

Pomona

COLLEGE
MAGAZINE
FALL 2015

what if

...Athens had not invented democracy?

...math were not required in schools?



...all landscaping had to be done with local-native plants?

...the universal fine structure constant were changing?

...Keynes' General Theory had guided Hoover?

also:
Joe's Big Idea
Without A Box
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WE INVITED POMONA COLLEGE FACULTY AND ADMINISTRATORS TO STEP OUTSIDE THE REAL WORLD OF THEIR DISCIPLINES FOR A MOMENT TO GIVE SOME THOUGHT TO THEIR FAVORITE "WHAT-IF" SCENARIO. HERE ARE THEIR SPECULATIONS ABOUT HOW THINGS MIGHT HAVE TURNED OUT DIFFERENTLY OR HOW WE STILL MIGHT CHANGE THE COURSE OF OUR FUTURE.

WHAT IF...

$$\alpha = \frac{e^2}{(4\pi\epsilon_0)hc} = 7.2973525698(24) \times 10^{-3}$$

$$\frac{\Delta\alpha}{\alpha} \stackrel{\text{def}}{=} \frac{\alpha_{\text{prev}} - \alpha_{\text{now}}}{\alpha_{\text{now}}} = (-5.7 \pm 1.0) \times 10^{-6}$$

BY **BRYAN PENPRASE**
FRANK P. BRACKETT PROFESSOR OF ASTRONOMY

What if the fine structure constant of the universe were changing?

This question is not idle speculation. In fact, it is at the center of a recent controversy in the field of physics and astronomy that is relevant to a topic I have done some research on—quasar absorption lines.

The controversy revolves around the idea that the fine structure constant—usually represented by the Greek letter ' α '—might be changing with time. The fine structure constant is a dimensionless number that arises from a combination of physical constants and has a big role to play in determining how strongly atoms interact with light. Its value is very close to (but not exactly) $1/137$.

The quasar absorption line community has been dealing with this controversy for a couple of decades, and it revolves around a very exacting study of ratios of line strengths in quasar light from very different cosmic times. Some preliminary data from an astronomer named John Webb (then at Cambridge, now in Australia) indicated that he had some evidence for a very microscopic change in this fundamental constant, by about one part in a million.

If found to be true, this slight shift in the fine structure constant would have little impact on our everyday lives, but it would have huge implications for science. For example, it could explain some of the mysteries of astrophysics, such as the phenomenon of "dark energy," which has vexed astronomers for over a decade (and which won some of the astrophysicists who discovered it a Nobel Prize).

At the same time, the idea that fundamental constants can change with time would completely change how the science of astronomy and astrophysics operates. We postulate that the laws of physics—and the behavior of space and time—are the same everywhere. Known as the "Cosmological Principle," this idea enables us to use atoms in the laboratory and atoms 10 billion light years away to study nature, since we know these atoms are all the same and obey the same physical laws.

Thankfully (from my point of view, anyway), in 2005 a new study with better and more complete data was able to demonstrate that there was not a change in this value. So the Cosmological Principle is safe after all—at least for now.

BY **SAM YAMASHITA**
HENRY E. SHEFFIELD PROFESSOR OF HISTORY

What if a better choice of words could have prevented the Hiroshima A-bomb?

At noon on August 15, 1945, the Japanese government officially surrendered to the Allies, ending a horrific conflict that caused the deaths of nearly 15 million people in Asia and the Pacific. The surrender, however, should not have been a surprise. By the spring of 1945, it already was clear that Japan was losing the war. In fact, it was so clear that I have wondered whether the war needed to end in the way that it did, with the atomic bombing of two Japanese cities—Hiroshima on August 6 and Nagasaki on August 9. Could the war have ended earlier, without the dropping of two atomic bombs?

The leaders of the three major Allied countries—the United States, Britain and the Soviet Union—met at Potsdam, Germany, in late July 1945. They were meeting for several reasons: first, to get the Soviets to agree to enter the war as a way of tying down Japanese forces in Manchuria and north China; second, to decide what to do with a defeated Germany; and third, to devise a plan to end the war with Japan.

President Harry Truman went to Potsdam with the news that an atomic bomb had been successfully tested in New Mexico. So as Truman, Winston Churchill and Joseph Stalin discussed the invasion of Japan—scheduled for 1946—they knew they had an ace up their sleeve: the atomic bomb. Even as they planned for the invasion, they hoped that the threat of this new bomb would lead the Japanese to surrender. This was the thinking behind the Potsdam Declaration, the communication sent to the Japanese on July 26, 1945.

The declaration included the following seven points: first, now that Germany had surrendered, the Allies would turn their full attention

to Japan; second, this would mean the destruction of Japan; third, the Japanese people must free themselves from the control of their "self-willed militaristic advisers ... who had deceived and misled the people of Japan into embarking on world conquest"; fourth, Japan would be occupied by the Allied forces; fifth, Japan's armed forces would be disarmed and demilitarized; sixth, Japan would lose its territorial possessions; and finally, the last article of the document read: "We call upon the government of Japan to proclaim now the unconditional surrender of all Japanese armed forces and to provide proper and adequate assurances of their good faith in such action. The alternative for Japan is prompt and utter destruction."

We know now that the last sentence—"the alternative for Japan is prompt and utter destruction"—referred to the atomic bomb.

The Japanese authorities studied the document, but in the end the Suzuki cabinet decided to ignore it, "to kill it with silence" (J. *mokusatsu*). One of the sticking points may have been the following reference to the emperor in a follow-up message from the Allies: "From the moment of surrender the authority of the emperor and the Japanese government to rule the state shall be subject to the Supreme Commander of the Allied Powers."

The phrase "shall be subject to" was variously translated: the Foreign Ministry translated it as *seigen no shita ni okareru*, "will be placed under the restrictions" of the Supreme Commander of the Allied Powers.

The War Ministry rendered it as *reizoku sareru*, or "be subordinated to," the implied subordination being like that of a vassal to his lord. The War Ministry's translation may explain the Suzuki cabinet's decision "to kill [the invitation to surrender] with silence" and the reluctance of so many at the highest levels of the Japanese government to accept the Potsdam Declaration.

The Allies responded by dropping an atomic bomb on Hiroshima on August 6 and then another on Nagasaki on August 9. Is it possible that the dropping of the first atomic bomb could have been averted if a key phrase in the Potsdam Declaration had been rendered differently in English?


BY **BENJAMIN KEIM**
ASSISTANT PROFESSOR OF CLASSICS

What if the Athenians had not invented democracy in 508 B.C.?

Twenty-five centuries after the battlefields fell silent, echoes of the Persian Wars still resonate. Out of those heroic struggles arose an unparalleled cultural efflorescence, rooted within Athenian theatres and thinkeries, that would first blossom across the Mediterranean and then be grafted into the stock of world civilization.

Speculations about these battles and their ramifications may be traced all the way back to Herodotus' *Histories*, and historians continue to ask serious questions about Athenian policies and personnel today. The most significant element underlying Athenian strength and Greek victory, however, was political: the Athenians' revolutionary move to democratic governance.

Prior to 508 B.C., Athens had accomplished very little of note on the Greek stage, despite her great territorial and demographic advantages. That year, however, after deposing one tyrant and resisting Sparta-led efforts to install another, the Athenians embraced the equality of all citizens, and the effects of this revolutionary constitutional change were felt immediately. Carefully re-organized by Cleisthenes' ►



democratic institutions and strongly motivated by their newfound freedom and opportunity, the Athenians poured out their blood and treasure for the sake of freedom.

On papyrus, the Persian forces were overwhelmingly superior. The Achaemenid Dynasty ruled a cosmopolitan empire of unrivaled wealth, its 70 million subjects spread from the shores of the Mediterranean to the Himalayan heights. When Darius first gazed westwards in 493 B.C., scores of Greek city-states immediately pledged their fealty. But not all Greeks would “Medize” so easily. The Spartans and the Athenians, asked for the earth and water that symbolized submission, foreshadowed their unwavering resistance by throwing the unlucky heralds into nearby wells.

At Marathon in 490 B.C., nearly half the Athenian citizenry mobilized, 10,000 hoplites fighting with barely any allied support against 30,000 Persians. Advancing rapidly into the fray, the Athenians drove their enemies out of Greece. However, Xerxes redoubled his efforts, and his vengeance seemed assured. Under the Great King’s watchful eye the Persians marched into Greece in 480 B.C., annihilated the Spartans at Thermopylae, then occupied Athens and razed the Acropolis. Bent but unbroken, the Athenians responded vigorously: Themistocles drew the Persian navy into the straits off Salamis, then led the Greek fleet, featuring 200 crack Athenian triremes, to victory. After their defeat at Plataea the following summer, the Persians retreated and never again campaigned in mainland Greece.

Athens’ starring role within these victories enhanced her prestige and led her to challenge Sparta for hegemony over Greece. Without their earlier embrace of democracy, however, the Athenians would neither have withstood the Persians nor flourished so brilliantly. As a result, both the political landscape and the cultural heritage of the ancient Mediterranean would have been dramatically altered. Historically, there would have been no Greek victory at Marathon, much less Salamis or Plataea. Although the Spartans might well have resisted to the death, neither their numbers nor their tactics could delay Persian capture of the Peloponnese. Greece would have become yet another Persian satrapy in 490 B.C.

No matter how benevolent Achaemenid rule really was, the Athenians would not have enjoyed the power and profits that accrued from their own fifth-century naval empire and that underwrote the ‘Golden Age’ of Pericles. Shorn of their freedom, the Athenians would not have had the opportunity to refine those political and economic institutions that, taken up by Philip and Alexander, allowed the Macedonians to conquer first Greece and then the Persian Empire. Without Marathon, then, there would be neither Alexander the Great nor the Romans as we know them.

Culturally, democratic Athens encouraged the free speech and debate that enabled the philosophic enquiries of Socrates and Plato, the critical historiography of Herodotus and Thucydides, the artistic perfection of Pheidias and the Parthenon, and the tragedies that continue—as with this autumn’s staging of Luis Alfaro’s *Mojada: A Medea in Los Angeles*—to provoke and inspire. It was the military and intellectual strength of democracy that enabled Athens to become first the ‘School of Hellas,’ then of the Mediterranean, and thereafter the entire world.

BY **GIZEM KARAALI**
ASSOCIATE PROFESSOR OF MATHEMATICS

What if math were not required in K-12 education?

Let me turn this around and ask what if all kids were forced to take regimented and stifling music classes through their K-12 years? What if they were tested yearly, through multiple-choice high-stakes tests, in their music skills? What if students of music were not allowed to listen to a real musical composition until they could “appreciate it”—which would, of course, be in college, only if they made it that far, of course... What if students were not even allowed to touch a real musical instrument until they learned all the basics—you know, the notes, the chords, the names of famous composers and all that stuff? What if government bodies and corporate entities alike kept pushing for more and higher standards to ensure that our nation’s competitive advantage, musical potential, would not disappear?

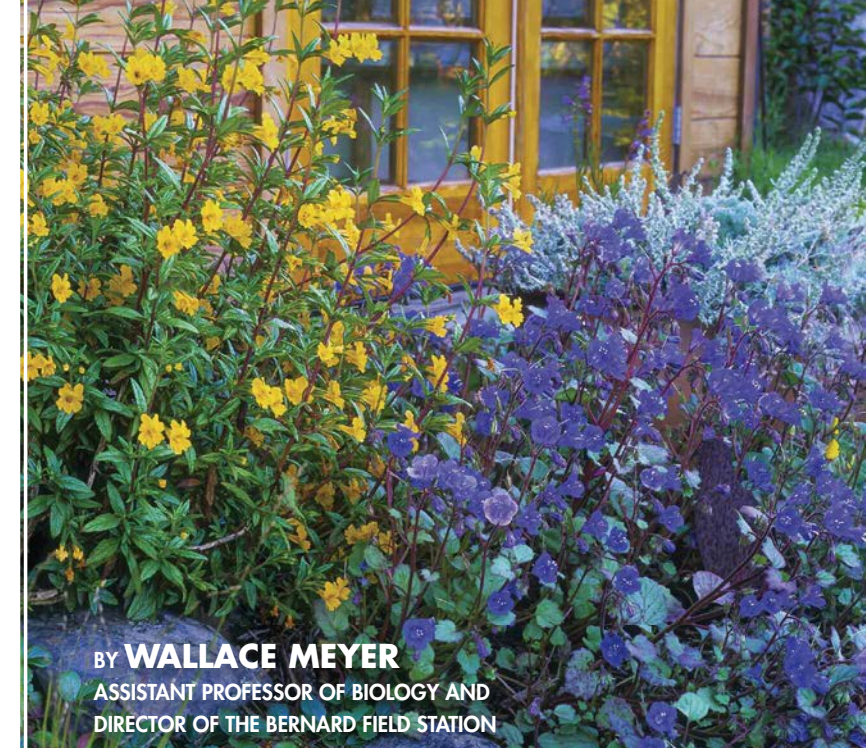
If you’re up for it, also try the artist’s nightmare for size. Imagine a world where young children are not allowed to touch crayons, water colors, even a colored pencil, before they learn all their primary and secondary colors, their hues and tones, their shades and perspectives, and all that which could conveniently be tested in a high-stakes test, to be systematically administered yearly of course... This would be justified by policy statements urgently calling for improvements in the nation’s art education, for of course, our students

could not fall behind students of all those other nations, or else our competitive edge, our creative potential, would be compromised!

