BEHIND HUMAN TRAFFICKING

The search for connections to organized crime

ALSO FEATURED:

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Associate Provost for Research, Dean of Graduate Studies and University Programs

Editor: Norma Martin
Art Director: Tracy Sterling Bristol
 Writers: Caroline Collier, Andrew Matton, Robyn Ross, Rachel Stone Master and Elizabeth Orr
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www.endeavors.tcu.edu

Wisdom begins with Wonder. Socrates

Universities are amazingly diverse workplaces. If we soared over campus hot-air-balloon-style we would see beautiful spaces for living, working and playing. Athletic facilities raise our school pride. Spirits to high places and keep us closely tied to the “U” for life. Residence halls serve as practical living spaces and as inspirational places for learning patience, negotiation, responsibility and many other life lessons.

Academic buildings enable meaningful learning and analytical growth as class syllabi become real lessons about rocks, bugs, equations, motors, poetry, atoms, art, peoples, sexuality, events, stars, organizations, wellness, architecture, citizenship and on and on….

But what we might not realise during our soaring are the space, energy, and contributions for thinking and creating new knowledge that are part of faculty scholarship at the University. Yet in the long arm of influence the university has over human living, the discoveries of new things may encompass the most important contributions. To some extent, all other academic contributions are enabled by the scholarly endeavors both inside and outside the classroom.

One of the things that drew me to an academic career is for scholarly endeavors both inside and outside the classroom.

You can teach a student a lesson for a day, but if you can teach him to learn by creating curiosity, he will continue the learning process as long as he lives.

Clay P. Bedford, engineer and industrialist
Jack Hill's quest to understand moral ethics has led him from the Rastafarians of Jamaica to storytellers of the South Pacific islands, but he returned to familiar roots with a recent Fulbright-Scotland Visiting Professorship. The professor of religion spent a recent academic year at the University of Aberdeen. He taught and wrote about the ethical premises of Scottish enlightenment thinker Adam Ferguson, who was the chair of moral philosophy at Aberdeen in the 18th century. Like Hill, Ferguson was interested in diverse groups of people.

Ferguson, an enlightenment figure, was multicultural (for a Scotman). He grew up in the rural and Gaelic-speaking Highlands before moving to the more prototypical circles in Edinburgh. He navigated among more primitive civilizations, which in his time included most outside of Western Europe. He spent his career reconciling the ideas shaping Western thought with the worldviews of people whose societies possessed less well-defined political, legal and economic practices.

Hill's interest in Ferguson stretches back 10 years to the establishment of the faculty-led TCU-in-Scotland program, designed to expose students to the intellectual excitement of the enlightenment. Living in the country, digging through old church records and lecture notes, and retrailling Ferguson's steps, even standing over his bones, brought Hill's life's research closer to full circle.

“I definitely feel like Ferguson’s way of doing ethics and dialogueing between indigenous and [then] contemporary European folks is an opening for trying to think, ‘how do we integrate Rasta [then] contemporary European folks is an opening for trying to think, ‘how do we integrate Rasta’s quest to understand moral ethics’?” Hill said.

For trying to think, ‘how do you integrate Rasta’s quest to understand moral ethics’?” Hill said.

Ferguson was born in 1723, the same year and same country as economist and fellow philosopher Adam Smith, who is considered the founder of modern capitalism. Rapid changes arrived daily on Scotland's shores in the form of goods shipped from around the globe. “Imports, for example, in the port of Glasgow … increased a hundred-fold between 1740 and 1760,” Hill said. While Smith designed a philosophy of maximizing specialized human potential to create overall wealth, Ferguson grappled with the moral consequences of such rapid economic development.

“The whole problem was how are we going to maintain any sense of virtue with this burgeoning wealth?” Hill said of Ferguson's musings on ethics. “Ferguson saw it as very dangerous to the civic fabric of society,” the professor said. “One of his big themes was trying to figure out some way to reinforce the bonds of community in the face of the onslaught of all this new wealth.”

Hill wrote a chapter about Ferguson’s “Discourse on Rude Nations,” which is being reviewed for inclusion in the series of essays, Studies in Eighteenth Century Nations,” which is being reviewed for inclusion in the series of essays, Studies in Eighteenth Century Nations.”

Hill plans to write a book about the “rude” nations, Ferguson argued, were moral ones. Though humanity was never entirely peaceful, and different nations in life always existed, the people who owned less stuff found common bonds in their clans and villages and perhaps discovered the intrinsic value in operating as a community.

By Caroline Collier

Ferguson identified with the common workers, feared that perhaps industrial manufacturing would rob them of the creativity inherent in the human experience. Probably for this reason, Karl Marx referenced the Scotman in his classic critique of capitalism, Das Kapital, to point out perceived flaws in the socioeconomic system, notably in its division of labor. Ferguson, like Marx, believed that human motivation was more complex than gaining wealth or personal advantage, and both agreed that material growth did not necessarily have a corresponding increase in ethical behavior.

Hill’s appeal to such an assortment of economists and philosophers in the intervening centuries is one reason Hill wanted to delve into Ferguson’s ethical worldview. Lexington Books has accepted his manuscript proposal.

“The disparities in today’s value systems can be widened our capacity for hearing, understanding difference and engaging it in a way that makes us larger, rather than smaller.”
While many perceive Texas as a place dominated by “cowboy conservatism,” assistant history professor Max Krochmal has evidence of a robust liberal tradition in the Lone Star State.

In early 2016, the University of North Carolina Press is scheduled to release Krochmal’s book, Blue Texas: Labor, Civil Rights, and the Making of the Multiracial Democratic Coalition. The new work outlines the cooperation and successes of African Americans, Mexican Americans and white labor and liberal groups in Texas during their struggles for civil rights and economic justice in the mid-20th century.

Blue Texas illustrates how African Americans, Mexican Americans and white labor unions worked together for tactical political alliances that produced a large-scale movement for liberalism in the state.

“When I went into it, I had no idea I’d end up writing about the Democratic Party and liberal politics, but that turned out to be where so many of these relationships were being forged and where some of the civil rights battles were being fought,” Krochmal said.

A part of Krochmal’s larger research focus is collecting oral histories from civil rights activists whose stories have not been recorded and preserved.

