Actors Stanford Business

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Envisioning a future where humans and artificial intelligence are collaborators, not competitors.

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A LETTER FROM DEAN JONATHAN LEVIN

The Diffusion of Innovation

Practically every region aspires to develop an entrepreneurial ecosystem, and many look to Stanford and Silicon Valley for inspiration. Yet the model has been hard to replicate. Indeed, the geography of innovation is strikingly concentrated. Within the United States, just five metropolitan areas — San Francisco, New York, Boston, Los Angeles, and Seattle — account for nearly 40% of patents and over 80% of venture capital investment. Globally, true innovation hubs have been even rarer.

What does this teach us about the recipe for an innovative ecosystem? The answer is important because innovation is fundamental to economic development, growth, and prosperity. The challenge is that many ingredients are needed: talented people, innovative ideas, risk-taking investors, and crucially, the intangible know-how to bring these things together. In today's world, where ideas and capital are mobile and talent is global, the last ingredient is arguably the hardest to replicate.

For those of us following global innovation, however, there is a sense that the world is changing. There was a time when the U.S. was 95% of venture capital; today, the rest of the world has grown to equal size. Whether it is Bangalore or Beijing, Singapore or São Paulo, new tech clusters are assembling the ingredients for innovation. What I find remarkable is how often Stanford GSB alumni, having absorbed the ethos and expertise of our campus, are at the center of these changes — in many cases, using technology to provide critical services like banking, shopping, education, and healthcare. Moreover, the chains of innovation they have generated are remarkable, and echo the linkages that characterized the early days of Silicon Valley.

To highlight just one example: Marcos Galperin, Hernan Kazah, and Stelleo Tolda founded Mercado Libre after graduating from the GSB in 1999. Today, it is the largest e-commerce platform in Latin America. With Nicolas Szekasy, MBA '91, Kazah went on to found Kaszek Ventures to focus on investments in early-stage companies in Latin America. One of those investments was in Brazil-based Nubank, co-founded by David Vélez, MBA '12. Nubank is now the world's largest independent



Jonathan Levin is the Philip H. Knight Professor and Dean of Stanford Graduate School of Business.

digital bank, serving tens of millions of customers, including many who were previously unbanked.

Similar stories and patterns can be found across Asia and Africa. In Indonesia, GSB alumni have founded companies offering financial services, online education, and e-commerce. In Kenya's "Silicon Savannah," Mauricio Caio, MBA '86, and Andreata Muforo, MBA '99, run TLcom Capital, a VC firm focused on startups that generate both value and jobs. Mukesh Ambani, a member of the MBA class of 1982, established Reliance Jio in 2016. It has provided low-cost internet access to over 400 million people and created the potential for the rapid growth of digital services across India.

The exchange of ideas between the GSB and the world is a two-way interaction. In this issue, we commemorate the 25th anniversary of the Global Management Immersion Experience (GMIX), which has enabled more than 1,500 MBA students to do internships in 92 countries. Students bring their skills and energy and come back with a clearer sense of the challenges in building companies around the world. Our faculty gain some of that same perspective teaching in Africa and India in the Stanford SEED Transformation Program for entrepreneurial leaders. This January, I will travel to Singapore with a delegation from Stanford for the Stanford Asia Economic Forum to discuss issues around innovation and sustainable development with alumni and friends.

I first became interested in the process of economic development in the mid-1990s, when I spent a summer in Nepal helping my wife, Amy, who was in medical school, set up a community health program. While discussions of economic development often focus on institutions and politics, the great success stories are often the result of unleashing entrepreneurial dynamism. It's exciting and gratifying to see the GSB as the source of some of that energy – and to envision the impact our graduates will have in the coming decades across the United States and the world. This is an opportunity for business leaders: to spark innovation to improve lives everywhere. GSB

While discussions of economic development often focus on institutions and politics, the great success stories are often the result of unleashing entrepreneurial dynamism.



"Don't focus on what you don't know. Focus on the fact that you know a little."

 Kuang Xu, assistant professor of operations, information, and technology at Stanford GSB, discussing his approach to making sense of uncertainty.
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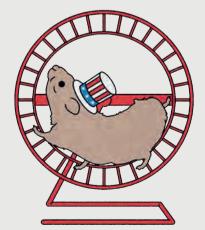
A human-centered approach to artificial intelligence envisions a future where people and machines are collaborators, not competitors. *Hope Reese*

Pulling Back From Polarization ³⁸

The political divide seems wider than ever. How citizens, leaders, and organizations can begin to bridge the gap. *Kevin Cool and Dave Gilson*

A World of Possibilities ⁴⁸

For 25 years, GMIX has sent hundreds of GSB students around the globe and out of their comfort zones. *Kevin Cool*



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EDITOR'S NOTE

Human Resources

There is no doubt that artificial intelligence is rapidly evolving and growing more sophisticated every day. Some people believe that AI will eventually replace human workers altogether, taking away their jobs and leaving them unemployed. While it is true that AI is capable of performing many tasks more efficiently than humans, there are certain things that AI will never be able to do as well as humans.

TALK TO US Have some constructive criticism? Praise? Story ideas? We welcome your input. Please email the editors at stanfordbusiness @stanford.edu. Such as writing editors' notes! The above paragraph was generated by GPT-3, a language processing model that cranks out text that sounds like it was written by a human. It does a pretty good job if you like reading term papers. For this issue's cover story, we dispatched a real person to explore one of the biggest questions surrounding the future of AI: Will algorithms and machines replace brains and brawn? Not necessarily. In "How to Survive the AI Revolution" (page 30), experts describe an exciting alternative scenario where artificial intelligence can spur progress without replacing human ingenuity.

Before we figure out how to play nice with technology, we still have to learn how to get along with each other. Ideological polarization has plagued many countries, but the current state of U.S. politics is undeniably alarming. Americans don't just differ on the issues — they intensely distrust and dislike those they disagree with. A recent poll coauthored by GSB professor of political economy emeritus David W. Brady found that fewer than 10% of Democrats or Republicans consider supporters of the other party intelligent, honest, open-minded, or generous. As GSB professor of political economy and director of the Hoover Institution Condoleezza Rice puts it, "We don't know each other very well anymore."

Not surprisingly, many members of the GSB community are focused on understanding and alleviating this problem. In our special package on page 38, more than a dozen of them offer their insights on what fuels political divisiveness and, more importantly, ways to cool the animosity. Though some of the longer-term fixes they propose aren't quick, they provide plenty of ideas you can use (whether you live in the U.S. or not) to engage with people with different values and beliefs — while still agreeing to disagree. The first step is to recognize that even your fiercest adversaries are, after all, human.

- Dave Gilson

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ON CAMPUS

Uncommon Space



Jack McDonald Hall, home to first-year MBAs, was built with gathering and collaboration in mind. Sam Kalda's illustration, right, captures the palm-lined courtyards, roof decks, and colorful meeting spaces that draw students together. (And turn to page 12 for a look at campus life by the numbers.)



EDITORIAL

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ABOUT THE COVER

What if we illustrated an article about articifical intelligence with the help of AI? This brilliant idea from our designers led us to artist Khyati Trehan, who made the otherworldly digital images for this issue's cover story. Read about her creative process on page 37.

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Briefings



BACK TO CLASS

Making It Up in the Metaverse

Virtual reality headsets help students get into the improviser's mindset.

O ne of the most important lessons of business school, according to Dan Klein, is "learning about the improviser's mindset." Not so you can become a performer, but so you can facilitate other people's creativity.

"Your job isn't to be the creative one," says Klein, a lecturer in management and an expert in applying the lessons of improvisational theater to leadership. "But the more you know and understand about creativity, the better positioned you are to evaluate creativity and to create the context in which creativity can thrive."

In his course *Creativity Workout*, taught as part of last spring's Stanford Executive Program, Klein threw a new scenario at his students to keep them on their toes. For the first time, he conducted a two-hour class entirely in virtual reality. **COURSE NAME** *Creativity Workout*

INSTRUCTOR Dan Klein **META MOMENT** Stanford Executive Program students gather on a virtual campus.

"The goal of this was twofold," Klein says. "To give people a tangible experience of virtual reality, to wear a headset and interact with other people in this way. And to open up their minds to what is creatively possible. We're in a 'Yes, and...' mode already, then we say, 'Alright, so what else can you do?'"

The new SEP Flex format combined four weeks on campus with 10 weeks of remote sessions. The VR session took place while students were logging in from home,

SEEN AND HEARD

"I have been trying to give my country everything necessary to be able to defend our freedom...which is what matters most to me and why."

- Ukrainian President Volodymyr Zelenskyy, in a live address aired in CEMEX Auditorium in May. Watch at stanford.io/zelenskyy-speech.

so the program worked with Meta to deliver headsets to all 49 students. The next challenge was the creation of the virtual world students would explore. To build it, Klein partnered with the VR communication platform Engage, which curated a virtual campus that mimicked the real one, decorated with Stanford banners, flags, and iconography.

The transition to an immersive digital classroom wasn't without a few glitches and comical user errors. "I realized how big of a challenge it is when it took about 10 minutes for one student to log on," Klein recounts. After some back-and-forth with the support teams, it turned out that the student was holding the controller backward.

Klein compares the initial experience of entering VR to being on a boat for the first time. "Some people are prone to be seasick and some people are fine, and there are some techniques that you can use to minimize that seasickness. And then with a little bit of practice, you can gain your sea legs."

Intrigued by VR's possibilities, Klein engineered a treasure hunt for digital objects. He inserted both mundane and fantastical items throughout the space and encouraged students to examine every corner and crevice of the virtual realm. "It was a chance for them to explore the idea of moving around in space. But also there's something appealing about hiding a tiny demon under a chair in a lounge area," he says. "Or you go behind the flag and there's an astronaut or a jet plane. At the end, the room was just a great chaos of dragons and coffee mugs all over the space."

The two-hour session left Klein convinced that virtual reality can be a useful tool for teaching creativity: "I think there's a lot of possibilities. I think we can do genuine, satisfying, engaging, uplifting experiences in VR if we can get the tools in everyone's hands and get them all logged in."

"My overall instinct is that it's ready, technically, but there still seems to be a hurdle in getting wide enough adoption so that people can do it easily," Klein says. "I feel like we were just scratching the surface."

Perspectives on Investing in a Clean-Energy Future

Voices from the fourth annual Climate Business and Innovation Summit, a one-day conference organized by GSB students in May 2022



"Most of what you have learned to date is preparing you for a world that won't exist for you.... The future will arrive quickly and we – you – need to be prepared for it. Climate change is not a discrete subject or discipline. Everyone's job will become, at least partly, a climate job."
Alicia Seiger, MBA '02, managing director, Stanford Energy Sustainable Finance Initiative



"The clean energy economy is also an industrial economy.... The exciting thing is that potentially we actually end up creating an economy that's creating real middle-class jobs and real opportunities and real equitable impacts." - Kate Gordon, senior advisor to the U.S. Secretary of Energy



"For most of the past quarter century, fighting climate change was like banging on a locked door.... The fact that the door has cracked open presents you with a choice: Do you play the crack – do you concentrate on monetizing the status quo? Or... do you focus on pushing the door open?" – Jeffrey Ball, scholar-inresidence, Steyer-Taylor Center for Energy Policy and Finance



"\$125 trillion in investment is required to finance the transition to net zero by 2050.... We need to be launching things like crazy.... We need scale at all scales to get where we want to go." – Jane Woodward, MBA '87, managing partner, MAP Energy and WovenEarth Ventures; adjunct professor of civil and environmental engineering, Stanford

LISTEN

"I think it's really important, as a brand, that you're clear on who you are and what you stand for," says Dara Treseder, MBA '14. "At the same time, if you stand for everything, you stand for nothing." Listen to Treseder, the global head of marketing, communications, and membership at Peloton, as she talks about leading with purpose, passion, and curiosity on *View From the Top: The Podcast*: **stanford.io/vftt-treseder**. BRIEFINGS

RECOGNITION



Susan Athey, PhD '95, professor of economics, will serve as chief economist of the antitrust division at the U.S. Department of Justice.

Marla Blow, MBA '99, received the Tapestry Award, honoring a Black GSB alum for inspirational leadership, intellectual excellence, and service to others.

Scott J. Brady, lecturer in management, received the 2022 MSx Teaching Excellence Award.

Steve A. Denning, MBA '78, received the Gold Spike Award, the highest annual honor for volunteer service at Stanford.

Darrell Duffie, professor of finance, received the 2022 PhD Faculty Distinguished Service Award.

Jennifer Eberhardt, professor of organizational behavior, was elected to the British Academy.

Szu-chi Huang, associate professor of marketing, received the 2022 MBA Distinguished Teaching Award.

Guido Imbens, professor of economics, was elected to the National Academy of Sciences.

Matteo Maggiori, professor of finance, was named an Andrew Carnegie Fellow. He also received the Germán Bernácer Prize, for a European economist under age 40.

Kevin Richardson, MBA '97, received the Alison Elliott Exceptional Achievement Award, recognizing excellent Alumni Consulting Team volunteers.

Samuel Ulloa, MBA '05, received the 2022 Porras Latino Leadership Award, which honors leadership in business and the Latino community. HARD LESSON

Dominique Mielle, MBA '98: Don't Apologize for Saying Sorry

n 2012 I had a meeting with a Japanese company, an early investor in our firm's collateralized loan obligation bonds that had required, about a year earlier, its approval for a change in terms. The change was technical in nature and inconsequential, yet the investors refused to give their approval unless we paid them a fee. I declined to pay but insisted they approve the change, explaining that they would not be worse off, would do me a solid, and vaguely threatening that they could need a favor back, someday, somewhere.

Looking over my shoulder as I composed this response, my partner Jeff wisely advised me to back down. I pressed "Send" anyway. The investors' next email to me read something like, "You asked some rule changes and before we to you no said. Therefore we please you do not ever ask again." Now, in Japan, when no one bothers to check the grammar of a message in English, you must appreciate that this is serious business.

As we entered the lobby and got into the elevator for the in-person meeting in Tokyo, our salesperson from Goldman Sachs, a young and prim fellow who was acting as the intermediary, politely pulled me aside. He coldly informed me that the investors were vexed. So displeased, in fact, that they had transferred our meeting to a junior team to lead in a closet, without proper seating — which was rough on their own analysts, but who was I to judge? My marching orders were to apologize immediately in a manner of my choosing.

It isn't simple to beat your ego into submission in the span of two floors, in order to ask strangers for forgiveness of wrongdoing you believe you did not commit, sandwiched between two colleagues on a springless sofa in a space that looked as inviting as the waiting room of a free health clinic. But thus it was that I launched into a very personal rendition of novelist Yukio Mishima's hara-kiri mixed with Tom Hanks' emotionally charged apology to his volleyball in *Cast Away* ("I'm sorry, Wilson! I'm sorry!").

I am not one to brag, but Jeff swore that the performance was Oscar-worthy. However, after thanking my agent, my producer, and my makeup artist, I must observe that apologizing is something women are generally better at than men. It comes naturally to us; we spend our lives saying sorry.

"Sorry, I didn't hear you – you were saying?"





BY THE NUMBERS

At Home

at the GSB



rooms in the GSB's two residence halls housed 380 MBA students and 100 Stanford grad students in the 2021–22 academic year 736

room keys had to be replaced 27,546 packages were received by students



DOMINIQUE MIELLE. MBA '98

is a former partner and senior portfolio manager at Canyon Capital, a multistrategy hedge fund. Her 2021 book, *Damsel in Distressed*, from which this article is adapted, is the first hedge fund memoir written by a woman. "I'm sorry, where is the bathroom?"

"Apologies for interrupting, but may I?" We are always sorry about this, that, or the other because, at least according to a study published in *Psychological Science* in 2010, women have a lower threshold for which offenses require an apology.

Now, women's magazines, blogs, self-help books, and other similarly ego-sapping literature recommend for us women to apologize less. I stick to my apologies, however, and use them abundantly, especially when selling to men. I get good money out of it. So good, in fact, that Japan turned out to be my biggest success as a marketer.



ном то

Use a Scorecard to Evaluate People More Fairly

Like most of us, lawyers think they can be impartial when they rate other people's work. "They say, 'Who writes a brief doesn't matter. A brief is a brief; it stands on its own merit,'" explains Lori Nishiura Mackenzie, the lead strategist for diversity, equity, and inclusion at Stanford GSB.

She cites an experiment in which 60 law firm partners were given a legal memo peppered with errors. All were told that a young lawyer had drafted it. Half were told that the writer was white; the other half were told he was Black.

When the partners' evaluations of the memo came back, the imaginary "white" lawyer received an average score of 4.1 out of 5 and was judged a "generally good writer." The "Black" lawyer got a 3.2 and was deemed "average at best."

Even when we think we're being objective, biases can creep in. So how can we be more consistent and fair when we evaluate candidates and coworkers?

Mackenzie offered some ideas in "The Myths and Rituals of Inclusion," a talk she gave at last spring's GSB reunions. A starting point, she says, is to be aware of how we shift our criteria for people based on irrelevant assumptions. "If you start by thinking carefully about how you're going to evaluate someone before you do, you're less likely to shift."

Those shifts may be subtle, but they can skew outcomes. "Sadly, this happened to me once at work," Mackenzie recalls. A strong applicant for a position was penalized for misspellings in their cover letter. "I didn't say, 'Did you equally check for spelling mistakes in all the candidates?' Because if we had, I'm sure we would have found a similar number."

An easy way to hold everyone to the same standard is to use a written framework or rubric for assessment. "If you in your work are making decisions about people without some sort of scorecard, likely you are making these shifts," Mackenzie says. "While bias thrives in ambiguity, consistency has a chance in blocking biases in decision making — and that is good for everyone."

- Dave Gilson

Watch the full talk at **stanford.io/myths-inclusion**.

4,921 trips were made with the residences' 30 loaner bikes

219

rolls of toilet paper were left in rooms by departing students in June 7

middle-of-the-night crisis phone calls were made to manager of student residential services Arthel Coleman 151

bow ties are in Coleman's collection 4

of those are clip-ons. "Clip-ons are for rookies," he says.

