C can extremist organizations’ propaganda videos actually incite violence? If so, how? Those are the questions animating the Social and Neurological Construction of Martyrdom Project (page 2), a collaboration between Robert Pape, PhD’88, professor of political science, and Jean Decety, the Irving B. Harris Distinguished Service Professor in Psychology. The project invites Pope’s vast database of terrorist attack and recruitment videos with Decety’s expertise in using functional magnetic resonance imaging to detect brain activity patterns in volunteers shown those videos. The goal: to learn what happens in the brain when an individual is persuaded to change his or her beliefs.

The project exemplifies the type of research being done in the Division: research that couples disciplines or deploys new techniques. Sometimes multiple methods are used by the same person. Mirece Keck, associate professor in comparative human development, combines ethnographic and statistical methodologies to investigate the intersection between neighborhoods’ and schools’ poverty and inequality in public school choice. Jenny Trinardopol, associate professor of sociology, deploys demography with the sociology of religion to understand how Malawians make sexual and reproductive choices in the midst of the AIDS epidemic.

Sometimes bringing two methods together requires that faculty who had long been physical neighbors, as in the case of Pape and Decety, collaborate. Sometimes accessing new methods means bringing a new member into our community. This summer, for example, Luc Anselin will join the Division of Sociology and launch the Center for Spatial Data Science. The center, a joint project between the Division and the Computation Institute, will introduce new software, geographic information systems methodologies, and statistical techniques. Anselin’s research and his tools—these methods and techniques—will help us tackle questions from the local to the global and can be applied in areas such as economic geography, environmental economics, criminology, urban planning, and public health.

What are the techniques and forms of collaboration that the diverse faculty and students of the Division of the Social Sciences will need close at hand in the coming years? A difficult question at a time when new theories, computational tools, brain imaging techniques and biological assays, big data and text-mining resources, and other methods are appearing with dizzying speed. Difficult but very exciting, and that excitement is something my colleagues and I feel every day as we think about the next 125 years of Social Sciences.

The Division first awarded the Phoenix Prize in 1994 to University Professor James Coleman, known for his work on school desegregation. Coleman’s son Thomas Coleman, AM’81, PhD’84 (Economics), the executive director of the Center for Economic Policy at Chicago Harris, was at the conference when his father was presented with the award. “He was really excited by everyone coming together by the work that he had done,” the younger Coleman says.

While the prize was a “huge honor” for his father, Coleman says, more important was the research and its contribution to the intellectual life of the country and the University. “That was the case with my father and is the case with Lucas. They believe they can contribute to society in fundamental ways.”
What is the Islamic State’s appeal for young people? How do propaganda videos produced by extremist organizations actually incite violence?

Recent terrorist attacks around the world have raised these questions, which long have intrigued terrorism experts and policy makers. To determine how cultures of martyrdom mobilize support for violence, especially suicide attacks, UChicago political scientists have joined with neuroscientists to examine the neurological processes that create sympathy toward extremist groups.

Robert Pape, PhD’88 (Political Science), professor of political science, and Jean Decety, a social neuroscientist and the Irving B. Harris Distinguished Service Professor in Psychology and Psychiatry, lead the Social and Neurological Construction of Martyrdom Project. The Department of Defense has funded the project for $3.4 million over five years, hoping to help prevent recruitment by extremist organizations.

Since 2011, tens of thousands of foreign recruits from more than 100 countries have flocked to Syria and Iraq to fight for the Islamic State, also known as ISIS or ISIL. In the past decade, social networks have allowed recruitment videos to be distributed quickly across the globe. “Martyr videos,” which document suicide bombers’ last testaments, have inspired new recruits to turn violent.

Pape, who directs the Chicago Project on Security and Terrorism (cpp.uchicago.edu), and his team have compiled propaganda videos from extremist groups, including the September 11 hijackers, the July 2005 suicide bombers in London, and suicide attackers from Palestinian groups in Iraq and Lebanon. They’ve conducted surveys around the world “to gauge audience reaction and figure out what makes the videos appeal and what doesn’t,” he says. “Until now, there has not been a method to study whether it is a message’s intellectual content or emotional impact that resonates with a viewer.”

