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THERE’S A LOGICAL REASON WHY WE SOMETIMES MAKE IRRATIONAL DECISIONS—IT’S HOW WE ARE WIRED.
New Dean for LAS Brings Message of Optimism

On January 1, I had the honor of beginning a leadership term as dean of the College of Liberal Arts and Sciences. I am its 14th dean in its nearly 100-year history, and like my predecessors, I am an ardent believer in the central contributions of the liberal arts to the sciences in scholarship and in education. Having been at the University of Illinois since 1993, most recently as its vice provost, I am well acquainted with the college’s reputation for attracting bright students and innovative faculty. As the last college in the state’s flagship university, LAS sets a standard that befits and advances our legacy of excellence. I am fortunate and proud to be a small part of this tradition.

While delighted with this opportunity to lead and partner with our faculty and students, the times will be challenging. The college, like other institutions and businesses across the country, must examine its entire enterprise to reduce costs without compromising its core mission of discovery and education. In some ways, our task mirrors that of the nation to address our financial challenges in ways that secure a sustainable, vibrant future. I believe we can turn this situation into an opportunity for the college to move ahead in bold, creative ways.

Times of change require us to make choices that preserve what we most value. As the college moves forward, I hope that you—our alumni and friends—will continue to count us as among those public goods too vital to be taken for granted. Higher education, especially publichigher education, for decades has provided those of ability and determination access to the kind of education that can transform their lives and ensure the strength and integrity of our country.

Many believe that a society’s commitment to education is its most influential long-term investment. I hope you do, too. Together we can preserve what we value, see that it endures, and make it stronger for current and future generations.

—Kurt J. W. Wathen

Dean of Liberal Arts and Sciences

Carbon Neutral Study Abroad

As a result of some global soul searching, the students and director of one of LAS’s longest-running study abroad programs are spearheading efforts to reduce the carbon footprint of studying overseas. “Our carbon footprint has amplified in the past five years,” says Bruce Murray, the resident director of the Austria-Illinois Exchange Program for 17 years, “so I feel that adapting abroad should be linked with reducing our carbon footprint.”

Traveling abroad come at a heavy cost to the environment, says Murray, costing anywhere from one to five tons of carbon per flight person. To reduce that impact, he is teaching with other faculty on campus to devise something similar to a balance sheet of conservation practices that students can implement here and when they are abroad. Achieving a neutral balance may not be possible yet, says Murray, but he is confident that students can have a measurable impact and inspire similar efforts elsewhere.

International courses have expanded in popularity in recent years as students recognize the value to themselves and to future employers of cultural awareness. The College of LAS leads the campus in international instruction, offering international courses that fit into nearly any curriculum and that range in duration from three weeks to a year.

—Ruth Watkins

Dean

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TOP-NOTCH PROFESSORS

As a testament to the breadth of excellence in the College of LAS, professors in both the arts and sciences garnered top national honors this past fall.

Poet Brigit Pegeen Kelly, who is described as “one of the very best poets now writing in the United States,” was awarded the 2008 Academy of American Poets Fellowship for a career of distinguished poetic achievement. Past recipients have included E.E. Cummings, Robert Frost, Gwendolyn Brooks, Carlos Williams, and Marianne Moore. Awarded regularly since 1946, the honor is given to one poet each year.

Chemist Martin D. Burke was named as one of the world’s top Young Innovators in the September issue of MIT’s Technology Review for his work in simplifying the process for drug discovery and potentially getting new, promising discoveries to patients sooner. Burke’s goal is to develop a kind of “molecular prosthetic” in which researchers find molecules that perform the role of proteins that are missing or malfunctioning in diseases such as cystic fibrosis.

In addition, emeritus chemist and physicist Charles P. Slichter received a National Medal of Science from former President George W. Bush for his work on nuclear magnetic resonance. And eight faculty were named Fellows by the American Association for the Advance-ment of Science, among other honors.

TWO LONGTIME PROGRAMS ARE RECOGNIZED AS DEPARTMENTS

Two vibrant programs in the College of LAS enjoyed the equivalent of birthday parties this fall as they were promoted to academic departments. The new Departments of Religion and African American Studies are not newcomers to the college, having operated well-respected research and educational programs for more than 35 years. Still, the step up to department is important symbolically, signaling that these disciplines have “arrived.”

Cover: Since its founding in 1867, the University of Illinois at Urbana-Champaign has trained leaders at home and abroad as it enrolls students in all 100 countries. LAS News Online.
Lessons in the Dust

By Dave Eversen

Lessons in the Dust

Amid the ruins of Chicago’s public housing history, one thing the Windy City did right may improve the future.

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SPEED MARVEL sounds like the hero of a summer big-screen blockbuster—a melding of Speed Bearer and the Marvel comic book universe. But for the real-life Speed Marvel, the only “melding” that took place occurred in his LAS chemistry lab. And instead of spandex, the primary stretchable material that he worked with was rubber.

In fact, Carl “Speed” Marvel looked more like a superhero’s alter ego, always dressed in a dark, navy blue suit coat and black shoes. He also happened to be one of the most influential and colorful researchers in the more than 100-year history of the University of Illinois Department of Chemistry. Recognized as a father of synthetic polymer chemistry, Marvel was a key figure in one of the most ambitious, but least remembered, government projects of the 20th century—the Synthetic Rubber Research Program. This heroic project, which involved the government, industry, and 11 universities, aimed to create enough synthetic rubber during World War II to compensate for the natural rubber supply that had been choked off by the Japanese.

Our natural rubber had been coming from the Malay Peninsula, but the Japanese took over the entire area, recalls Robert Chambers, who worked for Marvel as a graduate student during the war. “Without the natural rubber, we had to synthesize rubber. But the synthetic rubber, in most cases, was not as good.”