OFFICE ARTIFACT

Ashley Martin's Painted Rocks

Ashley Martin is an associate professor of organizational behavior at Stanford GSB.

I'M STUDYING GENDERED

cognition, which shows how deeply embedded gender is in our minds and our experiences. When I started, I was into the idea of gender blindness and thinking we need to minimize the importance of gender. And the more I studied it, the more I realized how important gender is. I think gender is a fundamental component of what it means to be seen as human.

I don't think people can navigate their social realities without some understanding of gender. But it is a paradox. Gender shouldn't be seen as this binary thing that forces us into two narrow categories that completely constrain who we're able to be. But when you try to put that into practice and apply gender neutrality and genderlessness, people aren't doing it. We categorize so many pieces of information by gender — the names we have, the pronouns we use, the clothing we wear, the bathrooms we go to. It relates to metaphorical similarities as well. Things like shapes are gendered: The angularity of a square is associated with men and the roundness of a circle is associated with women. We do it with nature: Father Time and Mother Earth.

The rock study tested the hypothesis that when we make something human-like or see something as human, we inherently ascribe it a gender. We were like, "Let's get people to visually create a human being where a human being doesn't exist and see what happens." The Pet Rock phenomenon from the 1970s came up. That's kind of where the rock study came from. Participants came down to the lab. We had little desks and on each was a basket of materials and an information sheet. Half of the participants were told, "We want you to make this rock come alive. This means giving this rock fundamentally human attributes like a personality, et cetera." The other set of participants were just asked to decorate their rock. Then they answered questions about their experience.

They were first asked to describe the rock that they just painted. Then they were asked to what extent it had membership in a number of different social categories – age, race, gender, disability, sexual orientation. People who painted human-like rocks gave gender the highest rating. It also was the only category that uniquely related to humanization. Gendered cues were pretty salient: People amplified eyelashes, they gave them cheekbones, they put on blush. I loved this one rock. It was a grandmother, and it was so well done. It had pompoms for white hair and lipstick. Her name was Roxanne, and the description just added to it: She was bold; even though she was older, she still loved to wear makeup and engage in fashion. Roxanne was my favorite.

I think this study was the first step in showing some of the problems of the "stickiness" of gender. Gender bias is not solely an ideological thing, which is sometimes assumed. Getting rid of gendered information doesn't necessarily get rid of the cognitive use of gender. I think this is a pretty exciting area, but I don't have the solution yet. — Told to Dave Gilson



THE PROBLEM

CATALYST

Leo Guzman, MBA '71

THE PLAN

Rural regions pay more for electricity and rely heavily on coal.

Disrupt the rural energy economy and lead the transition to cleaner power.

eo Guzman wasn't looking to start a revolution when he cofounded Guzman Energy in 2013. Raised in a "very, very small town" in Cuba, he'd come to the U.S. alone as a teen, attended Columbia and Stanford (MBA '71), and had a successful career in finance. He was still running his own brokerage firm, Guzman & Company. But he loved creating businesses, and his team was scouting for new opportunities in energy markets.

While studying a map of electricity prices in the U.S., they noticed something odd: Electricity was expensive in urban centers, where high demand and regulations are a factor, but some of the highest rates were in rural New Mexico and Colorado — where there are plenty of resources for power generation. "It was an anomaly," Guzman says. "And in the securities industry, finding an anomaly is the holy grail."

He soon learned the story behind it. In the early 20th century, utility companies had shown little interest in electrifying rural areas. So in 1937, President Franklin Roosevelt encouraged the formation of rural electric cooperatives, to be owned by local consumers. These RECs were a hit: In 20 years, the share of rural homes connected to the grid went from 10% to 95%.

This system worked for a long time, but it had a hidden bug: To get the electricity, RECs had to contract with the co-ops that built the generation facilities. Many of those plants burned coal because it was the cheapest fuel at the time and many communities also had mines nearby. "The upshot," says Guzman, "is that the RECs got locked into absurdly long contracts, with extensions of 50 years or even more, tied to coal power — which now is not only uncompetitive on price, it's a liability because of the carbon emissions."

The 800-plus RECs, which serve 42 million Americans, still get nearly 40% of their power from coal. By comparison, coal accounts for just 23% of total U.S. electricity generation.

Guzman had envisioned his new business as a trading operation in fact, its original name was Guzman Power Markets. But as he dug in, he realized it wasn't about arbitraging price anomalies, but something far more significant: disrupting the rural energy economy and leading the transition from coal to cleaner and more economical power sources.

"People think startup founders are visionaries," Guzman says with a laugh. "But a lot of times, you only discover the real opportunity once you get into it. For us, it was like peeling an onion — you have a plan, but you go in and you listen and learn, and then you pivot, you get new ideas, and you pivot again."



The RECs wanted out of their contracts, but that entailed huge exit fees. Guzman Energy provided the incentive by paying the exit fees and committing to replace the electricity, contracting in turn with developers to build local wind and solar farms.

Fast forward to June of this year, near Taos, New Mexico, where Gov. Michelle Lujan Grisham cut the ribbon on the 15-megawatt Taos Mesa Solar Array. It's the final piece of the puzzle for the Kit Carson Electric Cooperative, which signed with Guzman Energy in 2016 as its first client. The co-op expects to supply its customers with 100% solar power during daylight hours at the lowest rates of any REC in the U.S.

"In the first eight years of the contract, we will have saved the community \$70 million," Guzman says. "And you know, that's in a relatively poor rural area. That really means something." He pauses, then adds, "To be honest, this was not my original idea, but it has given me immense satisfaction. We've created a blueprint. Maybe we have started a revolution."

Leo Guzman turned 76 this year. Is he ready to hand off the blueprint and let others carry the work forward? He seems surprised by the question. "Oh no. Absolutely not. We still have a lot to learn here. I'm always thinking, what are we missing? What else can we do?" - Lee Simmons

BACK TO CLASS

Last spring, *Public Policy Lab: Homelessness in California*, taught by GSB finance professor Joshua Rauh, took an immersive dive into one of the biggest issues facing the state. Its capstone was a meeting with state lawmakers in Sacramento, where students presented proposals for housing and health care policies. "They were very interested in what we had to recommend to them," Rauh says. Read more about the course at **stanford.io/homelessness**.

PEER-TO-PEER

How to Beat Ageism in the Job Market

know ageism is real because I experience it side by side with my clients," says Elizabeth Atcheson, MBA '86, of Blue Bridge Career Coaching. While age discrimination is illegal, it still presents a serious obstacle to people over 50 looking for a new job. "I think of career transition and job search as a bridge that you cross," Atcheson says. "What ageism means is that it will take you longer to get across the bridge." Here's some of her advice for getting there, as presented at a recent workshop sponsored by Alumni Career Services:

HOW CAN WE HELP? If you have a business question you'd like answered, email us at stanfordbusiness @stanford.edu. Know the field: Take some time to reflect before you plunge into the job market. Do your homework to identify a growing field where you can provide the most differentiated value.

Tap into your network: Here your experience is a real advantage.

"Younger applicants do

not have a big personal and professional network. You have something they don't have, and it is probably your single most powerful asset," Atcheson says.

Upgrade your resume:

Disprove the stereotype of older people not being tech-savvy by frontloading digital



skills on your resume. And your email address shouldn't evoke the first dot-com boom: "If you have an AOL, Yahoo, or Hotmail [account], it's time to get a new one."

Keep on learning:

Take classes and certificate courses to pick up new skills. "It shows that you're someone who's always learning, and this is a really valuable way to combat ageism."

Look sharp: Put a

dynamic, smiling photo on your LinkedIn page. Wear comfortable, current clothes that will make you feel confident in interviews. If you've got some gray, consider coloring it. ("You can always let it grow back.")

Be strategic and persistent:

"Remember," Atcheson says, "that your age and your wisdom actually give you the ability, the patience, the insight, and even the stamina to outwit ageism."

— Dave Gilson

-UCY JONES

SEEN AND HEARD

"You'll still make money, but you'll feel better."

- Former President Barack Obama, urging tech companies to team up with the government to combat online misinformation. His speech, titled "Challenges to Democracy in the Digital Information Realm," was delivered in CEMEX Auditorium in April. Watch it at **stanford.io/obama-speech**.

The DARC Arts

A team of data wizards helps GSB faculty tackle massive research projects.

Mason Jiang knew what he was being asked to do was daunting, and maybe impossible. Political economy professor Greg Martin wanted to harvest every political ad published on Facebook during the 2018 election season.

For Jiang, a research analytics scientist in the Data, Analytics, and Research Computing group, this was a dataset unlike any he had encountered. Although Facebook had given Martin permission to download more than 600,000 ads, it would take DARC's computers six weeks, running 24/7, to process them all.

Five months after he started working on the data, Jiang presented it to Martin, ready to use. "Mason's assistance on the project was a huge productivity enhancement," says Martin, whose study compared digital and TV campaign ads. "It would have taken us much longer to complete the project on our own."

Was it the most complicated project Jiang had ever done? "It was up there," he says. Yet some version of this is what the seven-member DARC team does every day. Its job, in a nutshell, is to identify technical hurdles in faculty research projects and find ways to overcome them.

Founded in 2014, DARC is a relatively new offshoot of an evolving research support structure that includes the business library and the Research Hub. "That's kind of the secret sauce because everybody's solving the problems together," says Julie Williamsen, assistant dean and executive director of the Research Hub.

DARC director Alex Storer says the work professors bring to his team usually comes in two forms. "One is, I have this spectacular dataset, and these are my hypotheses. And I'm not 100% sure how to extract what I'm looking for out of this data. And then another is, this is my general research question. Do you know what the magic dataset is that has X, Y, Z?"

The data DARC handles could be just about anything, says Storer. "A book is data. It could be recordings of conversations. It could be scanned PDFs from the archives of 17th-century France."



TURN ON THE DARC Mason Jiang and Alex Storer help researchers collect, clean, and crunch data. In many cases, the data are not in a quantitative form that researchers can easily use. A recent example is a project that looked at the effects of remote meetings on collaboration. (See page 23.) Videos of Zoom meetings were processed using a machine learning algorithm that could infer where people were looking based on head tilt and eye direction. "There's a breathtaking amount of data cleaning and assumptions that go into

that that has a huge impact on the quality of the data," Storer says. "If our team were to screw it up, the data would be completely wrong."

"Clean" data is a critical part of data analysis. Yet cleaning up the gaze data required an entirely different level of expertise. Enter Jiang. "Mason got his PhD in experimental physics, basically by shooting lasers at things," Storer notes. He was brought in to determine how "dirty" the Zoom data was and to perform the hygiene necessary to produce usable results.

DARC's work may go unnoticed by journal readers, but GSB faculty members prize it. "When a department is recruiting new faculty, they like to send them to talk to us," Williamsen says. "Someone they were recruiting recently said we were the one group she specifically asked to talk to because she had heard how much we can support her research."

"The existence of the DARC team means the faculty don't have to rely on raw documents for quantitative data or to be experts in data analysis," says Storer. "It opens up new directions for the research that wouldn't have been possible." – *Kevin Cool*



BY THE NUMBERS

Search Party

\$776m

was invested in search funds and searchacquired companies in 2020–21, a record, according to the Center for Entrepreneurial Studies' 2022 *Search Fund Study* 20

Median number of months search firms took from the start of their search to closing a deal

37%

of searchers who launched in the last two years took a business school class focused on entrepreneurship through acquisition

MAKER **Maker Wine**

Sarah Hoffman, MBA '19, Kendra Kawala, MBA '19, and Zoe Victor, MBA '15

SARAH: None of us come from the wine industry. I think that's pretty unique for a wine company. Kendra and I were in the same class at Stanford GSB; Zoe was a few classes ahead of us and met us shortly after we graduated. The genesis of Maker was falling in love with all of these small-production wineries within a few hundred miles of Stanford. Kendra and I had a fun side hustle project to get to know these makers and think about how we could make wine more accessible and inclusive. Maker really started out of a class project in Startup Garage. We got our first seed check the second year of school, and that set us off on this journey.

KENDRA: One of the big drivers for us was to lift up these underrepresented wineries. The other part was putting on our hats as millennial wine lovers and wanting something different out of that product experience. That became a foundational pillar for Maker: Premium wine does not have to be snobbish; it can be really approachable, really fun, and still pay tribute to quality winemakers and what they do.

ZOE: If you walk into a grocery store, most of those labels you see are owned by the three big distributors. There are thousands of these amazing privately owned wineries that have no means of marketing or distribution. Your average wine drinker doesn't have access to those wines either. We're trying to bring those two groups together.

SARAH: We want to highlight unsung varieties, regions, and people. Most canned wine you'll see is "red blend," "white blend," or just "California." We're canning wineries' signature, best estate, super-premium wines that are not like the white-labeled bulk juice they want to give away, but really represent what makes them special and exciting.

KENDRA: We started selling product in-market in January 2020.

SARAH: Selling canned wine in the winter - probably not the smartest idea even right as a global pandemic hit! It was definitely pretty scary at first.

ZOE: Each year, we've doubled or tripled the volume of wine we're canning. We've done about 300,000 cans through 2022.

SARAH: We've probably canned more premium wines than anyone in the world. We're starting to enter the cans in a lot of traditional bottled wine competitions. We're seeing that tasted blind both against other cans and against bottles, they're winning top marks. Judges are just shocked that a canned wine won double gold or won a category. It's been a fun way to make a splash in the industry.

- Told to Dave Gilson

Watch the canning process in action at stanford.io/maker-wine.







Sarah Hoffman, MBA '19, Kendra Kawala, MBA '19, and Zoe Victor, MBA '15 are the co-founders of Maker Wine.



NO WINE BEFORE ITS TIME

"Months before the canning date, the winemaker is harvesting the grapes, they're fine-tuning the wine finishing, they're letting it go through first and sometimes secondary fermentation. They tell us when the wine will be ready for canning," Kawala says.



"We try to translate the winemakers' story into the label design," Hoffman says. "This one is the story of a multigenerational, woman-owned winery. The vineyards have been around for more than 100 years. And they have these amazing blue pickup trucks that they have used for decades to pull the grapes in from the fields."

CRUSHING IT

"Our average run is 30,000 cans," Victor says. "With a new winemaker, we'll do 1,000 gallons, so that's 15,000 cans. At the upper end of the range, we'll do more like 90,000 cans."

YES WE CAN

NIT OGEN

> "It all comes together on canning day. We work with mobile canning operators who roll up in a truck with an assembly line, and we can straight from the tank," Kawala says. "We work the line with the winemaker and the winery's crew," Hoffman says. "It's really neat to be on the ground and feel that magic and be able to share it with our customers."

BETTER THAN BOTTLES

"Cans just make sense," Hoffman says. "Wine bottles are the most unsustainable part of the wine-making process. During the pandemic, we saw that people wanted smaller options and not to have to open an entire bottle. We chose 250-milliliter cans. People don't realize how much wine is in it that's two full glasses of wine." Leadership²⁰ Remote Work²³ Innovation²⁵ Technology²⁷

Insights

ANGER MANAGEMENT

We Don't Like Domineering Bosses. So Why Do We Put Up With Them?

When confronted with a controlling, aggressive leader, people "have more power than they think they do."

BY SARA HARRISON

ave you ever had a really bad boss? Think Alec Baldwin as Blake in *Glengarry Glen Ross*, who announces that "coffee's for closers only" and then threatens the salesmen he supervises with a number of choice terms not suitable to repeat here. Few leaders use quite so much verbal abuse, profanity, and fear to motivate employees. But plenty use similar, if less extreme, tactics. Deborah Gruenfeld would like to know why so many people put up with them.

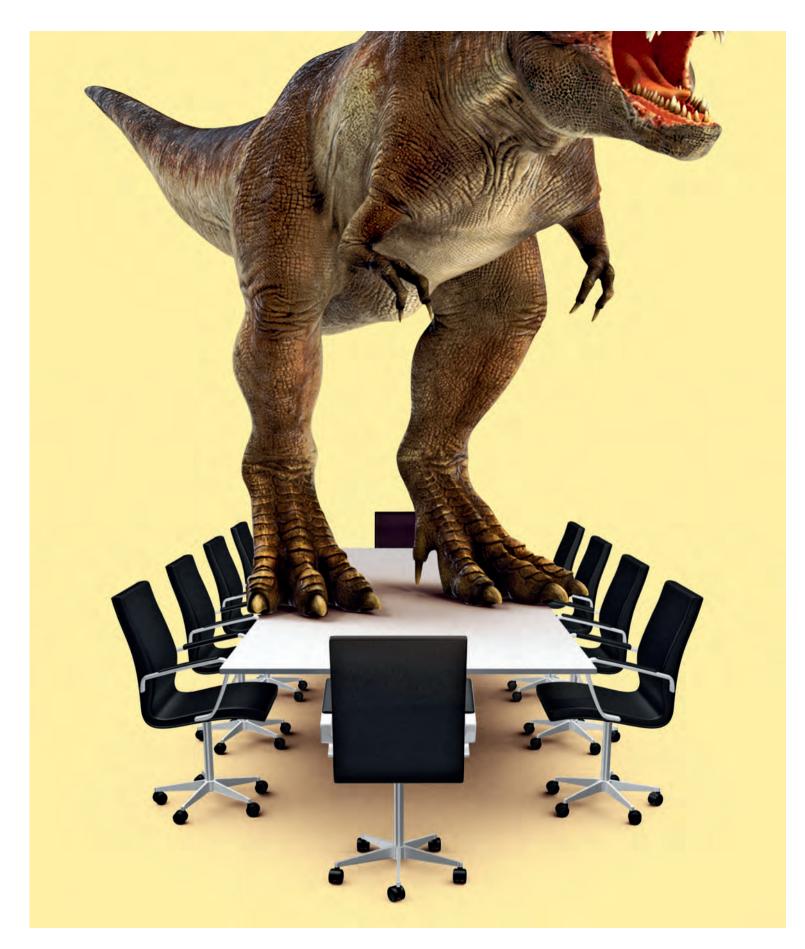
Gruenfeld, a professor of organizational behavior at Stanford GSB and an expert on the psychology of power, is interested in "dominant actors" like Blake: leaders who assert power by being the most competitive, most aggressive, and most controlling person in the room. "There is this tendency for people to allow others to assert dominance without resisting," she says. "People who behave this way tend to be very successful even though people really don't like or respect them very much."