He and Decety will incorporate methods used in neuroscience and psychology to complement the existing research. Combining functional magnetic resonance imaging (fMRI) technology and specific psychological tests to identify patterns of brain activity in young survey participants who are shown propaganda videos, “neuroscientists can see what circuits of the brain ‘light up’ when specific messages are heard,” Decety says, “and uncover exactly what is happening in the brain when an individual is persuaded to change their beliefs.”

“The methodology will enable us to predict whether violent extremist organization appeals resonate with and influence the receiver,” says Decety, who directs the Social Cognitive Neuroscience Laboratory (sclong.org) and the Child NeuroSuite (childneurosuite.org). Eventually, he says, the project will help “to create a whole new pool of knowledge and powerful tools in preventing future recruitment by extremist organizations.”

In the first phase, the political science team will analyze videos produced by violent extremist organizations and conduct a comparative study of martyrdom cultures across all groups. Pape’s team has tapped UChicago’s alumni, in fact, showing the full videos to experts in political campaigning, art history, and rhetoric, as well as to activists and refugee workers. Having professionals in political campaign videos, for instance, shape what they find puzzling, attractive, or repulsive, Pape says, “is helpful as we begin to form the more detailed hypotheses for the experiments.”

The second phase will use fMRI and specific psychological assessments to determine the neural pathways through which martyrdom appeals evoke viewers’ sympathy—or apathy or antipathy. Later Pape and Decety plan to take their research to Turkey to study viewers closer to the zone of conflict to see how they differ from Chicagoland participants.

Upon completion, the UChicago scholars will develop a detailed analysis of violent extremist organizations’ communication strategies and a breakdown by region and campaign. The final report will include a set of indicators that can predict a population’s susceptibility to persuasive videos distributed by the Islamic State and similar groups.

Pape considers it a unique approach to bring together political scientists and neuroscientists on such a project. “We’ve never had these two streams of research married together to work hand in hand before,” he says.

Decety hopes the project will encourage others to combine political science, psychology, and social neuroscience in new ways. “We are hoping that we can use this study as a platform to build more quality political neuroscience,” he says, “and to see how neuroscience can inform political theories of attitude change, of opinions.”

—WEN HUANG AND GRAHAM BACHER
Researchers at the University’s new Science of Learning Center, where Levine is faculty director, hope to bridge gaps between research and practice and help bring findings to bear on programs and materials that help students learn.

When Susan Levine was a graduate student in the Department of Psychology at MIT, her research focused on characterizing developmental change in children’s knowledge and cognitive skills. “But now,” she says, “I think more about the relation of cognitive development to the inputs parents and teachers provide and how this affects learning outcomes.” This shift in her approach is one she sees echoed in the field of developmental psychology.

With a better understanding of learning, researchers can develop effective learning tools. Without this understanding, researchers might know that a particular curriculum or lesson works, but not which elements of the instruction are essential.

Broadly speaking, the center deals in intervention science. Intervention, a term borrowed from medicine, refers to anything that could improve a person’s health and well-being, from a smoking-cessation program to a physical therapy regimen. Education level is related to health and well-being, says Levine, the Rebecca Anne Boylan Professor of Education and Society, bringing educational interventions squarely into the mix. The center’s interventions to enhance learning include teaching strategies, student assessments, websites for parents and teachers, and learning apps.

For example, the center received a grant from the National Science Foundation to develop and study a website that includes tools and tips to improve math learning in young children. Another project, funded by the Big Ideas Generator and Urban Network at UChicago, brings researchers like Levine together with elementary school principals and prekindergarten through second-grade teachers. The group is establishing common ground and exploring collaborations that will lead to information that teachers can use in the classroom.

By working directly with teachers and school leaders, says Lisa Rosen, the center’s executive director, Levine and her fellow researchers gain a better understanding of not only what kinds of interventions would most help students but also the funding and other institutional constraints in getting tools into classrooms.

“What we’ve realized,” Rosen says, “is that researchers can’t be optimally effective—even if the things they develop are wonderful—if they approach the practitioners after the intervention or assessment is already developed.” Levine and Rosen emphasize that there is no one way to form a center—at the University of Chicago or anywhere else. The Science of Learning Center grew out of a 10-year grant from the National Science Foundation to Levine and researchers at several institutions to study spatial intelligence and learning. As the grant was nearing its end, Levine sought ways to continue the work it had supported.