According to Peter Morris, author of _The American Synthetic Rubber Research Program_, the United States “was cut off from nine-tenths of the world’s rubber-producing regions” during World War II. So something drastic had to be done, because the fate of the war effort rested, in part, on who had the rubber for tires and more. So the U of I became one of the most influential and colorful research centers to emerge in the first 50 years of the U of I’s history.

In 1920, Marvel joined the U of I staff as a chemistry instructor and soon made a name for himself in polymers, which are large molecules with repeating units. Polymers include all kinds of materials, such as plastics, neoprene, and rubber.

“Marvel was probably the leading academic researcher working on the synthesis of polymers at that time,” says Chambers. “This made it natural for Marvel to step in as one of the key leaders in the Synthetic Rubber Research Program, which began in 1942 and lasted until 1957. In fact, because of Marvel’s presence, the U of I became the most heavily funded of the 11 universities in the project. Marvel’s group worked closely with industry, regularly shipping products to the rubber companies for testing. Chambers says. Chambers was not officially involved with the rubber program, but Marvel sometimes asked him to work on the project. He recalls the long hours, working 8 a.m. to 11 p.m. six days a week and having little time for dating—even though he admits that was probably more due to ‘social inadequacies.’”

The universities did not produce something new in the rubber project, but they did make viral “incremental improvements,” Morris says. “What’s more, the project was a whole became a tremendous success story.”

“In the three-and-a-half years between December 1941 and June 1945, the United States built up a synthetic rubber industry with an annual output of 756,000 long tons,” he points out. “This was seven times as much synthetic rubber as the Germans produced during their peak year of 1943.”

“The hard work of a legion of scientists and engineers made the miracle possible,” he adds, “but they never did come up with a synthetic rubber that could take the place of GSR rubber, or Government Rubber Sterne. Marvel said that Marvel’s group developed a rubber that “was superior in some respects to GSR, but it was never commercialized.”

Marvel oversaw close to 100 researchers and tackled no less than 14 discrete topics. For instance, the U of I team solved a major waster with the original process of polymerizing GSR rubber; they discovered that unsaturated fatty acids interfered with the polymerization process.

After World War II, Marvel went on a technical intelligence mission to Germany, where the team uncovered secrets that eventually led to a cold rubber process, which produced a superior rubber. Morris says that Marvel’s synthetic rubber work also led to his groundbreaking research on heat-resistant polymers in the 1950s and 50s. The result was polybenzimidazoles (PBI), a vital material in the aerospace industry. When three astronauts were killed in a 1967 fire aboard Apollo 1, NASA selected PBI for its superior fire-protection qualities. PBI is now part of automakers’ and firefighters’ clothing and is commonly used for fire-blocking layers on aircraft seats, among many other uses.

Marvel retired from the U of I in 1961 but he essentially had a second career at the University of Arizona, where Marvel Hall now stands in his honor. Speed Marvel, who passed away in 1988, was larger than life in both his personality and physical stature. At one point, he carried over 250 pounds on a frame slightly over six feet tall. According to Chambers, he could still walk around almost- and all of “a sudden he would appear next to you.” Marvel also retained a love of nature all of his life as an avid birder and fisherman.

“Speed erased the back roads of Illinois at 70 miles per hour, occasionally screeching to a halt, listening a minute, and then saying, ‘Over there is such and such a bird,’” recalls Elizabeth Rogers, an instructor of general chemistry from 1965 to 1988. “He then checked all of it off his list and round off again.”

Stories about Marvel abound—such as the time he single-handedly put out a laboratory fire before the fire department arrived—or the time he pulled a Nebraska chemistry professor out of a lake because the friend couldn’t swim (neither could Marvel). …or the time he was consulting for a pharmaceutical company and “sampled” some medicines they were developing, hoping they would solve his long-time sinus problems. The medicines didn’t heal him, but they did turn a seven-inch-long patch of skin on his leg temporarily blue.

Marvel may not have been a superhero, no matter what images his name conjures up, but he was certainly one of the country’s best synthetic organic chemists. He was also something of an artist. “Synthetic organic chemists are more like artists than scientists,” says Chambers. “Chemicals are like colors, and you can paint whatever picture you want by putting all of these chemicals together and synthesizing something.” So Marvel was an artist. You couldn’t do any better than him.
THE PROBLEM WITH TORTURE
The morality of torture—and why the debate over its use often misses the point.

By Dave Eskenazi

In some ways, David Sussman appears just as you might expect a professor-philosopher would. His office is filled with loose pieces of paper, he speaks in long, complex sentences filled with parenthetical aside and conditions, and during discussion he closes his eyes thoughtfully, searching for the best word or phrase.

On one point, however, he sounds something like a relentless dungeon guard.

“It was not my desire to become the torturer,” says Sussman, an associate professor of philosophy in the College of Liberal Arts and Sciences.

But indeed he has, albeit in a more scholarly way than the title may imply. Sussman writes about torture, and ever since his philosophical essay “What’s Wrong With Torture?” appeared in 2005, he’s been quoted, cited, and asked to speak numerous times to lawyers, scholars, and others on the moral distinctions of the practice.

Part of the widespread response to his work comes as a product of addressing a topic that has gained the spotlight in the wake of Abu Ghraib and the other instances of torture at the hands of U.S. soldiers and intelligence agents after the September 11 attacks. Yet Sussman feels that much of the debate about torture has insufficiently addressed core moral questions about it.

“That’s what the paper’s intent amounts to being,” Sussman says. “Talking about this to show why there might be something right about the intuition of there being something really morally [distinctive] about torture, that doesn’t just make it continuous with other forms of violent, or cruel, or damaging, treatment of people.”