This is a puzzling phenomenon: Why follow someone who isn't doing a good job or making good decisions? That kind of deference is illogical, but it's pervasive. Previous research has suggested that our tendency to bow to the whims of dominant actors results from our fear of them, and what they might do if we refuse to follow them. Other studies have shown that people often defer to dominance because they misinterpret confidence for competence.

In a recent paper published in the Journal of Experimental Social Psychology, Gruenfeld demonstrates that group dynamics are also an important factor in our willingness to accept and obey aggressive bosses. "We live in a world where there's an expectation that dominance should be deferred to," she says. "You're often in a situation where



DEBORAH H. GRUENFELD is the Joseph McDonald Professor and Professor of Organizational Behavior at Stanford GSB.



you can't understand why everyone else is acting as though they respect the person." But that powerful group dynamic plays an important role in allowing bad bosses to maintain control even when the rest of their organization disapproves of their tactics.

Follow the Leader

To test this hypothesis, Gruenfeld and Emily Reit, PhD '22, ran four studies. In one test, they asked over 100 Stanford students and staff members to think of someone they know who is controlling, aggressive, and "tries to get their way regardless of what people may want." The subjects then answered a series of questions about how much they respected this person and how much they thought others respected him or her. As the researchers predicted, people generally thought that others respected the dominant actor more than they did themselves.

Gruenfeld and Reit replicated these results by asking the same questions to more than 150 members of a trivia league. Each person was asked to rate up to three teammates on how dominant they were. As in the first study, the respondents believed that their fellow teammates had more respect for the most dominant players.

The next experiment was designed to test how the misperception of dominant actors impacts an organization as a whole. Using online surveys, Gruenfeld and Reit asked over 160 participants to evaluate their own respect for and fear of a dominant actor they work with, and to what extent they defer to that person. Crucial to their hypothesis, they also assessed how much respondents thought their coworkers respected this person. Again, they found a gap between how much people respected the dominant actor and how much they believed others did. Additionally, while fear and personal respect were strong influences on whether someone would defer to a dominant actor, Reit and Gruenfeld found that people were also more likely to defer if they perceived that others respected the person.

Who's the Boss?

In their final experiment, the authors used an online platform to ask over 400 participants how much they respected a team member named "John" after reading a self-assessment in which he rated himself high on dominance traits. (The participants did not know that John was not a real person.) Then the researchers told participants whether other team members respected John the same amount as they did, or more than they did, and asked them to rate their respect for him again.

Finally, the researchers asked the participants whether they would defer to John if he asked them to complete a task. Gruenfeld and Reit found that people who were told that others in their team respected John more than they did were more likely to defer to him, even though they didn't personally respect him.

Taken together, these findings suggest that not only might people misunderstand how much others respect dominant actors, but that this perception is a powerful predictor of deference even after accounting for individuals' respect for, or fear of, that leader.

Gruenfeld says these results have implications for how we act in situations where a leader is behaving dominantly but not doing a good job. We can't wait for others to solve the problem: We all play a part in creating these dynamics. "People don't realize how powerful norms are in organizations," she says. People will continue to do what they want if they aren't being penalized for it. But having disapproval from your peers is often a real and powerful punishment. To make change, she says, people in organizations must be willing to show that the norm doesn't support certain behaviors.

That doesn't mean people need to confront problematic leaders directly or in dramatic ways or saddle one person with the responsibility of bringing that leader down. Instead, Gruenfeld suggests that there are subtle ways to create friction – a disapproving look, a longer stare – that can effectively signal that this person has crossed a line and empower everyone in the organization to change the situation. "People complain all the time about why it seems like people who are overly competitive and controlling tend to get ahead," Gruenfeld says. "They don't recognize that they have more power than they think they do in those situations." GSB

"People who behave this way tend to be very successful even though people really don't like or respect them very much."



THINKING INSIDE THE BOX

Why Virtual Meetings Generate Fewer Ideas

Focusing on a screen can lead to narrower thinking.

ven if the COVID-19 pandemic abates, all evidence indicates that a substantial share of Americans will continue to work from home, relying on videoconferencing to team up. While the ease of gathering virtually has made the shift to widespread remote work possible, new research finds that on-screen meetings have a significant drawback: They hinder creative collaboration.

The study, coauthored by Jonathan Levav of Stanford GSB and Melanie Brucks, PhD '19, of Columbia Business School, reports that in-person teams generated more ideas than remote teams working on the same problem. In a laboratory experiment conducted at Stanford, half the participants worked together in in-person teams and half did so online. The in-person teams generated 15% to 20% more ideas than their virtual counterparts. In a separate experiment involving almost 1,500 engineers at a multinational corporation, in-person teams came up with more ideas, and those ideas received higher ratings for originality.

The researchers say they've identified a reason why online meetings generate fewer good ideas: When people focus on the narrow field of vision of a screen, their thinking becomes narrower as



well. "If your visual field is narrow, then your cognition is likely to be as well," Levav says. "For creative idea generation, narrowed focus is a problem."

In contrast, people who meet in person get creative stimulation by visually wandering around the space they're in, making them more likely to wander cognitively as well. "In a video interaction, you need to fix your gaze at the screen because otherwise you're projecting to your partner that you're looking at something else and distracted," Levav says. But that distraction is actually useful when it comes to sparking ideas. "If you think about disruptive ideas, they come from putting together broad concepts that are seemingly unrelated."

Levav, a professor of marketing who has studied how environmental cues affect people's choices, cautions that these findings don't mean that virtual meetings have no value. His study also found that teams meeting online did as well and possibly better than in-person teams when it came to selecting the best ideas.

Reading the Room

The real lesson, Levav says, is that the costs and benefits of working remotely are more nuanced and less understood than most people realize.

"The shift to working more from home is here," he says. "But the pandemic happened without giving us a chance to think about how to do remote working right. If we're going to maintain this transition, we need to be deliberate about how we manage the process. That's going to be the managerial challenge of the next several years." Levav and Brucks, then a doctoral student at Stanford GSB, initiated their study well before COVID arrived. They began with a lab experiment in which participants teamed up to generate novel uses for frisbees and bubble wrap, a common task in the academic literature on creativity. The participants were placed in offices that contained the same assortment of objects, from filing cabinets and folders to more offbeat items like a bowl of lemons, a yoga ball box, and a poster with a skeleton on it.

The researchers monitored the participants by video, tracking their eye movements and language as well as the ideas they generated. Overall, the in-person teams generated between 15% and 20% more ideas than those that met over video. The in-person participants also observed more and remembered more about their surroundings, and that increased recall correlated with more creativity.

Virtual Realities

The researchers then conducted a similar experiment in real life, enlisting 1,490 engineers at a multinational company spread across five countries in Europe and Asia. In contrast to the lab experiment, the engineers had genuine incentives to develop good ideas because they could potentially evolve into new business ventures.

Once again, the in-person teams generated about 15% more ideas. They were also more likely to jump off in novel directions, generating ideas that differed from each other rather than just minor variations on the same theme. "You want to generate ideas that can be structured like a sprawling oak tree, not a tall and narrow cypress," Levav says. "In the video interactions, the idea structures look more like cypresses."

Interestingly, Levav and Brucks found that virtual meetings didn't seem to hinder how well the participants got along. Using semantic analysis of how participants spoke to each other, they found that the virtual and in-person teams showed the same amount of mutual trust and social connection.

As remote work remains a fixture of many people's lives, Levav says it would be worth exploring how virtual meetings work in other contexts, such as job interviews and larger group collaborations. But for now, he says, "We don't yet know enough to make strident judgments about the superiority of working remotely versus in person. What our research shows is that there's subtlety." In other words, it's too soon to zoom to conclusions. **GSB**

"If your visual field is narrow, then your cognition is likely to be as well."

HITS DIFFERENT

What Separates the Hitmakers from the One-Hit Wonders

An analysis of 3 million pop songs explores the question: Is it better to churn out than fade away?

BY DYLAN WALSH

hy has Beyoncé had over 60 hit singles since 2003, while Hilary Duff, who debuted on the charts in the same year, has only had seven? How do we account for the enduring catalogs of Billy Joel and U2 while Lou Bega's and Blind Melon's stars quickly fizzled? And why, for every Stevie Wonder or Dolly Parton, are there dozens of Tommy Tutones and Chumbawambas acts that score a hit or two and then all but disappear?

"Music has a very high churn rate, making it a quintessential creative industry," says Justin Berg, an assistant professor of organizational behavior at Stanford GSB. "It is full of one-hit wonders, but we see very few sustained hitmakers."

A search for what causes this divergence lies at the heart of recent research by Berg, who has long studied the workings of creativity. He found that a musician's portfolio of songs before their initial breakthrough helps predict how well their career will endure. Artists who have crafted a creative catalog of music by





JUSTIN M. BERG is an assistant professor of organizational behavior at Stanford GSB.

the time they achieve their first hit tend to keep generating additional hits. Those with less creative catalogs early in their careers often peak quickly, then fade away.

This insight is a departure from existing theories about creativity, which assume that the process of creation is "path independent" – the success of one creative work is unrelated to the success (or failure) of the next one.

"I instead explored the possibility that creative endeavors are path dependent: Early work is connected to later work. and success can mess with you - it can lock you in, it can make you learn things you shouldn't have or prevent you from learning as you go forward," Berg says. "It can create expectations that are unrealistic or limiting."

The Double-Edged Sword of Creativity

To test this idea, Berg assembled a dataset of more than 3 million songs by nearly 70,000 artists – virtually every song released by any artist on a hit-producing label between 1959 and 2010. "It was a giant effort, but well worth it," he says.

From this list, Berg tagged artists with at least one *Billboard* Hot 100 song during the period, amounting to 7% of the total population of artists. He then measured the level of creativity in each artist's portfolio at the time of their first hit. Using a series of algorithms, Berg quantified creativity in terms of both novelty and

variety: How sonically distinct was the artist's portfolio compared to other hits at the time? How internally diverse was the artist's body of work?

These two measures of creativity were then overlayed on each artist's career to determine whether a relationship exists between a portfolio's creativity and long-term success. Berg found, most fundamentally, that artists with novel or varied catalogs at the time of their first hit were more likely to keep creating hit songs.

Sustained success required artists to balance listeners' expectations with an ability to change. "When you go from a low level of success to being pumped through the airwaves all over the world, then everything you've learned up until that point becomes very important, as do the expectations of the gatekeepers and the audience," Berg says. "At that point, artists are much more likely to succeed with new songs that are closely related to their existing portfolios. The problem is they also need to keep up with new trends that emerge in the market. Artists with more creative portfolios have more options for pulling off this balancing act over time."

However, Berg also found that building a novel portfolio makes it less likely that an artist will have a hit in the first place. Unorthodox music is, by definition, usually not popular. There is an irresolvable tension between cultivating a typical catalog that is likely to have initial success and building a novel repertoire

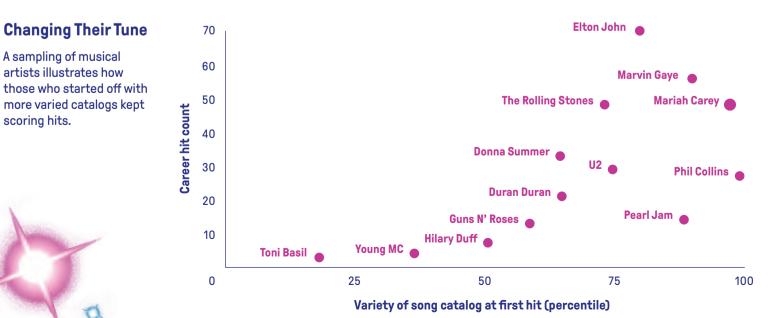
that supports long-term success. "Artists cannot maximize their odds of being a hitmaker without simultaneously increasing their odds of having zero hits in their careers," Berg says.

Can You "Moneyball" Pop Hits?

Broadly, Berg hopes this research will spark people across all creative industries to consider their body of work as a unified whole, akin to an investment portfolio. The novelty or variety of earlier work may enable or constrain one's creative capacity and success down the road. Taking time to establish a strong foundation may delay initial success but boost the odds of a viable career in the long run.

This study also has important implications for using data to predict commercial success in creative work. Though he doesn't dismiss intuitive assessments of artists' work, Berg suspects that data analytics could help upend the way the music industry chews up and spits out artists.

"Some clever executives or producers could probably take the insights and methods from this study and come up with a data-driven approach to signing and managing artists, where they are preparing artists for sustained success instead of cashing in on short-term opportunism," Berg says. "If you want to be Bruce Springsteen and eventually sell your catalog for \$500 million, then you need more than a couple of hits." GSB



scoring hits.



CUPID'S CODE

Tweaking an Algorithm Can Change the Course of Online Romance

A few strategic changes to dating apps can lead to better matches.

BY KATIE GILBERT

he internet officially edged out friends as the most effective matchmaker for straight Americans almost a decade ago — and for same-sex couples, several years before that.

Around the same time that dating sites and apps were reshaping modern romance, Daniela Saban was beginning to pay close attention to how these tools were designed. "Ten years ago, I was just starting my PhD, and so many of my classmates were avid users of online dating apps," says Saban, an associate professor of operations, information, and technology at Stanford GSB. "I would often joke, 'Oh, if I were behind this app, I would do this differently, and I would do this other thing differently."

Now, Saban has the research to back up her recommendations. In two recent papers, she investigated how dating apps' design choices affect their users' success in connecting with potential partners. Her findings show that while matchmaking algorithms may not be



DANIELA SABAN is an associate professor of operations, information, and technology at Stanford GSB. quite the same as an old-fashioned meet-cute, they still have a lot of influence over where Cupid's arrow lands.

In a paper cowritten with Yash Kanoria of Columbia Business School. Saban examined the impact of the rules that govern dating sites, such as who is allowed to initiate communication and how much information people's profiles display. "If you look at the most popular dating apps, there are some differences," Saban says. "For example, on Tinder, evervone can make a move – while on Bumble, women make the first move." The study found that when users in the minority group (women, in the case of heterosexual users of dating apps) are the only ones allowed to make the first move, the users in the majority group (men) benefit. What's more, all users benefit when information about a user's "quality" is hidden from profiles.

In another paper, Saban collaborated with Fanyin Zheng of Columbia Business School and Ignacio Rios, PhD '20, of the University of Texas at Dallas. The researchers partnered with a major dating platform, redesigning its algorithm for selecting which profiles to display on users' apps. They found that their algorithm yielded almost 30% more matches.

Given the number of people using dating apps and the significance of the life events that can flow from an online connection, Saban notes that even slight enhancements to the process can mean big benefits for users. "I just look at how many of my friends are currently in relationships that started from online dating — and I have a lot of them," she says. "That tells me that this is an important problem that has a lot of impact on people's lives and that if we can improve these apps even a little, we can have a lot of real-world impact."

Who Makes the First Move?

In their paper, Saban and Kanoria designed a model to simulate how people behave on dating platforms. It showed that when those on the more plentiful side of a dating pool (i.e., men seeking women) are blocked from initiating contact with people on the less plentiful side (women seeking men), it actually benefits them.

"Traditionally in dating markets, men have a harder time than women in the sense that they generally need to be more active to get the same number of matches," Saban says. "If men already have a hard time, what's going to happen if you're not even allowing them to make the first move? Surprisingly, what our paper shows is that actually, this may be a good thing for men."

When men can't make the first move, they face less rejection and become slightly more selective about whom they choose to message. However, the firstmove rule does not have much, if any, impact on women.

Saban and Kanoria also looked at how dating sites score users on "quality" — their perceived desirability to other users. Job-matching sites like TaskRabbit and Upwork use similar methods to rate gig seekers. Yet dating sites typically don't reveal this score to users. The researchers found that hiding the quality score from dating profiles is a good idea because it prevents users from holding out for "high-quality" prospects and ultimately leaving the site if they receive no response.

Math Plays Matchmaker

In her other paper, Saban observed users of a popular dating platform who can only see a certain number of profiles per day, no matter how many times they log in. (Most see three; some paid users see up to nine.) The platform agreed to pilot algorithms that would retool the decision-making process around how its app selected the profiles shown to users.

In redesigning the algorithm, Saban's team incorporated more personalized information about users' preferences. "Perhaps least intuitive of all," Saban says, they took stock of a user's recent experience on the app. They noted that users are less apt to "like" another profile while enjoying high success in matching. "It won't make much sense to show a really good option to you — somebody I think you'll really like — if you're having a lot of success," Saban says. "It might be better to save it for a time when you're not as successful."

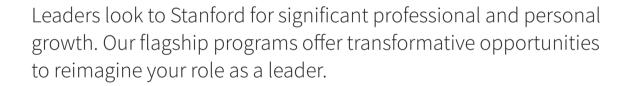
The new algorithm proved more successful than the app's method of selecting homepage profiles — boosting the number of matches by at least 27%. "Our work shows there's a lot of improvement that can be made to better understand how users' decisions change based on their recent experience on the platform," Saban says.

The researchers note that their findings are also relevant to different types of online matching platforms, including those for freelance or task-based work, ride-sharing, and travel accommodations. Still, Saban acknowledges, that doesn't mean these changes are easy to integrate. "Correctly accounting not only for preferences but also for the experience that users are currently having on the platform — it's difficult; I'm not going to lie," she says. "Still, I think it's worth it for users." GSB

"If we can improve these apps even a little, we can have a lot of real-world impact."

INSIGHTS

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How to Survive the A.I. Revolution

A human-centered approach to artificial intelligence envisions a future where people and machines are collaborators, not competitors.