Through meetings with Social Sciences dean David Nirenberg, provost Eric D. Isaacs, and faculty across campus, they decided the University needed a center to bring together disparate types of learning and education research across campus. “By forming this center,” Levine says, “we could increase interaction and foster research-practice collaborations.”

At the center’s November launch, University of Pennsylvania professor Angela Duckworth, known for her research on “grit”—the ability to persevere to achieve challenging goals—gave the opening lecture, drawing a crowd of 400 educators, researchers, and community members.

Duckworth’s scholarship exemplifies the kind of research the center will foster, Rosen says, combining rigorous basic research on learning...
Susan Levine, director of the University’s Science of Learning Center, has always loved math. A triple major in math, psychology, and education at Simmons College in Boston, she student-taught high school math. Her initial research, begun while a psychology graduate student at MIT, focused on the development of face recognition. But early in her UChicago career, a lecture in the College Core’s Mind course by psychologist James Stigler about infants’ sensitivity to number got her thinking.

She turned to children’s math learning, finding that regardless of their socioeconomic status, young children could recognize changes in the number of objects in a set. It was number words that were more likely to cause children from lower socioeconomic groups to struggle.

“It was the language of mathematics that they were having trouble with,” Levine says, “not the basic ideas.” Levine has written about these findings in many journal articles and chapters as well as in a coauthored book, Quantitative Development in Infancy and Early Childhood (Oxford University Press, 2002).

As Levine’s body of research on math and learning grew, Sian L. Beilock, the Stella M. Rowley Professor of Psychology, was studying the neuroscience of performance anxiety. While Beilock focused on adults, she says, “Susan had been asking really interesting questions about this developmentally: how knowledge and attitudes develop over time.”

About five years ago the two began collaborating, studying the development of “math anxiety” and, more recently, how it can be passed from parent to child—or teacher to student. Their research found that Bedtime Math, a program designed to make math fun and relatable, helped children who were anxious about math to reduce that anxiety and improve performance.

Beilock, a member of the Science of Learning Center’s governing board and author of Choke: What the Secrets of the Brain Reveal about Getting It Right When You Have To (Free Press, 2010), says she and Levine didn’t necessarily need the center to work together, but it will be essential to help get their research to those who can most benefit from it.

“Anyone can collaborate,” Beilock says. “But one of the goals is to support collaboration not only across faculty but with educators. A center gives you the opportunity to work with practitioner-partners systematically.”
The powerful role clothing played in the 1860s and ’70s helped frame today’s attitudes about clothing and race. African Americans expressing themselves through clothing experienced a violent backlash in the post-war era. Incidents related to clothing in which white men and women targeted African Americans—whether stripping it off of a person’s body or being upset about a black woman wearing a fine dress—could be precursors to a horrific assault or even a lynching.

Wearing clothing that did not fit white society’s dress codes could be considered a defiant act that could prompt physical violence, which was then, and continues to be, blamed on the victims. For many, evoking the image of the hoodie recalls the death of Trayvon Martin. It’s important that we understand clothing’s place in emancipation—that’s one defining moment that continues to shape the way people think about self-presentation in relationship to race.

HOW DOES YOUR RESEARCH FIT INTO CIVIL WAR RESEARCH AS A WHOLE?

The Civil War is one of the most studied topics in US history. So you might ask what could be left to say. But there has only recently been an effort to think about the material culture of this war. By weaving together objects, images, and texts, I tell a different kind of history about everyday wartime conflicts—how people created new boundaries of belonging and exclusion. Through clothing, people confronted questions about race, gender, the individual, and their relationships to one another and the government. Those struggles helped to determine who, on what terms and by whose authority, would be considered “American.”

—INTERVIEW EDITED AND ADAPTED BY LAURA ADAMCZYK
people have used the land. Calling the project “an insanely ambitious effort,” she says, “I think one of the big stories we’re going to find is that there’s a deeper human impact on the environment than what has been previously recognized.”

Other University-affiliated researchers in the land use working group include coordinators Alice You, AB’99 (Anthropology), an assistant professor at UChicago; Andrew Bauer, AM’03, PhD’10 (Anthropology), an assistant professor at Stanford; and Laura Popova, AM’00, PhD’06 (Anthropology), an honors faculty fellow at Arizona State University; as well as data manager Emily Hamner from the Oriental Institute. Morrison and her team will also contribute to the LandCover6k track.