In Sussman’s view, torture is harder to justify than even killing, in some respects.

“A good question is, ‘Why doesn’t the logic of self-defense—which we use to justify killing people, blowing their bodies to bits, incinerating them—why is that not in principle available here?’” Sussman says.

“There are two sides to this. People who don’t want to engage this [question] at all, or the people who say, ‘There’s nothing special about torture. It’s a question of tactical effectiveness.’”

To help make his points, however, that torture is morally distinct and requires special consideration, Sussman refers to George Orwell’s novel 1984, which, albeit fictional, portrays psychological trauma echoed in accounts by real torture victims.

In the horrifying, torture-filled climax, the protagonist, Winston Smith, and his lover, Julia, have been captured by O’Brien and the Thought Police. Faced with the prospect of having a cage of starving rats fiend over his head, and unsure what his tormentor wants, Smith screams the famous line, “Do it to Julia!”

“It’s all up to Smith to figure out what O’Brien wants,” says Sussman. “What would possibly satisfy him? What betrayal or perversion would be deep enough to satisfy O’Brien? And he comes up with betraying Julia in this way. He has to play the role of his own tormentor…. [The excerpt] does seem to be borne out of the experience of lots of victims of torture.”

In other words, as Sussman points out, torture forces a victim to contribute to his or her own violation. It’s a key point that other moral philosophers stress—and credit Sussman for—in their own discussions.

Clues to the moral gravity of torture come through accounts by victims that reveal deep psychological wounds. Torture victims have described a lasting sense of a kind of “living death.” Sussman says, and refer to their tormentor as a “perverted God.”

“And so characteristically there’s a psychological dynamic within victims of trying to figure out, mobilizing their tormentor, who is in some ways inscrutable, cannot be challenged, cannot be bargained with, but who holds everything in his hands,” Sussman says. “Even if this is something they don’t deliberately want to do, [victims] find aspects of their feelings and emotions sort of mobilized to try to find some way of appearing this distant figure.”

This kind of fearful, self-undermining process forces people to experience intimate aspects of themselves— their bodies, pain, and emotions—in another being. It leaves victims with a sense of shame, and worse, he says.

“One you had that experience of something that you thought so essentially your own being available to another, you think that you can never reconcile,” Sussman says. “That part in some way remains other, or estranged from you, afterwards. Maybe that’s what’s going on when people talk of themselves as dead while still alive.”

Sussman places torture more in the moral realm of rape and kidnapping rather than killing or maiming in combat, which at least includes the immediate and reasonable reason to kill. This also means that the moral problem with torture isn’t necessarily about pain. Sussman’s interpretation renders a broad scope of torture techniques as immoral—including waterboarding, sleep deprivation, and forms of disorientation.

There are instances where torture does fall into the same moral category as self-defense, Sussman believes. He refers to a case several years ago in Germany where a kidnapper was captured by police as he picked up ransom for a nine-year-old boy. The kidnapper revealed the boy’s whereabouts only after he was threatened with torture (unfortunately the boy had already died).

Justified torture, however, is hard to attain under Sussman’s view. For example, self-defense wouldn’t justify torturing someone who knows about an evil act but is not involved. And while torture might be justified in so-called ticking bomb scenarios such as those found in the television drama 24, where Jack Bauer tortures terrorists who possess knowledge of imminent attacks, Sussman notes that the characters are operating under knowledge and confidence that are almost always unrealistic.

Sussman has done further writing about torture, including defining the limits of torture. But these are heavy topics to ponder, and he sighs heavily at the prospect of adding to the volume of thought about torture in the future.

“I want to write about something else for a while,” he says.

SECURITY’S PRICE TAG
LAS historians say crisis often leads to clamping down on personal freedoms—or bending the rules.

The use of torture tactics by the United States against terrorism suspects after the September 11 attacks follows a theme found throughout the 20th century in times of crisis, according to LAS historians.

While faced with a perceived threat, authorities tend to curtail civil liberties in the name of added security, says Mark Leff, associate professor of history in the College of Liberal Arts and Sciences, who teaches a class called “Crisis of Political Tolerance.” There was the “red scare” after World War I, the mass incarceration of Japanese Americans during World War II, the anti-communist investigations during McCarthyism, and others.

“There’s a pattern to overreact during these periods,” Leff says. “And then we say, ‘Oh, how could we have done these terrible things in the past?’ Then we find ourselves doing a lot of fairly similar things again. We have this rather dangerous way of seeing things as a justified tradeoff.”

The pattern extends beyond prominent historical examples. LAS graduate student in history Jolilly Kohler-Hausmann contributed to an essay compilation by detailing the actions of Jon Burge, a Chicago policeman from 1970 to the early 1990s, who for years beat and tortured suspects in his station on the city’s south side.

Kohler-Hausmann writes that Burge’s actions were part of an effort to maintain control over largely African American neighborhoods.

“While the police hid their practices from the press and mainstream society, they encouraged their victims to share their experience within their neighborhoods,” Kohler-Hausmann writes. “These acts were not directed against specific criminals but were intended to transmit a message to entire communities about state authority—private torture was therefore explicitly public; the bodies of beaten suspects functioned as warnings of the violence these Chicago police would use in their struggles to control neighborhoods.”

Historically, Leff adds, the “ticking bomb” scenarios where torture is necessary to get a terrorist to talk about an active, ongoing plot are extremely rare, and only cloud the debate, he believes.