BY HOPE REESE

ILLUSTRATIONS BY KHYATI TREHAN

n 1950, computing pioneer Alan Turing predicted that in a few decades, computers would convincingly mimic human intelligence — a feat known as passing the Turing Test. Fast-forward to earlier this year, when a Google software engineer announced that his conversations with the company's AI-powered chatbot had convinced him that it had become "sentient." "I know a person when I talk to it," he told the *Washington Post*. (Google said that he was "anthropomorphizing" the bot and fired him.)

As AI technologies such as natural language processing, machine learning, and deep learning rapidly evolve, so does the idea that they will go from imitating humans to making us obsolete: Elon Musk has warned that a superintelligent machine could "take over the world." The fantasy — or nightmare that people and AI will become locked in competition is remarkably enduring. It is also distracting us from AI's true potential.

So argues Erik Brynjolfsson, a professor of economics and of operations, information, and technology (both by courtesy) at Stanford GSB and a fellow at the Stanford Institute for Human-Centered Artificial Intelligence (HAI). In a recent paper, "The Turing Trap," Brynjolfsson contends that too much attention has been paid to the idea that algorithms or robots will become substitutes for people. Instead, he believes that shifting our focus to envision ways that AI can work alongside people will spur innovation and productivity while unlocking economic benefits for everyone.

Using AI to automate human intelligence and labor is "an incredibly powerful and evocative vision, but it's a very limiting one," Brynjolfsson says. The alternative is augmentation: using AI to complement people by enabling them to do new things. "Both automation and augmentation can create benefits and both can be profitable," he says. "But right now a lot of technologists, managers, and entrepreneurs are putting too much emphasis on automation."

Beyond the set of tasks that people can do and the limited set of tasks that can be automated is a much larger range of work that we could do with assistance from machines — the universe of augmentation. With advances in AI, we could simply mimic humans more closely than ever. Or, Brynjolfsson says, people could take a more expansive view of AI where "they'll be able to do a lot more things."

Looking Beyond Automation

Other researchers who are thinking critically about the future of this transformative technology are also convinced that it must go beyond automation.

"The idea that the entirety of AI is a field aimed toward automation is actually a bit of a misconception," says Fei-Fei Li, the codirector of HAI and a professor of operations, information, and technology (by courtesy) at Stanford GSB. She says we need to "tease apart the hype" surrounding AI and look at its broader applications, such as deciphering complex data and using it to make decisions as well as actuating vehicles and robots that interact with the world.

Li thinks automation can play an important role in protecting people from harm in jobs like disaster relief,

FLIP FLOP

Algorithmic home buying can overlook human factors.

Not long ago, iBuyers seemed like they might turn the residential real estate market on its head. Instead of enlisting a Realtor and waiting for buyers, a homeowner could approach a company that used machine learning algorithms to determine the market value of their home. After answering a few questions on a website or smartphone app, the seller would get a cash offer in about 24 hours. Then the iBuyer would lightly renovate the house and quickly flip it.

Zillow became one of the biggest iBuyers. Its CEO predicted the "dawn of e-commerce for real estate." But last November, the real estate tech firm announced that it was shutting down its iBuyer unit and laying off a quarter of its employees.

Amit Seru, a professor of finance at Stanford GSB, wasn't surprised by Zillow's iBuying bust. In December 2020, Seru, along

"There's so much more opportunity for this technology to augment humans than the very narrow notion of replacing humans." firefighting, and manufacturing. It makes sense for machines to take on tasks where "the very biology of being human is a disadvantage." But, she says, "there's so much more opportunity for this technology to augment humans than the very narrow notion of replacing humans."

Machines have been assisting people and replacing their labor for centuries, explains Michael Spence, an emeritus professor of economics and former dean at Stanford GSB. Yet the current digital wave is different from the wave of mechanization that defined the Industrial Revolution. Unlike their 19th- and 20thcentury predecessors, which required constant human intervention to keep running, AI tools can function autonomously. And that, Spence warns, is taking us into "uncharted territory."

"We have machines doing things that we thought only humans could do," he says. These machines are increasingly supervised by other machines, and the idea of people being taken out of the loop "scares the wits out of people." The scale of economic disruption that AI could cause is difficult to predict, though according to the McKinsey Global Institute, automation could displace more than 45 million U.S. workers by 2030.

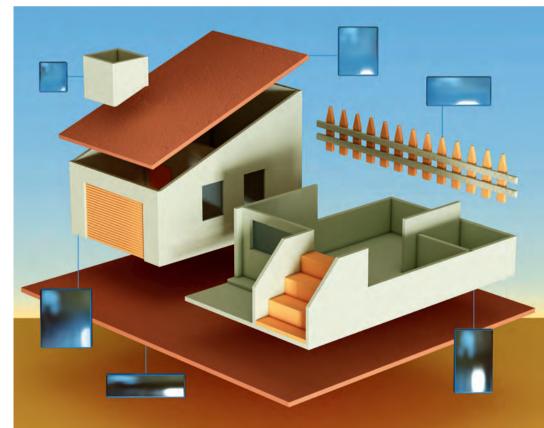
Jennifer Aaker, PhD '95, hopes that AI will transform the way we work — for the better. Aaker, a behavioral scientist and a professor of marketing at the GSB, cites a recent survey by Gartner in which 85% of people reported higher levels of burnout since the pandemic began. Can AI help alleviate disconnection and dissatisfaction on the job? "The increasing amount of data from the last couple of years will make this question become more pressing," she says.

For the past three years, Aaker and Li cotaught Designing AI to Cultivate Human Well-Being, an interdisciplinary course that explored ways to build AI that "augments human dignity and autonomy." Aaker believes if augmentation can increase growth, education, and agency, it will be a critical way to improve people's happiness and productivity. "We know that humans thrive when they learn, when they improve, when they accelerate their progress," she says. "So, to what degree can AI be harnessed to facilitate or accelerate that?"

Augmentation in Action

Many of the potential uses of artificial intelligence have yet to materialize. Yet augmentation is already here, most visibly in the explosion of AI assistants everywhere from dashboards and kitchen counters to law firms, medical offices, and research labs.

The benefits of augmentative AI can be seen in the healthcare industry. Li mentions one of her recent favorite student projects in the course she coteaches with Aaker, which used AI to prevent falls, a common



with assistant professor of finance Greg Buchak and colleagues at Northwestern and Columbia, published a working paper for the National Bureau of Economic Research that laid out the pitfalls of residential real estate intermediation and iBuying.

One of the strategy's big flaws, Seru found, is the difficulty of gathering all the data that influences what people are willing to pay for a house. "There are a lot of features and attributes of a home that the model doesn't capture," he notes. That includes things like a house's architectural style, local noise levels, or whether the neighbors take care of their lawns — the stuff that human buyers and agents look for when they tour houses.

The challenge of iBuying provides a lesson notjust for real estate but other industries. Despite technological advances, Seru notes, it's still important to appreciate how incentives and preferences work at a human level. "There's a danger," he says, in "getting too carried away by artificial intelligence and machine learning without understanding the underlying economics of the marketplace." – *Patrick J. Kiger* FEATURES

cause of injuries in hospitals. "Patients fall or have rapidly deteriorating conditions that go undetected," she says. Yet it's not feasible for a nurse or caregiver to constantly monitor people who are at risk of falling. As a result, "there are procedural errors, dark spaces. How do you know a patient is about to fall? These are things you can't do labs on." Smart-sensor technology can give healthcare providers an "extra pair of eyes to augment the attention of human caretakers and to add information and to alert when something needs to be alerted."

AI can also make short work of necessary yet tedious tasks. Spence mentions how "pure augmentation" is helping doctors by using machine learning to sift through mountains of medical literature. "It can pick off, with reasonable accuracy, the articles that are particularly important for a specific doctor with a specific specialty patient." Similarly, Aaker cites a project from her course with Li where nurses and doctors used an AI tool to process paperwork, allowing them to spend more time connecting with patients. "Imagine how that frees up medical professionals to do the work that inspired them to get involved in the field in the first place?"

That may be one of the most compelling selling points for augmentation: It liberates people to focus on things that really matter. Aaker cites AI tools that help around the house. "Parents can get burdened by household tasks," she explains. "What the AI is doing is removing the boring or useless types of tasks so that parents can spend time in ways that are more meaningful."

Machine learning tools that can quickly digest large amounts of data are widely available and are being

employed to inform decision-making in medicine, insurance, and banking. In many of these cases, AI is not the ultimate authority; instead, it is a tool for quickly recognizing patterns or predicting outcomes, which are then reviewed by human experts. Keeping people in the loop can ensure that AI is working properly and fairly (see "Trust But Verify," below) and also provides insights into human factors that machines don't understand (see "Flip Flop," page 32).

This type of assistive technology, Li says, "is a win-win. AI is not taking away from the human element, but it's an enabler to make human jobs faster and more efficient."

Defining Al's Values

Building a future where AI boosts human potential requires leadership from the people who will be overseeing its implementation. Before business leaders can embrace augmentation, Li sees it as imperative to educate them about "the unintended consequences" of the tech they're adopting. One of HAI's main purposes is to help business leaders think through the big questions surrounding AI: "How it should be guided, how it should be governed, and how it reflects society's values."

"Those things are a bigger part of the challenge than just getting the state-of-the-art machine learning algorithm," says Susan Athey, PhD '95, a professor of economics at Stanford GSB and an early adopter of machine learning for economic research. But these questions of governance and ethics can't be left entirely to AI developers. "Universities are putting

TRUST BUT VERIFY

Peeking inside the "black box" to ensure AI is accurate and fair

Artificial intelligence can be a powerful tool for analyzing massive amounts of data, finding connections and correlations that humans can't. However, unlike a person solving a math problem, many AI models can't easily explain the steps they took to reach their final answers. They are what's known in computer science as black boxes: You can see what goes in and what comes out; what happens in between is a mystery.

The black-box problem is baked into many machine learning models, explains Laura Blattner, an assistant professor of finance at Stanford GSB. "The power of the technology is its ability to reflect the complexity



out thousands of engineers every year to go and build these systems that are affecting our society," Athey says. "Most of their classes don't get to these topics."

That makes it all the more urgent that business leaders — and business students — develop a framework to guide real-world applications of AI. "That framing is not going to come from a typical master's degree holder in engineering," Athey says. "It's going to have to come from businesspeople, from those with a background in social science, ethics, or policy — but they need to understand the technology deeply enough to do the framing."

For now, many corporate leaders are figuring out how AI can quickly boost profits. "There's a gold rush going on right now about ways to apply these incredibly powerful machine learning techniques," Brynjolfsson says. While there have been incredible advancements in AI, "the big gap is in getting the economics and business side to catch up. I'm trying to get my fellow economists, my fellow business school colleagues, managers, and entrepreneurs to figure out new ways to implement new business models. How can we do this so it's consistent with our values?"

Athey says that campus institutions such as HAI and the GSB's Golub Capital Social Impact Lab, which she directs, can provide essential guidance for these discussions. "Businesses are going to make investments that align with their bottom line," she says. "But Stanford can play a role if we do the basic R&D that helps people use AI in an augmented way that can influence the trajectory of industry."

"Humans thrive when they learn, when they improve. Can Al be harnessed to facilitate or accelerate that?"

in the world," she says. But not being able to fully understand the resulting intricacy of the model raises practical, legal, and ethical questions. "If these black boxes are being used to make a high-stakes decision in lending, insurance, healthcare, or the judicial system, we have to decide whether we feel comfortable not knowing exactly why the decision was being made."

Lending is one of the many fields where black-box machine learning models might find new insights in complex data. Currently, credit scores and loan decisions are often based on a few dozen variables. An Al-driven model looking at more than 600 variables might weigh risk more accurately, which would benefit both cautious lenders and borrowers who might otherwise be rejected. In theory, Al could make consumer lending not only more precise but more fair.

But U.S. lenders aren't rushing to embrace these tools: If they can't explain

how they're evaluating loan applicants, they could run afoul of fair lending rules. "They're not going to be willing to take the risk, especially not in a more sensitive lending area like mortgages," Blattner says. And if federal regulators conclude that these new tools aren't trustworthy, "I think that spells a very different future for the use of Al in consumer lending."

However, there are ways to take a black box's output and work backward to figure out how it was generated. Blattner and assistant professor of operations, information, and technology Jann Spiess recently collaborated with FinRegLab, a nonprofit research center, to assess several tools that try to explain credit underwriting models' predictions about individual applicants as well as minorities and other demographic groups.

"We came away cautiously optimistic," she says. "If you pick the right tool, it is good at handling the complexity." They also found that increased transparency can be balanced with performance. "The more complex black-box models were more accurate in predicting default, but they were also more equal across demographic groups, which was surprising," she says.

Even if this type of AI is okayed by regulators and adopted by lenders, Blattner says people need to be part of the equation. "You can't just blindly pick a software tool off the shelf and hope it works," she says. Users must continually test and evaluate their models to ensure they're working properly.

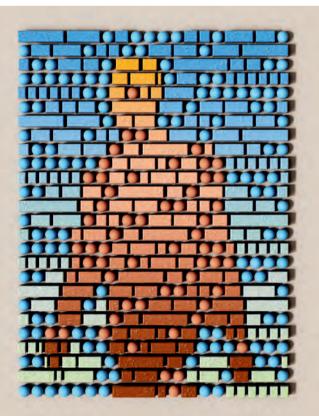
And while black boxes can perform superhuman calculations, we still may want a loan officer, doctor, or judge to have the final say. "In all of these cases," Blattner says, "the human wants to know why the AI made a certain recommendation so that they can let that influence their decision-making one way or the other." – Dave Gilson Considering a "diversity of values" is critical to determining the direction AI will take, Li says. "It's about including people who have been raised on something more than an engineering education and sci-fi culture," she says. "Our field needs people who want to impact real people in meaningful ways — not merely solve problems in the abstract."

Payoffs and Progress

Even if we look past the hyperbole about AI run amok and accept the argument that it shouldn't be viewed simply as a substitute for human capabilities, what's the incentive for companies to pursue augmentation if full automation is easier and cheaper?

Automation can be used "to replace human labor and drive down labor costs," Brynjolfsson acknowledges. While that can help the bottom line, it is "not where the big payoff is." Augmentation clearly offers greater economic benefits to employees who wouldn't be swapped out like old parts. But it would also provide expanded opportunities and options for employers and consumers.

He notes that technology has already boosted living standards enormously, mainly by creating new capabilities and products rather than making existing goods and services more cheaply. Instead of rushing to automate jobs and tasks, Brynjolfsson hopes business leaders will think harder about innovation and ask



themselves, "What new things can we do now that we could never have done before because we have this technology?" Answering that question, he says, will "ultimately create more value for the shareholders and for all of society."

Spence also believes that augmentation would lead to more inclusive growth, while automation would worsen current economic trends. Although the past era of mechanization had an initial "pain period" as workers scrambled to adopt new skills, it "contributed to the productivity and the earnings of what has come to be called the middle class." While the people who owned the machines got rich, income was more widely distributed than it is now. "There's a fair amount of evidence that the digital era has contributed to the polarization of jobs and income," Spence says. Automation would further shrink the proportion of GDP going to the middle class and working class, leading to even more concentration of wealth. In that scenario, Spence says, "inequality worsens."

He agrees that a more creative approach to AI is needed. "Consciously biasing the evolution and development of AI in the direction of augmentation is the right way to think about it," he says. This will mean "using AI and digital tech to bring key services to people who now have limited access to them," such as the 5.5 billion people living in developing countries. "There are values and policies that affect these incentives and

GHOST IN THE MACHINE

Knowing who created an AI agent makes it feel more authentic.

Before Alexa tells you how to make a perfect avocado salad, wouldn't you like to know something about the person who invented her?

A recent study reveals that when people think about the humans who create automated assistants and other artificial intelligence-driven agents, they view the robots' work as more authentic. In a series of experiments conducted by Stanford GSB professor Glenn R. Carroll, Arthur S. Jago of the University of Washington, and Mariana Lin, a writer and Stanford d.school lecturer who helped create the voice of Apple's Siri, the findings were consistent: People view an Al agent's work as more authentic when they are presented with information or asked questions about the person or people who created the technology.

A vast amount of research supports the idea that giving machines humanlike qualities such as faces or conversational speech patterns makes so you want to try to operate on them in such a way that the benefits are broadly available to people. Not concentrated, say, on the owners of capital, or even more narrowly on the owners of some sort of digital capital."

Those incentives aren't in place yet. Current tax policies favor companies that install machines instead of hiring workers, Spence explains. "If you shifted the tax system so it was less favorable to capital and more favorable to employing people, you'd probably get more focus on people and maybe more focus on augmentation as well," he says.

Brynjolfsson agrees. "The market does not automatically get the balance right in many ways. Our policymakers have put their thumb on the scale to steer too much investment toward mimicking and automating more jobs and using capital merely for labor substitution," he says. That could lead to a situation where AI brings prosperity to a few and disempowers the rest the Turing Trap.

We're not there yet. Artificial intelligence is just beginning to have an impact, Brynjolfsson says. The challenge is to chart a path to a future where people remain indispensable. "Most progress over the past thousands of years has come from doing new things that we never did before — not from simply automating the things that we were already doing." That will require us to tap into a superpower that can't be programmed into a robot: imagination. GSB

people more comfortable with them. What was striking about this study was that the human origin stories embedded in the experiments had a stronger effect on perceived authenticity than simply anthropomorphizing the robots.

"I did not anticipate the final conclusion at all," Carroll says. "It was not obvious to us that human origin stories were going to be so powerful here."

That people value authenticity can be, well, valuable. Companies that do a good job conveying the authenticity of their Al agents' work may have an advantage. Previous research, including by Carroll, has shown that people are willing to pay more for products and services they perceive as authentic.

"If you look at what drives purchases of consumers in advanced economies, it's often not objective characteristics of products or services," Carroll says. "It's our interpretation of them, the meaning we derive. It matters a lot if we think something is authentic."