“Today’s electoral politics are not often rooted in well-organized masses of ordinary people,” Krochmal said. “But putting those conflicts on the table and making them a point of discussion, they were able to circumvent them in a way that the present-day Democratic Party hasn’t figured out.”

Blue Texas shows that the multiracial wing of the Democratic Party had the greatest success when it was rooted in expansive and aggressive social movements. The success of the liberal wing of Democrats in the 1960s was rooted in the robust African-American and Mexican-American civil rights movements, he said.

“Today’s electoral politics are not often rooted in well-organized masses of ordinary people,” Krochmal said. “The book shows how it’s difficult for politicians to do much without that base. For people interested in seeing Texas moving in a more liberal direction, it’s not enough to just vote. They also need to organize their communities.”

Encompassing almost a decade of research, Blue Texas draws from oral history interviews conducted by Krochmal and others. The research also included newspapers and manuscripts from private and public collections from across the state.

A part of Krochmal’s larger research focus is collecting oral histories from civil rights activists whose stories have not been recorded and preserved.
Harnessing Innovation for Change in Developing Countries

by Elaine Cole

G

Amy Bruton’s research into emerging economies provides helpful insights for businesses looking to reach those areas.

“With businesses increasingly expanding into developing countries, firms of every size should understand that many of their potential customers are living in poverty,” said Bruton, Professor of Management, Entrepreneurship and Leadership at the Neeley School of Business.

“For firms to succeed in making the world more sustainable while making a profit in settings of poverty, the firms/products and services must consider ‘local’ customers’ needs, the networks among those customers, and ecosystems that affect any business effort.”

Bruton’s research, with colleague Susanna Kharul of the University of Texas at Arlington, was published in the Journal of Management Studies. The study cites the example of an innovation that succeeded in terms of development and service is the key to global success. 

the poor, none have been widely adopted in developing but not widely adopted because the firms developing them have not heeded the needs and purchasing nature of those living in poverty,” Bruton said.

The professor’s research provides three keys for business success and sustainability when introducing a product or seeking to solve a problem in settings of poverty.

Develop a deep understanding of people living in poverty.

People have specific needs and desires that do not necessarily equate to wealthier environments in the same country. “Rich or poor, actual consumer needs should direct what the firm does, not what the firm thinks the consumers should be doing,” Bruton said.

Realize that each community is unique.

Assuming that ‘the poor’ all act the same or need the same things is like assuming all Asians or Africans are the same,” Bruton said. Each population has distinctive dimensions that must be thoughtfully understood.

Focus on understanding local behavior.

Communication in poor communities is different than in wealthier ones. “Usually in settings of poverty, the communities are very tight-knit,” Bruton said. Rather than communicating through advertising, obtaining the support of people who are leaders in these communities may result in better success.

Bruton said the ability of businesses to understand the nuances of poverty in emerging economies, to create trusted connections and to support development and service is the key to global success.

WITH SOCIAL NETWORKS, sensors, cameras and smart phones, people are now walking cell phones allow immigrant workers to make mobile payments or transfer funds to families living in their home villages. The transfers have no wire service fees or banking fees, thus they save money for the consumers. In addition, the technology is sustainable since landfills can be avoided. The cell phone industry also is profitable. Thus, it creates a win for the environment, consumers and the businesses.

Bruton’s research found significant technological issues for people who live in poverty. For example, the United Nations reports that half of the 2.6 billion people in the developing world lack access to basic sanitation, including clean water. Research has shown that water-borne diseases account for 80 percent of all diseases and death among poor people.

These ailments drag down the GDP of the developing counties by an estimated 2 percent annually. In these countries, life is short and ready for easily obtained clean water,” Bruton said. “Yet, while there are many potential technological solutions to improve water for the poor, none have been widely accepted to date by those living in poverty.”

Another technological need in developing countries is improving the methods used for heating and cooking. Biomass, including wood, is primarily used, yet the practice results in significant pollution and health issues from the smoke and ash.

“Technological solutions that could solve this problem have been developed but not widely adopted because the firms developing them have not heeded the needs and purchasing nature of those living in poverty,” Bruton said.

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LACK OF INTEGRATION IS VITAL TO SHARING AND USING BIG DATA.

“Companies should ensure that functional teams are aware of each other’s responsibilities, goals, metrics and data sources,” Swink said. “They should develop integrated planning and a common prioritization of customers needs across functional teams. And they should facilitate the regular exchange of operational and tactical information between functional teams.

LACK OF ORGANIZATIONAL STRUCTURE

The effectiveness of big data and data science is moderated by domain knowledge, Swink said. “A company must not only collect information, it must decide how to best use it.”

For collected information to be useful for decision-making, it must be available to managers who have relevant business knowledge. “So, a key to the effective use of big data is the company’s level of internal [cross-functional] integration,” Swink said. “Internal integration allows the information to flow quickly to the right decision-maker and aligns the information needs of the company with the business processes.”

LACK OF VISION

Companies thronging on big data start with a targeted approach that delivers marketing tailored toward individual consumers. Swink cited a major retailer as an example. “Sears uses big data to influence its pricing strategy. At one time [the company] followed a nationwide pricing strategy, which was then reduced to a regional pricing strategy,” he said. “Today, with approximately 4,000 stores and more than 100 million customers delivering a stream of big data, Sears’ objective is to deliver personalized pricing and offers.”

Similarly, Swink pointed to another major retailer that uses big data for its mobile marketing strategy. “Customers who have the Wal-Mart app spend 40 percent more per month at Wal-Mart than customers who do not,” he said.

Gilhu Thomas, global head of Wal-Mart’s Mobile division, said the company is leveraging big data to develop predictive capabilities to automatically generate a shopping list for customers based on what they and others purchase each week.

LACK OF ACCESS TO DATA

Swink said that, to make real impacts, big data analytics must deliver precise information to businesses. Low users have the most competency in data visualization techniques, but lack systems that automatically make operational changes,” he said.

LACK OF ANALYTICS CAPABILITIES

Swink said consumers who use big data regularly deploy dashboard applications, data visualization techniques and advanced analytical techniques that combine and integrate information.

“Low users have the most competency in data visualization techniques, but lack systems that automatically make operational changes,” he said.

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NSF-Backed Study Improves Wireless Experience

by Rachel Steven Master

Liran Ma is exploring ways the new technology cognitive radio can be used to improve network speed and bandwidth for wireless devices.