“Actually the kind of tradeoffs you make (when you impinge civil liberties) are often not between security and liberty,” Leff says. “They maybe should be between security and money, for example. How much are we going to devote to protecting our ports? We don’t hear much of those kinds of tradeoffs. There are lots of things that can be traded off for security.”
Tolstoy's legacy of nonviolence influenced many great leaders.

By Paul Wood

During 27 years in a South Africa prison, Nelson Mandela found solace in books. His favorite was Leo Tolstoy’s War and Peace. In his Nobel Prize acceptance speech, he singled out Martin Luther King Jr. for praise and mentioned Mohandas Gandhi’s work for civil rights in South Africa. Gandhi himself pointed to Tolstoy’s influence, especially letters Tolstoy wrote him.

Americans know Tolstoy as a novelist who wrote by the pound. But University of Illinois scholars know him as a spiritual pioneer whose thoughts on nonviolence are part of an unbroken chain.

Jonathan Ebel, a religious studies professor in the College of Liberal Arts and Sciences, says, “King knew him and quoted Tolstoy and was strongly influenced by Tolstoy, most importantly Gandhi.” At the Urbana campus last year, thousands read and celebrated one of Tolstoy’s shortest works, The Death of Ivan Ilych, as part of a nationwide campaign, The Big Read.

Harriet Murav, who heads the Department of Slavic Languages and Literatures, calls the book about an ordinary man’s dying epiphanies a good example of Tolstoy’s later, mature spiritualism.

“What is generally referred to as his spiritual crisis took place before the writing of The Death of Ivan Ilych,” she says. “Tolstoy describes his search for God in his work titled A Confession. I would not say that (The Death of Ivan Ilych) is a milestone on his path to spiritualism, because no word that ends in ‘ism’ can adequately characterize Tolstoy, who rejected all established doctrines and creeds.”

It’s easier to see the process of Tolstoy’s spiritual growth in his earlier books War and Peace and Anna Karenina, she says.

In Anna Karenina, Levin is Tolstoy’s stand-in. Levin says God guided him:

“I looked for an answer to my question. But reason could not give me an answer. Life itself had given me the answer, in my knowledge of what is good and bad. And that knowledge I did not acquire in any way; it was given to me as to everybody, given because I could not take it from anywhere.”

Murav says that even as a young man, the author chaffed at authority. He tried to treat his serfs as equals, and early in life risked his life by challenging the tsar in writing.

Tolstoy, a great landowner, railed against wealth. Murav says. In his short story “How Much Land Does a Man Need?” Tolstoy’s answer is “six feet” enough to be buried in. Still, he maintained his beloved estate Yasnaya Polyana—4,000 acres at its peak—until the end.

Tolstoy was a man of contradictions and he was his own favorite subject, the professor notes. He kept copious diaries and tended to write autobiographical novels.

“You and I might have a doubt,” Murav says.

“If he had a doubt, it was a major event. He had the leisure to study, the leisure to think, and a massive ego—if I have a problem, it must be a major problem.”

The path to enlightenment was not as direct as it might seem in hindsight, says religious studies Professor Bruce Rosenstock.

“Tolstoy had a great struggle with his own Christian faith and grew to faith from a skeptical start, as did many philosophers and thinkers and writers in that century,” Rosenstock says. “He returned fully to his Christian faith by discovering in Jesus a complete love for one’s fellow human being. That meant for him never committing an act of violence against a fellow human.”

In his book The Kingdom of God Is Within You, Tolstoy acknowledged his forerunners, including Quakers. But Jesus was always the prime source.

“The followers of Tolstoy did not always follow him to the precipice,” Rosenstock notes. And Tolstoy and Gandhi diverged on resistance. Rosenstock makes this distinction: Tolstoy did not believe there was any legitimate use of force. Tolstoy advocated nonviolence to evil, while Gandhi favored accepting violence against one’s self to enact change.

“There was a powerful orthodox church in Russia whose head was the tsar, making a very powerful state-church combination,” Rosenstock says. “Tolstoy was in favor of sort of dissolving the state-church. One way, he thought, would be to make every Christian a pacifist, unwilling to serve in the tsar’s army and thus unwilling to serve the state-church. In this, he concurred with the anarchists of his time. He wasn’t against the Russian state; he was not in favor of any sort of state. Tolstoy was so skeptical of any society that he thought it was worthless to change one for another.”

Dr. Martin Luther King Jr., in a TV interview, once described how he owed a debt to Tolstoy, but also differed in some ways with the Russian author’s radical purity: “Now, some pacifists are anarchists, following Tolstoy. But I don’t go that far. I believe in the intelligent use of police force. I think one who believes in nonviolence must recognize the dimensions of evil within human nature, and there is the danger that one can indulge in a sort of superficial optimism, thinking man is all good.”

King also made this distinction between his beliefs and Gandhi’s: “I think it is just as bad to passively accept evil as it is to inflict it.”

Murav says even Tolstoy had trouble living the spiritual life he proscribed. He spent the last decades of his life trying to live like a Russian serf, says Murav. “At the end, Tolstoy ran away from his own life,” she adds. The great writer abandoned his estate and wife for a pilgrimage, only to die alone in a train station.
Consider this moral dilemma. Warfare has disrupted food shipments to a children’s home in southern Uganda. Sixty orphans live there, and you must decide how to reallocate their meager rations. You have been given two choices: Either you can take six meals away from each of two children or 10 meals away from one. The first choice is less efficient because it results in fewer overall meals for the children (12 meals lost versus 10), but the latter choice is more equitable. What do you do?

