York Public Library, bolster the resources of the college library, which has a small collection of books.

Guttman offers five degree-granting programs, including associate degrees in liberal arts and sciences, information technology and business administration. Its innovative curriculum includes a mandatory summer bridge program that prepares students for college course work. Students are also required to attend school full-time during their first academic year.

Although the college’s primary objective is to increase student retention and graduation rates, creating a supportive community is also a key part of its mission. “I don’t think any student will ever feel like a number here, even in the five years that we will grow. The message we hear from the school is that there is an actual relationship between the student and the teacher. So it’s no longer student-teacher, it’s now student-mentor,” says Icaza, of the college that opened with an inaugural class of 300 students. Enrollment will grow to approximately 5,000 students when the college moves to its permanent home at 59th Street and 10th Avenue.

“I knew since day one of researching the faculty and staff that they were gathering quality teachers. But I’m also having such a fun time being studious while being surrounded by so much culture,” says Icaza.