Math teacher Paul Lockhart writes in *A Mathematician’s Lament* that the current state of mathematics education is analogous to the above two scenarios. Math in K-12 is taught out of context, without regard to intellectual need and curiosity, and in a uniformly linear fashion. School math often leaves out the cool stuff, the fun stuff, the naturally interesting and absolutely fascinating parts, and focuses almost exclusively on what can be tested. Students are “assessed” regularly and classified into those who can and those who cannot do math. Various entities whose existential purposes have nothing to do with the education of the nation’s future generations pontificate recklessly about how best math teachers should perform their craft.

And so we get students who arrive at college with no idea what math really is about. Some like it that way, but many have been totally turned off. All have concluded, through extensive experience that does not yield to any alternative readings, that math is about rules to be memorized and regurgitated when requested. That there is only one answer to each question and that there is only one best way to get at it. That some are naturally born with the math gene and others remain hopeless no matter what they do.

At Pomona, it is our pleasure to disabuse those unlucky to have gone through a standard K-12 education of these beliefs. We love to help students discover for the first time what math is really about (hint: it has more to do with playful curiosity and stubborn stick-to-itiveness than memory). How math is really expansive and accessible to anyone who wishes to learn more. How math does not really have to be linear (there are multiple entry points to our curriculum and not much that is linear in our major at Pomona). Why math can actually be fun (Tetris, Sudoku, and that 2048 game are addictive; what math is hidden in your favorite pastime?). But wouldn’t it be lovely if we didn’t have to do that? Erasing false beliefs is hard. And it is unpleasant to have to go uphill all the time. Wouldn’t it be lovely if students came in with no preconceived opinions of what math is about?



BY **WALLACE MEYER**
ASSISTANT PROFESSOR OF BIOLOGY AND
DIRECTOR OF THE BERNARD FIELD STATION

What if all landscaping were done with local-native plants?

Welcome to the Anthropocene, the current epoch characterized by the significant influence of human activities on Earth’s systems. While this term typically conjures negative aspects of human influence on the world’s ecosystems and the daunting environmental challenges our society is facing (e.g., global climate change, habitat destruction, biodiversity loss, and increased toxin and nutrients inputs), it also highlights that humans have the power to make transformative change.

The task for scientists and policy makers is to develop easy-to-articulate policies that effectively utilize limited resources and transform our understanding of and relationships with our local ecosystems. Unfortunately, too often policies are myopically focused on one resource, undermining transformative change and long-term sustainability.

For example, policies, largely successful from the perspective of water conservation, have asked residents to limit water use to appropriate times and activities and transform landscapes from water extractive lawns to more water-wise gardens. While I applaud the successful efforts of individual residents, these policies have not instituted transformative change.

More impactful would be a policy that required all urban/suburban areas be landscaped with only local-native plants. I use the term “local-native” to ▶



distinguish from the commonly used term “native.” Local-native plants are plants that are native to a particular area. In Southern California’s low-elevation areas, local plants would include white sage and elderberry, not a redwood tree, which would be considered a California native.

Such a policy would differ from the one that only requires water reductions because local-natives have evolved to cope with the abiotic conditions (temperature, water availability, etc.), and do not require any water inputs once established. Second, local-native plants support local animals and fungi. Since the native ecosystem type (California sage scrub) in SoCal’s low-elevation areas is endangered and many species require it for their survival, significant conservation progress may be achieved. Third, policy focused only on water resources ignores other complex interactions that occur when people modify the landscape. For example, increased use of mulch to reduce water loss facilitates establishment of non-native arthropod species (isopods and Argentine ants) by providing a moist habitat, and potentially represents a significant source of CO₂ through UV photo-degradation.

This “local-native” regulation would also transform our eco-literacy. Many residents have never heard the term California sage scrub but need to understand this habitat and become familiar with the species that inhabit it, if we genuinely intend to build a sustainable future with diverse biotic/regional communities that can provide us valuable services (e.g., carbon storage). Long-term sustainability requires a holistic approach incorporating climate change mitigation, biodiversity preservation, wise use of vital resources and an educated public. In the Anthropocene, human actions will decide the future. If you intend to be part of the solution, some good initial steps in its construction would be to: (1) learn about your amazing local-native plants (my favorite is royal penstemon), (2) re-envision/plant your landscape and have it teach you and others about adaptation to and survival in the local conditions, and (3) make it beautiful to inspire others to follow your lead.



BY JAMES LIKENS
PROFESSOR EMERITUS OF ECONOMICS

What if Keynesian ideas had shaped policy during the Great Depression?

Before the publication of John Maynard Keynes’ great treatise, *The General Theory of Employment, Interest and Money*, in 1936, conventional economics held that discretionary economic policy could not affect the real economy. Intervention would not help overcome unemployment, and naïve attempts to do so would actually undermine the effective workings of markets. Keynes, in contrast, showed the way to contain economic recessions through stimulating aggregate demand. His insights revolutionized economics.

The Great Depression began in the United States in 1929 with the collapse of the stock market, which set off a wave of bankruptcies and defaults that spread rapidly around the world. Germany and to some extent Great Britain, which were the most indebted to the U.S., were hit the hardest.

What if the Keynesian insights of *The General Theory* had been understood by policy makers as early as 1928? There doubtless would have been a serious recession in the U.S. and abroad, but not the disaster of the 1930s that actually occurred. Policy makers in the 1930s would have followed Keynesian practices and stimulated aggregate

demand through discretionary fiscal policy. This would have reduced both the length and severity of that depression.

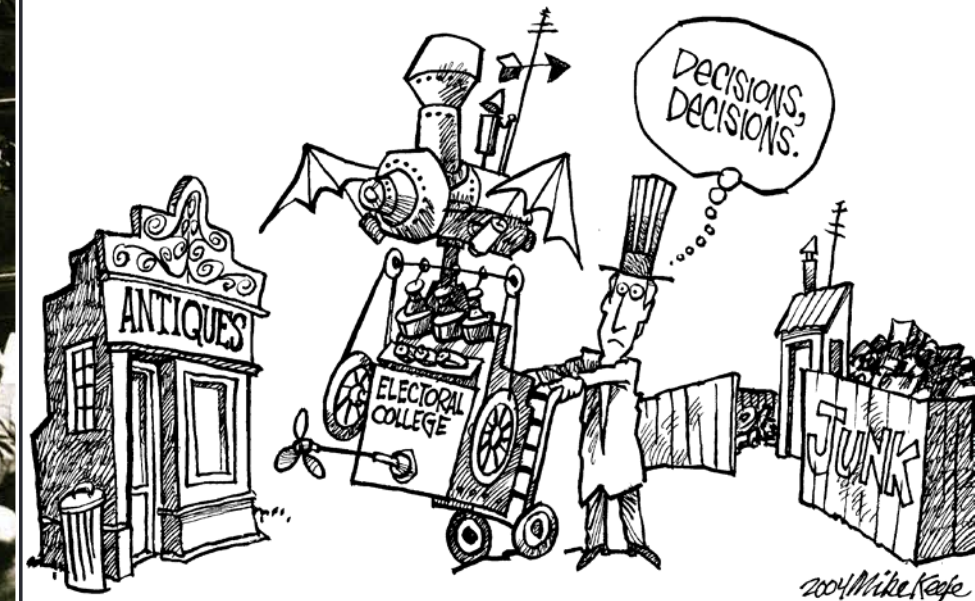
After World War I, Germany suffered from heavy reparation payments and hyperinflation, so it had lots of problems. But wise Keynesian countercyclical policy probably could have helped its economy to recover. Also important, the economic contagion from the United States would also have been less severe in Germany had the U.S. itself been following Keynesian practices. Unemployment in Germany consequently would not have reached 30%, as it did in 1932, to usher Hitler and the Nazis into power.

There still might have been wars. Italy and Japan would probably still have set out as colonial powers to conquer new territory. But had the insights of Keynes been available 10 years earlier and embraced by the Hoover and Roosevelt administrations and the Fed, Hitler and the Nazis might well have never come to power, and there would have been no World War II in Europe.

As Keynes said, “...the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else.”

BY SUSAN McWILLIAMS
ASSOCIATE PROFESSOR OF POLITICS

What if the Electoral College didn't exist?



In one very real sense, the Electoral College *doesn't* exist: It has no location. Its members—the 538 electors, who are chosen by and bound to a hodgepodge of state-level rules—never gather as a single body.

Instead, during presidential election years, on the first Monday after the second Wednesday in December, the electors meet in their respective states and cast votes, on separate ballots, for president and vice president. Shortly thereafter, on January 6, a joint session of Congress oversees the counting of electoral votes by state. The sitting vice president, acting in his (or someday, God willing, her) capacity as president of the Senate, then announces the results of the ballots and who, if anyone, has received the necessary 270 electoral votes to be named the next president and vice president of the United States, respectively.

It’s a weird enough seeming system that there are always proposals to dismantle it, usually in the name of democracy or transparency. Currently, the National Popular Vote movement tries to do an end run around the Electoral College by asking state legislatures to pledge their electoral votes to the winner of the national popular vote.

So: what if the Electoral College *really* didn’t exist? The obvious thing to say is that if the Electoral College didn’t exist, the presidency and vice presidency would be chosen by a simple majority of American voters. ▶

That change would in turn spur changes in presidential campaigns. Today, under the Electoral College system, candidates try to maximize their chances of winning by focusing their campaigns, especially their late-stage campaigns, in a series of “swing states” which have significant numbers of electoral votes and a mixed electorate—the states that thus might be the determining factor in an election (like, recently, North Carolina, Ohio and Indiana).

Were there no Electoral College, campaigners would calculate differently. Most likely, we’d see presidential candidates focus on high-density urban areas and power centers. After all, in cities you can access the most voters, most efficiently—not to mention the most wealth. So campaigns would likely home in on places like New York, Los Angeles, Chicago and Houston. We’d see little late-stage campaigning in Ohio. And we’d hear ever more about issues that concern residents (and especially elite residents) of large cities. There would be a lot less discussion of agriculture policy; that’s for sure.

It’s also imaginable that absent an Electoral College, a candidate might choose to focus on just one section of the country. It’s impossible to win with that approach in the current system, but under simple majority rules, a candidate can win by dominating the vote in a limited region. Consider 1888, when my distant cousin Grover Cleveland won the popular vote but lost in the Electoral College. That happened because cousin Grover had disproportionate support in the South but pretty much nowhere else. (This is the kind of thing that defenders of the Electoral College imagine when they say that in a simple majority system, it’s much easier to win by catering to ideological extremes.)

Those shifts in campaigning would, in turn, change other aspects of how we think about American politics. We’d hear less red-state/blue-state talk, since votes would no longer be organized at the state level. We’d have more neglect of, and alienation in, rural America (which already has a poverty rate higher than that of urban America). We’d see the further weakening of our already weakened political parties, with a corresponding growth in the already grown influence of corporate and personal wealth in politics; that’s because candidates would depend less on state-level party organizations in particular, while they’d depend more on raising money to mount their own, individual campaign strategies. (Note that although a majority-vote system would be a formally more democratic system of governance, a majority-vote system also leads to consequences that create effectively *less* democratic governance.)

One thing, though, above all is sure: If there were no Electoral College, we’d spend a lot less time listening to political scientists talk about the Electoral College. That, at the very least, might be a thing worth imagining.



BY **KAREN SISSON '79**
VICE PRESIDENT AND TREASURER

What if Pomona had not built a strong endowment?

Where would we be if Pomona had never changed the way it managed its endowment? In the late 1970s, then Treasurer Fred Moon approached President David Alexander about a “new” approach to investing the College’s endowment. The traditional investment formula at that time was to invest a college endowment in a combination of stocks and bonds. Typically, a higher percentage would be invested in stocks. Treasurer Moon suggested that a different approach might result in better returns on the College’s investments. Moon was acquainted with an investment advisor at Harvard who had formed his own firm and was recommending an “asset allocation” approach to investments. A more quantitative approach, the idea was to create a portfolio of diversified investments over a wide variety of asset classes—real estate, commodities, private equity, venture capital, stocks and bonds—that would be less volatile than a typical stock and bond mix but also yield better returns.