"Cognitive radio is regarded as a promising technology that can significantly alleviate spectrum scarcity and improve the spectral efficiency," said Ma, assistant professor in computer science. As the use of wireless devices has skyrocketed, so has the need to expand research opportunities.

Ma’s research is considered the social characteristics and context of users and their ongoing applications.

"This research is motivated by the idea that the efficient management of spectrum requires the consideration of the entire network management framework to the maximization efficiency for cognitive radio network. Ma’s research is investigating the social context of users and their applications.

The expected results of this project include novel algorithms, designs and technologies to enable the future deployment of commercial cognitive radio networks and new emerging applications," he said.

Cooper knew anatomical differences were responsible for the difference in sound, not the nervous system. Cooper, whose work is supported by the Hearing Health Foundation, anticipates that research - how birds arrange their song -- is likely defined by the nervous system, which would make that process similar to the one used by humans.

In another line of research, Cooper looked at whether the brain's processing of different auditory frequency ranges didn’t seem to be the lateralization, or specialization of function, within hemispheres of the brain. These findings help define the differences in frequency and amplitude between the left and right sides that Cooper knew anatomical differences were responsible for the difference in sound, not the nervous system.
Insights

Patterns of Dysfunction
by Caroline Collier

Insights

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Bob Schiffer College of Communication

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Patterns of Dysfunction
by Caroline Collier

No one, however, had done meta-analysis research. Schrodt, as the lead researcher, stepped up to the task.

“We wanted to synthesize everything that we knew,” he said. “And if I could detect a pattern ... I have a whole lot more confidence in that finding.”

Schrodt and University of Denver professors Paul Winn and Jonas Shiimoto read more than 120 studies on demand/withdraw patterns. Needing measurable data to assign to specific outcomes, the researchers searched on “74 manuscripts suitable for inclusion.”

Their meta-analysis results were published in Communication Monographs in March 2014. Since then, Schrodt has been fielding calls from national media outlets, including The Wall Street Journal and USA Today.

Some sociologists speculate that women, as a consequence of living in patriarchal environments, desire change in the power balance of their relationships, thus they act until it happens. Men, they theorize, might be happy with expectations that free them from homework and other duties traditionally performed by women.

“Older wisdom approach the demand/withdraw communication style from a gender socialization perspective; for us, it is an outline of inherent personality characteristics. Those ideas may be a part of the puzzle,” Schrodt said. “But we don’t know definitively if one theory is better or more accurate than the other.”

In doing the meta-analysis, Schrodt aimed to study whether demand/withdraw was a “stronger predictor of some types of outcomes.” He and his research partners coded the studies, which involved 14,235 participants. They mapped the input variables, and the results gave them sufficient perspective to establish strong links and trends.

Communication outcomes, including topic avoidance and domestic violence, as well as relational outcomes, such as satisfaction with life and anxiety, were more prominently affected by falling into pursuit and retreat.

Another result from the meta-analysis was that no matter which partner performs which role, the results are equally harmful. When both partners take ownership of the relationship, they are playing and assume responsibility for the way they are feeling instead of trying to change the other, real healing and restoration can occur, Schrodt said. “For me personally, that’s what I see the hope moving forward in this particular area of concern.”

He predicted that if one partner doesn’t like technology, the closer the partners are, the more measurable data they provide a much stronger set of results. “We wanted to synthesize everything that we knew,” he said. “And if I could detect a pattern ... I have a whole lot more confidence in that finding.”

The results gave them sufficient evidence that the effect of the demand/withdraw pattern is much worse for couples already in distress,” Schrodt said. Once a major line of communication gets blocked, reopening it is a challenge that often requires mediation of a professional therapist or maybe a trusted friend.

There is a natural tendency that the more couples engage in this pattern, the more intrinsically it becomes,” Schrodt said.

Through identifying links in the demand/withdraw habits, Schrodt had one goal with the meta-analysis research: “To help develop intervention programs” because they don’t see the purpose of debating causation when “a communication lens provides a much stronger set of effects.”

Schrodt said solving the problem “really starts with self-awareness.” Both partners need to shift perspectives and stop blaming the other partner. A transition into productive openness is possible, but “both partners have to kind of do what feels unnatural so that they help meet each other’s partners’ needs,” he said.

Once partners take ownership of the relationship, they are playing and assume responsibility for the way they are feeling instead of trying to change the other, real healing and restoration can occur, Schrodt said. “For me personally, that’s what I see the hope moving forward in this particular area of concern.”

For Schrodt, it was “amazing.” He learned a lot about how complex human relationships are. There’s no simple story for why someone becomes homeless: “Their journeys are very tenuous and tarry with many different steps along the way.”

Long-term homeless people’s use of emergency medical services and frequent interactions with police result in significant expenses, but they are not using shelters or other services that are less costly to the community. Petrovich said this group requires more novel

service approaches.

“Service providers need to hear perceptions of clients. We looked at the data very carefully and the themes we were consistent — there is a segment of people who are homeless who are not going to go to shelters because of the way the services are provided and the environment itself.”

The in-depth research into the local homeless population has led to Petrovich’s helping Catholic Charities Fort Worth start a new nighttime shelter. In his role, the professor determines the needs of the population and provides technical assistance and training for the organization. He also is part of the research team evaluating the effectiveness of programs involved in Intensive Case Management, which is Fort Worth’s plan to make homelessness rare, short term and nonrecurring by 2018.

In addition, Petrovich is part of a two-year study by the Fort Worth Foundation to help plan services, staffing, training and design for a new multi-million dollar central resource facility to serve homeless people, which is Fort Worth’s plan to make homelessness rare, short term and nonrecurring by 2018.

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Higher education always has been a probability for people with economic advantages, but low-income students from are almost 30 percentage points less likely to attend college than their higher-income peers, reports the U.S. Department of Education.

In 2011-12, TCU’s College of Education joined with the national College Advising Corps to help reverse the trend. TCU’s program hires recent university graduates to work in public high schools. “We learn most often from role models that are most similar to ourselves,” said Elizabeth “Becky” Taylor, the principal investigator for the program.

The new graduates, called college advisors, help teenagers from mostly underrepresented populations transform their dreams into reality, whether their aspirations are for college, the military or trade school.

“Counselors need help,” said Taylor, who specializes in school counseling. Overburdened high school counselors have little time to assist students with the complexities of college applications and financial aid forms.