WHAT LAND USE IS

The five most basic categories of land use, as defined by the project’s researchers, are (1) no human use; (2) hunting and gathering; (3) farming; (4) raising livestock; and (5) mining and other extractive industries and dense settlement.

Morrison and her research team will create more detailed categories. In October 2015 they met in Paris for a two-day classification conference and workshop. “That’s our big job,” she says. “Once we get our classification system, we’ll start making maps to plot out historical land use.”

HOW THEY WILL DO IT

The researchers will use evidence from archaeology, history, and historical geography, social science disciplines not often incorporated into scientists’ models on climate change. They’ll examine land use that might significantly affect the earth system, including animal grazing, tillage, landscape-scale burning, irrigation, landscape modifications such as terracing, pyrotechnologies such as metal production, and fertilization.

HOW THE PROJECT DIFFERS FROM OTHER CLIMATE CHANGE STUDIES

“The models are oversimplified,” she explains. “They are based on mathematical equations relating how many people were in a particular area and what they think that did to transform vegetation. But they don’t integrate evidence we have from the fields of history, archaeology, and historical geography about how people organized agriculture.”

Different types of crops—for example, dry versus wet crops, like rice paddies—mean that the same number of people in an area can have a different effect on the land. “We need data-based reconstructions to correct the model-based ones,” Morrison says. “With both land use and land cover data, we can begin to do that.”

—ADAPTED FROM A STORY BY JANN INGARIE

PATRICK HOLLIAN, AM’03, PhD’10 (HISTORY), received the Frankel Prize for the Study of the Holocaust and Genocide for his book Catholicism and the Great War: Religion and Everyday Life in Germany and Austria-Hungary, 1914–1922 (Cambridge University Press, 2015). Holliday has taught in the Core and the Department of History and works as an assistant director in the University’s career advancement office. His next book will be written with funding from the Arts and Humanities Research Council through the University of Oxford.

LULA M. WHITE, AB’60 (EDUCATION), AM’63 (HISTORY), in recognition of her activism, was given the Thurgood Marshall Award by the Law Student Association of the Quinипiac University School of Law in Hamden, Connecticut. White, a retired high school history teacher, organized protests while at the University of Chicago, was arrested in 1961 as a Freedom Rider, and participated in the March on Washington in 1963.

The project is part of a five-year endeavor examining land use data from around the world to better understand humans’ role in climate change.

Kathleen Morrison, the Neukom Family Professor of Anthropology and chair of the department, leads LandUse6k, charting how

KATHLEEN MORRISON, THE LANDSEEK GLOBAL COORDINATOR, COLLECTS SEGMENT SAMPLES FOR PALEOENVIRONMENTAL ANALYSIS

THE EFFECTS OF WORKING THE LAND

AN INSANELY AMBITIOUS EFFORT TO STUDY LAND USE AND CLIMATE CHANGE.

PHOTO COURTESY MOLLY E. FLAHERTY

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esearchers in the Department of Anthropology have joined dozens of scholars across the globe to form LandCover6k, a project dedicated to reconstructing both land cover, or vegetation, and human land use over the past 6,000 years. As part of this project, the LandUse6k working group will examine the latter. Here’s a breakdown of LandUse6k and why it’s important.

WHAT LANDUSE6K IS

Based in the University’s Program on the Global Environment, LandUse6k is a five-year endeavor examining land use data from around the world to better understand humans’ role in climate change.

Kathleen Morrison, the Neukom Family Professor of Anthropology and chair of the department, leads LandUse6k, charting how

MOLLIE E. E. FLAHERTY, AM’12, PHD’14 (PSYCHOLOGY), was jointly awarded a Newberry International Fellowship by the Royal Society, the British Academy, and the Academy of Medical Sciences in November. The fellowship is given to promising researchers early in their careers in the humanities or the physical, natural, or social sciences. Flaherty studies Nicaraguan Sign Language to better understand human development and language structure.
Ronald S. Calinker, PhD’71 (History)
Leonhard Euler: Mathematical Genius in the Enlightenment
(Princeton University Press, 2015)

Leonhard Euler chronicles the life of one of the greatest mathematicians and theoretical physicists of all time. In this first full-scale biography of Euler (1707–83), Calinker highlights his life and achievements in mathematics and in areas including shipbuilding, cartography, and music theory. Calinker is professor emeritus of history at the Catholic University of America in Washington, DC, and the founding chancellor of the Euler Society.