While you deliberate, an MRI machine is recording your brain activity. The orphanage is real—Canaan Children’s Home in Buziika, Uganda—and so are the consequences of your choice: the amount of donation the orphanage receives will be affected by your decision. To make your decision all the more agonizing, the children gaze at you from a computer screen as you maneuver a lever between the two options.
"People became very emotion- al, telling me it was the hardest experiment they had ever done," says University of Illinois econo- mist Ming Hsu of the 26 people, ages 28 to 55, who subjected themselves to just such a moral quandary as part of an effort to map how economic decisions occur in the brain. He points to MRI scans in which two regions of the brain glow intermittently like warning lights: The parietal, a reward center, was lit whenever one of the subjects thought about efficiency in making their choice, but the insula cortex, where emotion is centered, blazed yellow whenever a particip- ant contemplated taking a foolish risk.

Even though activity varied considerably among the subjects, the insula dominated, "and people overwhelmingly chose equity," says Hsu. "And what this tells us is that contrary to what standard economic theory predicts, people value fairness. It is a basic human response."

GET REAL

Since the early 1990s, economists have assumed that people are governed by reason; that is, they make decisions logically, strategically, and out of total self-interest. This assumption has come under challenge in recent years as behavioral studies have shown, among other things, that people value equity, they overreact to a fear of loss, and they undervalue the future, which is why they don't save enough for retirement and why they may not have the proper insur- ance routine even as they grab another jelly donut. Behavioral studies account for altruism, which we saw in spades after 9/11. They also demonstrate that the context in which decisions are made are as important as the information itself.

What it comes down to is that we are more like Captain Kirk than Mr. Spock.

Researchers like Hsu are at the vanguard of a new approach to economics called neuroeconomics—a union of economics, psychology, and neurosci- ence—that has the potential to transform the field of economics in much the same way as brain studies revolutionized psychology a decade ago. By identifying the neural mechanisms operating when people make decisions, Hsu believes economists can understand processes that have been grasped superficially in the past.

"It's like driving a car without being able to look under the hood. Econom- ists have made these assumptions of rationality because they did not know how to quantify what was going on in that black box we call the brain. Now," says Hsu, "we're opening that black box and discovering that we can quantify human behavior, even behavior that seems illogical."

The situation is similar to how economists had once studied the behavior of firms without looking at the strategic interactions between management and workers. "The goal isn't to throw out rational behavior," adds Steven Williams, the former head of U of I's Department of Economics and the person most influential in bringing Hsu to Illinois. "Instead, the end result of neuroeco- nomics will be a more nuanced model of human behavior and knowledge of when these nuances matter."

INSIDE THE BLACK BOX

Neuroeconomics is more a measurement tool than an approach to economics. MRI scans are among its most flamboyant tools, but it also uses data col- lected by an alphabet soup of techniques, such as PET, TMS, MEG, and neurocognitive and hormonal changes, and genetic testing.

U of I is an ideal location for these studies be- cause of its exceptional resources for brain imaging and the Department of Psychology's progressive role in applying brain studies to mental illness and aging. Decision making is a natural progression of that work, and in one reason that the Beckman Institute as well as the Department of Psychology and the Neuroscience Program were so supportive of bringing Hsu to U of I.

Hsu defined into neuroeconomics while an undergraduate at Universi- ty of Arizona. He immigrated to Arizona from Shanghai, China, with his grandparents in 1990, when he was 11, to join his parents, who had arrived 10 years earlier. His parents had not wanted him to leave China before he had absorbed its language and culture. When he was ready to attend college, he chose the local state school, where he built an eclectic resume in political science, economics, and neuroscience, which made him an ideal candidate for a cross-cutting field like neuroeconomics. Hsu had the good fortune of stumbling upon the lab of Vernon Smith, a Nobel prize- winning pioneer of experimental economics, who took him on as a research assistant and introduced him to the revolutionary work being done by Colin Camerer at the California Institute of Technology.

"I tried to discourage him from pursuing this for his PhD," says Camer- er of Hsu, who ignored Camerer's warnings about the unproven nature of the field. Hsu had only a chance to work with the best. Camerer is one of the founders of the field of neuroeconomics and is known both for his prodigious talents and his rebellious nature. He made his name by help- ing bring credibility to the formerly fringe field of behavioral economics. He is now doing the same for neuroeconomics.

One of his team's earliest successes for neuroeconomics was with a scenario called the ultimatum game. Say that Mary has been given $10 that she must divide with Bill. Bill may accept or reject her offer, but if he rejects it, neither of them receives a penny. Standard economic theory predicts that Bill will accept any offer from Mary rather than gain nothing. Yet, that is not what happens. When Mary decides to keep $8 and give him only $2, Bill gets angry and rejects the offer as unfair.

When Bill receives the unfair offer, a debate erupts in his brain, with three areas battling for supremacy. The dorsolat- eral prefrontal cortex, the part of the brain associated with planning, wants the money; the insula, where emotions re- side, is registering disgust; and the anterior cingulate, an area of executive function, tries to resolve the conflict. Whether Bill accepts or rejects the offer depends on the strength of the insula.

This kind of interpersonal negotiation occurs with all decisions, says Hsu, and what their neural research ultimately does is identify the patterns. Ad- miredly, most of their studies are limited to articial tasks, such as whether a person wins or loses $10. "Hardly a situation that will alter your life out- come but that is where we start," says Hsu. "Even fairly simplistic tests can still help identify reactions from which we can extrapolate. How do people react to once-in-a-lifetime risks? How do they react to financial pain?"

The areas most likely to reap the most immediate benefits from neuroeco- nomics lie at the extremes of human behavior, such as when brain function is impaired through disease, poverty, and aging. For instance, if re- searcher documents the kinds of deteriorations that occur with age, they can also develop a battery of tests that detect whether an individual is becoming more or less risk averse or susceptible to scams, then others could intervene accordingly. It is not far-fetched, says Hsu, to imagine that policymakers may one day use knowledge gained through studies like his to propose pater- nistic measures that take into account severe cognitive declines. Individu- als with severe dementia may not be able to will all their money to a dog.