When the TCU program started, the university sent its college advisors across Texas, but the program administrators wanted to strengthen the College of Education’s existing ties with the local communities.

“We have managed to find and retain exceptional TCU graduates,” said Matt Burckhalter, director of the TCU program. He trains the university’s college advisors during a four-week period in the summer.

“They’re done learning how to change the world,” he said about the new TCU graduates turned college advisors. “We’re giving them the opportunity to go and do it in our local community.”

One of Burckhalter’s first recruits was Geovanny Bonilla, who has a bachelor’s degree in political science and philosophy. Now, Bonilla collects TCU data and works with Stanford University, which serves as the lead research institution for the national program.

College advising is “theoretically sound,” said Taylor. “But the data analysis is going to add to that.”

TCU College Advisers also...

- Persuade students to take standardized tests. “Some of the kids who have taken their SATs and their ACTs find out they’re a lot smarter than they thought they were,” said Taylor.
- Entice male students, especially those of Hispanic and African-American descent, to seek an education beyond high school. Some college advisors talk with male teenagers about careers in technology, such as working with lasers or in video game programming.
- Steer students to helpful websites. BigFuture.com lists majors and activities so aspiring collegians can pick institutions that offer what they want to pursue.
- Arrange college fairs at their schools. Sometimes 60 institutions will send representatives to these campus events, which is a common occurrence at high schools with large college-bound student bodies. But some college advisors are assigned to schools that never had such events until they arrived.

Three Snapshots: TCU College Advisers

José Trejo

A former Community Scholar at TCU, Trejo was born in Guanajuato, Mexico. At 5-years-old, he moved to Texas with his parents.

For the second year, he is advising at Fort Worth’s Diamond Hill-James High School. “I wanted to give back something I never had, said Trejo about returning to his old neighborhood. Last year Trejo helped a student with an Ivy League college application. Now the young man is a freshman with a full academic scholarship at Harvard University.

“If I made it, you can make it, especially now that you have more opportunities, more resources than I did,” said Trejo, who graduated with a TCU degree in criminal justice.

Many high school students have to deal with tough personal trials. Last year, a female high school student planned to attend the University of North Texas. Just before graduation, a random shooter killed her mother. A few weeks later, her father died. Trejo kept encouraging the young woman, who received a college full scholarship, to continue with her education.

My Nguyen

Nguyen is a first-generation college student, and a former Community Scholar at TCU. Her parents emigrated from Vietnam.

After seeing how much of an impact she had on young people’s lives during her first year with the program, Nguyen said her whole focus changed. “Why not share your wealth? Why not share your knowledge?”

Elizabeth Rosales

A second-year college adviser at Lake Worth High School, located in a Fort Worth suburb, Rosales earned a degree in psychology at TCU.

“The chance that you can give back... it’s just rewarding,” said the former Community Scholar and Fort Worth native about her experience at Lake Worth.

But not every student outcome is successful. While helping a student with a financial aid applications, the young man discovered he was living in Texas without legal documents. “He was really upset,” said Rosales. The student disappeared, discouraged about his future.

As part of her duties, Rosales organized a visit to a college campus for her students. The trip to Denton took 40 minutes, but many of the high school students had never left Lake Worth. “They got to see how different the world really is outside of their bubble,” she said.

She discovered that sometimes a 17-year-old student is the main source of income for his or her family, and education takes a back seat. “I didn’t realize how adult these kids have to be.”

Nguyen, who works at Dunbar High School in Fort Worth, is working on her master’s degree in educational leadership. While her graduate studies are different from her undergraduate degree in environmental science, she tells her high school students that post-secondary education is often a meandering path, not a destination.

Elizabeth Rosales

A former Community Scholar at TCU, Trejo was

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Stepping Stones: College Advisors also...

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TCU’S COLLEGE ADVISING CORPS

by Caroline Collier

NATIONAL CORPS

THEN

2005

NOW

2014/2015

College Advisers

25

College Advisers

in West Texas

3

in Tarrant County or Irving

9

College Advisers

in Fort Worth

13

College Advisers

in Texas

500

high schools

450

college advisers

Minimum number of high school students helped

10,000

14

13

Minimum number of high school students helped

States

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Minimum number of high school students helped

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Minimum number of high school students helped

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2014 - 2015
Human trafficking and organized crime

At least 2.5 million people are victims of human trafficking, and their exploitation nets criminals about $30 billion each year, reports the United Nations Office on Drugs and Crime. But these numbers are just estimates — guesswork really. Human trafficking exists in a shadowy underworld. Criminal antagonists do not always have clear identities. Law enforcement agencies and academic experts know little about how the sprawling networks conduct operations.

“There is an assumption that organized crime is engaged in human trafficking,” said Vanessa Bouché, assistant professor of political science. But, she said, the thought is only speculative.

When the National Institute of Justice requested proposals to explore the intersectionality between different types of crimes, Bouché and Michael Bachmann, associate professor of criminal justice, submitted a project proposal to investigate the matter.

The professors wanted to create a more comprehensive understanding of the links between organized crime — from cartels to street gangs — and all forms of human trafficking, including sex slavery and forced labor.

Their idea was formed in 2012 during a 10-day trip to Israel when the professors were forced labor and sex trade, and Bachmann’s expertise in crime data collection and analysis.

Bouché and Bachmann received a $300,000, two-year federal grant. Their project is the first large-scale study of its kind. The professors are creating a database comprised of hundreds of variables of federally prosecuted cases involving human trafficking and organized crime as well as interviewing convicted criminals who were involved in both types of crimes.

At the project’s end, Bouché and Bachmann plan to have established clear connections between gangs, cartels and human-trafficking markets. They hope their work leads to more protection for victims and improves case-building efforts for prosecutors. The professors anticipate that with more effective recommendations for prosecutors to use, human traffickers will receive “the maximum penalty that is due to them for the actual activity that they were engaged in,” Bouché said.

The professors’ interdisciplinary project capitalizes on Bouché’s knowledge of human labor and sex trade, and Bachmann’s expertise in crime data collection and analysis. Bouché understands the pitfalls prosecutors face trying to get a handle on these criminal cases with defendants who are selling and exploiting human slaves.

Bachmann worked with his wife, Brittany, on a 2008 assessment of human trafficking in North Texas. They were surprised by the lack of overall awareness about the problem, even among key participants such as judges and police departments.