"Think how much we analyze whether an apology is authentic, or someone's work is authentic," Jago says. "It's embedded in our humanness." — *Rebecca Beyer*

Drawn Together

Illustrator Khyati Trehan talks about teaming up with the Al-driven image generator DALL-E to create the art for "Ghost in the Machine" on the opposite page.









Like a human collaborator, Trehan says, an Al tool "may offer a new idea that didn't occur to you — or just as well offer a bad one that you'd have to politely ignore." Above: Some of her DALL-Egenerated sketches.

Describe your approach to making the artwork.

I worked how I usually work: by doing research and then making sketches to visualize concepts. I then tried to describe my sketch in literal terms, using that as a prompt to see what DALL-E would do with it. I was responsible for the visual concept and direction, and AI did the work of a very good intern. I used the AI-generated image as inspiration for the second round of sketches and took it to 3D.

How can AI be used to support artists instead of replacing them?

Al can be a part of the process — especially the arduous parts such as drawing keyframes for animations or applying several color palettes to images to test them out — instead of a means to an end.

What are your hopes and concerns about the future of Al in the context of making art?

I hope safety and ethics inform all decisions regarding the evolution of this field and we continue to ask the question: Just because AI can manage to do a specific task, *should* it?

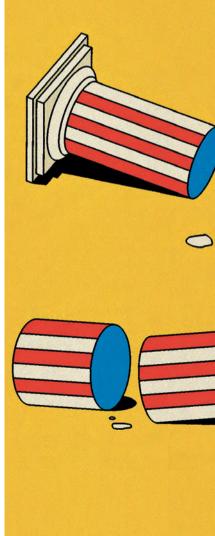
Puling BackFrom GroupHeas for citizens, leaders,
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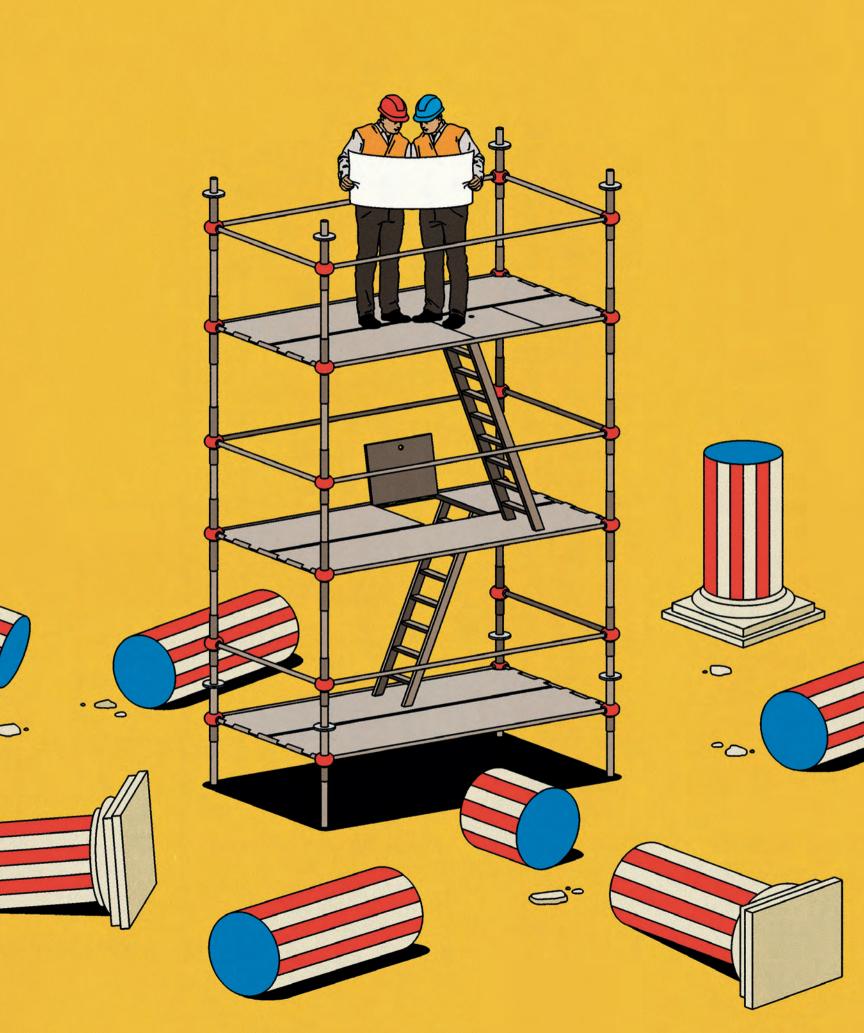
BY KEVIN COOL AND DAVE GILSON

ILLUSTRATIONS BY ÁLVARO BERNIS

By just about any measure, the United States is more politically divided today than at any time in recent history. Polarization isn't just an obstacle to tackling serious problems, it's preventing Americans from seeing their partisan rivals as people they'd want to hang out with, work with, or live near — much less share a country with.

How does a divided society begin to repair itself? A range of Stanford GSB faculty and alumni are seeking answers to that question. Here, some of those researchers, policy experts, and politicians discuss ways to establish common ground, work together, and strengthen democracy.





Rethink Your Assumptions



Robb Willer is a professor of organizational behavior (by courtesy) at Stanford GSB and the director of the Stanford Polarization and Social Change Lab.

What are some of the main forms of polarization that you're studying?

Robb Willer: The two aspects of polarization that we study in the lab that I'm most interested in are attitudinal polarization and affective polarization. Attitudinal polarization describes Americans, especially partisans, disagreeing on issues and policies. The other major form of polarization is affective polarization. This refers to animosity between Democrats and Republicans and also support for political violence and dehumanization.

Our focus there has been on correcting misperceptions of the other side's intentions and perceptions. You can reduce Democrats' and Republicans' support for political violence almost 50% by just giving them basic data on how much the other party actually supports political violence. If we can fix those misperceptions, make them more accurate, then we can reduce people's actual support for political violence, which is lower than people think, among both Democrats and Republicans.

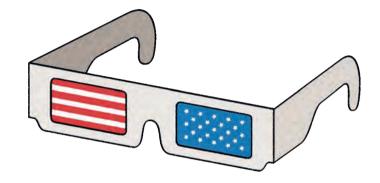
You have also studied "moral reframing" as a way of reaching out to people on the other side. How does it help people stop talking past each other?

Willer: The core idea of moral reframing is that you can increase support for an issue position or a political candidate by articulating your case in terms of the moral values of people who do not yet support the issue or candidate. It may sound intuitive to say, "Connect with the moral values of your audience if you want to be persuasive," but it's definitely not what people spontaneously do. Even when they're trying to persuade somebody of a different ideology or party, people tend to use their own moral values and moral rationales in making the case for their positions.

What role do leaders have to play in making sure depolarization efforts are successful?

Willer: I think that leaders can do a lot. For example, we find that if you show Republicans examples of prominent Republican politicians endorsing the results of the 2020 election, they have more faith in the results of the 2020 election and in elections in general. We did a

"Your rival partisans probably have much less extreme views than you think they do."



similar study where we were trying to see if we could find something that would increase Republicans' interest in getting vaccinated [against COVID]. There as well, we found if you just amplify those voices within the party that do support vaccination, that was effective for increasing vaccination intentions.

Looking specifically at business leaders — what role can they play in helping reduce partisanship?

Willer: The biggest thing I would say is to not give money to politicians who are worsening political conflict in serious ways. There are politicians who are saying that American elections are not trustworthy. There's no evidence for that. Don't help those people get elected.

If you could give readers one takeaway they can use to think more constructively about their own role in this and how they can combat polarization, what would that be? Willer: It would be to keep in mind that research indicates that your rival partisans, whether they're Democrats or Republicans, probably have much less extreme views on average than you think they do. I think realizing that those who disagree with us are not as extreme in many respects as we often assume they are can also be helpful for the way we approach political engagement. It can help us to not give up on persuasion, to keep trying to build broader political coalitions through meaningful and respectful conversation.



Michele Gelfand is the John H. Scully Professor in Cross-Cultural Management and Professor of Organizational Behavior at Stanford GSB.

Ken Shotts, PhD '99, is the David S. and Ann M. Barlow Professor of Political Economy at Stanford GSB.

What has your research revealed that might help us understand and overcome divisions between us?

Michele Gelfand: We tend to be in our own echo chambers and that can lead to having extreme stereotypes of people, but once we really get a window into their daily lives, what they are doing 24/7, it can make us much less polarized. One example comes from some work we published recently where we had Americans and Pakistanis tell us about their stereotypes of each other. Americans think of Pakistanis as being extremely "tight" — in mosques all the time, living in a very constrained context. They don't think about them playing sports, reading poetry, or listening to music. And Pakistanis, when they look at American culture, some of them see us as extremely "loose" — as, you know, drinking beer for breakfast, walking around half-naked.

We developed an intervention called the daily diary technique where we randomly assigned people in each country to read each other's diaries for a week. We found that over time this reduced cultural distance compared to when they read diaries from their compatriots. Pakistanis started to see Americans as more moral. And, likewise, Americans saw Pakistanis as warmer, and having more freedom than they would've expected.

If we can scale this up and help people to see the similarities versus the differences, then maybe we can puncture some of these stereotypes. We are doing this now with Republicans and Democrats.



Ken, in your book, *Leading with Values*, you talk about the importance of understanding how people's values affect their beliefs and behavior. How does knowing what motivates people help us come together?

Ken Shotts: I think we all have something in our morality that is common. That isn't to say we agree on everything, but there are aspects of this that are interwoven between us. We all care about family and people who are close to us. There are certain things that are okay to do and there are certain things that are defiling or degrading. We might disagree about what those things are, we may not have the same reaction when we experience them, but there's something similar going on there. Our belief system is undergirded by our morality.

What do you see as the most critical problem related to polarization, and what would it take to solve it?

Shotts: The thing that I am most worried about is not supporting institutions in this country. It's one thing to have disagreements about tax rates or climate change policies, but what really worries me is the lack of buy-in about democracy and representative government and rule of law. Belief in those institutions is an issue of first-order importance.

And I know it's easy to say, "Oh, there are problems with both sides of the political spectrum on this," but I'm just going to be blunt: I think this is asymmetric. Although there are many people in the Republican Party who are appalled by [efforts to overturn the 2020 election], there are far too many who go along with it. And the current frontrunner for the 2024 Republican nomination tried to use his power as president to undermine the foundational institutions of government in this country. I think we've gotta say that's beyond the pale.

Gelfand: We are at this really dangerous place of people distrusting institutions. But it feels like it's been hijacked by a very small minority, and people don't feel safe speaking up. I would love to see a television show that has productive debate between Republicans and Democrats. There's this great research coming out of Rwanda, which is an intensely difficult context, where they are using soap operas to promote new norms. It really works beautifully. After watching soap operas that involve extended friendships across ethnic lines, it promoted much more positive social norms. It's almost like deradicalization — we need a rehab program for polarization.

"Leaders in organizations are role models for how to bring people together."

- Michele Gelfand

What role do organizations have in promoting a culture of cooperation?

Gelfand: Leaders in organizations are key to promoting social norms for constructive conflict management — what we call conflict cultures. Leaders' own conflict styles trickle down to others. So they are role models for how to bring people together and help show how to agree to disagree. Constructive conflict cultures are also good for business. We've found that they are related to all sorts of positive outcomes like lower burnout and higher cohesion.

Shotts: Business can at times be very pragmatic, for both good and for ill. And that doesn't necessarily lend itself to extremism and vitriol. I'm reminded of when Michael Jordan said, "Republicans buy sneakers, too." Businesses have in their employee base lots of people who have very different views on things. I think there's a chance for the workplace to be where we reach across divides. The tricky thing is firms often don't want people talking about politics at work.

There are many more contentious issues that business leaders are expected to respond to now than there were even 10 years ago, much less 20 or 30 years ago. When I talk to senior executives, they say this is a sea change; their roles now require them to navigate how their company is perceived on social issues. And that expectation is only going to grow. It's an important job for us — to train people to lead organizations in an environment like this and give them the skill set they need to succeed.

Restore Our Common Ground



Condoleezza Rice is the Denning Professor in Global Business and the Economy at Stanford GSB and director of the Hoover Institution.

The divisions in the United States are geographic and cultural as well as ideological. What can we do to bridge those differences?

Condoleezza Rice: We don't know each other very well anymore. In part, it's the lack of common experiences people don't serve in the military together, people go to very different schools, there's "flyover country" and there are the coasts. I believe national service might be a good idea for young people: You're going to learn something about people who are different than you are.



"We have to start rewarding people who are willing to compromise."

REFLECTION DAY

The Party's Over

Two soon-to-be former politicians reflect on the effects of extreme partisanship.



Anthony Gonzalez, MBA '14, is a two-term Republican member of Congress from Ohio. He is not seeking reelection.

What can we do to ensure that elected officials are motivated by public service rather than partisan agendas?

The number one thing that people can do to guarantee we have better representation in Congress is to vote in congressional primaries. Roughly 20% of registered voters actually vote in primaries during nonpresidential cycles. With such low turnout, oftentimes the most successful electoral strategy is to appeal only to the most rabid members of one's political base.

There is a big distinction between the politics of the average American and the politics of the primary electorate. In many congressional districts around the country, especially those that are heavily gerrymandered, many primary voters would prefer that our politicians focus on defeating political enemies as opposed to finding common ground. This stems from the belief of many primary voters that our political enemies are not simply fine Americans who we have political disagreements with but are evil people who are committed to America's destruction. In that sense, restoring a common purpose in our politics must occur in tandem with a restoration of common purpose within our physical and digital communities as well as reforms of the primary system.

What advice would you have for promoting healthy political discourse?

Rice: We seem to be in a period where all we want to emphasize is difference, so I would suggest that we start to think about commonality. I say to Stanford students from time to time, "Has it ever occurred to you that maybe the people you consider 'diverse' like the same sports that you do, or like the same music that you do, or maybe even went to the same schools that you went to?"

There's a fraughtness right now with having to encounter people who are different. Will you offend them, might you say something that's a little bit wrong? You don't have a constitutional right not to be offended. We need to try to break down those barriers. Even when we're in the room with somebody with different experiences, we're so guarded that we don't get to know each other.

Antagonizing one's political opponents is seen as an effective strategy to attract donors and solidify your base. How do we get out of this cycle if the incentives for politicians reward partisanship?

Rice: As voters, we have to start rewarding people who are willing to compromise. Madison said that politics is constant contestation — this time I win and you lose, but next time around you may win and I may lose. We need each other through the entire cycle, and until relatively recently, people seemed to understand that.

People who want to see a different kind of politics must get involved. [Former Secretary of State] George Shultz used to wear a tie that said, "Democracy is not a spectator sport." We treat it as a spectator sport and then complain about what we get. "Just being more honest with the public could decrease a lot of polarization."





Jen Miles, MBA '89, stepped down as mayor of Kingman, Arizona, in August. She had served on the city council for nearly a decade.

Based on your experience, how does partisanship play out at the local level?

As city elected officials representing the interests of all our citizens, there are times when we consider and even move forward on measures that are not favored by the "party." On those occasions, there is too often immense pressure/pushback put on local elected officials to influence their votes and the outcome. If their efforts fail, partisan legislators will often publicly deride the city and the locally elected officials. Worse yet, a few may even be unsupportive of later legislative actions that they know would benefit that city to register their discontent/ anger at a decision that went against the party position.

Having said that, it is all the more important that good people who understand the importance of statesmanlike conduct aspire to and assume public service. Our democracy depends on elected officials who are empathetic to the needs of the many, are able to discern and speak truth, and have the leadership qualities that attract followers and influence outcomes.



Rebuild Broken Trust



Neil Malhotra is the Edith M. Cornell Professor of Political Economy at Stanford GSB.

You've found that one effect of media coverage of polarization is that it increases people's belief that we're polarized. I half-jokingly wonder if we're making it worse. Neil Malhotra: I think it's possible. The story that my paper shows is that the media covered issue-based polarization when it actually wasn't that high, and that potentially led to more affective polarization, which is now hard to reverse.

So there's less disagreement on the issues than people realize, but polarization prevents them from seeing the other side as having anything in common with them? Malhotra: Yes. There's a lot of research that shows that partisan stereotyping is very prevalent. For example, Democrats think most Republicans own guns. Republicans think that most Democrats own electric vehicles. The media contributed to this because I think they overplayed issue-based polarization, which then leads to misperceptions, which then leads to affective polarization.

We have social norms against discrimination based on race, gender, and sexual orientation, but you've noted that we have few norms about discriminating against people based on their politics. Why is that?

Malhotra: I think people don't view politics as an immutable characteristic; they view it as a choice. The more we learn about moral psychology, we see that a lot of people's political beliefs are baked in when they're very young. You could always change your political beliefs but, in reality, that's much easier said than done.

And political beliefs correlate pretty strongly with demographic identities.

Malhotra: Of course — especially things like religion, education, rural identity. So when you discriminate against someone based on their political beliefs, you could be discriminating based on demographic factors that are beyond their control. It's probably a better philosophy just to not discriminate against anybody.

In your class Leading with Values, how do you encourage discussions that bring in multiple viewpoints?

Malhotra: We do three things. One, we explain the difference between facts and values and how there are correct facts, but there are not correct values. Second, we teach about moral foundations theory, which is that a lot of the way we view the world ethically is a sense we have, and moral senses are based on intuitions. So you want to be empathetic to the idea that other people have different moral senses than yours. Just because someone disagrees with you, it doesn't mean they're immoral. Third, we do a lot of polling before we discuss the issues, because many people think they're the only ones that hold a particular view. If they see 20% of people share their view, they're much more likely to express it.

Polarization is driven by misguided beliefs about what other people believe, which makes it hard to convince people using facts and logic. How can we get past that?