President Alexander and the Board of Trustees agreed and a long and productive relationship with Cambridge Associates and the implementation of the asset allocation strategy began. Since that time the endowment has grown from approximately \$117 million in 1985 to over \$2 billion today, fueled not only by outstanding investment performance but also by new gifts from donors and the reinvestment of earnings. Today, income from the endowment funds over 40 percent of the College’s operating budget, including 35 percent of faculty salaries through donor-endowed chairs and 40 percent of the College’s financial aid to students. Needless to say, the endowment is what has made it possible for Pomona to stay need-blind in admissions, package financial aid without loans and meet each student’s full financial need.

You can also see the endowment at work in Pomona’s campus—new sustainable buildings like the LEED Gold Studio Art Hall, the new LEED Platinum Millikan Laboratory and Andrew Science Hall, LEED Gold Pomona and Sontag halls all were paid for with contributions from endowment income in addition to generous donor contributions. Due in large part to the endowment, sustainable building practices and landscaping are the norm on the Pomona campus. The renovation of buildings bordering the Peter Stanley Academic Quadrangle and the repurposing of parking lots to create new open spaces like those between Mudd-Blaisdell Hall and Harwood Court and the Big Bridges North Portico patio also benefitted from endowment income. That income also provides generous support to the Claremont Colleges library materials budget as well as research and materials for numerous College departments through donor-restricted gifts.

It is hard to find a part of the Pomona community that has not benefitted from the endowment. When we celebrate our outstanding faculty and small class sizes, the beauty of our sustainable campus and the richness of our student body, we should keep in mind the contribution of donors over time and that first conversation between Fred Moon and President David Alexander.

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Pomona College

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What If?

Is there any question more characteristically human than one that begins with those two little words? They may be spoken with excitement or with regret, with curiosity or with fear, but they’re always spoken with the brain in high gear—doing what human brains were meant to do: look beyond the way things are to how they might be.



In psychology, such speculations are known as “counterfactuals” or “prefactuals”—the “what-ifs” and “if-onlys” that plague us or motivate us as we reflect upon past events or try to imagine a better future.

In philosophy, they’re part of a long line of epistemological thought reaching all the way back to Aristotle.

In linguistics, they’re those strange and wonderful parts of grammar that we use to describe things and events in precise detail while acknowledging that they have not yet (and may never) come to pass.

In science, they’re the basis of all hypotheses. As such, they are arguably the foundation from which all scientific knowledge springs, and indeed, upon which the whole modern world is built.

In fiction, there’s some sort of “what if” at the heart of every work—sometimes philosophical (What if a mother had to choose which of her two children to save from the gas chamber?), sometimes scientific (What if a lone man were stranded on Mars?), sometimes historical (What if the Nazis had won the war?). There are, as you probably know, whole novels exploring each of these intriguing possibilities.

But one of my personal favorites in the “what-if” realm of literature isn’t a novel at all—it’s a nonfiction book called *What If the Moon Didn’t Exist?* by astronomer Neil F. Comins. The book is a series of essays, the first of which asks the question in the book’s title. (Spoiler alert: There would probably be no life, or at the very least, no life as we know it.) He goes on to address a series of other questions that would likely result in a dramatically changed world. What if the Moon were closer to the Earth? What if the Earth had less mass? What if the Earth were tilted like Uranus?

Comins concludes his book, however, with a “what if” question that crosses the boundary from intriguing speculation into scary fact: What if the Earth’s ozone layer were depleted? The picture he paints in his essay is graphic and frightening and all too probably in the process of coming true before our eyes.

As Comins notes, “the ‘what if’ process is an essential part of our ability to consider the long-term effects of our actions before we take them.”

Or in other words, the world would be a better place if more of us would pause to ask: “What if?”

—MW

Dreamers

I found the Summer 2015 issue very interesting and informative, which has been increasingly the case over the past few years. The American Dreamers feature got me thinking about a great use for this issue once I've finished it. In the past old issues have found a home on a coffee table shelf before they were recycled. This issue is bound for the waiting room of my physical therapist's office where it may be browsed by an undocumented immigrant or someone who knows such a person, who in reading the Dreamers feature may use this information. Keep up the good work!

—Steve Lansdowne '71
Austin, Texas

I don't believe I've ever missed a year donating to Pomona College since I graduated in 1976. My reasoning was that since someone paid for half my education, it was up to me to pay that back, and forward. But I have to admit a few years ago I did ask a Pomona fundraising person why I should still be donating, as Pomona has such a large endowment already. I never felt I really got a good answer until I read an article in *The New York Times* earlier this year, which I believe listed Pomona as having the fourth most economically diverse student body in the U.S. That was very gratifying.

And now I have a second reason—the Dreamers, as profiled in the recent issue of *PCM*. I love that my money is going to supporting these great young adults in their quest for high quality college education. As someone who has a conservative/libertarian bent, I am appalled at the racist and xenophobic immigration laws enacted in the last 130 years or so. From my perspective, these young adults are Americans in every sense of the word, so I'm proud to read that Pomona College feels as I do.

P.S. In a bit of irony, my conservative/libertarian political views were largely defined after taking a political science course from the late Dr. Krinsky, whose views were far to the left of where I ended up. When I hear people decry the liberal viewpoints nominally espoused in the typical college curriculum, I think they undersell the typical student's underlying curiosity and convictions. I spent the semester arguing for Dr. Krinsky's positions, as students often will, but in the end, I was not convinced. However, although Dr. Krinsky was a true believer in leftist ideals (the benevolent dictator), he invited a group of young libertarians to come speak to the class. He wanted us to hear opposing views, and for me it was a truly pivotal moment in my Pomona education.

—Steve Rempel '76
Los Gatos, Calif.

The elegantly written piece, "American Dreamers," expresses the highest aspirations of our College's founders, of whom my great grandfather was its first dean. Investing in our future leaders, and in this matter, of our immigrant youth, is a passion I share. I am "invested" in this enterprise as a matter of carrying "our riches to all mankind" and have done so in teaching and adopting four of these immigrant kids.

—David Lyman, '66
South Pasadena, Calif.

Hurray for Introverts

There are many reasons I am happy to be a new Sagehen mother, one of them being the wonderful *Pomona College Magazine*. When my daughter Natalie McDonald '19 read your essay "The Power of Quiet," she exclaimed with delight, "Yet another reason I am so excited to be going to Pomona College!" We had so many conversations about Susan Cain's book, and I even wrote a post about our dinner-time conversations about it. We found it liberating and, as you observed, "reassuring" to understand and appreciate the special gifts of being introverted in an extroverted society. And then I read your recent essay "Stories Matter," and all I could say to my husband Bill and Natalie was: "Wow..."

—Pamela Beere Briggs P'19
Los Angeles, Calif.

Memories of Little Bridges

Thanks for Professor Beeks' wonderful tribute to Little Bridges. I was especially interested in his note that 1962 marked the beginning of annual collaborations between the choir and orchestra. In April 1962, I had the honor of performing as concertmaster of the orchestra in the very first such collaboration. Under the baton of Professor William Russell the combined forces of orchestra and chorus performed Brahms' *A German Requiem* (in English, interestingly enough) for a full house in Little Bridges. As noted by Professor Beeks, we actually had to build an extension of the stage to accommodate all the musicians for that concert, but Bill Russell had the vision to make it happen and to continue the tradition thereafter.

My other favorite memory of Little Bridges and of Bill Russell is from the concert presented in the same year by the band. Professor Russell wanted to do a program for winds, and I suggested that he include the *Second Suite for Military Band* of Gustav Holst. This piece includes the "Song of the Blacksmith," featuring a part for (what else?) an anvil. As a violinist, I didn't normally play in symphonic bands, but Professor Russell invited me to sit in on anvil for this concert. Once we located an actual anvil for the purpose it turned out neither of us liked the sort of clanky sound it made. Then he remembered that he had a 3-foot length of railroad rail at his house. We hung it from one of those beautiful side balconies over the stage, and I rendered my first (and only) performance with concert band using a large hammer on the stage of Little Bridges Hall of Music. What a glorious, ringing sound it was!

Thanks again for the memories, and Happy Centennial to Little Bridges.

—Paul Bent '65
Long Beach, Calif.

I found this most recent issue of *PCM* a particularly good and interesting one. I recall Graydon Beeks leading the tenors and baritones/basses of the choir to learn the new music. This was 1982–1984; 1985–1986, when I sang tenor in the P.C. choir. (The choir director Jon Bailey assisted the sopranos and altos to learn their parts.) But when I read Beeks' article, that opens the issue, I was really pleased to find that his organ teacher was Doc Blanchard, because

my mother, Margaret Lindgren (née Fuller), a Pomona alumna, has often told me the (true) story of Doc Blanchard, who was organist of the Claremont Methodist Church, having to leave in the middle of the Sunday morning church service to go put out fires as he was on the Claremont Fire Brigade!

Especially meaningful to me in this issue, however, is the large section on undocumented students, including the as-yet-unpassed DREAM Act and DACA, which President Obama pushed through and still stands, allowing undocumented individuals, under specific circumstances, to remain in the United States with full legal protection and renewal every two years, even though they are not granted U.S. citizenship. Citizenship is what the President would really like to see, but cannot without the full backing of the Congress. This act is truly bipartisan, with both Democrat and Republican Congressmen originating and voting for it.

Finally, I thank you for posting my most recent volume, *The Wood of Green: Poems, Stories, and Studies*. You have done a good synopsis except, I think, regarding the studies or essays. There are only several studies that are of a philosophical nature. Most are human-experiential studies concerning human and divine. I do understand the difficulty to bring all this into focus in such few words.

I enjoyed reading this entire issue; it is one of the best I have read since I began receiving *PCM* many years ago (over 25 years).

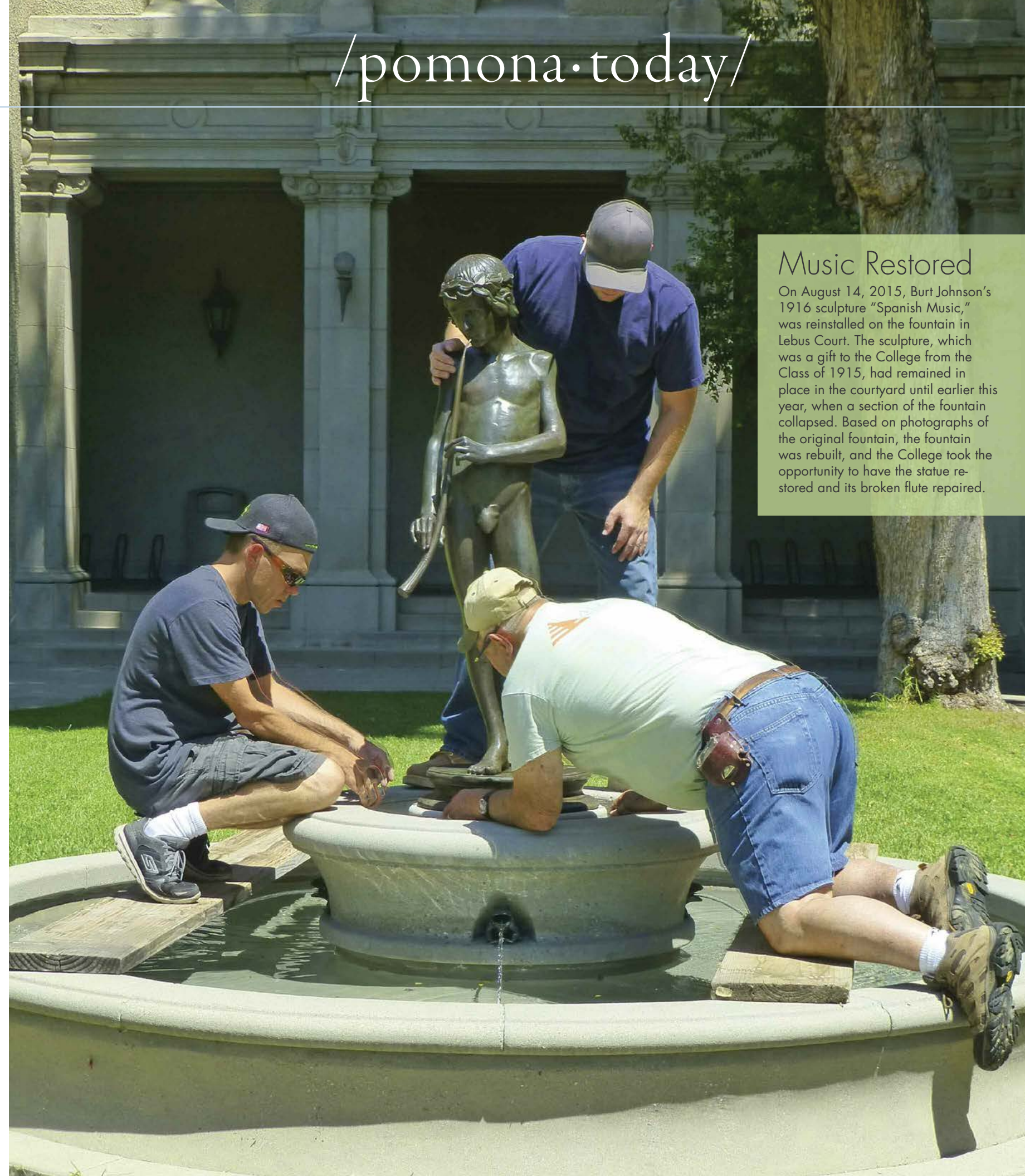
—Alan Lindgren '86
Culver City, Calif.