Since that 2008 study, Michael Bachmann has been interested in how the organizational pieces of the trade in people fit together. The professor has been incorporating data mapping and computer analysis in hopes of uncovering patterns as well as introducing predictions of how and where human trafficking happens.

In the grant project, Brittany Bachmann will conduct interviews with a sample of convicted organized traffickers to find information that could help protect victims and catch and punish other traffickers. The former probation officer has extensive experience with drawing hard-to-get information from criminals.

“This is filling a niche that hasn’t been looked at before,” said Brittany Bachmann, who is the project’s research associate.

Michael Bachmann oversees the collection of data and formation of the database. He is working with L. Donnell Payne, associate professor of computer science, and a handful of undergraduate computer science students. They are using hundreds of contextual variables of cases prosecuted for both organized crime and human trafficking.

When the project is completed, the database will become an open access, free public website for people to analyze the available content and input new information. At present, “no such database exists on the national level,” Michael Bachmann said. By allowing anyone to update the criminal cases, he said, it will keep the database relevant and establish “the national standard, the go-to and the one source” of information pertaining to the two crimes. Because the case data is still being assembled, conclusions about the link between the two worlds are still nebulous, but “it’s definitely there,” he said.

Uncovering the organizational secrets of human trafficking networks requires a strategic information to help shed light on a dark side of society

by Caroline Collier
approach. While most criminals conduct their illegal operations without penalty, the U.S. justice system snags some of them.

While the Trafficking Victims Protection Act became law in 2000, federal prosecutions still are getting comfortable with how to apply it in their criminal cases. However, the Backerer Influenced and Corrupt Organizations, or RICO, Act, which is used in organized crime prosecutions, has been around since 1970.

To organize a larger scale of scattered cases involving organized crime and human trafficking, Bouché and the Bachmanns decided to collect racketeering convictions and work backward to search for criminal cases that also contain elements of trafficking in people. They are collaborating with Laura Lattes, a DC-based legal scholar, and her anti-trafficking non-profit group Global Centrum to identify federal convictions that include both factors.

Laderle and some Georgetown law students are searching national databases to collect applicable criminal cases—several hundred thus far. In a centralized spreadsheet, they are listing hundreds of variables, such as location, prosecution strategy and size of the criminal organization.

TCU computer science students are using the work of Laderle and the law students to build the easy-to-use database. Michael Bachmann said the work already has attracted attention from county-level district attorney’s offices to the United Nations.

“We will provide analysis features of the database on the website so that when users browse through that website they can run some basic descriptive or correlations right on the site,” the professor said. “So hopefully more eyes on the data can extract more information.”

In another aspect of the project, the researchers will select at least 20 cases for more in-depth qualitative examination to uncover insight not readily apparent from a mountain of raw data.

To get an overview of the links between the two crimes, the professors are seeking different levels of organized crime—from mom-and-pop operations to street gangs and international cartels. They also want to learn more about human trafficking from sex markets to forced labor.

If they can accurately paint a big picture, Bouché thinks, they can better comprehend how the moving parts fit into a well-ordered whole. Regardless of the scope of involvement, the researchers plan to talk to some of the felons. “We are basically going to figure out what federal prison these folks are in, and we are going to interview them,” she said.

Although academic researchers rarely are granted access to federal penitentiaries, Bouché and the two Bachmanns say they plan to persist until they get green lights.

Brittany Bachmann is planning on conducting 20- to 30-minute interviews that include relating to the subjects in a businesslike manner. She will ask about “employees” rather than “victims,” she said. “I’m very careful to use words that are respectful to them … because they’re not going to talk to me if I talk down words that are respectful to them … because the job training skills that they need to get out and reintegrate in a healthy way back into society.”

Brittany Bachmann, who is working on a doctorate in counseling at TCU, plans to use a technique known as motivational interviewing to “help them visualize an offending-free future,” she said. “As a probation officer, we were trained in how to elicit information and how to help the offenders learn to think about what they want to be different in their futures.”

In hearing the reasons people enter into human trafficking, the researchers hope to discover techniques to divert those pathways into crime. They also want to decrease the recidivism rates among convicted traffickers, Bouché said. “We can approach it in a restorative justice framework and provide them the counseling and the services, the education and the job training skills that they need to get out and reinsert in a healthy way back into society.”

Exercising human trafficking through the lens of criminal syndicates has inspired a new, and more humanistic, perspective about people who participate in these illegal activities. The question is, Bouché said, “Do we believe that human beings are capable of change?”

In restorative justice, criminals must communicate and take responsibility for the harm they have caused others. As the field emerges, victims are finding relief from their suffering, even in forgiving the unspeakable crimes committed against them. If they can move on from an awful experience a transformed person, then the idea is that the perpetrator can as well.

In this research area, Bouché discovered her attitudes about human trafficking have changed. In the past, she saw the people who participate in these criminal situations as evil. But now, she said, the role is morphing into more complex manifestations of human motivation.

“It’s kind of a paradigm shift in a way,” she said. “Weird and hard, but it’s imperative … The shift is viewing all humans as equal, no matter your moral deprivation.”

A decade ago, Matt Chumchal was a master’s student in biology at TCU, collecting fish from Texas lakes to better understand mercury contamination patterns.

Today, Chumchal, an ecologist and co-creator TCU’s Aquatic Ecology Lab, continues to study mercury contamination in freshwater bodies. But he and the lab’s other co-creator, Ray Drenner, have learned that the movement of mercury in the environment is more complex than they imagined.

Human activity releases long-buried mercury into the atmosphere, and eventually, it settles into water bodies. Bacteria convert mercury into methylmercury, a dangerous neurotoxin that can cause a variety of health problems, such as deafness and memory deficiencies.

“There’s no debate that methylmercury is a terrible toxin to the physiology of humans, and that tiny amounts have permanent effects,” Drenner said, even though the process leading to this consensus has consumed thousands of scientists for several decades.

Chumchal, who also serves as director of TCU’s Pre-Health Institute, and Drenner, a freshwater ecologist and chair of the Biology Department, helped establish how age and position in the food chain play a crucial role in mercury levels in fish. The professors then explained why certain water bodies show varying levels of mercury concentration.