Malhotra: I think corporate responsibility is a key to a lot of this – and elite responsibility generally. People don't mind facts if the facts help make their lives better. No one inherently likes science; the reason science won is because it made people's lives better. On the other hand, if people perceive science as harming their lives or not improving them, then they're not going to trust in facts; they're not going to trust an expert. So when scientists and doctors say, "Oh yeah, you can take these opioids. It's no big deal," why is it shocking then that five years later, people are not going to take this vaccine you're telling them to take? You've got to be socially responsible because if you solely care about profits, it's going to lead to this degradation of trust in experts. People really want to trust elites to look out for them and to make the right decisions. I think just being more honest with the public could decrease a lot of polarization.

Remember Bipartisanship



David W. Brady is a professor of political economy, emeritus, at Stanford GSB and senior fellow at the Hoover Institution.

You've written about how polarization in Congress is nothing new. Is there anything different about our current situation?

David W. Brady: We've had periods of intense polarization before — obviously, in the Civil War. There's a lot of affective polarization when you're shooting at each other! We're not there yet. But I do think it's worse than it had been. The Congress is relatively dysfunctional compared to other periods.

Roughly from about the '40s until the present era, there was a lot of bipartisanship. When you had a bunch of conservative Democrats and liberal Republicans, as we did through the '70s and even into the '80s, it was harder for Democrats to bad-mouth conservatives. It was harder for Republicans to totally bad-mouth liberals because they had some in their own party and needed them. So there was always that mitigating factor. That's gone.

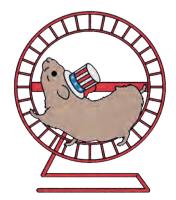
If polarization is a fairly normal state of affairs, is it necessarily a bad thing? We've been able to accomplish a lot with a divided government.

Brady: That's the \$64 question. My view is that up until Trump, the parties could get major policy changes done. The Democrats under Obama did pass the Affordable Care Act; it didn't get repealed. The Republicans passed the Trump tax cut. But I do think at this point, there is a serious question about the ability of the Congress to get meaningful policy on climate change, inequality, guns, and so on passed.

Are there systemic changes that could reduce polarization?

Brady: I do think primaries are exceedingly problematic because they reward the extremes. They tried open primaries in California to solve the problem, but we don't have the full results in yet. One thing political scientists are pretty big on is ranked-choice voting. In a ranked-choice voting system, centrist, compromise-oriented candidates have a better chance against the extremes. But I don't think it's the be-all and end-all that people have said that it would be.

"Primaries are exceedingly problematic because they reward the extremes." – David W. Brady



Reclaim the Middle



David Dodson, MBA '87, is a lecturer in management at Stanford GSB.

What did your experience in 2018 running as a Republican for U.S. Senate in Wyoming teach you about the state of political polarization?

David Dodson: It taught me that polarization and partisanship are what both parties want because the one thing they can agree on is dividing the population into a red camp and a blue camp and then gerrymandering like crazy. You have to go after the structural issues, which are around term limits, gerrymandering, campaign finance reform, and how the primaries are run.

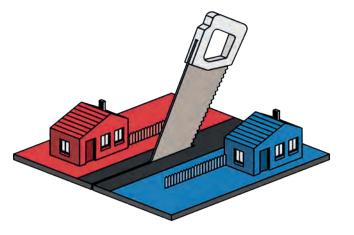
If you're running for a House district, you're going to get penalized for working with the other side. If you want to get elected, you don't want to talk to the middle, because the middle is going to alienate you from the people who are going to show up to vote in the primary. You need to talk in extremes. That's why you have so many Republican candidates who do not believe that the [2020] election was stolen saying the election was stolen. That's what their customers want to hear.

If we're all trapped in our own echo chambers, where does the impetus for structural change come from?

Dodson: Democrats and Republicans who occupy that middle ground need to realize that we're being played for fools here, and stop being sucked into the Rachel Maddow/Tucker Carlson echo chambers. Instead, say, "Bullshit. The system is broken. We have to fix the system."

Do you think there's a role for corporate leaders to play here?

Dodson: One hundred percent. I think that is where one of the primary impetuses for change can take place. Increasingly, businesses are stepping in and saying that they have a societal role, not just a maximizeshareholder-value role. We've largely embraced that. I've been knocking the world right now because of all the partisanship, but the good part is that the possibilities for change are unprecedented in our current environment. If business leaders and activists did the equivalent of Me Too or Black Lives Matter with political reform, you will see change, absolutely.



Recognize the Feedback Loop



Steven Callander is the Herbert Hoover Professor of Public and Private Management at Stanford GSB.

According to the theoretical model you recently developed, what's been driving political polarization?

Steven Callander: Any of my empirical colleagues will tell you that most people just don't care about politics that much. So politics is overrepresented by people who care a lot about policy. Given the chance, elites are going to try to move policy in the direction of their preferences, which tend to be more extreme. But they're constrained by voters. This is what moderates politics and pulls policy to more centrist outcomes. This is democracy.

But because the voters become more attached to parties and elites over time, they start to see things through their eyes. That empowers the policymakers, the elites, to move policy where they've always wanted it to go. There's this feedback loop between the elites and the masses, and it generates this dynamic.

Once this feedback loop gets going, eventually the center gets left out. So what's the end state here?

Callander: The end state of this is not pretty. If my theory's correct, this polarization of voters has a ways to run. If we think polarization is a bad thing, then things are going to get worse before they get better.

I think that our last hope, really, is demographic change. There's evidence that people turn 18 shaped, to some degree, by the nature of politics when they come of age. Our hope is that these people who have come of age in the last 5, 10, 15 years have a different sensibility and a different understanding about politics. They're our hope toward depolarizing, or pulling politics back to the middle.

"The good part is that the possibilities for change are unprecedented."

Refocus on Win-Win Outcomes



Saumitra Jha is an associate professor of political economy at Stanford GSB and convenes the Stanford Conflict and Polarization Lab.

You've studied conflict in places like India and Israel/ Palestine. Is there a way to make comparisons between those situations and the United States?

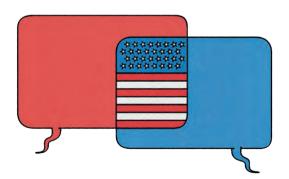
Saumitra Jha: The contexts are obviously very different, but there are often things that are quite similar. In many places around the world, often a key question that a lot of us are grappling with is how to remind people that we have a lot of common objectives and a lot more things that we share as human beings than the emotions and the news would have us recall.

Once we remember that, "Okay, we can work well in these areas," that can be an important way to build trust. People might be more willing to give one another a bit more of the benefit of the doubt and not impute intentions that might not be there. That's one of the key questions that I've been focused on.

We've found that learning through the financial markets, for example, is a very strong way of having people learn about politics and this commonality of interest. My own research focuses on how getting people to learn through small experiments in financial investing can also get people to be more focused on the common good.

If we made economic inclusion the focus of bipartisan change, could that help ameliorate polarization without putting it directly on the table?

Jha: I definitely think so. The economy is something we all benefit from. If it's possible for us to all benefit, then we can begin to focus on what's good for us collectively and the common good becomes more accentuated than many



more divisive questions. The divisive issues are important. But taking as an initial starting point an area in which we agree, saying, "Okay, we can work together in this area," then it can be easier to manage some of those other things. Otherwise, we often end up focusing on zero-sum game thinking: "Well, if you win, I lose." Frankly, there are many areas where we can all win, like the economy, peace, and the environment — and we should.

Does that mean that business leaders have a special role to play here that elected officials aren't able to play?

Jha: Yes. Definitely there are things that business leaders can do that would be harder for elected officials in our current political environment. On an issue like climate change, for example, a recent survey done by folks at Yale shows that, while Republicans and Democrats might disagree on the causes and what Congress should do about it, majorities of both Republicans and Democrats across congressional districts around the country are supportive of funding more research into renewables and think that corporations should be doing more to address the climate crisis. By taking the initiative in these areas, business leaders could show the way and, maybe, help save the planet in the process.

Reduce the Demand for Divisiveness



Kristin Hansen, MBA '98, is a lecturer in management at Stanford GSB and the executive director of the Civic Health Project.



the states.

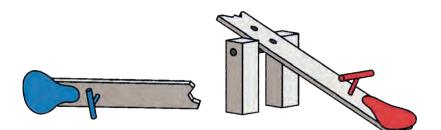
Alison Goldsworthy, MS '17, is the president of Accord and the author of Poles Apart: Why People Turn Against Each Other, and How to Bring Them Together.

What is polarization preventing us from accomplishing? Kristin Hansen: We're becoming increasingly incapable of enacting policy or legislation that reflects the will of even substantial majorities of Americans. And as a consequence of that, we're seeing more decision-making on really difficult issues, especially cultural issues, devolving back to the states. It's almost like we've given up — it's going to be too hard to get 330 million people to agree on anything, so let's devolve a lot of these hard problems to

ELENA ZHUKOVA; COURTESY OF KRISTIN HANSEN

"If it's possible for us to all benefit, then we can begin to focus on what's good for us collectively."

– Saumitra Jha



But unfortunately, that doesn't solve it, because polarization, dysfunction, gridlock, and hostility show up in workplace settings, and also at the state level, the regional level, the community level. It's bleeding down into the smallest nooks and crannies of our lives.

Alison Goldsworthy: Some polarization is a really healthy and normal thing. It's a very natural, evolved process for us to think in groupish ways. Nor does politics function well with a boring amorphous blob in the middle; voter choice and distinction between parties matter. But polarization becomes really toxic when politics can't function or there are significant spillover effects into other areas of life.

In developed democracies, people often take our stable system, and the rules that protect it, for granted. They shouldn't. When societies become polarized, change can be swift and often negative, yet we see very few appearances of polarization on companies' risk registers. That's despite polarization potentially making it far harder to effectively run a business — and often pushing up the costs of doing so.

Hansen: A framework that we've used with business audiences is talking about polarization as a supply and demand problem. You have this unhealthy supply and demand loop. We've got to shift demand preferences if we are the consumers and the buyers of polarization, if you will. That isn't easy; that's a long game to create a healthier supply and demand loop.

How can business leaders help create an environment where dialogue or collaboration across political boundaries is possible?

Goldsworthy: At the leadership level, they can model depolarizing behavior themselves. That can involve carefully building teams and sharing power. Working to overcome our natural tendency to favor people like

"You're not going to be able to effectively run your business in a very polarized society." - Alison Goldsworthy us. It also means being open to changing your mind and admitting you got it wrong. Very often leaders feel they have to have an answer, forcing hastily taken positions that are hard to row back. They'd be much better waiting or admitting they don't know. And when others in their team do this, they should celebrate it.

Another way is building teams that are from diverse backgrounds. When I say background, I don't just mean the things that you can see; it goes beyond that and brings in different experiences and viewpoints. These can inculcate you against the effects of polarization and there is growing evidence they are good for the bottom line, too.

Hansen: I increasingly talk about a four-lane strategy for social cohesion. The first lane is taking a more expansive view of how you are thinking about diversity and inclusion within the walls of your workplace, or your company, or organization, so that ideological and viewpoint diversity are given more consideration.

The second lane is how you show up in your community. The third lane is storytelling: Can you tell more cohesive stories that are going to foster recognition of one another's humanity? And then the fourth lane is how you are allocating your dollars. That's everything from advertising dollars to corporate political spending and charitable spending. Can you spend them in ways that foster social cohesion?

Is it possible to work for depolarization without sacrificing your values?

Goldsworthy: I think you have to work out which values to prioritize — and the identity that relates to them. I was deputy chair of the Lib Dems in the UK. Being a hugely partisan creature had benefits, but in this context, limitations too. In the end, I established my role was in protecting the rules of the game of a democracy — and if you don't have enough people and organizations doing that, everything else can fall apart very quickly.

Hansen: That question runs through my mind at least once a day, if not multiple times a day. It doesn't take that many cycles of reflection to come back to, well, really what choice do we have? Whichever side of the equation you're on, the realization a lot of people come to is: "Oh, more than 70 million Americans disagree with me. What do I do with that?" For most of us who work on bridge-building, somewhere in those values is the idea that it's anathema to think that we can or should hate millions of our fellow Americans. **GSB**

A World of Difference

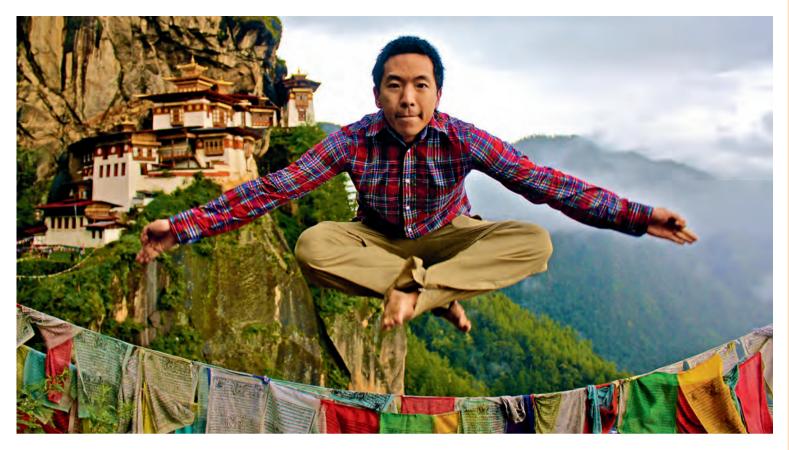
For 25 years, GMIX has sent hundreds of GSB students around the globe and out of their comfort zones.

BY KEVIN COOL

When you hear their stories, it's easy to understand why, all these years later, the excitement bubbles back to the surface. Stephen Lee spent four weeks living in a tiny village in remote eastern Bhutan, working with farmers who grow hazelnuts. Sara Egozi went to Havana, helping a nascent venture capital firm identify promising Cuban startups. Abhay Jain outlined an expansion strategy in Southeast Asian countries for a waste management company based in Dubai.

PEAK EXPERIENCE

Stephen Lee, MBA '13, says his time working in Bhutan was "like some crazy fantasy script that somebody made up."



If you ask Lee, MBA '13, what the best part of that Bhutan experience was, he pauses for a moment, considering. It might've been the setting — lush, velvety mountains punctuated by tidy farm plots and an occasional temple situated on a precarious cliff top. It might've been the people, who warmly embraced visitors each summer. It might've been the work itself, impactful projects for a social enterprise company devoted to helping the farmers make a sustainable living. Lee smiles. "Can I just say the whole thing?"

Lee's evident delight is typical of the reaction one encounters when speaking to the GSB alumni who have participated in the Global Management Immersion Experience, a four-week summer program that sends dozens of MBA students around the world each year. (At least it did until the pandemic hit, forcing projects to be performed virtually.) This summer, for the first time since 2019, GMIX again offered the real thing, just in time to celebrate its 25th year.

Established in 1997 with a single program in China, GMIX has since sent 1,500 students to 92 countries and established a cohort of sponsor partners that numbers in the hundreds.

1 can't emphasize enough how this experience opened up doors." According to GSB director of global experiences Katherine Robinson, the program aims to give students meaningful opportunities in a short enough time that they can still do internships or other summer activities. "The premise was, let's have a project that is concrete and discrete and fits in those four weeks where students can test a hypothesis," she says. "A student might say, 'I'm not sure I can survive in Beijing not speaking Mandarin. Can I go and try without a lot of strings attached?""

GMIX provides opportunities based on projects submitted by sponsors; students also develop their own ideas and use their networks to find a sponsor to work with. The sponsors absorb most of the costs, while GMIX provides fill-in stipends and logistical support. Robinson says the possibilities are only limited by a student's imagination and hustle. "I always say this ranges from a private equity firm in London to a mushroom farm in rural Rwanda, and everything in between. We are open to all types of organizations."

Going Deep in Havana

Sara Egozi, MBA '19, was one of those students who sourced her own opportunity. The daughter of a



GLOBAL WARMING Sara Egozi, MBA '19, (fourth from left) with her Cuban colleagues in Havana

Cuban-American couple whose families fled the island when Fidel Castro came to power, Egozi was especially interested in Cuba. She made her way there in the summer of 2018 with the help of GSB alumni Jesse Sullivan, MBA '15, and Ozair Ali, MBA '16, cofounders of the venture capital firm Alter Global. The firm explored a handful of Cuban companies, including AlaMesa, which had developed a Yelp-like app for Havana restaurants. Ostensibly, Egozi's job was to put together a marketing plan to help the company expand, but she decided to go deep, embedding herself in the business and the local community.

"With a context like Cuba, cultural and political understanding is critical to shaping the business," she says. "So before putting any pen to paper, before looking at any balance sheets or data, I had a lot of conversations.

"If I was going to earn the trust of the [AlaMesa] cofounders, I was going to have to eat with them, think like them, hang out in the local spots they visited after work. If I had showed up to work every day and taken my lunch at a place the Americans ate, they would've rolled their eyes."

AlaMesa was experimenting with a delivery service and looking for ways to tap into the American market in South Florida, where ex-pats can purchase meals for family members in Cuba. In addition to drawing upon Egozi's marketing savvy, AlaMesa's founders also wanted her perspective as an American with Cuban roots. "They saw me as an intermediary because I understood what was happening in the United States. But I had to learn and ask questions about what that meant in Cuba, and what they did and didn't want to do."

Egozi is now chief of staff to the founder and CEO of Common Sense Media and credits her GMIX experience for a mindset that values resourcefulness. "These entrepreneurs were very scrappy," she says. "I learned so much from them about how to navigate the lack of resources and constraints they faced. As I seek new challenges through my career, there's no question I will think back to that experience in Havana."

Soccer at 9,000 Feet

The sponsors are the bedrock of the program, Robinson says. Often, but not necessarily, they have a Stanford connection, including several whose companies, like Alter Global, were started by MBA alums. One of those is the Mountain Hazelnuts Group in Bhutan, where Lee worked. Cofounded by Daniel Spitzer, MA '82, it is one of the longest-serving sponsors in the GMIX program.

Another is Willka T'ika Wellness Retreat, located in the Peruvian Andes and owned by Terry Cumes, MBA '04. Cumes has sponsored GMIX students for more than a decade and looks forward to their arrival every summer. "We're looking for someone who really wants to be here and is really interested in our business," he says. "They help us in many ways, both at the tactical level – things that are small and implementable like doing a new menu — as well as something larger such as financial forecasting."