More Walton Memories

Thank you, Judy Bartels, for your letter about Jean Walton. In my time at Pomona she was important to women for her skill and caring as dean of women and because she was a rarity, a female professor (mathematics). Mark Wood tells us that stories are important, so I want to share one. One day Dean Walton joined a group of women students for coffee in the village and we began to talk about math and how puzzling it was for many. Dean Walton enjoyed the conversation and began answering questions. I mentioned that I had noticed dividing by whole numbers yielded smaller numbers while dividing by fractions did the opposite. She gave a simple, elegant explanation that differed so from my experiences in math classes that I was charmed. I pondered this for some time and 20 years later, when I decided to teach, I chose secondary math. I hoped to open the door for others that Dean Jean had opened for me. I am retired now, but in my community I am often introduced as "the math teacher" because, I hope, I was able to discover ways to do that for my students. Teachers often have no idea of their impact, and Dean Walton never knew about my teaching, but if I was able to open some doors, I think she would be pleased.

—Frances DuBose Johnson '54
Newbury Park, California

[Alumni and friends are invited to email letters to pcm@pomona.edu or "snail-mail" them to *Pomona College Magazine*, 550 North College Ave., Claremont, CA 91711. Letters may be edited for length, style and clarity.]



Music Restored

On August 14, 2015, Burt Johnson's 1916 sculpture "Spanish Music," was reinstalled on the fountain in Lebus Court. The sculpture, which was a gift to the College from the Class of 1915, had remained in place in the courtyard until earlier this year, when a section of the fountain collapsed. Based on photographs of the original fountain, the fountain was rebuilt, and the College took the opportunity to have the statue restored and its broken flute repaired.

1

#1
(It's Lonely at the Top...)

There's no modest way to say it.

According to *Forbes* magazine, Pomona College is now #1 among all colleges and universities in the country.

Really. When *Forbes* released its "America's Top Colleges 2015" issue earlier this year, to the surprise of many across the country and the delight of Sagehens everywhere, Pomona topped a distinguished list that went on to include #2 Williams, #3 Stanford, #4 Princeton, #5 Yale and a lot of other amazing institutions. (Harvard is in there somewhere.)

Forbes explains that their rankings differ from other college rankings, in part, due to their emphasis on outcomes, including amounts of student debt, graduation rates and measures of student satisfaction and career success.

"While the cost of U.S. higher education escalates, there's a genuine silver lining in play," explains *Forbes*. "A growing number of colleges and universities are now focusing on student-consumer value over marketing prestige, making this a new age of return-on-investment education."

Of course, we all know ratings are overrated. Then again, what's wrong with a few hard-earned bragging points?

2



Certified Platinum

The newly rebuilt Millikan Laboratory and Andrew Science Hall have been certified LEED Platinum, the highest rating for building sustainability standards, joining nine other Pomona College buildings that have achieved LEED (Leadership in Energy & Environmental Design) status. As Pomona's first LEED Platinum science/laboratory building, the complex joins just four other science buildings with that rating in all of Southern California.

"Obtaining a LEED Platinum rating is much more difficult in a science building because of the specialized systems required by laboratory facilities," says Robert Robinson, assistant vice president of facilities and campus services. Millikan's numerous green features encompass landscaping, lighting, materials and alternative energy.

LEEDing Edge

Here's the full list of LEED certified buildings on the Pomona College campus today:



- PLATINUM**
 Millikan Laboratory and Andrew Science Hall, 2015
 Pomona Residence Hall, 2011
 Sontag Residence Hall, 2011



- GOLD**
 Studio Art Hall, 2015
 Grounds I, 2013
 Grounds II, 2013
 Grounds III, 2013
 Edmunds Hall, 2007
 Lincoln Hall, 2007



- SILVER**
 Richard C. Seaver Biology, 2006

(In addition, the South Campus Parking Structure (2011) was built to LEED Gold+ standards even though parking structures do not qualify for certification.)

3



"If you're comparing yourself to others, you're often going to find yourself short on something, especially if they have a background that's different from your own. ... Don't measure yourself against others. Measure yourself against you. How much have you done to get where you are? And take pride in that, because that adds to the richness of your university and the place that you're in."

—Supreme Court Justice Sonya Sotomayor during a visit to campus in October

4



Project #50

For nearly 20 years, the Pomona College Museum of Art has been home to a series of exhibitions designed to turn a spotlight on emerging and underrepresented artists from Southern California. After 49 exhibits in what became known as the Project Series, senior curator Rebecca McGrew '85 decided to take it up a notch for Project #50 by showcasing seven artists in concurrent solo exhibitions in "R.S.V.P Los Angeles," which will be open through Dec. 19. "I envisioned collaborating directly with the artists who themselves were engaging with the contemporary cultural moment through a rich, boundary-blurring dialogue of art, culture, history, social issues, politics, music, science and more," says McGrew on how the Project Series was conceived in 1999. Many of the artists who have been featured in the series have gone on to major national recognition.

5

Critical Inquiries

This fall, first-year students chose from 30 Critical Inquiry seminars—writing-intensive courses designed to prepare them for academic life at Pomona. Here are a few of the titles:

TOLKIEN
(Professor Chinn)

I DISAGREE
(Professor de Silva)

BAD MUSIC
(Professor Schreffler)

WALKING: POETICS, POLITICS, PRACTICE
(Professor Dwyer)

THE STORY-TELLING ANIMAL
(Professor Abecassis)

PUNK: POETICS, POLITICS & PROVOCATIONS
(Professor Auerbach)

CAN WE BE REASONABLE?
LANGUAGE, MUSIC AND EMOTION IN PUBLIC DISCOURSE (Professor Moore)

THE IDEA OF MONEY
(Professor Seery)

POSSIBLE WORLDS
(Professor Rosenfeld)

日本 JAPAN AS UTOPIA & DYSTOPIA
(Professor Flueckiger)

This is Your Brain on Counterfactuals

Suzanne Thompson, professor emerita of psychology at Pomona, conducts research on how people react to personal threats, particularly those with delayed consequences. She and her undergraduate research group are investigating a variety of ways in which different perceptions of threat influence the processing of threatening information and guide health and safety behaviors.

PCM: As a psychologist, how do you see the role of “what if” thinking in human affairs?

Suzanne Thompson: The theme that you’ve chosen is especially interesting because “what if” or “if only” thinking is such a basic part of human cognition. And there seem to be good evolutionary reasons for that. It has helped us develop the ability to control things, to anticipate—if I do this, what’s going to happen?—and then to carry that several steps down the line.

Or looking back, it allows us to analyze what has gone before and play out these little scenarios of what else could have happened, which is full of information about causes and effects.

PCM: What kind of research has been done in this area?

ST: When thoughts like these refer to the past, they’re usually called counterfactuals, and when they refer to the future, we call those anticipatory factials or prefactuals. I would say most of the work has been done on counterfactuals, or what’s sometimes called “cognitive undoing.” There are two basic types—upward and downward counterfactuals. An upward counterfactual is when we undo what did happen and imagine a better outcome. For example, if I’m a student who got a C on a test, and I imagine, “If only I had skipped that party and studied hard, this could have been a B or an A.” Alternatively, we can imagine a worse outcome—a downward counterfactual, such as, “I’m glad I at least covered that material or it could have been a lot worse. This could have been a D or an F.”

The two kinds of counterfactuals have very different effects and different advantages and disadvantages. Imagining something better tends to lead to unpleasant emotions—regret or maybe self-blame. And if it involves other people’s behavior, we might blame them. That’s the downside, those negative emotions and reactions.

But the upside is that there’s a lot of information there about what we can do to change things in the future, and people can use that. One study asked college students about the kinds of counterfactuals they were making for their grade on the first big exam. Then the researchers followed them for the rest of the semester, and found that the students who had made upward counterfactuals felt more regret and blame, but also tended to

have a stronger sense of control and got better grades over the course of the semester. That gives support to that idea that upward counterfactuals are very useful.

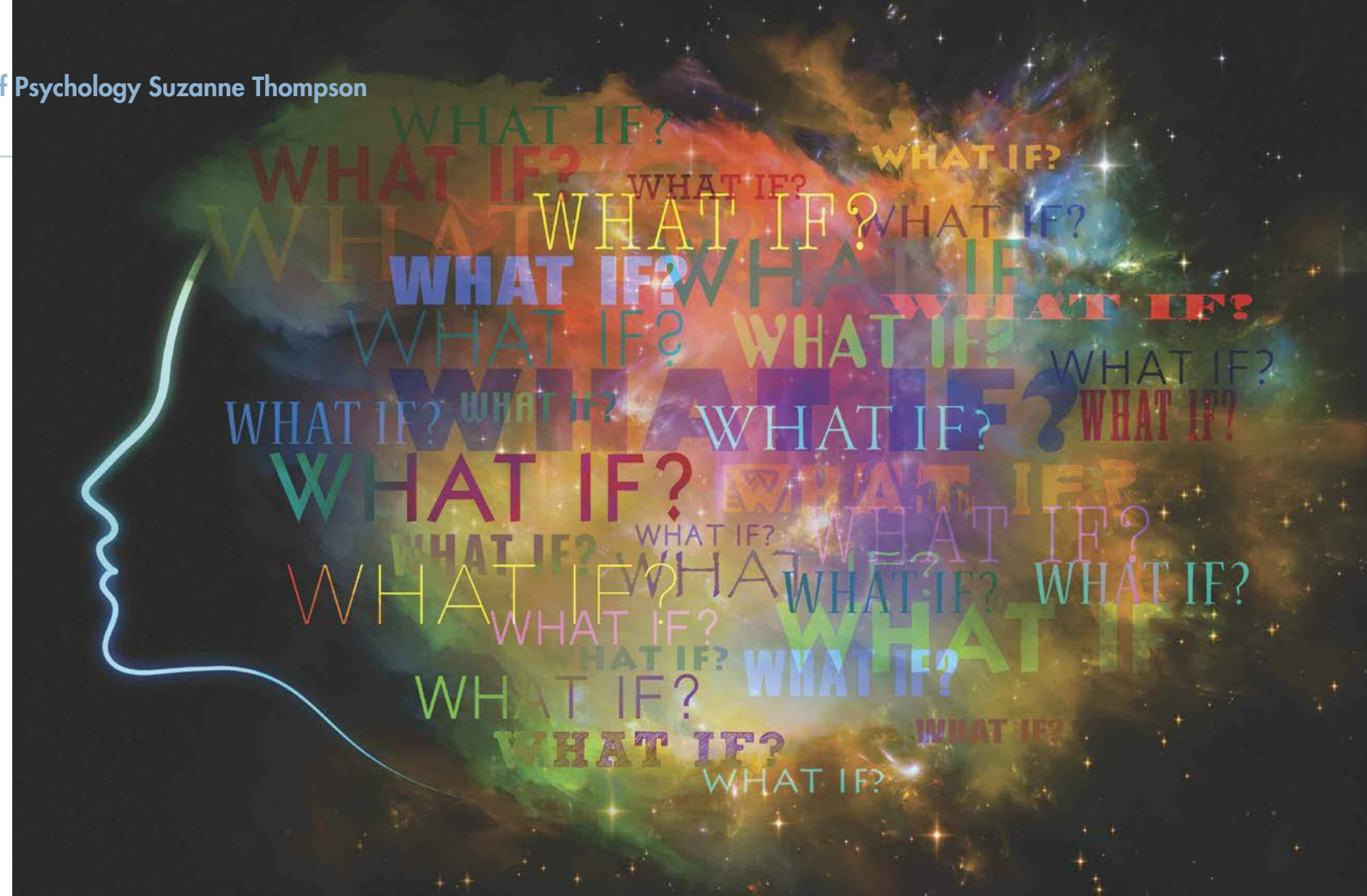
In contrast, the downward counterfactuals—“it could have been worse”—led to more positive emotions, but were not as instructive. They didn’t have useful information about how to change your behavior to get a better outcome.