At Illinois, Hsu is reaching out to both traditionalists in economics and to researchers in diverse fields, especially psychology, where he formed fruit- ful collaborations, such as with psychologist Jesse Spencer- Smith. They are studying how facial expressions affect decisions. For example, says Spencer-Smith, "during salary negotiations, will someone swallow the bitter pill of not being of- fered as much money if they can express their displea- sure or if their boss smiles sheepishly while making the offer?"

The real impact of research like Hsu's, according to Steve Williams, is what it will reveal about human nature. Hsu recently identified the neural region associated with ambigu- ity—decision making when the odds are unknown. Econo- mists know that people don't like ambiguity, and what struck Williams as he listened to Hsu describe his work was how dif- ficult that behavior would be to circumvent. "Our aversion to ambiguity isn't something we can easily overcome through training or education, which is the solution economics typi- cally offer," says Williams. "It biological. We've evolved to be hardwired against it. Ming's work suggests that ambiguity and aversion is an essential component of good decision making, whether on Wall Street or in the wild."

After Hsu's paper about the orphanage was published, he received a call from the manager of a food bank who said the results resu- nated with him. The food bank is chronically short of food, the caller said, because people insist on equal portions, which results in waste. That's not rational behavior, summarized Hsu, but apparently it is human. ■

OPT-OUT INITIATIVE

A few corporations have acknowledged behavioral tendencies and made them work in their employees' best interests by offering enrollment plans, that were opt-out, instead of opt-in. This simple change resulted in remarkably higher rates of saving, in related studies, researchers discovered that higher default rates for retirement plans increased the saving, that lower default rates, because they made it harder to opt-out, increased the savings. Hsu and his colleagues at the University of Arizona are studying how these behavioral tendencies work in the real world.
Ortiz was not considered black or else he would have been allowed on the playing field; nevertheless, he still received his share of abuse for being “too black.”

The story of Latinos in professional baseball is often a forgotten tale, says Burgos, who has served on the Baseball Hall of Fame committee selecting Negro League inductees. He points out that the typical storyline about baseball and race has focused on two narratives—the complete exclusion of African American players and the eventual integration, or redemption, of baseball beginning with Robinson.

“I think one of the reasons why the story of Latinos in baseball has been ignored,” Burgos says, “is because it complicates those two narratives. What we have is the partial inclusion of Latinos.”

In other words, the story about race in baseball is not just about black and white. It is also about brown.

More than 50 Latino players from various countries in Latin America broke into the major leagues between 1902 and 1947, says Burgos, who chronicles this history in his book Playing America’s Game. For Latino players, the color line in major league baseball was fuzzy, and the decisions about whether to admit them could be as exasperating and subjective as an umpire’s call of strikes and balls. Dealing with the color line became a game in itself.

The shade of a person’s skin was a dominant factor in deciding which Latinos could cross the color line, so most of the major league Latinos in the first half of the century were light skinned. But racist background also played a big role. Nowhere was this more obvious than with the case of the Cincinnati Reds, who signed two Cuban players—Rafael Almeida and Armando Marsans—in 1911.

The Reds’ management argued that Almeida and Marsans were pure Spaniards, for they were well aware that American society placed the Spanish on a higher plane than other Latinos. When Marsans and Almeida joined the team, the Cincinnati Enquirer called them “the purest bars of Castilian soap that ever found to these shores.” The phrase “purest bars of Castilian soap,” conjured up two images of whiteness—soap and the Castilian region of Spain.

“To be of a Castilian ethnic background is to connote a higher breed, more European, more white,” Burgos explains. “Therefore, to say they are the purest bars of Castilian soap is to say these guys are white. They’re all right.”

Ironically, he notes, what the Cincinnati writer didn’t realize is that Castilian soap is actually black. According to Burgos, the very first U.S. Latins to break into major league baseball was Vincent Nava, who played in the National League in 1883. The color line barring African American players was not fully established until after Nava, in 1889, but in the early part of the new century, organizations began experimenting with the inclusion of players who were not fully white, not fully black.

“There is that the doors of organized baseball are open to Indians, Cubans, Per-ú Ricans [sic], Hawaiians, etc., but only if their skin, hair, and features will pass muster as evidence of membership in the white race,” said one New York Age columnist in 1939.

In the 1930s and ’40s, the economics of baseball opened the door to more Latinos, Burgos explains, because Latin America was a good source of cheap talent. And although many Latino players were harassed for being “too black” during those years, the first actual black Latino player in pro baseball, Minnie Miñoso, did not arrive until two years after Jackie Robinson.

The Cleveland Indians signed Miñoso in 1949, but after a brief appearance in the majors, he remained mired in the minor leagues for two years because of a color barrier of a different sort. If Miñoso had started for the Indians, he would have been the fifth black player in the lineup; in other words, more than half of the nine starters would be black, and that would not be allowed.

Miñoso was eventually traded to the Chicago White Sox, and in 1951 he became Chicago’s first black player—although some people today consider the Cubs’ Ernie Banks the first black player in Chicago. Because of Miñoso’s Latin heritage, they do not believe he qualifies as a black player.

The irony is that in the early part of his career, Miñoso was considered too dark-skinned to play; and in the 21st century, he’s not considered black enough by some to be recognized as the first black player in Chicago.

“The credit that Miñoso deserves as an integration pioneer gets minimized and diluted, not in the ’50s or ’60s or ’70s, but in the 2000s,” says Burgos. “But Miñoso was not just the first black Latino to break into the league. He was also the first to star.”