In mapping the mercury levels in public lakes in the southern U.S., Chumchal and Drenner noticed that concentrations dissipated before the Mississippi River and accumulated again east of the riverbanks.

“All of the sudden, the pattern became really straightforward,” Drenner said.

The professors linked the mercury deposition to conifer trees, such as pines. The trees’ huge surface area allowed for much higher mercury collection, which then leeched into surrounding lakes.

The professors’ findings were published in Environmental Science & Technology. In 2013, Chumchal and Drenner won the prestigious Dow Chemical Award for Innovation in Mercury Science. The recognition is significant because thousands of scientists are studying mercury contamination.

“The origins of the rise in mercury levels are a settled matter,” Chumchal said. Half of it comes from burning coal for energy; predominantly in Southeast Asia, and small gold mining operations in the tropics emit the other half.
After mercury lands in the water, it seeps into fish. Certain types, such as moonfish and king mackerel, contain extremely high into fish. Certain types, such as swordfish
traps. Insects fly into them and are euthanized
variety of aquatic insects, such as dragonflies,
Chumchal calls “frog ponds.”
lab to use for its academic research. The large
the Tarrant Regional Water District allows the
songbirds’ diet, which consists mainly of
mercury contaminating these birds originate? [220x336]cause blood pressure problems, poor vision and
target. Mercury accumulates as the fish ages,
and damselflies surrounding the fish-less water
In the drained ponds, more
insects, grind them to a powder and send the
people to toxic levels, Chumchal said.
and damselflies contain the highest levels of mercury in the experiment. Contaminated insects pose a large problem worldwide, especially in the Great Plains. More than 2 million man-made ponds exist in that region, many of them dug to provide a water source for cattle. However, those ponds, over
days, slowly fill with sediment and lead mercury into the water table. The ponds are a “novel ecosystem,” Chumchal said. “And now those small, man-
made ponds are the dominant type of standing water body worldwide.” Since researchers and state health officials have no access to private water bodies, understanding what happens in public ponds and is an essential task when it comes to warning people of high mercury levels that might be in their game fish. The aquatic ecology lab also maps state activities for mercury in public waters. Drenner and Chumchal said the ponds cause the most mercury contamination problem will not stop. Policy deliberations will happen outside the lab, though. Both researchers urge the public to get informed and become proactive about pushing lawmakers to devote attention to the mercury problem. “It’s up to [the public] to carry the ball,” Drenner said.
Drenner and Chumchal consider themselves “apprentices” by Drenner, allows them to learn valuable experiential lessons in the field of biology. “The process of science is something you’ve got to do,” Chumchal said.
The professors also teach their research students about writing scientific papers. They put paragraphs and data graphs on the projector and dissect the papers word-by-word, then sentence-by-sentence. “Scientific writing is different in that it’s really cut and dry, and it’s as to the
Next year, Drenner and Chumchal plan to expand the aquatic ecology lab’s advisory efficacy study all the way to the Atlantic Ocean. As understanding grows, so does general awareness of the problem. “There is this international awakening that the whole mercury problem is a global problem,” Drenner said. “And it’s going to be solved by global initiative, but at this moment, there’s no teeth in that.” At the October 2013 Conference of Plenipotentiaries, a handful of countries agreed to take voluntary steps to address mercury contamination, and they signed the Minamata Convention. New U.S. power plants have emission limits and mercury “scrubbers,” Chumchal said. But vast amount of liberated mercury circles the planet, and most countries have not yet enforced the conventions. “If it’s business as usual,” Chumchal said. “Mercury emissions will just keep going up and up and up.”
Alzheimer’s disease steals its victims’ memories and robs their families of invaluable time with loved ones. On a national scale, the brain disease gobbles more than $220 billion each year just in caregiving costs.

Of the six leading causes of death in the U.S., the neurodegenerative disease is the only one rising; it claims about 500,000 lives a year.

Three professors in TCU’s College of Science and Engineering are using the tools of their respective academic disciplines to research the disease. Associate professor of biology Michael Chumley, assistant professor of chemistry Kari Green and associate professor of psychology Gary Boehm formed the Neurobiology of Aging Collaborative to study the amyloid beta proteins associated with Alzheimer’s disease — how they form and impair cognition as well as how that formation process contributes to the development of disease. When interacting with metals, these proteins contribute to the production of oxidative stress, which can kill neurons and synapses responsible for learning and memory.

Green wanted to investigate the conditions that would make the metals use their powers for good instead of evil.

Green, a synthetic inorganic chemist, studies the transition metal ions and their role in biological processes. She said that scientists need to understand the processes happening at the molecular level to know “what we’re up against” in trying to prevent disease. Metals are necessary for functions such as energy production and muscle growth, but they can play a role in the development of disease. When interacting with amyloid beta, for example, metals can contribute to the production of oxidative stress, which can kill neurons and synapses responsible for memory and learning.

Green wanted to investigate the conditions that would make the metals use their powers for good instead of evil. Working with students in her lab, the professor creates molecules designed to stop metal ions from causing oxidative stress by chaperoning them to their appropriate destination in the body. The molecular compounds, collectively called N-heterocyclic amines, include both an antioxidant and a component that binds to the metal ions. Together, they block the formation of amyloid beta and production of oxidative stress.

Green and her students test their work by combining the amyloid beta protein with a metal ion in a test tube, which causes the solution to get cloudy (mimicking the formation of plaque in the brain). Adding the molecules they have created to the amyloid beta and production of oxidative stress.

Green wanted to see if repeated illness, such as bacterial or viral infections, set off the inflammation and amyloid beta production cycle in the brain. To research the idea, he injected a group of mice with a substance that induced a bacterial inflammation and another group with a compound that induced a viral inflammation.

In both experiments, while the inflammation was confining its effects to the periphery, the protein amyloid beta was being produced in the periphery and traveling into the brain. However, long-term use of the anti-cancer drug Gleevec by humans is impractical. But if the mice brains showed elevated levels of amyloid beta even when Gleevec was inhibiting its production in the periphery, the protein was being made in the brain. But if the mice brains didn’t show amyloid beta, Chumley could conclude that the inflammation responses were causing amyloid beta to be made in the periphery and then find its way to the brain.

Research results showed that amyloid beta was being produced in the periphery and traveling into the brain.