PCM: So no pain, no gain?

ST: That’s right. Research has also looked at what we “undo” in a counterfactual. We tend to look mainly at our own behavior, maybe because we have more control over that or it’s more useful. We also tend to undo things that happened fairly close to the event. And if something unusual happens—if you had a break in your routine or took a different route to work and then got into an accident—that’s what’s going to pop out as something to undo.

PCM: What about people who get obsessed with their “what if” thoughts?

ST: Yes, it can get pushed too far. There are people who get immersed in “what if” and “if only.” For people who have gone through some traumatic event, like losing a loved one in an automobile accident or to disease, it’s very common initially to do



this kind of counterfactual thinking. It seems useful early on, but if people are still doing it years later, it’s a sign of not coping very well. It is better to get your information, and then get out and not get stuck in the “undoing” side of things.

PCM: Are there certain kinds of situations that tend to provoke counterfactual thoughts?

ST: Research has shown that near misses are particularly powerful. There’s a classic example that I use with my classes. Mr. Crane and Mr. Tees are going to the airport and they both get there a half hour late and miss their plane. When Mr. Crane gets to the airport, he finds that the plane left on schedule, a half hour before. When Mr. Tees arrives, he finds that his plane was delayed, and he just missed it. Almost everyone recognizes that Mr. Tees would feel worse, even though the situations are identical in terms of what happened to them. But emotionally, psychologically, we pick up on the fact that it could have so easily have been different, and that has a big impact on us.

Another good example comes from an article that was in the *L.A. Times* maybe 10 years ago about a guy playing the lottery who always played the same number again and again, and then one day he doesn’t and his number wins. And we all understand what that would feel like—that near miss. In fact, the Oregon lottery uses that as a slogan in some of their ads: “What if your number won without you?”

PCM: Have you thought about how counterfactual thinking connects with your own research about possible threats somewhere in the future?

ST: In a 2002 study, I examined people’s reactions to 9/11 a year after the event. And I found such amazing variety—from people who weren’t fazed at all to people who were highly sensitized to danger because of the event and were never going to fly again. That got me interested in individual differences—how we don’t all think about threats and the future the same way.

We all know people who are very sensitized to threat and also people who just brush it off, easy deniers. It is possible that those who have a great sensitivity to future threats are using anticipatory counterfactuals, and anticipating bad outcomes that could happen. For others who are not so sensitized to threat, the possible negative outcomes just don’t occur to them. A little bit of anticipating threats is a good thing, but a whole lot of thinking about every possible future threat—“if I do X, this bad outcome could happen”—can be paralyzing.

People who get more anxious about threats are more likely to protect themselves, which is good, but they may not be as discriminating about what really is necessary. You can see this play out in society sometimes. Around the time when AIDS was first identified, we didn’t know a lot about it, but medical researchers did know that it wasn’t easily spread. You can be in the same room with someone, even touch them, but not be at risk. But many parents wouldn’t let their kids go to school with another child who was identified with AIDS or had a relative with HIV or AIDS. Sensitization to threat can lead to that type of over-reaction.

It is easy to see how this ability to play things out and anticipate outcomes allows you to identify more negative things that could happen, and that can heighten anxiety and lead to over-reactions. My research has not yet tied threat hypersensitivity to counterfactuals, in particular, but now that I have talked with you about this, it is something I want to do. Does the hypersensitivity to threat come from being very prone to counterfactuals and especially prone to ones in which you play out the scenario to a negative ending?

PCM: There’s one aspect of “what if” thinking that we haven’t discussed yet. That’s the fact we also do it for fun—like in this issue of the magazine. We read counterfactual stories. And we play games, like chess, that are all about pre-factual scenarios.

ST: Chess is a good example. You’re following a line of thought with all the branches and possibilities. What chess masters can do—thinking many moves ahead—is an amazing ability. Because counterfactual and prefactual thinking are such important abilities from an evolutionary viewpoint, it makes sense that we find them rewarding. The fun is our incentive for practicing these very useful ways of thinking.

—Mark Wood

"Here, Let Me Show You..."

If you are ever offered a tour of the new Millikan Laboratory and Andrew Science Hall with David Haley as your guide, take it. A 21-year veteran of physics departments, he has an enthusiasm for his subject that is nonstop and infectious. Completely at ease in the corridors of Millikan's new underground laboratory, he misses no opportunity to point out the fascinating creations of Pomona students and faculty.

"This one is a sonoluminescence project," he says, referring to one of the many capstone projects he's kept over the years. "It uses sound to create a bubble, which produces light. And this—" He gestures to a nearby rolling chair contraption. "—Is a fire-extinguisher-propelled rocket cart. You sit on it and you squeeze the pin and you shoot yourself down the hall. It's for talking about Newton's laws." Before exiting a workroom, he pauses to flick on a homemade air hockey table, explaining: "I'm trying to convince one of the professors to create 3D shapes that we can print and use to teach conservation of momentum."

Haley, who has been working at Pomona since the summer of 2001, describes himself as a "physics roadie." As the senior lab technician of the Physics Department, he is primarily responsible for handling the equipment for labs and the lecture demonstrations, in addition to supporting faculty research and student projects. "One of the nuances of my job is making the process more streamlined and straightforward for students, so they're less worried about how things work and more focused on the concepts behind the lab," he explains. "If I do my job right, you'll rarely know I was there."

Haley graduated with a B.A. in physics from Kansas State University, after which he spent seven years working as a lab technician at New Mexico State University before moving to California. Luckily for Pomona, he was informed of the open position by chance, after contacting a former coworker who happened to attend the same summer meeting of the Physics Instructional Resource Association (PIRA) as Pomona Professor of Physics David Tanenbaum. "I didn't really realize the caliber of Pomona when I first got the job," Haley confesses. "It was just a name to me. But once I started working here, I realized what a special place this is. It makes me believe in karma."

If good karma is a reward for good deeds, Haley deserves a lot of it. He recently gave a presentation to the Southern California chapter of the American Association of Physics Teachers (AAPT) detailing the Pomona College Lending Library of physics equipment, which he manages. Composed of 10 different experiments, ranging from electricity and magnetism to mechanics to superconductivity, the library serves physics teachers from around Southern California, who can request to borrow experi-



"One of the nuances of my job is making the process more streamlined and straightforward for students, so they're less worried about how things work and more focused on the concepts behind the lab. If I do my job right, you'll rarely know I was there." —David Haley

ment kits for their lessons once they've attended a Pomona faculty-run workshop. "This is part of Pomona College's mission," says Haley. "We're obligated as educators to help teach not only our students here at Pomona, but the general populace. I like that I can use what I do, and the equipment I have, to get people interested in science and the world around them."

Since Haley is an enthusiast for science in general, you'd think choosing to focus in only one field would have been tough for him, but this isn't the case. "I like the applied nature of physics," he says. "The world is a very beautiful place, and I want to understand it better. Why do objects have mass? Why is there gravity? The more evidence you get to support a theory, the more you believe it's accurate, but you can never really take it as truth. But that's what I like about physics. It's always a reiteration."

And yet despite the reiteration, Haley's job is never boring. Particularly exciting for him was the opportunity to use his many years of experience to help design the new science building. The Physics and Astronomy Department seized the opportunity to reorganize their space, implementing prep rooms between labs and behind lecture classrooms at Haley's suggestion. His favorite parts of the building also include the new student research labs and machine shops, which were absent in the old Millikan. And new perks of the job include selecting items for Millikan's first-floor display case. Haley is eager to point them all out: "These

are Lichtenberg's figures; they're basically electric sparks encased in acrylic. This is a laser-etched glass figurine. This is the Milky Way galaxy, and this is a large-scale galactic structure. Those are some of our antique Gessler tubes from the 1920s. Those are all meteorites. And here's a 3D-printed figurine of a student wearing a hat."

Below ground again, as Haley enthusiastically indicates each of the projects that live in the basement of Millikan, he tells the stories of their creators. The student who created a rail gun as his senior thesis is now working at Los Alamos. Another student started his own software company.

Haley keeps all of his thank-you notes in a special place of honor on his desk. Smiling to himself as he goes through each one, he remarks, "It's easy to come to work when you have things like this. To work with people like this is amazing. Plus, I get to play with soap bubbles and Tesla coils and shoot balls across the room. It's really—can you see the colors in the film now?"

He gestures toward his workbench, where he has set up an old junior project, a soap film encased in a clear box. "The colors have to do with the thickness of the film. It's an interference of light demonstration, pretty much the same idea as an oil slick on water.

"Here—let me show you."

—Feather Rose Flores '17

New on the Board of Trustees

The Pomona College Board of Trustees has a new chair and three new members. Samuel D. Glick '04 took over the gavel this summer from Jeanne Buckley '65. Joining the Board for the first time were Matthew J. Estes '88, Nathaniel "Nate" Kirtman '92 and Xiaoye "MD" Ma '11.

Board Chair Samuel D. Glick '04



Samuel D. Glick '04 first served on Pomona's Board of Trustees as the young alumni member from 2007 to 2011. He was elected to his current term in 2012. Glick is partner and San Francisco office leader at Oliver Wyman, where he advises the nation's leading healthcare organizations on business strategy. At Pomona, he earned his bachelor's degree in economics, with a minor in classics. As a member of the Board, he has served as chair of the Advancement Committee and as a member of the Finance Committee, Facilities and Environment Committee, Educational Quality Committee, Student Affairs Committee, Wig Fund for Teaching Committee and Honorary Degrees Committee.

Matthew J. Estes '88



Matthew J. Estes built four companies in China during the past 24 years. He was founder & CEO of BabyCare Ltd., which manufactures and sells nutritional supplements via a chain of BabyCare Centers and a direct sales force of over 200,000 people in China. He was also founder of Yaolan New Media Ltd. (yaolan.com), a leading Chinese language parenting website with more than 11 million registered families. He sold BabyCare and Yaolan to U.S. companies. Previously, he was with Wella Cosmetics (now part of Procter & Gamble) and SmithKline Beecham (now GlaxoSmithKline PLC). He served as Vice Chair of the American Chamber of Commerce in China and is currently focusing on health-care- and internet-related venture capital.

Nathaniel "Nate" Kirtman III '92



As senior vice president for publicity of NBC Universal Television Group, Nathaniel "Nate" Kirtman III '92 oversees the media giant's corporate publicity initiatives, charitable contributions, operations, events and digital communications efforts. His previous roles at NBC included overseeing publicity for late-night programs such as *The Tonight Show* and *Saturday Night Live*, talent relations and events. Earlier, Kirtman served as manager of marketing communications at GE-Aviation and led the corporate digital team at GE's corporate headquarters. A government major and star athlete at Pomona, Kirtman was a ninth-round pick of the Dallas Cowboys. He has also served on the Alumni Association Board.

Xiaoye "MD" Ma '11



Xiaoye "MD" Ma '11 is the new young alumni trustee. Ma is a senior manager of business intelligence at 5.11 Tactical, a firm that innovates tactical gear for global special force operators, first responders, and outdoor enthusiasts. Prior to taking on this role, he was a management consultant at Deloitte Consulting. Graduated *magna cum laude* from Pomona, Ma was an economics and media studies major, freshman class president, ASPC commissioner of communications and RHS staff. Between high school in Singapore and Pomona, he spent part of his gap year as an actor in a Chinese television drama about firefighters.

HOW TO BECOME THE DIRECTOR OF SAGEHEN ATHLETICS

There's nothing particularly surprising

in the fact that Pomona-Pitzer's new athletic director has hit the ground running. Lesley Irvine has been moving fast ever since she was a child—first as a multi-sport athlete, then as a high-profile coach and finally as an athletic administrator. At Pomona, she has assumed a newly created full-time position as chair of Pomona's Physical Education Department and director of the joint athletic program of Pomona and Pitzer colleges.

"I wanted to be at a place that was striving to be excellent both athletically and academically—a place that knew and believed that those things go hand in hand and support one another," she explains in a clipped British accent softened at the edges by 16 years in the United States. "I also wanted to be at a place that was really striving to improve and be aspirational."