Highlighting the role of these Latin pioneers—giants in the game of baseball—does not diminish the role that Jackie Robinson played in finally breaking down the color barrier in baseball, he also stresses. What Robinson did was unique.

“Robinson took on the weight of dismantling the racial barriers,” says Burgos. “Everyone fo- cused on him.”

Burgos says that to decisively break down the barriers, it took an unambiguously African American player. “We needed a Jackie Robinson to destroy any semblance of ambiguity.”

Nevertheless, whether they were perceived as black, Latino players had an aura of “foreignness” that still made them a target. As Burgos points out, “In the era of Minnie Miñoso, pitchers did not say, ‘Hey, Almire, are you Cuban or black!’ Either way, they tried to bean him.”

Adrian Burgos Jr., right, of history professor, is a nationally-recognized authority on Latino baseball. He has also served on the Baseball Hall of Fame committee selecting Negro League inductees. Here, Burgos attends a meeting for the Negro League Baseball Museum in Kansas City.
How Ulcer Bacteria Can Exist in the Stomach

Steven Blanke has shed light on how Ulcer bacteria can survive in such an inhospitable environment responsible for many cases of ulcers. H. pylori is behind most human cases of gastric and duodenal ulcers, and long-term infection is a significant risk factor for stomach cancer, the second leading cause of cancer death worldwide.

How Bacteria Can Exist in the Stomach

Ulcers are a common medical complaint. The inflammation can cause pain and discomfort, and it can be caused by a bacterium called Helicobacter pylori. These bacteria are found in the stomach of many people, and they can cause ulcers to develop. The bacteria can survive in the stomach because they have a special ability to protect themselves from the stomach acid.

Biochemists Discover Treatment for Lethal Staph Infections

Biochemists at the University of Illinois at Urbana-Champaign have developed a new treatment for staph infections. The treatment is based on a protein that binds tightly to the staph toxins, preventing them from entering the body. The treatment has shown promise in early clinical trials and could provide a much-needed alternative to the current treatments for staph infections.

Around the College

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Words of War and Holocaust

Wary of fading memories, a history professor studied diaries and letters and found that ordinary Germans, living under fear of destruction by enemies, seriously contemplated Nazi ideology during World War II even as news of the Holocaust spread across the nation.

“People made an effort to try to understand and come to terms with Nazism, which framed itself as a new epoch … that wasn’t going to leave them. ‘It’s still murder,’ ” says Peter Fritzsche, author of Life and Death in the Third Reich.

Fritzsche, whose parents are from Germany, was named a finalist for McGill University’s Cundill International Prize in History. Reviewers hailed his book for its new insights into the lives of ordinary Germans, living under fear of destruction by enemies, seriously contemplated Nazi ideology during World War II even as news of the Holocaust spread across the nation.

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The CEO of the African Wildlife Foundation (AWF) often likes to challenge skeptics with a word association game. He will ask you to tell him the first thing that comes to mind when he says “Africa.” Answers he usually gets are imper- fect, Darfur, AIDS, or child soldiers.

But when you ask Patrick Bergin for his word, he says rich.

“I mean that in every sense of the word. Rich economically, finan- cially, culturally, and rich in terms of its heritage. Africa is a continent that most scientists overwhelmingly believe is the mother ship. Where we are all from. Where humanity began and when people go back to the east African savannas, it has this truly dramatic effect on them. I somehow think the human spirit recognizes it as its birthplace because it resonates so strongly with most people.”

The Illinois native son who grew up near Bloomington in minuscule Merma and went on to earn his bachelor’s in English and his master’s in agricultural education at the University of Illinois never imagined he would hold a $20 million conservation organization. Yet, looking back on his academic experience, Bergin sees some obvi- ous links.

“Talking to other colleagues of African governments, international aid agencies like the World Bank, with our membership—we have about 70,000 members—who give $100 a year to be members of the African Wildlife Foundation, and I’m dealing with large grant-giving organizations like Ford, Rockefeller, Google, and all those sorts of people. It’s all about lan- guage. It’s about whether you can build and convey a powerful vision for what you’re trying to achieve.

“My major was in English. What I always felt, and what my parents always felt, was that the lib- ertarian arts in general—and, hopefully, a good use of the English language—form a powerful founda- tion for allSorts of careers. Almost regardless of what you want to go into, the ability to think critically, read, and use lan- guage in a powerful way is going to help you.”

Bergin’s ability to communicate the speaks fluent Swahili, the lingua franca of eastern Africa) is key to his job. The African Wildlife Foundation began in 1961 as a creation of the Washington Safari Club. Today, its goal is not only to create and preserve large tracts of habitat for animals, but also to empower local Africans to be that continent’s stew- ards of their own resources. A stint in the Peace Corps left Bergin well aware of the dismal track record of colonization and the condescending way in which the rest of the world practices conservation in Africa. In November of last year, with the organization and sixth year in its CEO, Bergin is determined to not make the same mistake.

“There is this perception that conservation is a white man’s game and that it’s a western priority. When people think of conservation in Africa they think of Jane Goodall, Richard Leakey, or Dian Fossey. Even today when you turn on Discovery Channel, National Geographic, or Animal Planet, it’s always about someone from the West who goes in to save Africa.

“Our staff is over 85 percent black African. It’s very unusual in the world of conservation. Our own president of [AWF] in Africa is a black Afri- can woman, Helen Gichohi. In most of the coun- tries where we work, the senior representative is a black African with a PhD who is an experienced conservationist. We think this is really important because African people and African governments are suspicious of always being preached to by western organizations saying, ‘Well, you should conserve your wildlife, you should do this and this.’