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One factor that can lead to excess amyloid beta production is inflammation. People with Alzheimer’s disease have a higher than normal incidence of chronic types of inflammatory diseases, such as rheumatoid arthritis and diabetes. Inflammation also is present in Alzheimer’s patients’ brains where plaques form. Following a line of inquiry from then-graduate student Maritelle Wintraub, Chumley and his lab assistants examined the connection between inflammation and amyloid beta levels. They are trying to understand where and why the excess amyloid beta was produced.

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Chumley’s team continued causing the inflammatory reactions in mice but treated them with the anti-cancer drug Gleevec, which inhibits amyloid beta production outside the brain. Gleevec doesn’t cross the blood-brain barrier, confining its effects to the periphery. Chumley thought the drug would be a good instrument to test whether or not the amyloid beta was being made in the periphery.

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Research results showed that amyloid beta was being produced in the periphery and traveling into the brain. Therefore, long-term use of Gleevec by humans is impractical. But if the oxidative stress associated with inflammation is preventable through other means, perhaps the peripheral production of amyloid beta also could be stopped another way. Thus, the team tested
Gary Boehm and Kayla Green

stage of a potential model that suggests if you get sick, it can lead to an increase in amyloid beta production, which may end up in your brain.”

Boehm, a behavioral neuroscientist, studies the cognitive dysfunction that results from these aberrant biological processes. In the lab, Boehm assessed the effects of inflammation on memory function in mice by studying how well they were able to remember a novel context that had been paired with a mildly aversive stimulus. To test this inquiry, mice were removed from their normal cages and placed in a chamber that had new features: a different spatial configuration, polka dots on the walls, a different kind of floor and the scent of peppermint oil. This new context yields a similar protective effect.

Researchers induced inflammation in mice for a week, which increased the amyloid beta in their brains. Two weeks later, Chumley compared amyloid beta levels in the brains of mice that had access to a running wheel with those that were sedentary. The mice with running wheels in their cages completely eliminated the amyloid beta, suggesting exercise is an effective defense against buildup. Now the research team is trying to figure out how that process works.

“If you cause inflammation in the mouse, it leads to amyloid buildup in the brain and the learning dysfunction — and it doesn’t matter how you cause the inflammation, whether it’s bacterial or viral,” Chumley said. “If you have the inflammation, but you block the production of amyloid beta, it doesn’t get in the brain, and you block the production, which may end up in your brain.”

After only a couple of pairings, mice normally learned the connection between the two and froze when placed in the new environment, even in the absence of the aversive stimulus. But mice in which peripheral inflammation was induced froze far less, suggesting they were less able to remember the connection between the novel environment and the unpleasant stimulus. These observations confirmed the connection between amyloid beta — elevated because of the inflammation — and cognitive dysfunction in non-transgenic mice.

Chumley treated the drug, Gleevec, on the other hand, were able to learn the connection between the new environment and the aversive stimulus even when inflammation was triggered. This research outcome suggests Gleevec could protect against amyloid beta buildup as well as rescue cognitive function. Boehm and his research team now are assessing whether exercise yields a similar protective effect.

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“Exercise has been classified as a determinant of health, but it has also become a determinant of disease. It’s important to recognize that exercise can be both a benefit and a risk.”

- Kayla Green

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“If athletics and academics make up much of the house of TCU, I think the arts are the front porch.”

— Harry Parker

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“We know that exercise reduces inflammation, and that individuals who are physically active have a lower incidence of Alzheimer’s disease,” Chumley said. Researchers induced inflammation in mice for a week, which increased the amyloid beta in their brains. Two weeks later, Chumley compared amyloid beta levels in the brains of mice that had access to a running wheel with those that were sedentary. The mice with running wheels in their cages completely eliminated the amyloid beta, suggesting exercise is an effective defense against buildup. Now the research team is trying to figure out how that process works.

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“Alzheimer’s disease” is a condition characterized by cognitive decline and memory loss. The disease is named after Alois Alzheimer, who first described it in 1907. Alzheimer’s disease is a degenerative disease that affects the brain, causing a loss of cognitive function and memory loss.

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“Professor Parker was my favorite person to audition for,” said Samantha McHenry, a freshman theatre major from Friendswood, Texas. “He was so warm and welcoming. While I was singing, he was just sitting there smiling. The whole thing was more like a conversation, not an interrogation.”

“I remember professor Parker’s insisting in us the importance of being artistically self-sufficient,” said Whitehurst. “The directors I’ve come in contact with won’t spoon feed me information, and professor Parker did a great job preparing me for that.”

McHenry said that other schools painted a bleak picture of professional careers in theatre at Emporia State University in Emporia, Kansas for 11 years. “It’s not at all unusual for high school and universities to put on plays that raise the social consciousness,” he said. “Art is not always there to entertain us. It exists to challenge us.” 1992: Parker taught at Emporia State University in Emporia, Kansas for 11 years. 2003: Parker returned to TCU in the fall, bringing his academic career circle.

If anyone ever asked me how to treat people, how to make your way in the world, I’d probably just say ‘Do it the way Harry does and you’ll be fine.’” Daniel Fredrick

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How has it grown in the 22 years you have been there?

Our research now impacts scientific inquiry and directly impacts the lives of individuals in treatment settings all over the world. For example, if you were arrested in Texas, you’d have to complete a drug screen developed by the institute. If you have a drug problem, part of your treatment might include using a graphical approach to counseling developed jointly by TCU Psychology and faculty at the IBR. Your progress while in treatment might be documented by the Client Evaluation of Self and Treatment, an assessment tool developed by the institute.

Part of IBR’s mission is to provide critical methodological and substantive research training for graduate students. Does being around students lead to different insights about behavior?

Yes, daily. Our students come to IBR with a wide array of educational, work, and life experience. Each has a unique perspective, interests and gifts. We encourage them to ask questions and consider complex problems of substance use and recovery through their own lens. They often provide a perspective that I don’t have. Students play an integral role in the research we do and are encouraged to pursue their own interests within the context of our broader projects.

How can young people be encouraged to make wise and healthy decisions?

There are two primary things we can do to encourage youth to make wise decisions — strengthen positive and productive relationships and provide opportunities for kids to practice solving everyday problems.