Since her arrival, Irvine has been visible all over campus as she acquaints herself with every aspect of Sagehen sports—from intramurals to varsity—and begins to plot a course for the future. "As I think about the vision for Pomona-Pitzer Athletics, I think about broad-based competitive excellence," she says. "I think about providing an experience that is at the highest level for our student-athletes. And I think about the visibility and connectivity of athletics on the campuses here."

1 Grow up in Corby, a steel town in central England where most people are of Scottish descent and speak with a Scottish brogue. Develop into an active child, always sporting a scraped knee. Get involved in athletics with the encouragement of your dad, an avid soccer player, coach and fan.

2 Join a track and field club at the age of 9 and, since you excel in a range of athletic events, specialize in the heptathlon. In high school, find yourself playing almost every sport, from basketball to volleyball to soccer. Discover the game of field hockey and fall in love with it.

3 Accept an invitation to play on the English junior national field hockey team at the age of 16, while also competing internationally in the heptathlon. Play for England in a victory over Scotland in the Six Nations field hockey tournament and have to explain to your teammates why your dad, a proud Scot, is rooting against you.

4 Become the first member of your family to go to college, playing field hockey at prestigious Loughborough University. While there, win five national championships. During your second year, teach tennis at a summer camp in Maine (though you've never touched a tennis racquet before) and find yourself at home in American sports culture.

5 After graduating, come back to the U.S. for graduate school, attending the University of Iowa and playing competitive field hockey for one more year, scoring the only goal in a 1–0 victory over Stanford University in your first trip out West and leading your team to a Final Four appearance. Earn your master's degree in health, leisure and sports studies.

6 Return to Stanford as assistant women's field hockey coach. Discover that you love working with committed student athletes who love sports as much as you do. After two years, succeed the retiring head coach and spend eight years at the helm of Stanford's elite program, guiding them to three straight NorPac championships.

7 Leave Stanford to enter sports administration, spending five years at Bowling Green State University and rising to the rank of senior associate athletic director. Decide the job at Pomona-Pitzer is a perfect match for your abilities and your desire to help build something special for talented and motivated student-athletes while promoting wellness for a whole community.

—STORY AND PHOTO BY MARK WOOD

Tying the Knot

As Bridges Hall of Music celebrates its centennial, many Pomona alumni look back fondly at the place where they said "I do." The Little Bridges Wedding Register is a historical record of marriages that took place in the building, starting with Howry Warner 1912 and Mary Roof 1912, married June 1, 1916. Compiled in the early 1970s, the register was maintained and updated through 1992 and includes the names of 453 couples.

MARRIED IN BRIDGES HALL OF MUSIC

1919
Paul E. Young '18 to Judith Garrison '18 - July 2

1920
Perry Clark '20 to Estelle Hamilton '18 - June 8
Merrel Clubb '20 to Edith Jordan '22 - June 22
George S. Burgess to Laura Squire '08 - June 30
Dan McDonald to Effie Ransom '20 - July 30

1921
Ernest W. Bougher '15 to Lois M. Clency '15 -
June 15

MARRIED IN BRIDGES HALL OF MUSIC

George I. Linn to Anna M. Chuml '20 - June 21
Joseph A. Garrett to Gretchen Smith '16 - June 25
Harold J. Burt '16 to Grace Hamilton '19 - June 27
Stanley Solomon to Anna Gillen '21 - June 27
Loyd V. Steere '21 to Edith Jewell - June 28
George P. Hopkins to Edyth Ernst '21 - June 29
William C. Cooper '21 to Lillian Coleman '21 -
July 14

James K. Henderson to Margaret Gaylord '19 - Aug. 1
Knowles Ryerson to Emma Freeman '16 - Aug. 3
Paul D. Bentley to Lois Poeton '22 - Oct. 8
Robert D. Harwood '20 to Gertrude Hoar '20 - Oct. 11

1922
Edwin T. McFadden '14 to Florence Breckenridge
'20 - Feb. 11
Albert Vollmer '20 to Jeannette Chaney '20 - June 14

ITEM: The Little Bridges Wedding Register

DATE: 1916-1992

COLLECTION: Pomona College Books and Periodicals Collection

DESCRIPTION: 29-page handwritten book (16" X 12" X 1"), registering the names of all the couples who were married in Mabel Shaw Bridges Hall of Music between 1916 and 1992.

ORIGIN: The book was created by the College to list couples who were married in Little Bridges and kept for many years at the Alumni House (Seaver House).

If you have an item from Pomona's history that you'd like to see preserved in the Archives, please call 909-621-8138.



Above: The new Millikan Laboratory is still home to the Department of Mathematics and the Department of Physics and Astronomy. Below (from left): students at work in the Harry Mullikin Math Commons; the Fletcher Jones Foundation Planetarium; the open and light-filled floorplan of the new Millikan; a research lab with Physics Professor Richard Mawhorter; and a class in the John C. Argue Auditorium.



LONG-TIME NPR SCIENCE CORRESPONDENT JOE PALCA '74 HAD AN IDEA
—A BIG IDEA. WHAT IF HE STOPPED TRYING TO IDENTIFY THE IMPORTANT
SCIENCE STORIES AND FOCUSED EXCLUSIVELY ON THE INTERESTING ONES?

JOE'S BIG IDEA

STORY BY ANDREA APPLETON
PHOTOS BY LISA HELFERT



Joe Palca's cubicle in NPR's Washington, D.C., headquarters is strewn with bicycle gear from his daily commute, assorted piles of books about science, and random objects: a can of mackerel, a leaf-shaped bottle of maple syrup. From this cluttered perch, the longtime science correspondent has the power to shape what becomes news. If Joe Palca '74 decides a story is worth putting on the air, roughly a million listeners hear it. And if he misses a story, well, some of those listeners may never hear about it.

In 1996, *Science* magazine published a study on a novel approach to treating cancer. Immunologist James Allison and his co-authors reported that they had successfully treated malignant tumors in mice by blocking molecules on immune system cells that act as a brake on immune response. Palca didn't cover the study. "Nobody covered that paper," he shrugs. "Everybody has cured cancer in mice."

Two decades later, Allison's immunotherapy methods have led to the first effective treatment for advanced melanoma. Patients used to die in less than a year; with treatment based on Allison's research, some now live more than a decade. Allison has won dozens of prestigious awards for this work in recent years, including the Louisa Gross Horwitz Prize, often a precursor to the Nobel.

Someone, it seems, ought to have reported on that initial study. "If news is to tell you about the things that are important," Palca says, "that's the paper I should have been telling you about." But out of all the promising studies published that week,



"None of us in science journalism is smart enough to know which are the really important papers. No one is." —Joe Palca '74

Palca could not have known which one would make history. Reporters rarely do. "None of us in science journalism is smart enough to know which are the really important papers," he says. "No one is."

Nevertheless, the media generally presents scientific findings as if they were breaking news. As a result, Palca says, studies that will later prove inconsequential get the limelight, sometimes simply because they lend themselves to sexy headlines. Meanwhile, reporters inadvertently ignore research that, in hindsight, they ought to have covered (like that 1996 immunotherapy study). So a few years ago, after two decades as an NPR science correspondent, Palca had an idea. A big idea. What if he stopped trying to identify the *important* science stories and focused exclusively on the interesting ones?

Three years later, Joe's Big Idea is going strong. The series tells the stories behind innovations: what drives scientists and inventors, how they come up with their ideas, and how they imple-

ment them (or try to). Palca has produced pieces on soccer-playing robots, ant traffic patterns, and a phone app that checks photos for eye disease. He's followed efforts to end dengue fever, the search for life on Mars and the passionate quest for the perfect toothbrush. He hopes that by focusing on what's intriguing about the scientific process, listeners will come to share his fascination. As he recently told an audience, "I want people to know there's a joy and a delight and a beauty in science."

The key to conveying that beauty is often the researcher. "You can't tell a really moving story about a nanoparticle," Palca says. "But the person studying the nanoparticle can be pretty interesting."

Pediatric oncologist James Olson is a case in point. Olson developed a paint that makes brain tumors glow, helping surgeons to locate and remove them. While the story of the paint itself is fascinating—it's derived from scorpion venom—the profile of the man behind it got the most emotional response of Palca's career.

It turns out Olson is a practicing physician. This is what drives his tumor research: He's tired of telling parents their children are going to die. He's "sick of seeing the devastation on people's faces," Palca says in the piece, "sick of feeling helpless." Yet Olson has the rare ability to cast a child's cancer prognosis in a bearable light. One parent tells him her 7-year-old's death to cancer "was as beautiful as her birth" because he helped the family see it that way. Here's a man who is not only trying to cure pediatric brain cancer; he's helping parents part with children who've succumbed to it. A hundred listeners left grateful comments about the story online. "I had colleagues coming up and hugging me, telling me they were sitting there sobbing," Palca says. "And I understand it because it still makes me tear up."

Of course, not all subjects have such inherent drama. Still, Palca says, scientists are not the cold-blooded, calculating creatures they are often presumed to be. "I'm sick of the caricature, of the white lab coat. The lab coat says 'I'm an expert, not a person.'"

Palca's irritation on this subject is personal. An animated guy with a mischievous streak and a penchant for tangents, he is himself a trained scientist. He has a PhD in psychology from the University of California at Santa Cruz, where he studied human sleep physiology. Remember Jim Allison, the immunologist? Palca worked for him as a lab technician, his first full-time job out of Pomona College. (He also happens to be married to a molecular biologist, a deputy director at the National Institutes of Health.) Palca decamped for journalism immediately after earning his degree. Research was tedious to him. "You have to have a long attention span to be a scientist," he says.

Palca's attention span may not have served for years of lab work, but he has covered some impressively arcane research as a reporter. A giant hand-painted bowl in his office is proof. He received the bowl for delivering the 24th annual Ulyot Public Affairs Lecture to the Chemical Heritage Foundation. It was titled "Covering Complex Science, or How I Explained a ▶

BIG IDEA SAMPLER

Here are a few recent stories from Joe's Big Idea. To hear the broadcast or read the story, go to www.npr.org/series/156490415/joes-big-idea.

A Discoverer of the Buckyball Offers Tips on Winning a Nobel Prize
(Oct. 8, 2015) Harold Kroto shared a Nobel in 1996 for finding a new type of carbon molecule that ignited the field of nanotechnology. Find a passion where—with hard work—you can be the best, he advises. ...

Why NASA Didn't Just Send Over a Rover to Look for Water on Mars
(Sept. 29, 2015) One reason is that it would take the Curiosity rover about a year to get there, even with no obstacles and no traffic. But the other reason might surprise you. ...

Why Nonstop Travel in Personal Pods Has Yet to Take Off
(Sept. 24, 2015) Personal rapid transit was supposed to be the future of public transport: lightweight pods on elevated tracks, on-demand destinations. But funding issues make cities reluctant to change course. ...

Snail Venom Yields Potent Painkiller, But Delivering the Drug is Tricky
(Aug. 3, 2015) The drug derived from the venom of cone snails must be injected into the spinal column to get beyond a patient's blood-brain barrier and bring relief. But scientists think they may have a workaround. ...

3-D Printers Are Changing the Way People Think About Manufacturing
(April 21, 2015) At the Oak Ridge National Laboratory in Tennessee, the future of manufacturing is taking shape. At the lab, 3D printers offer some unique design opportunities as well as interesting challenges. ...

Doctors Test Tumor Paint in People
(April 8, 2015) A modified venom from scorpions that carries a dye into the brain and makes tumors glow has cleared its latest hurdle. But will this attempt to improve brain surgery work in humans as well as animals? ...

Safer Anthrax Test Aims to Keep the Bioweapon from Terrorists
(March 25, 2015) Current tests require growing anthrax in the lab, which isn't the best option for labs in Afghanistan. So engineers have come up with a credit-card-size test that could make the world a safer place. ...

Why Ants Handle Traffic Better Than You Do
(Jan. 19, 2015) Ants don't show road rage. In fact, some research shows they rarely get into traffic jams and are able to maintain a steady speed even as their numbers swell. Can physics explain it? ...

Do Fish Have Fingers?
(Dec. 26, 2014) Of course they don't, but they do have the genetic machinery to make fingers—something that shows how similar fish are to modern mammals. ...

Build a Toothbrush, Change the World. Or Not
(Aug. 27, 2014) You think bringing a new toothbrush to market is easy? The seven-year saga of two dental entrepreneurs struggling to bring their patented brush to consumers suggests otherwise. ...

Transformer Paper Turns Itself into a Robot. Cool!
(Aug. 7, 2014) Start with paper; add Shrinky Dinks, a microprocessor, heat, and voila! It's not quite that easy. But this engineering project might one day lead to a printable, flat spacecraft that folds itself. ...