Two retired African heads of state are on the AWF’s board of trustees—Sir Kenulm Nyerere, the former presi- dent of Botswana, and former Tana- nian President Benjamin W. Mkapa. Bergin says both Botswana and Tanzania serve as great examples of suc- cessful African-created conservation areas. Recent successes include establishing the 1990.000-acre Lomako Reserve in the Democratic Republic of Congo. The reserve is the only place on the planet where the pygmy chimpanzee, “bonsob,” exist. Bergin did what he
GOLD STANDARD

The College of LAS is pleased to honor four gold-standard scholars. These world-class alumni have set the standard of excellence in their respective fields—plant biology, chemistry, physics, and English.

Every year, 130,000 LAS alumni have the chance to nominate their choices for the LAS Alumni Achievement Award. We are proud to announce the four who brought home the gold in 2008.

Gowindjee
An Absorbing Interest
Gowindjee cites perhaps the world’s most recognized photosynthesis researcher, says Donald Ort, University of Illinois professor of plant physiology. “His research contributions have been paradigmatically for reaching and driving the field.” Just as a plant absorbs light and creates energy, Gowindjee’s career has been one of absorbing everything he could learn about photosynthesis and then transforming it into energy—or, as one former student calls it, “an infectious enthusiasm.”

Douglas L. Cole
The Invisible World
Douglas Cole says he has always been fascinated with chemistry’s ability “to manipulate reality at the invisible level.” But, as he soon found out, working at the invisible level can have a highly visible impact on the world. Over his 34-year career, he helped to develop a long line of pharmaceuticals that confront problems ranging from cholesterol and cancer to AIDS and anxiety.

Carole D. Lee
Taking Bloom in the Whirlwind
Carole D. Lee says she was “a child of the times”—the years when privacy was caught in a whirlwind of change. Since then, she has been committed to helping minority students bloom in the midst of whirlwinds of their own, such as poverty, negative stereotypes, and a culture of low expectations.

William A. Edelstein
Leaving High-Tech Fingerprints
William Edelstein called it “spin warp” imaging. The technique, which he developed in the late 1970s, made it possible to create the first recognizable image of a whole human body using magnetic resonance imaging (MRI).

Edelstein received his bachelor’s in physics from the University of Illinois in 1965 and spent most of his career with General Electric (GE), where he helped make it the leading company in MRI technology.

At GE, Edelstein pioneered clinical imaging at high magnetic fields, greatly improving MRI images. For instance, he collaborated on the “birdcage” imaging coil, which made it possible to create such good images that Edelstein says some people thought they “must have cheated.”

does best: bringing together government and local communities. Recently, the AWF has also brought private ranches in Tanzania under conservation. A typical year for Bergin is six months in Nai-
robei, Kenya, and six months in Washington, D.C. A “normal” day might be negotiating land deals with African heads of state in Tanzania or setting up a partnership with his counterpart at John Deere in Moline.

Bergin’s travels can take him from major metropolitan centers to places in Africa that are only accessible by foot, or in this case, canoe. Bergin’s travels can take him from major metropolitan centers to places in Africa that are only accessible by foot, or in this case, canoe.

“’You’re talking to very interested and engaged people in their own fields and the travel can get hard, but talking to people about what we do is far from daunting.’

When Bergin needs to enjoy family life, all he has to do is visit one of his eight brothers and sis-
ters and their children. Younger brother Michael is an Illinois alumnus who works with computer software, and sisters Molly and Kate work in Chicago in the banking industry.

Although conservation is a big component of AWF’s goals, Bergin is at heart a ru-
ral sociologist who is adept at informal methods of educat-
ing adults in rural areas. That interest has led the organiza-
tion to adopt the Charlotte Conservation Fellows Program, which provides funding for master’s and doctoral degrees to the next generation of African wildlife experts.

Africa stands on a critical crossroads, Bergin says. There is no doubt the continent wants to modern-
ize, but how to leave the Third World while still preserving Africa’s critical planetary inventory of flora and fauna is perhaps its greatest challenge.

I am optimistic that we will continue a growing number of African countries that they can have it both ways. That they can have modernization in their cities and farms and still set aside through careful planning areas that protect wildlife.”

For near a century, the College of Liberal Arts and Sciences has been changing lives—with discoveries that improve the world, with knowledge that enlightens and inspires, with an educational environment that prepares students for lives of impact.

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Lincoln Remembered

U of I historian and author of Age of Lincoln, Vernon Burton, shares highlights from the remarkable life of President Abraham Lincoln in monthly essays, which you may read at www.las.illinois.edu/news/lincoln.

Evening at the Art Institute of Chicago’s New Modern Wing

Step inside the Art Institute of Chicago’s New Modern Wing, designed by renowned architect Renzo Piano, for self-guided tours of the museum’s collection of 20th and 21st century art, including the Cy Twombly Special Exhibition Galleries.

Enjoy stunning views of the Chicago skyline at a private cocktail & hors d’oeuvres reception in the Millennium Park Room. Join Jonathan Fineberg, the Gutgsell Professor of Art History at Illinois and director of Illinois at the Phillips in Washington, D.C., as he presents “On Art and Other Embarrassing Matters.”

Thursday, June 18, 2009
5:30 p.m.

The Art Institute of Chicago
111 S. Michigan Ave.
Chicago, IL

Registration Fee: $75
Registration Deadline: Friday, May 29, 2009
Reservations are available on a first-come, first-served basis.

Register online at www.las.illinois.edu/alumni/events or toll-free (888) 333-9644 or (217) 333-3387.

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This event is partially funded by a gift from the late Katherine Wolcott Walker, former LAS Alumni Association Board President and 1997 Distinguished Service Award honoree.