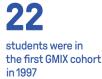
And it isn't all about the work, he notes. "I think ultimately what the GMIX program was created for was to give people a cultural experience, because GSBers don't need me to show them how to do strategic planning or marketing," Cumes says. "What they do need is for me to show them what it's like to work with 20 people who mostly speak Quechua, to integrate with them, play with them, and laugh with them."

One of his favorite recent moments was when Kiki Davis, MBA '20, scored a goal during a pickup soccer game with staff members during her last week at Willka T'ika. "We had classmates visiting, so it was this GSB cultural moment at 9,000 feet in the middle of the Andes," Cumes recalls.

There are several reasons GMIX is appealing to sponsor organizations, Robinson says. "Sometimes they're not very well resourced or don't have a big staff, so their projects sit on the back burner. In other cases, sponsors simply hold onto projects until they have the right expertise."

Sponsors must be decisive about what project can be finished in that short timeframe and why it is important. COURTESY OF SARA EGOZI

BY THE NUMBERS **Good Trips**



1,512 students have participated in GMIX since then

" We're looking for someone who really wants to be here and is really interested in our business."



And they must be thoughtful about what will be required to help students succeed. "Does it make sense for you to travel? Should we bring you to business dinners with clients? It's so much more than just hiring somebody and having them do the work," Robinson says.

For Andrea Böhmert, comanaging partner at Knife Capital, a South African investment firm, GMIXers have become a depended-upon resource. "What we love about the Stanford GMIX students is that they have a different frame of reference," she says. "Sometimes our Stanford students give us an insight that we hadn't thought about." She points to a scooter company Knife Capital was considering until a GMIXer pointed out that the distances its proposed customers would have to travel far exceeded what was typical for scooter users. "That actually convinced us not to do the deal."

And the connection doesn't end when the students go home, Böhmert says. "Quite often, when we are in San Francisco or in New York, we reach out to them and try to get together. This is more than just a one-off, little four-week project. This is about building long-term relationships."

That may be one reason Böhmert has a special method for selecting which GMIX students will be right for Knife Capital. "I ask about hobbies," she says.

92 Countries where GMIX projects have been based

491

Sponsor organizations affiliated with the program since 2012

DIGGING DEEP

Kiki Davis, MBA '20, (right) worked at a Peruvian wellness retreat owned by Terry Cumes, MBA '04.

44 As I seek new challenges through my career, there's no question I will think back to that experience."

all time got the job because she

FEATURES

"One of my favorites of all time got the job because she promised she could make a fantastic cappuccino. We had a pig-wrestling champion from Arizona. We had someone who translated Harry Potter into Vietnamese. That's what I look for — some small difference."

Number Crunching in Dubai

Abhay Jain, MBA '19, worked for a multinational waste management company, Averda, in Dubai in 2018. Like Egozi's, his GMIX was self-sourced, facilitated by an introduction by GSB economics professor Yossi Feinberg to Mazen Chebaklo, Averda's COO and a former student in the Stanford Executive Program. "Even in our first conversation, Mazen was excited about the prospect of me joining Averda," Jain says.

Once there, Jain set about conducting an analysis of the potential waste management market in Southeast Asia. "It was 15 days of me trying to learn about their business, and 15 days of me trying to put something together to add value. Understanding that it's only four weeks, you're still bringing something to the table that was useful for them."

As is often the case with a GMIX experience, it was the unexpected that led to the greatest learning, says Jain, now an engagement manager at McKinsey & Company. "One day, everyone at Averda was in a firefighting mode because the sheik decided to give 5,000 camels to the small town of Sharjah. Camels poop a lot, so the whole waste management system broke down. They were not ready for 5,000 camels." It was a lesson in the cultural nuances of running a business, Jain says.

The intangible value of the GMIX internship is essential, according to Stephen Lee, who says his brief time in Bhutan remains one of the best experiences of his life. "Part of my job was to survey farmers, both to collect data — like, how many yaks do you have? — and to get their opinions. I stayed overnight with one of the farmer's families. They made me dinner and served me *ara*, which is sort of like their moonshine." Lee pauses and shakes his head, in a quiet reverie.

"I can't emphasize enough how this experience opened up doors; just precious opportunities," says Lee, now vice president of EMEA brand and portfolio strategy and innovation at Warner Bros. Discovery in London. "What I did shouldn't be possible; it's like some crazy fantasy script that somebody made up. But it happened, and the only reason it happened is because of GMIX.

"Hats off to them," he says. "I hope they have another 25 years." **GSB**

905

GMIX projects offered by sponsors since 2012

164 Sponsor organizations led by former GMIX students since 2007

Foreign Exchange

From Malaysia to Milan, students who took part in GMIX over the past summer report back on what they're bringing home.



Kyo Kaku, MBA '23

Sunway iLabs | Kuala Lumpur, Malaysia

Adapting to a new culture requires "a sense of humility at the back of your mind" and an attitude of openness about your new surroundings, says Kaku, who interacted with local VCs and founders while working as a venture architect intern at a Malaysian startup accelerator. "GMIX is a great opportunity to apply learnings from the GSB in a different cultural context."

"

GMIX is a great opportunity to apply learnings from the GSB in a different cultural context."



My GMIX

experience

helpful for

insights into how boards

gaining

work."

was incredibly

"



Ryan Lopez, MBA '23

Enseña por México | Mexico City, Mexico

Lopez spent four weeks at Enseña por México (Teach for Mexico), an NGO that seeks to reduce education inequality. "I have ambitions of wanting to serve on education-related nonprofit boards, so my GMIX experience was incredibly helpful for gaining insights into how boards work and the ways in which they can empower nonprofits," he says. The capstone of his experience was developing a presentation that will be used by the organization's board and its CEO, Juan Manuel Gonzalez, MA/MBA '16.

Siran Jiang, MBA '23

Soundwide | Berlin, Germany

"I've realized that I really want to work in music tech in the future due to my personal passion for making music and that I'd be open to working in Europe – and more specifically Berlin – for at least a year or two after school," says Jiang, who joined the strategy and development team at a German firm that makes hardware and software products for musicians.

14 I'd be open to working in Europe for at least a year or two after school."



José Ignacio Garcia Suarez, **MBA '23** ProximityParks

Garcia Suarez conducted market research for a lastmile warehouse distribution developer that was looking into expanding in Bogotá, Colombia. "The hardest part was transferring my real estate industry knowledge to the Latin American context," he says. "I had a hard time removing my American bias when seeing how these companies operate. I understood that safety is more of a concern in Bogotá and Mexico City, but I didn't understand the impact it had on land site selection, a very early step in the process."

GABRIELE LOPEZ; ARLOS ÁLVAREZ-MONTERO

"

The hardest part was transferring my real estate industry knowledge to the Latin American context."

"

Working in Milan allowed me to experience the dynamic of a fashion capital."





Antonia Woodford and Jess Zhu, MBA '23

Mirta | Milan, Italy

"

I left with

a deeper

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understanding

grow a digital marketplace."

Woodford and Zhu worked at Mirta, a B2B marketplace cofounded by Ciro Di Lanno, MBA '19, that connects local brands with boutiques around the world. "I left with a deeper understanding of how to grow a digital marketplace and of the types of pivots young companies make to succeed," Woodford, left, says. "Mirta exemplified what it's like to work in a fast-growing, fast-moving startup," Zhu, above, says. "Working in Milan allowed me to experience the dynamic of a fashion capital and helped me determine where I would like to live and work post-GSB." Dan Grunfeld⁵⁶ Kuang Xu⁵⁸ Deirdre Quarnstrom⁶⁰ Tristan Walker⁶²

Voices



Dan Grunfeld, MBA '17

DAN GRUNFELD WAS BORN AROUND THE GAME of basketball. His father, former NBA player and Olympic gold medalist Ernie Grunfeld, had his son's C-section delivery scheduled in between road trips.

Dan grew up alongside basketball greats at Madison Square Garden in the 1980s and 1990s while his dad was a player, coach, and executive for the New York Knicks. He has vivid memories of players like Patrick Ewing dropping by his childhood home in New Jersey, and he developed a love for the game at an early age. He became an impressive player in his own right, playing for Stanford as an undergraduate and eventually playing professionally in Europe and Israel. "Basketball has done so much for my family," Grunfeld says.

He says his grandparents and their "chutzpah" during World War II have been a driving force behind his and his father's success

HOMETOWN

Franklin Lakes, New Jersey

EDUCATION

MBA, Stanford GSB, '17 BA, Stanford University, '06

PROFESSIONAL Experience

Vice president, Lightspeed Venture Partners Enterprise sales and strategic development, STRIVR Programming coordinator, NBA on the court. Dan's grandmother, Livia, was visiting her sister in Hungary when the Nazis rounded up her Orthodox Jewish family in their rural Romanian village. She survived the Holocaust on the run, often subsisting on stale bread and drops of mustard, and was liberated from the Budapest Ghetto in 1945. Ernie Grunfeld immigrated to the U.S. from Romania at age nine, not speaking a word of English.

After Dan retired from basketball in 2014, he enrolled at Stanford GSB to build on skills he'd developed as a professional athlete and learn how to apply them to the business world. Now, he helps startups as

"My family's story had always been inside me. I had to tell it."

a vice president at Lightspeed Venture Partners, and he's recently written a book, *By the Grace of the Game*, that weaves together his family's rich basketball legacy with his grandparents' remarkable story of survival.

You loved basketball growing up, but did you ever imagine it might be what you did for a living?

From the time I was a kid, I inherited this really big history. I wanted to play in the NBA like my dad. That was always my goal. My freshman year of high school, we moved from New Jersey to Milwaukee, and I became a top-100 high school player in the country, which gave me the opportunity to play at Stanford. Junior year, I was projected to be an NBA draft pick but tore my ACL in a home game against Cal. It was a big disappointment and a tough thing to deal with. After that, I played eight years professionally overseas — a year in Germany, three in Spain, and four in Israel.

What was your transition like from basketball to business?

I was 30 years old and had dedicated my life to my basketball career. In Israel during my eighth pro season, I knew I was done. The game had given me so much, and I didn't have anything left to give back. I loved to learn, and I knew I wanted to go back to school and explore a new path. I wanted to acquire hard skills, but also learn more about myself. I think I spent more time preparing for the GMAT than working on my basketball skills during my last season. I brought my materials with me on road trips and studied every chance I got. I applied to and visited several business schools, but there was something about Stanford. It surpassed my expectations.

Since graduation you've been working with startups. What do you find satisfying about it?

After I graduated I worked for a startup that was using virtual reality

as a training tool, initially for athletes. Then we applied the technology to train employees at companies like Walmart. Now I'm on the venture capital side. I work with founders and entrepreneurs helping startups grow and scale. I enjoy how fast-paced and dynamic it is. A lot of what I do you can relate to my career in sports. It's competitive, you want to win, but you also need to be a strong communicator and work well with others. I love the startup world. Tech is helping to solve some of our biggest problems.

Your book, *By the Grace of the Game*, has been a bestseller on Amazon, and you've been featured on shows like *Good Morning America*. Tell us how you got into writing. My passion for writing blossomed at Stanford as an undergrad, and it was something L carried forward. When

something I carried forward. When I was playing pro basketball, I wrote for publications including *SB Nation*, the *Jerusalem Post*, *Sports Illustrated*, and the *New York Daily News*. After retiring as a player and starting at the GSB, I had the space to explore other interests. My family's story had always been inside me. I had to tell it. I woke up at 6:02 a.m. every day to write my first draft, and it took eight months. After that, it was years of editing and iterating.

The book is both a family story and a history lesson. It's a big story to tell, weaving together three generations of my family to share my grandparents' survival, my dad's improbable basketball ascension, and my own basketball journey. My family's story is about overcoming adversity, and it's unfortunately timely given the global rise in anti-Semitism. The data around Holocaust education is really scary when you look at how little Americans – especially millennials and Gen Z - know about the Holocaust. My grandma always says we have to share these stories, so it never happens again, and not just to Jewish people - to any people.

Your father is the only current or former NBA player whose parents survived the Holocaust, and he faced anti-Semitism himself. What has your experience been like? I once opened an equipment shed on the baseball field in my hometown and found a big white swastika painted on the inside. When I saw that, I froze, I knew what it meant and knew what had happened to my family. I was also called "Jew boy" when I was a kid, and those things stick with you. I channeled some of those feelings onto the basketball court. My dad faced anti-Semitism under communism in Romania and was made fun of as an immigrant in America for not speaking English.

What does your grandma think about the book?

My grandma is 96 and lives in the Bay Area. She lost both parents and five siblings in the Holocaust. They were taken to Auschwitz and never seen again, and she's always been afraid that people won't even know they existed. Now, their stories will live forever through my book. My grandma is the clear star of this story. I recently spoke to her retirement community over Zoom. Her friends knew little about her Holocaust survival before the book came out. My grandparents have been such an inspiration for me and my dad. I hope that people read the book and feel similarly inspired.

– Deborah Blumberg



Punch List

Although he was a star on the basketball court, Grunfeld says his favorite sports movie is about a boxer — *Rocky II*. "It's a true underdog story, and that journey always resonated with me. As a grade-schooler, I would put *Rocky* on the basement TV and do as many pushups and sit-ups as I could, which wasn't much!"

Kuang Xu, associate professor of O.I.T.



IN THE EARLY MONTHS OF 2020, as COVID-19 shot across the U.S., Kuang Xu recognized that the moment called for his particular expertise. As a researcher focused on mathematical descriptions of systems steeped in uncertainty, Xu isn't intimidated by big unknowns.

"In what urgent situation do you call a professor of operations, information, and technology with expertise in stochastic modeling?" says Xu, an associate professor at Stanford GSB. "When you have to make a lot of decisions in a highly uncertain environment — and you don't have a lot of data to work with." In other words, a situation like the first days of the pandemic, when even the most basic understandings of a new virus and its transmission were frighteningly provisional.

Teaming up with Carri Chan, a professor at Columbia Business School, Xu combed through Chinese research papers, scanning for insights emerging from the country where the coronavirus had first been identified. Xu and Chan learned, for example, that the majority of COVID transmission was happening within households and that a centralized quarantine policy in Wuhan had been found to reduce infection rates by 75%. HOMETOWN Suzhou, China

EDUCATION

PhD, Electrical Engineering and Computer Science, Massachusetts Institute of Technology SM, Electrical Engineering and Computer Science, Massachusetts Institute of Technology BA, Electrical Engineering, University of Illinois

ACADEMIC AREA

Operations, information, and technology Imagining how such a policy might be adapted to the U.S. led Xu and Chan to consider the possible public health benefits of "quarantine hotels," where COVID patients could voluntarily isolate. Their mathematical modeling suggested that if even 5% to 10% of those with the virus could quarantine in this way, infection numbers would fall significantly.

They presented their findings to the leadership of New York-Presbyterian Hospital and, two weeks later, New York City announced its COVID-19 Hotel Room Isolation Program — a heartening development, though the researchers may never know whether their work had any direct bearing on it.

Chan believes that Xu's eloquence in communicating about technical subjects was especially useful during this time. "Kuang is able to distill his work down to really clean, core, crisp insights," she says. "I think for the work that we did with COVID, that was really important."

Xu believes the greatest challenge in his line of research is striking the right balance between "intellectual depth, conceptual clarity, and practical relevance." The accessibility of his work is paramount because he believes we're entering an increasingly information-centric age, and the big questions at the heart of his research are about how to make the best use of the information available to us.

Thorny Theoretical Questions

When he was in high school, Xu enjoyed physics and, he now acknowledges with a laugh, struggled with math. He fretted about how he'd perform on the annual *gaokao*, China's highly competitive college entrance exam. His parents suggested that he apply to foreign universities, and offered their savings to help fund his education. Xu enrolled at the University of Illinois at Urbana-Champaign.

Xu believes we are headed toward an economic landscape where "what you know is more important than what you do." When it came to deciding on a major, Xu's highest priority was practicality — he felt it was important to choose something that would translate into a decent job. He ruled out physics as too impractical and settled on what seemed like the next-best option: electrical engineering.

But Xu was also drawn to more theoretical subdisciplines, including stochastics. "I became more idealistic," he remembers. "I had to turn down what seemed at the time like very lucrative offers from proprietary trading firms in Chicago and New York. But I really liked research, and the allure of digging deeper just seemed so magical."

Now, as a researcher focused on the thorny theoretical questions that ensnared him years ago, Xu continues to dig deeper. His choice of information as a central research subject springs from his assessment of how its role has evolved, especially with the rise of the internet, and how it's likely to shape the future. The expanding role of information stands to dramatically change how healthcare, insurance, manufacturing, and many other sectors operate — and also has urgent implications for the policies regulating them.

In Xu's usage, information is not quite synonymous with data. Information, he explains, "is the data that matters." It must be actionable, affecting someone's decision-making.

Throughout most of economic history, Xu explains, information has been one of many resources used in the creation of goods and services. Yet it wasn't until the invention of the computer, followed by early versions of the internet, that information began to emerge as an increasingly important part of economic production. The trend toward information as not just an economic input but as the centrally important input will only continue, Xu says. He believes it will produce an economic landscape where "what you know is more important than what you do." He offers examples of what this could look like and how it's already starting to take shape. Personalized medicine will be based on a complex process of synthesizing sensitive information about an individual's genome and quickly manufacturing necessary medications. Highly personalized insurance —already available in its early stages — could replace more standardized financial products.

"What if, in the future, production activities are more commoditized, but the information they're based on is precious?" asks Xu. "That's the highlevel question I have."

The Information Lifecycle

If information is increasingly coveted, Xu argues, then it deserves to be studied more closely. For him, this has meant thinking in terms of an informational life span with three distinct stages: generation, utilization, and protection.

Xu's recent projects — and the ones he says he's most excited about — zero in on the generation stage, seeking better answers to how companies and researchers can determine what information is most valuable to them. He is working with collaborators to design better reinforcement learning algorithms, which stand to vastly improve, for example, the kinds of recommendation systems that power sites like Netflix and Spotify.