Frank-Kasper Phase in Sphere-Forming Block Copolymer Melts to a Radio Audience." Palca really did produce a story on a study by that name. In fact, he chose it precisely because it was so daunting. "I said I'm going to pick the most obscure thing I can find and do a thoughtful, serious story about it just to prove I can," Palca says. (One charming detail from the piece: the researchers used marshmallows and coffee stirrers to model the molecules they studied.)

Palca claims no research is too obscure to make for an engaging story. He travels around the country giving lectures to scientists about how to couch their research in compelling terms. The trick, he says, is knowing what to leave out. Sometimes it's the very detail the researcher is most fixated upon. Scientists tend to focus on what is new in their fields, he says, a habit that only perpetuates the media's tendency to do the same. "A lot of the time scientists think that the 'news' is the new thing, which of course it is," Palca says. "But in fact, the new thing may be pretty tedious."

Take adaptive optics. This technology has been used in astronomical telescopes for several decades. It unblurs the blurring caused by the atmosphere. "So if you say you want to do a story about adaptive optics, well, the scientist will tell you about how they've tuned the laser and how the signal's getting better and the interferometry," Palca says. "And you say, 'Wait a minute! You can *do* that? You can unblur the atmosphere?' That's where scientists get lost. They know about adaptive optics. It doesn't occur to them that nobody else does."

That's because it's easy to get lost in the details as a researcher, Palca says. The work can be monotonous. Palca recalls reporting on the successful cloning of Dolly the sheep in the mid-1990s, an event that spawned headlines the world over. Scientific findings too often overshadow the work it took to get to them, Palca says. So his reporting focused on the tremendous effort it took to clone just one sheep. Palca did. "It took months of failure, months and months and months of boring, tedious, awful, discouraging failure to get one successful birth," he says.

By interesting the public in the fits and starts that characterize scientific research and the personal drive that keeps researchers forging ahead, Palca hopes to convey a truer picture of how science really works. He says that the alternative, focusing on dazzling findings and reporting them as breaking news, gives the public the wrong idea. "I think it contributes to a sense of science lurching from breakthrough to breakthrough," rather than as a continuum with incremental steps along the way, he says. It may also engender mistrust. "I wonder if the need to do more and more and more *big* science stories, the really exciting stories, has set science up for a fall," Palca says. "Water on Mars? Wait a minute, I thought you figured that out already. Why are we still hearing about it?"

In the end, Palca hopes his own enthusiasm for science, and that of the people he talks to, is contagious. "The passion that people have and the desire to make a difference, it's fun to listen to that," he says. As he told an audience recently: "Not every study is going to lead to Teflon or Tang, but we're going to learn something about the natural world. That's got to be worth something in our culture."

WHAT IF A SCIENCE MUSEUM COULD BE
A CATALYST FOR CHANGE, BOTH FOR KIDS AND
FOR A COMMUNITY? FOR KAFI BLUMENFELD '93,
THAT QUESTION BECAME A QUEST.

DISCOVERY CUBED

STORY BY ROBYN NORWOOD
PHOTOS BY CARRIE ROSEMA

The stretch of Foothill Boulevard

near the corner of Osborne Street in the northeast San Fernando Valley has been infamous for nearly 25 years. It was there in 1991 that Rodney King was brutally beaten by Los Angeles Police officers after a high-speed chase that ended with the unemployed 25-year-old parolee being kicked, tasered and battered with batons, all captured on videotape by a nearby resident. One year later, the officers' acquittal sparked the 1992 Los Angeles riots that left 53 dead, 2,300 injured and caused \$1 billion in property damage.

Today near that spot, children roam the striking, angular modern building that houses the new Discovery Cube Los Angeles, a hands-on museum aimed at teaching young people about science, technology, engineering and math, often referred to by the acronym 'STEM.' ▶

Inside, Kafi Blumenfeld '93, executive director of the year-old museum, kneels to join a small child sweeping his hands through the sand of an interactive exhibit that displays the resulting changes in topography on a digital map.

To Blumenfeld, this is about more than science. She sees the museum as a catalyst for change in the community, a way to build a better Los Angeles by starting near the place known for the traffic stop that changed the history of a city.

"We are in a neighborhood that is full of kids with potential but lacking in resources," Blumenfeld says. "So many of our kids go jobless. They're strong, eager, talented kids, but they're jobless. Overlay that with the fact that we have a gap in our pipeline of young people who are ready and willing and able to enter the STEM jobs. So this is a natural fit. If we can provide these kids with additional educational support to encourage them to enter these types of jobs, it will not only make their lives and their households better, but this whole region better."

Running a children's science museum might seem an unlikely role for a vibrant, well-connected civic leader whose first job after majoring in politics at Pomona was as a White House intern.

(She served in the Clinton Administration two years before the most famous intern in history arrived in Washington.) After earning a law degree from UCLA and working at various jobs related to such issues as housing and the environment, Blumenfeld's most recent role was president and CEO of the Liberty Hill Foundation, an L.A. nonprofit that gives about \$5 million a year in grants to grass-roots organizations promoting social causes.

She has strong political ties, both professionally and personally: Her husband is Los Angeles Councilman Bob Blumenfeld, a former member of the California State Assembly whose West Valley council district includes Woodland Hills, where the couple lives with their two elementary-aged children.

It was one of Blumenfeld's personal/political connections that led her to Discovery Cube LA. She was having lunch last fall with Wendy Greuel, the former Los Angeles City Controller who ran for mayor against Eric Garcetti in 2013. Greuel, then a consultant for Discovery Cube LA and now vice chair of the board, suddenly envisioned a match between the museum and Blumenfeld, who had planned to take a year off to reflect on the next step in her career after leaving Liberty Hill.

"As we were talking about life transitions and things to do in the future," Greuel says, "I heard how she cared about kids and about how to make a difference in their lives at this age, around elementary school. So I said, 'Would you ever think about this?' Because it was outside the box.

"But as she met with the team, you saw that she saw it as more than a building and more than a children's science museum. She saw it as a way to train teachers to teach science, and a way to excite young girls about science. She sees it as part of a way to seek social justice. She frequently talks about this being the corner where Rodney King was beaten. I'm inspired by her when she gives those tours.

"She gets it. She gets that it's transformative, not only for the kids who come in, but for the neighborhood. This is a community that wants to be known for something more than where Rodney King was beaten. This is something that's a spark." ►



Among the sparks for Blumenfield were conversations with her daughter, now 9, and her 6-year-old son.

"I was shocked when last year my daughter told me that she was not good at math and science," Blumenfield says, even though the family had a tradition of outings they called Science Saturdays. "I said, 'Why do you say that?' She said, 'Well, there are not a lot of girls in my class that like math and science.' We hear that all too often. She was a big part of this project because we really want to see more young girls engaged in science, as we do with young boys."

Her son, though, "sealed the deal," Blumenfield says, when the family visited Santa Ana's Discovery Cube Orange County, the well-established older sister of the two museums. (Together, the museums drew 631,045 visitors in the last fiscal year. About 220,000 have visited Discovery Cube LA since it opened last November, including 34,500 students on field trips.)

"He was 5 at the time, and I couldn't get him out of the building," Blumenfield says. When she cautiously broached the topic of going back to work sooner than planned to head Discovery Cube LA, her son's response was emphatic. "We are *in!*" he said," she remembers with a laugh. "So they're here a lot."

Despite the STEM focus, Discovery Cube LA is about more than academics and career-related science. It has an additional emphasis on environmental stewardship and healthy living—

"We're trying to address some of the problems of the day but do it in a very affirming way that allows people to see how they can actually effect change." —Kafi Blumenfield '93

issues of particular importance in the San Fernando Valley, where air quality and aquifer contamination are significant concerns.

The "Aquavator" is an exhibit that simulates descending deep into the earth's crust in a special elevator to view geological layers while learning about underground water aquifers.

In "Race to Zero Waste," visitors stand alongside a moving conveyor belt, trying to correctly sort recyclables from other waste to divert trash from landfills. "Look, it's the trash game," a woman says as a child runs up to it.

Elsewhere in the museum, a faux market offers healthy local produce, green cleaning products and an opportunity for children to "shop" and check out with their selections.

Another exhibit features a portion of a built-to-scale California home, complete with solar panels. Visitors can go on a sort of scavenger hunt using handheld devices, seeking out opportunities to save energy and water. They find home computer monitors left on when not in use, becoming "energy vampires" that waste power. A kitchen faucet is programmed to intermittently drip, and observant visitors can hear the sound of the bathroom toilet running too long. (Eventually, museum staff found it necessary to screw down the lid. "You can imagine, with a bunch of potty-trainers," Blumenfield says with a laugh.)

Playfulness aside, "we're trying to address some of the problems of the day but do it in a very affirming way that allows people to see how they can actually effect change," Blumenfield says. "I think that's really important because some of the problems

we're faced with, particularly from the kids' vantage point, it can all seem so overwhelming. They really don't know what they can do in their little lives to make a difference. So here, they get to see it in some very practical ways."

On the job since last August, only a few months before the November opening of a museum that earlier had stalled because of financial issues, Blumenfield is clearly in her element. She oversees a budget of about \$5.3 million as well as a staff of 67 full-time and part-time workers, plus a large group of volunteers who range from teenagers to retirees. Walking the museum, she greets visitors brightly and calls workers by name.

Touted as the first major museum in the San Fernando Valley, an area with a population of more than 1.75 million, Discovery Cube LA is a new anchor in the Lake View Terrace neighborhood, a demographically diverse community with large Latino and black populations. The most visible landmark has long been the Hansen Dam Recreation Area, with its large sandy-beach manmade pool.

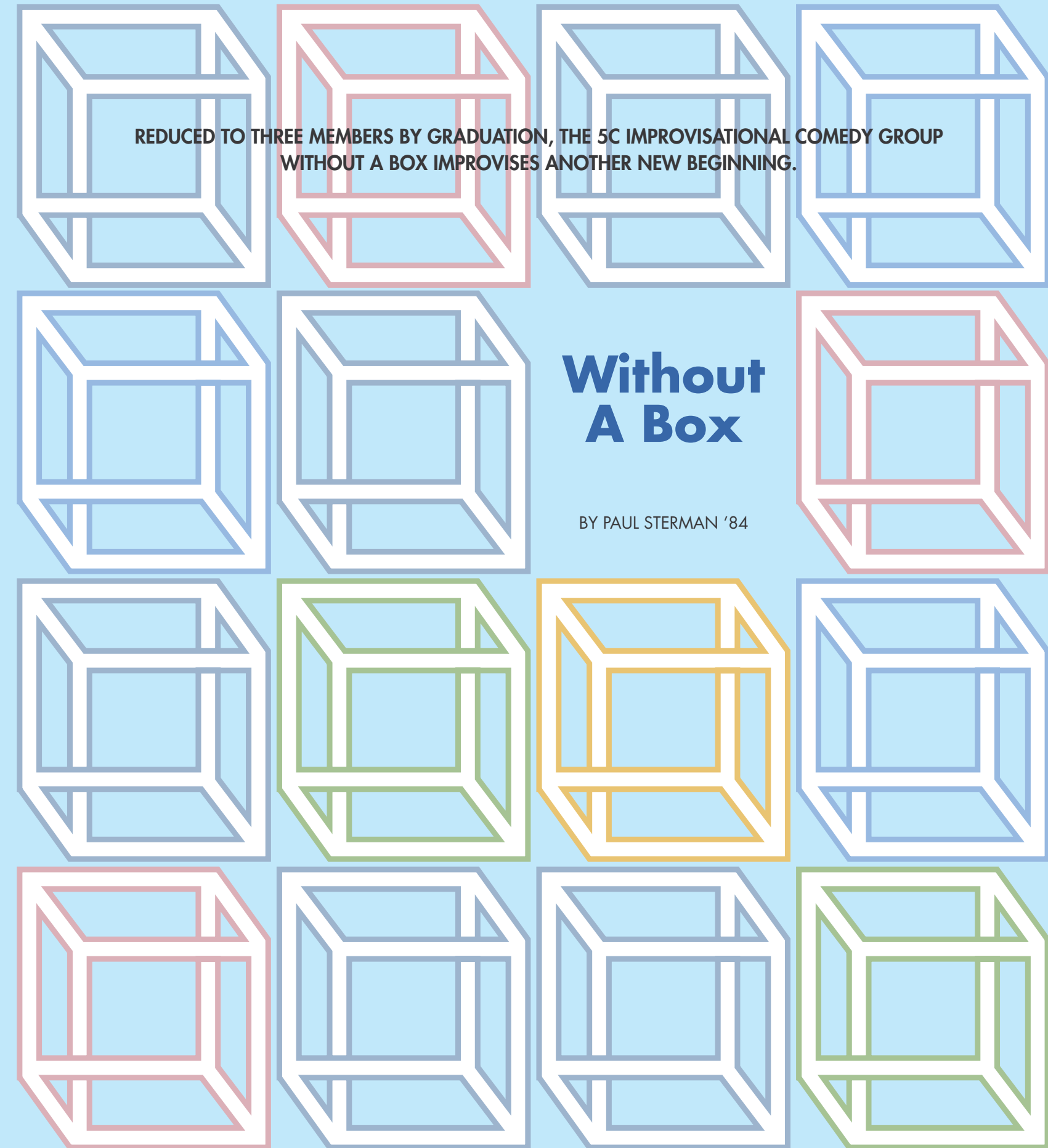
"It's both very urban in ways you would expect an urban community to be, and at the same time, there's some—I don't know—country living, right outside our doors," Blumenfield said. "Summer camps are tending to come here for half a day, and then they go to the pool for half a day, so it's a great combination of science and nature."