We tend to assume that most adolescents make more errors in decisions compared to adults — they don’t have the maturation and experience compared to their older counterparts. But recent studies on decision-making indicate that adolescents and adults are almost equal in their ability to solve complex problems. The difference lies in how much they let social factors influence what they do. Adolescents place higher value on what their peers think, say, believe, and place greater importance on this information, whether it’s accurate or not, compared to hard facts. So one of the best ways to encourage youth to make good decisions is through building productive relationships with parents, mentors and friends who will model and encourage acceptable behaviors and who will help the youth recognize when their thinking is “clouded” by stressors.

IBR has developed tools for youth and adults aimed at teaching and practicing better thinking and decision-making skills.

One of your areas of research involves implementing best organizational practices for treatment centers. How can substance abuse centers operate more efficiently?

Many substance abuse providers operate on shrinking budgets, doing their best to stretch every dollar. One of the most costly elements of treatment involves staffing — hiring and keeping counselors and administrators who work with youth and adults in treatment settings. There is a high degree of turnover among staff.

Our research has documented that in outpatient settings, nearly a quarter of counselors and supervisory staff leave their position and/or the agency within any given year. Each time a trained staff member leaves, it “costs” the agency in terms of productivity due to shifting of responsibilities and having to hire and train new employees. Improving hiring practices, helping new employees become integrated into and invested in the agency and increasing staff retention would prove cost-effective.

What would improved efficiency in treatment mean for society as a whole?

This is a question we’re thinking about as part of our newest grant from the National Institute on Drug Abuse. JJ-TRIALS (Juvenile Justice-Translational Research on Interventions for Drug Abuse) focuses on improving the continuum of care for youth on probation who exhibit substance use problems. Because there’s a strong link between delinquent behavior and substance use, it’s important to identify youth who need help and get them linked to appropriate services in a timely manner. Early intervention is the most promising deterrent against future addiction and delinquency. If we can do a better job at identifying kids with problems and getting them the help they need early on when they first engage in delinquent activities, perhaps we can help them have healthier, more productive lives while reducing the costs to society as a whole.

Can you retain idealism while focused on human problems?

I think you have to retain some level of idealism when focusing on complex social issues. Otherwise, it would be too easy to get overwhelmed or discouraged and simply give up. I have immense respect for substance use counselors, probation officers, and others working tirelessly, day in and day out with youth and adults who have severe mental issues and scarce resources. It’s draining, and takes a unique combination of optimism, perseverance, and grit. Many years ago before coming to IBR, I worked with addicted and mentally ill youth and adults in local psychiatric hospitals. At times I would wonder if there was any hope for some of the people I worked with. They seemed to make the same mistakes over and over and had very little motivation to change. It’s the practitioner side of the field in part because I wanted to understand why people didn’t seem to change.

At the institute, we develop tools and resources to help individuals in need, and we help program administrators and counselors change the way they do business so they can help more people. Some might think it’s idealistic to believe that what IBR does makes a difference. But when you stop to consider the people who are helped with our materials — the number of positive TCU Drug Screens that resulted in treatment, the number of clients who have gained insight into personal problems through Mapping Enhanced Counseling, the number of publications of our findings, the number of hits on our website and downloads of our manuals, and the frequent emails we get from practitioners in the field describing how their clients are responding to our materials — it motivates you to learn, develop and reach more.

What do you wish more people knew about the reality of addiction?

I wish more people understood the chronic nature of addiction. Yes, using illicit substances is a choice, but once someone is addicted, meaning that their brain chemistry has changed so that they crave the drug and have physical symptoms when they don’t get it, it becomes increasingly more difficult to “just say no.”

To overcome addiction means addressing the problem from multiple angles — medications to change brain chemistry and allow the person to function normally without cravings; counseling to address the negative thinking and destructive behaviors that they tend to engage in over and over again; changing the environment (cutting ties with friends who use and establishing new supportive relationships) and surrounding the person with a network of people who will keep him or her accountable.

All of IBR’s materials are available for free from its website: www.ibr.tcu.edu.
The Wish Book
CO-WRITTEN BY ALEX LEMON, AMBER ESPING, DAVID MOESSNER, AND MARCO RENDA
SPRINGER, NOVEMBER 2013

Intelligence 101
CO-WRITTEN BY AMBER ESPING, ASSOCIATE PROFESSOR OF EDUCATION
SPRINGER, NOVEMBER 2013

Paul and the Heritage of Israel
EDITED BY DAVID MOESSNER, BRADFORD CHAIR IN THE DEPARTMENT OF RELIGION
BLOOMSBURY PUBLISHING

When Sex Changed: Birth Control and Literature Between the World Wars
BY LAYNE PARISH CRAIG, INSTRUCTOR OF ENGLISH
RUTGERS UNIVERSITY PRESS

The Texas Legation Papers, 1836-1845
EDITED BY KENNETH STEVENS, PROFESSOR OF HISTORY
TCU PRESS

Intelligence is a complex topic. In many ways, the perception of intelligence has evolved along with the field of psychology, as the origins and possibilities of the human mind remain interpretable ideas. In this comprehensive roundup, the authors present a user-friendly look at the variables of what intelligence means, the controversies surrounding the definitions, and the new frontiers that remain to be explored in terms of human intellect.

Caroline Collier

When Sex Changed: Birth Control and Literature Between the World Wars

Layne Parish Craig’s book analyzes the birth control movements during the 1930s and 1940s in the U.S. and Great Britain. The nonfiction work traces newspaper practices. Journalists had on Irish politics, culture and journalism had on the emerging faith of Christianity. The book analyzes the impact Paul had on the biblical figure of Paul in the New Testament of the Bible. It combines examinations of the Paul as he is seen in the Gospel of Luke as well as in the Acts of the Apostles. The book analyzes the impact Paul had on the emerging faith of Christianity.

Elizabeth Orr

The Wish Book: An Anthology of British and Irish Literature during the 1910s and 1920s.

Zack Hawaylley, assistant professor of economics, published a study about the impact state-funded higher education scholarship plans have on overall outmigration patterns of college-educated people. He found that the plans stem, outmigration of younger college graduates, but older college-educated adults are more likely to migrate to another state. Harris teaches courses on microeconomics and urban and regional economics. His study was published in the journal Regional Science and Urban Economics.

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SONGBIRDS IN THE MERCURY MINE  TCU students and their professors Ray Drenner and Matt Chumchal, co-founders of TCU's Aquatic Ecology Lab, study mercury contamination in freshwater bodies at Eagle Mountain Fish Hatchery.