Helén Kiyong Kim, AM’97, and Noah Samuel Leavitt, AM’97
Jewish, Race, Religion, and Identity for America’s Newest Jewish (University of Nebraska Press, 2016)

Using in-depth interviews, married couple Kim and Leavitt examine race, religion, and ethnicity in the increasing number of Jewish and Asian American households. Jewish Asian explores the everyday lives of these intermarriages and how their children negotiate their identities in 21st-century America. Kim is an associate professor and Leavitt is an assistant professor of students at Whitman College in Walla Walla, Washington.

Nancy Waters Ellenberger, AM’72
Ballfour’s World: Aristocracy and Political Culture at the Fin de Siècle (Boyдель & Brewer, 2015)

This book chronicles how prime minister Arthur James Balfour (1848–1930) helped build a new “emotional regime” among Britain’s political elite at the turn of the century. This book traces the political mobilization of Chicago’s LGBT community, from the postwar era to the present, and its alliance with the city’s African American activists. Writing together activism and electoral politics, Stewart-Winter uses oral histories and archival records, including those of undercover police officers and newly available papers of activists, politicians, and city agencies. He is an assistant professor of history at Rutgers, the State University of New Jersey, in Newark.

Timothy Stewart-Winter, AM’03, PhD’09 (History)
Queen Clout: Chicago and the Rise of Gay Politics
(University of Pennsylvania Press, 2016)

Called “original, important, and unfailingly smart” (Robert Selt, Brown University), Queen Clout traces the political mobilization of Chicago’s LGBTQ community, from the postwar era to the present, and its alliance with the city’s African American activists. Writing together activism and electoral politics, Stewart-Winter uses oral histories and archival records, including those of undercover police officers and newly available papers of activists, politicians, and city agencies. He is an assistant professor of history at Rutgers, the State University of New Jersey, in Newark.

What are the Differences Between US and UK Start-Ups?

We’re still a ways behind Silicon Valley. Our financial markets are not that deep, and we don’t have access to the same big, ready-made talent pool. But we’ve made some strides forward. I don’t think London should become the next Silicon Valley, but we have unique opportunities because of our geography: we are positioned between the East and West, making it geographically easier to do business. Our historical position as the center of finance gives us a unique opportunity in financial technology. Plus, we are an island, so we have unique opportunities because of our geography: we are positioned between the East and West, making it geographically easier to do business. Our historical position as the center of finance gives us a unique opportunity in financial technology. Plus, we are an island, so we have unique opportunities.
FRIDAY, JUNE 3

2:00–2:30 P.M.
UNCOMMON CORE: THE ART OF PUBLIC SPEAKING
IDA NOYES HALL, MAX PALEVSKY CINEMA, 1212 E. 59TH ST.

Presented by Stan L. Beilock, Stella M. Rowley Professor in Psychology and vice provost for Academic Initiatives. Beilock is the author of two books on the mind-body connection, including Choke: What the Secrets of the Brain Reveal about Getting It Right When You Have To.

2:00–3:00 P.M.
DEBATING THE MERITS OF THE ECONOMIC POLICIES OF THE 2016 PRESIDENTIAL CANDIDATES
SAIEH HALL, ROOM 146, 1160 E. 58TH ST.

How much does the president affect the economy? Which party’s policies are better for domestic growth? Join chair of the Department of Economics John List and other faculty for a discussion on the viability of the 2016 presidential candidates’ economic platforms.

2:30–5:30 P.M.
EXPLORE 125 YEARS OF BIG IDEAS IN THE SOCIAL SCIENCES
SOCIAL SCIENCES RESEARCH BUILDING, LOBBY AND TEA ROOM, 1126 E. 59TH ST.

For more than a century, the University’s social scientists have made groundbreaking advancements in their fields and shaped their disciplines. During this open house, view our timeline exhibit to learn more about this rich intellectual history and evolution. Light refreshments provided.