Xu has also spent significant time on big questions surrounding the final stage of the informational life cycle: protection. This strain of his research goes beyond the pervasive conversations about the extent of data collection and dives into subtler questions about what Xu calls "action-driven privacy": Can a person's actions on the internet betray information about their motivations in ways that lead to privacy breaches?

One of his studies looked at genetic data protection. Another dug into the sequential process a person might follow when considering an online purchase. In these kinds of situations, Xu explains, "a firm or individual can act as a potential eavesdropper and actually monitor actions to infer underlying motivations or secret information." For example, a prospective shoe buyer might click on dozens of options on a retail platform. The site can use machine learning to predict the shopper's final purchase based on their first few clicks — "and this gives the platform tremendous power to do promotion or even to hike up prices."

Xu and his collaborators sought to determine how much time it would cost such a shopper to disguise their true intention by throwing fake clicks into the informational trail they left as they shopped. He argues that the answer to this question has moral and policy implications. After all, if it's easy for a consumer to cover their online tracks, then it's easier for companies to abdicate their responsibility to build in privacy protections. However, if escaping this type of predictive pricing is difficult and time-consuming, arguments for laws restricting it have more weight.

"How do we settle this debate? Simple. Look at it mathematically: What is possible to do?" In the end, he found that an online shopper would have to replicate their activity five times to throw an eavesdropper off their trail. "Do you think it's reasonable for a consumer to replicate their effort five times just so that you can't apply discriminatory pricing? Of course not. It's just impossible."

Xu sees great beauty and promise in the potential of mathematical models to cut through what had seemed to be blinding uncertainty and point toward sound decisions. Ultimately, Xu believes he has developed a glass-half-full view of uncertainty, while most of the world takes a glass-half-empty perspective. Rather than see big, uncertain questions as paralyzing, he says, it's possible for us to relate to confusion as partial certainty. "Don't focus on what you don't know," he says. "Focus on the fact that you know a little." — Katie Gilbert



Light Reading

When it comes to a favorite book, Kuang goes with a classic: *War and Peace*. "I don't know what I can say about it that hasn't already been said, but it's one of those books that makes me completely engrossed in a world, and yet has the clarity to guide me toward some very interesting and valuable insights."

Deirdre Quarnstrom, SEP '18

DEIRDRE QUARNSTROM WAS CHIEF OF STAFF at Microsoft's Xbox division working on the company's acquisition of *Minecraft* in 2014 when she noticed that teachers around the world were adapting the app's build-your-own-world gaming format to create imaginative new ways of teaching. "Where *Minecraft* is different from other video games is that the player community very early on started hacking and changing and customizing it, making it their own," Quarnstrom says. "In its early history, there were some teachers who were gamers who saw all this potential for bringing it into the classroom."

Minecraft is a worldwide sensation. Quarnstrom says some version of the game was played in every country on earth in 2020, as well as Antarctica. It is essentially a virtual version of Lego, in which players break and place building blocks to make things. With Sweden's Mojang Studios, which created the best-selling game, Quarnstrom started a program to tailor *Minecraft* for mainstream education. Her timing was great. When the pandemic hit and remote learning became a priority, more teachers embraced the potential for an accessible format that promotes creativity, collaboration, and problem-solving in an immersive environment.

HOMETOWN

Seattle, Washington

EDUCATION

MBA, Seattle University, '02 BA, Economics, McGill University, '95

PROFESSIONAL Experience

Vice president of education experiences, Microsoft General manager, *Minecraft* Atlas, Microsoft Chief of staff, Microsoft Studios and Xbox



Minecraft: Education Edition now reaches millions of students and educators around the world each month. Quarnstrom previously led teams responsible for Minecraft's China business, Minecraft Education, and Minecraft Hour of Code.

In April 2021, Microsoft named her vice president of education experiences, a position from which she's been taking the lessons she learned adapting video game technology to remote learning into a wider variety of applications.

Was there a flashpoint when Minecraft evolved from a game into an educational tool?

It was very organic. There was a teacher in Finland and a teacher from New York City who developed the concept for a new product built on *Minecraft*. They saw the potential to bring the immersive, open world, digital environment into the classroom. They created their own modules to make the game more applicable to a teaching and learning environment. For example, the computer science add-on ComputerCraft brought coding into the learning environment in a very accessible way. They created a way for a teacher to host a server so they could have multiple students playing in the same virtual world. I saw this early grassroots work and thought, "What an amazing opportunity to make a difference by bringing what I've learned about video games into education."

How have the pandemic and remote learning affected the use and sales of the education version of *Minecraft*?

Families suddenly had kids at home, and in many cases the parents were trying to figure out how to support their kids' education while they were working, and how to maintain social connections because everyone was feeling isolated. *Minecraft* is a natural connection point, so we

DAN LAO

"There's a whole creative world that may not be obvious from watching someone interact with a tablet or a phone." packaged up our education resources and offered those to families. Players downloaded 50 million free worlds from the Education Collection in the first month.

Does a gaming environment have advantages over other virtual classroom approaches?

Games are well-architected for bringing people together in a virtual group setting. Multiplayer gaming technology has existed for decades, and schools were trying to figure out how to adapt some of the other technologies to connect teachers and students remotely. *Minecraft* gives you the opportunity, during class time, to say "Let's all go visit Washington, D.C." and you can have 20 to 25 students all doing that activity. It provides a real feeling that you are together.

Any disadvantages to that kind of engagement?

One concern is the amount of time this generation is interacting with screens. That's a real and valid concern. But research suggests there's a difference between screen time and creative time. It's pure consumption versus making or producing something. *Minecraft* fits into that category of creative time. There's a true sense of accomplishment that comes with building something in a virtual environment. I tell parents to ask their kids what they're doing when they're online. There's a whole creative world that may not be obvious from watching someone interact with a tablet or a phone.

Are some subjects better taught this way than others?

We focus on STEM for a couple of reasons. Particularly, computer science is an area where there's not a well-designed path for learning progression or teaching primary and secondary school students. We saw the potential for a natural player journey. Often players have a desire to modify *Minecraft*, and that requires some coding skills. We have 150 hours of coding curriculum that's free and online. Also, subjects like chemistry work well in the Minecraft environment. We created a feature in the Minecraft: Education Edition that's a Minecraft version of the Bohr model, which if you remember your high school chemistry is a visual representation of the nucleus and the electron shells of an atom. In a Mine*craft* way, with a gamified user interface, you can change the number of protons, neutrons, and electrons to create all the elements in the periodic table. It's not pure science, but it's enough to spark a student's interest to learn the concepts and explore more.

How does that kind of learning account for a student's specific skills?

Say a teacher is having students study American history by building the settlement of Jamestown in Minecraft. That's a great activity that brings together geography and history, but also brings each student's skills to life. You might have a student who's more of a planner, or one who likes to work independently, or someone who wants to be the project manager of the group. Those are the kind of skills that teachers highlight as something they get from Minecraft. They're 21st-century skills – leadership, communication, collaboration, and advanced problem-solving. It's difficult to design lessons around those skills in a traditional classroom. In Minecraft they emerge quite naturally.

Do you see that playing out with your own kids?

My younger daughter has dyslexia and ADHD, and she's a nontraditional learner. Reading and writing are more challenging for her. It's hard for her to switch focus from a chalkboard to look down at a paper and back up to the teacher in the traditional classroom. But she loves video games and YouTube, and those are great places for her to learn. She's very much engaged by exploring and creative discovery and that sort of self-directed learning process that happens when you're in an open-world gaming environment.

What is a recent initiative you are tackling in your new position?

We're looking at how we can support the whole education ecosystem so educators, school leaders, and families can transition from what was solely remote learning [during COVID] to some hybrid model of part-time teaching and learning remotely, part-time in person. That was already happening in education, and I'm thinking about how we can support that evolution and help close equity gaps that we've seen increase during the pandemic. In 2021 we announced Reading Progress, which uses what students got more used to in the past year with more integrated digital technology. Students record themselves reading a passage assigned by their teacher to assess fluency. Reading Progress provides feedback both to the student and to the teacher about pacing and pronunciation. Educators report that students are actually asking for more reading practice and they're seeing gains in literacy in their classes.

Are there skills you learned in the Stanford Executive Program that have been especially helpful in this new role?

The network and the global connections I made at SEP continue to be so valuable. I've brought inspiration from [GSB lecturer] Dan Klein's creativity work-shop into the remote work environment, taking some of that improv mindset and asking how we can apply that in the remote work environment. This has been key to helping my team feel connected and inspired on our journey to empower every learner and every educator around the world. — *Martin Smith*

Adventure Mode

In 2016, Quarnstrom's family joined her for a trip to the United Nations' Habitat III conference in Quito, Ecuador, where she was representing the Block-by-Block Foundation, a nonprofit that uses *Minecraft* for reimagining public spaces. "We explored the city, attempted to befriend llamas in the mountains, and took silly pictures at the equator."

Tristan Walker, MBA '10



TRISTAN WALKER WAS A SECOND-YEAR MBA student at Stanford GSB when he identified where he wanted to make his next move. He was fascinated by a startup named Foursquare that was using location data as a platform for a range of services. Walker sent an email to the company's founders asking for an interview. He got no reply. So he sent another, and another — eight in all, before cofounder Dennis Crowley finally bit, and invited Walker to meet with him. During the interview, Crowley challenged Walker to come back in a week with 30 potential partnerships; Walker returned with 300. Soon after, he was named director of business development.

It was an early example of the tenacity that has characterized Walker's life and career. He grew up in public housing in Queens, New York, raised by his mother after his father was murdered when Walker was three years old. The discipline she enforced helped Walker thrive as a student, winning him a scholarship to a Connecticut prep school, Hotchkiss. He earned a bachelor's degree from SUNY Stony Brook, worked as an oil trader on Wall Street, and served a stint as entrepreneur-inresidence at the venture capital firm Andreessen Horowitz. HOMETOWN Oueens, New York

EDUCATION

MBA, Stanford GSB, '10 BA, Stony Brook University, '05

PROFESSIONAL Experience

Founder and CEO, Walker & Company Brands Entrepreneur-in-residence, Andreessen Horowitz Director of business development, Foursquare In 2013, he founded Walker & Company, whose first product was inspired by a problem Walker had tried to solve for more than 15 years: how to shave without leaving unsightly bumps on his face. The answer turned out to be a single-blade, double-edged razor — a product so old its patent had expired decades ago. "I used it, and it worked for me," Walker recalls, "and I figured it would work for other Black men, too."

After a rough beginning — the first batch of shavers froze on the delivery truck — Walker & Company gained traction by winning customers' trust. "It started with razor bumps, but Black consumers also have different skin," Walker says. "What about hyperpigmentation? What about irritation, dryness all things Black men encounter more than people of other ethnicities?" That insight launched a health and beauty company devoted to serving people of color. And it became a template for how its founder and CEO thinks about product development.

"All of our innovations started with our own frustrations," says Walker. "If we solved our own frustrations, there were millions of people behind us who were dealing with the same issue."

Walker & Company was purchased by Procter & Gamble in 2018 and its products are now sold in 25 countries. That success has been gratifying, Walker notes, but there is much more to do. "There are still many, many Black folks in this country who have never heard of us. And the international opportunities are profound."

You were devoted from an early age to values that still inform your life. Can you talk a bit about those values and where they came from?

I had to learn about courage and loyalty and judgment without realizing it.

"To have a point of view in a cloudy environment is the most thrilling thing to me."

I lived in a world growing up of real necessity and want. I mean, if you live in the projects and you're focused on studying, trying to get good grades, it takes discipline to not go outside and be involved in what's happening there. And then what happens to your social life? When I made decisions that were in line with those values, I was very successful. When I didn't, I made huge mistakes. Those experiences gave me a humility and prompted an advocacy for people that I probably wouldn't have if I hadn't come through that.

Everybody's a product of their environment to some degree, but you seem to have been driven to succeed from the beginning. Is that a fair assessment?

This is more nurture than nature, honestly. I don't think I'm that much smarter than anyone else. And frankly, I've been very lucky. I got the opportunity to go to boarding school when others did not. I got the opportunity to work on Wall Street when others did not. I got the opportunity to go to Stanford business school when others did not. So my compounded privilege has benefited me as well.

You began your professional career on Wall Street. What did you learn there?

The best lesson I ever got was never sell a free option because that's the most valuable asset you could ever have. An option could only go up if it's free and I've been given a lot of free options over time. The other thing I learned on Wall Street was always have a point of view, and that's something that I carry with me to this day. I tell my team, "Don't bring anything to me unless you have a point of view." To have a point of view in a cloudy environment is the most thrilling thing to me because that's where a lot of the value could be generated.

Then it was out to California and Stanford GSB.

Stanford was the only place I applied. I love Stanford business school, but I also love Stanford because I think it has the highest density of genius of any place on the planet. It has a top business school, a top law school, a top engineering school, and they're all across the street from each other. I spent a lot of my time auditing classes elsewhere around the university. To be around that provided energy and opportunities for collaboration.

Speaking of collaboration, how did someone who self-identifies as an introvert become such a good networker?

It's a job, and I have to perform at that job. When I speak to a merchant, I'm interested in doing my job well, and when the conversation ends, I say, "Who else do you know?" It's no different than being a CEO. I'm still an introverted person, but when I have to show up, I can put on that mask.

Those networking abilities helped get you the job at Foursquare. What did you enjoy about the startup environment there?

Foursquare was creating an industry that had no experts. To be able to help shape that put me in a position that I will always appreciate, because nobody could come in and claim they knew the industry better than me. In the meantime, I was able to have real disruptive power, and that felt thrilling.

When you launched Walker & Company, shaving products for Black men was considered a niche market. What made you think the ceiling was higher than others had imagined?

A lot of people would, and did, mistrust that you could sell the product that we are selling at scale. There tends to be a pervasive point of view about prioritizing value capture rather than value creation. When you are willing to lean into what you don't know, you ask some questions. Why is the market so small? Well, maybe it's small because the things you sell don't work. There are other examples. Why would I put a bike in my house when I have a gym right down the street? Why would I rent a room in my house to a stranger? Each of those entrepreneurs asked a different kind of question and, ultimately, when you do that, it can yield some interesting results.

You are the first Black CEO in the 180-year history of Procter & Gamble. What does that mean to you?

What's more important is what it means for other people to know that they can do the same. In the boardroom at P&G there are portraits of every CEO in the company's history. There are 12 or 13 paintings, all of white men. Then you think about all the acquisitions P&G has made – let's say it's 100. I'm the only Black man, out of 100 people, who sold a company to one of the most important companies in the history of the world. I have a burden of responsibility for an audience I care so deeply about because I recognize the power of my representation. And it's important that if I maintain the values that I have, I'm doing my best. I can't fulfill expectations that people have of me that I can't have for myself. And the only expectation I have for myself is making decisions I can be proud of. – Kevin Cool

Cover Songs

Walker has taken up bookbinding as a hobby and put together a Spotify playlist to listen to as he works. Its range encompasses artists from Nina Simone to Childish Gambino. Play it here: **stanford.io/walker**

Illustration by Sam Kalda/Folio Art

5

Diana Kapp, MBA '96



ine yourselves up in order of your level of influence on the group," David Brady, our *Learning to Lead* professor instructed. We were standing in the Quad under classic Palo Alto blue skies. All term, my classmates and I had been getting to know one another, doing various group projects, challenges, and personality tests. As the line-up began, I darted to the very back. When the jostling and positioning stopped, we all froze, observing. "Now," Brady said, "move one another to the place you believe they belong." I remained still. The caboose. Nobody tried to move me.

I remember being particularly undone by this at the time, and this exercise has stayed with me, even though it revealed no new information, really. I've always fallen firmly on the "I" side of the introvert-extrovert axis. I am not a joiner or a natural leader. I tend to hang on the fringes. This was not an easy profile at a business school.

But looking back, that sense of being inconsequential had everything to do with why I wanted to go to the GSB in the first place. I had spent much of my life feeling sidelined. My first jobs out of college, exciting as they sounded — legislative correspondent, CNN intern were more like being a glorified secretary. As the head of investor relations and communications for a biotech startup, I was there to Diana Kapp, MBA '96, is a journalist and writer based in the San Francisco Bay Area. She is the

author of two books

for young adults,

Girls Who Run the

World: 31 CEOs Who

Mean Business and

the World: 34 Rebel

Women Out to Save

Girls Who Green

Our Planet.

RECONNECTING

spotlight others. I craved "becoming a message-maker rather than a messenger," as I wrote in my admissions essay.

My choices after Stanford did not lead me any closer to management. The truth was, I was best at untangling complex situations using words and sentences. I became a journalist, writing narrative pieces trying to make sense of topics that moved me: Palo Alto's suicide clusters, whether digital therapists can help alleviate depression, and what falling in love looks like at age 84.

When my youngest daughter turned 12, I started thinking about how our sense of personal power and ambition is shaped. I wondered whether Emma, who I always say popped out of the womb with her hands on her hips ready to issue orders, would come to call the shots. Twenty years had passed since I graduated from the GSB, but the number of female CEOs in the Fortune 500 had increased from an absurd o to a measly 24.

I decided to spotlight female entrepreneurs and founders in a book aimed at inspiring teen girls. I shared the stories of people like Anne Wojcicki, the cofounder of 23andMe; Jane Chen, MBA '08, who invented a dirt-cheap incubator to save preemies in the developing world; and Emily Núñez Cavness, MBA '20, who, after a tour as an Army intelligence officer in Afghanistan, recycled military gear into bags and luggage. Now I've written a second book for teens that profiles female changemakers who are out-fundraising, out-competing, and outsmarting the field.

By elevating these women, bringing their notable lives into relief, I am creating new images for young women to find themselves in. I am not sure whether this work makes me a messenger or a message-maker, but I suspect a bit of both. I have come to see, most importantly, that I am fine either way. GSB

By elevating these women, bringing their notable lives into relief, I am creating new images for young women to find themselves in.