The community has moved on from the notoriety of the Rodney King incident, though it will be the subject of retrospectives as the 25th anniversary approaches in March. Two of the acquitted officers later served prison time after being convicted of violating King's civil rights in a subsequent federal trial. King himself died in a backyard pool in 2012 at the age of 47.

Almost a quarter-century later, children inside the Discovery Cube museum learn about the solar system or earthquakes or how the ice on a hockey rink is made. For Blumenfield, instead of putting the funding into social change, now she is putting the fun into it.

"For me, it's all the same thing," she says. "It doesn't matter if I've been in a legal organization, a social services organization or here, an education center, or a foundation. My career has been dedicated to providing opportunities to those who don't have the same resources as those who have more. And to try to help people succeed, no matter if they live in downtown L.A. or here in the beautiful northeast San Fernando Valley. I think every child deserves the absolute best education, and there are many ways to go about that.

"So I don't see the different stations that I've been in life, I don't see them being that different. The beautiful thing about this place that is different, though, is I get to walk the halls, and I get to see the people that we are trying to serve. That lights me up. It gives tremendous meaning to see, every day, people who want to succeed."



REDUCED TO THREE MEMBERS BY GRADUATION, THE 5C IMPROVISATIONAL COMEDY GROUP WITHOUT A BOX IMPROVISES ANOTHER NEW BEGINNING.

Without A Box

BY PAUL STERMAN '84

In person, Dan Weinand

'16 is a polite, soft-spoken Pomona College senior. But put him onstage and he is someone else altogether. He's a hostile loudmouth being interrogated for a crime. He's a laidback traveler with a Jamaican accent. He's a TV show host who waxes poetic about the wonders of trash.

He is all of these things in a recent performance by Without a Box, the improvisational comedy group composed of students from the five Claremont Colleges. Their improv shows are a long-running tradition: Pitzer College student David Straus formed the group in 1989. Team members graduate each year, but the group endures, adding new students to the mix.

Without a Box performs about once a month during the school year, at various locations on the five campuses. Weinand,

a double major in math and computer science, says it's a kick to perform in front of fellow students—especially the Claremont crowd, who share a certain frame of reference. "I just love that only on the 5Cs can I make a linear algebra joke," he says.

The group generally consists of anywhere from five to 10 students. However, when the 2015–2016 school year starts, Without a Box is down to three: Weinand; Lauren Eisenman, a Scripps College sophomore majoring in neuroscience; and Matthew Roberts, a Pitzer senior and history major.

Despite the small number, the crew is in fine form at the September show, held at Pitzer's Benson Auditorium. More than 100 people are in attendance, and they look to be having a



Weinand cries, "Don't leave me!" A lovers' spat emerges, and limbs fly every which way.

Like all good improv performers, Without a Box members embrace the "Yes, and ..." principle: the idea that you accept whatever your scene partner throws your way, however far-fetched, and build on it. As they set up the show's final scenario—Weinand and Eisenman are co-hosts of an early-morning public access program; Roberts is the guest—they ask the audience to select a name for the TV program. The winner: "Garbage Connoisseurs."

The two hosts gush about thrown-away toys in trash bins, exquisite finds like the tossed bodies of Barbie dolls. In comes Roberts, an authority on discarded Transformers. Then, a change of direction: the expert is uncovered as a fraud, a betrayer of garbage dreams.

Audience members eat up the show's quirky, quick-shifting action. "It's cool that it's unpredictable and different," Jonah Grubb, a Pomona senior, says afterward. "With improv, you never know what you're going to get."

Weinand, Eisenman and Roberts say they're not just winging it onstage—they hone their skills through rehearsal. The group practices three times a week, doing exercises in improv game-playing, ▶



Members of the audience are invited to move Pitzer College senior Matthew Roberts (left) and Pomona College senior Dan Weinand around like puppets during a performance of Without a Box.

blast. The three performers wear blue Without a Box shirts, and stage props consist of little more than two chairs.

There are topical references (the Pope, Donald Trump), pantomimed actions (smoking, using a cell phone), and a spirit of play throughout. Audience interaction is a big part of the show, with members suggesting scenarios and providing snippets of dialogue. In one skit, two volunteers jump onstage to join Weinand and Roberts. Here's the twist: the two students move the bodies of the two performers, as if manipulating human puppets, and the dialogue flows from the movements. The scene starts with Weinand and Roberts facing each other, then Roberts is turned in the opposite direction, to which



physical humor, and character work. “Doing improv might be scary if I didn’t feel comfortable with the other performers,” says Weinand. “But I totally do.”

“Trust is a really big part of it,” adds Eisenman.

GROWING THE GROUP

The trio knows that Without a Box needs to get bigger to be at its best, so a week after its September show it holds auditions for new members. Eighteen students show up on a Saturday at Scripps’ Vita Nova Hall. Then that group is winnowed down to nine students invited for callbacks the next day.

Among the hopefuls is Pomona sophomore Zach Miller. In one exercise, he is asked to stand outside while Weinand, Eisenman and Roberts set up a scene with three of the students. Each is given a character feature. One is a ghost, another has a tail, and the third one’s foot is on fire. Miller comes back inside. His task: to guess what distinguishes each of the three, all of whom he is hosting at a party.

Miller is an agile performer. By the end of the scene, he has figured out each one’s crazy feature. Guessing the ghost mystery, he quips, “Say hi to Casper for me.”

Weinand says Without a Box selects performers based on their comedic abilities, physical skills, character range and “how well they keep scenes feeling real.” The group also wants a diverse mix of students who are passionate about improv, he adds.

THE SCHUMER EFFECT

Another aspiring member is Cassie Lewis, a junior at Claremont McKenna College whose parents are both Pomona alums (Kara Stuart Lewis ’88 and Gordon Lewis ’87). During a lunch break, she talks of how she discovered the edgy comedy of Amy Schumer over the summer, a revelation that has inspired her to pursue a career in stand-up comedy. Cassie, the vice president of CMC’s theater group Under the Lights, says she saw Without a Box perform a while ago and was “blown away by how they came up with really funny jokes.” So here she is, eager to become part of the group.

“You can’t be a comedian without doing improv,” she explains.

In one exercise during callbacks, Cassie plays off of Marisa Galvez, a CMC freshman. The setting for their scene is a motel continental breakfast. The two verbally spar as Lewis’s character steals apples and stuffs them into her pants.

Both young women are confident and creative. For most

people, speaking off the cuff is daunting. A script provides a security blanket. Yet Lewis, Galvez and the others seem fearless, perfectly comfortable to perform without a net—or a box, if you will.

Galvez says she follows the motto of the improv company Upright Citizens Brigade: “Don’t think. Just act.”

Most of the students have previous experience with improv, evidence of its growing popularity. Many high schools now have improv teams or clubs. There are improv-based companies like The Second City, Upright Citizens Brigade and ComedySportz, and TV shows such as *Whose Line Is It Anyway?*

Stretching their improvisational muscles serves students well even beyond the stage. Morgan Blevins, a Harvey Mudd fresh-



Weinand (left), Roberts and Scripps College sophomore Lauren Eisenman interact with the audience.

man who is a bright light at the callbacks, was on her high school’s improv team and says, “I’m so glad I did improv before I did my college interviews.”

DECISION TIME

A couple of days after callbacks, Without a Box taps its new members. Miller is selected, as is Lewis, Galvez and Blevins. Also chosen are Pomona sophomore Sean Gunther and Pitzer first-year Eli Fujita.

Miller says he’s excited about performing and “bringing the audience into the absurd scenes that we invent.”

Weinand, who has performed in Without a Box since his freshman year and will soon be applying to graduate schools, echoes the sentiment. “I love making people laugh,” he says. “That makes me really happy.”

/life.of.the.mind/

WHAT IS THE HIVE?

AND WHY IS EVERYONE BUZZING ABOUT IT?

By Mark Wood

What is creativity? How does it happen?

Is it inborn or can it be taught? How does such an intangible ability—or should I say capacity, quality, or maybe mindset?—fit into the structure of a liberal arts education? The faculty, staff, students and advisors who organized the launch of the new five-college Rick and Susan Sontag Center for Collaborative Creativity this fall don’t pretend to have all the answers, but they do share a strong belief that collaborative and creative thinking across disciplines will be essential to solving the problems of the 21st century. ▶

“There’s already plenty of opportunity for creativity within your discipline,” says Associate Professor of Physics Dwight Whitaker, who, along with Harvey Mudd College Professor of Engineering Patrick Little, is serving as co-director of the Sontag Center until a national search for a permanent director is completed. “If a student is truly passionate about physics, they can get an awesome experience working in our research labs, doing creative, cutting-edge stuff that no one else has done before. They can really develop their creative chops as a physicist. We’re already doing that, and I’m confident every department does that very well.”

What’s missing, he believes, is the opportunity to develop those “creative chops” in collaborative settings that bring together experts from different fields to tackle problems that resist disciplinary definition.

“The really messy, important problems that we face are ones that don’t fit into a discipline,” Whitaker says. “I think if you look at the environment, the really messy problems like end-of-life issues, creating an inclusive space for all Pomona students on a local level, these are not going to have a solution that lies within any department. I think the way that these problems are going to be solved is going to be people with vast expertise truly collaborating, getting in the intellectual muck together and doing the messy business of working out mindsets. Being generative and appreciating that their mindset approaches the problem differently than your mindset. That’s a really hard skill to develop.”

So how do you go about developing the creative skills involved in cross-disciplinary collaborations in an academic setting dominated by its distinct disciplines? That was the problem Rick and Susan Sontag—1964 graduates of Harvey Mudd College and Pomona College, respectively—sought to address with their \$25 million gift to create the new center that bears their names.

But that remarkable gift was just the start. To help get this innovative new program off the ground, the colleges turned to design experts Tom Maiorana and Vida Mia Garcia of Red Cover Studios, who devoted a big portion of the last year to helping the center’s planners develop a conceptual framework and bring those concepts to life in the form of actual programming.

The result is a work in progress, but a very busy work in progress. Already nicknamed “The Hive” for the buzz of creative thought and collaborative activity it is designed to foster, the new center occupies renovated spaces inside what was once Pomona’s Seeley G. Mudd Science Library, with Pomona serving as lead campus. A chalkboard sign out front invites passersby inside to see what it’s all about. A new website (creativity.claremont.edu) invites students to: “Take chances. Mix things up. Make mistakes. Learn from them.”

That theme of risk-taking is central to the Hive’s purpose. Garcia says students have heard all the familiar clichés about the importance of exploring fearlessly and learning from failure, but the stakes for students at a place like Pomona are just too high to risk failure in anything that counts. The Hive, she says, offers a place where students can take risks in “a low-stakes way” and develop the kind of intellectual resilience that allows them to see that failure is just part of the learning process.



“Intellectually, they understand that, yeah, sure, you need to fail to learn, but where are they going to do that?” says Garcia. “There are precious few venues for that in life, but especially here at the 5Cs, because everybody is so overachieving and everybody sees that in everybody else. So how do we give them that safe space? We heard that over and again in the student interviews, in the ethnography at the outset, and we wanted to bake that into the ethos of this place.”

Those interviews with students and faculty also brought to light another significant concern: time. “They want chances to explore and fail,” Whitaker says. “They want chances to be experiential rather than just critical and writing papers. But then we also definitely heard from both groups, the students and the faculty alike, that, “Yes, we want to do all that. But we have no time.”

With that in mind, the Sontag Center’s programming has been designed to offer a range of activities, with a sliding scale of

time and commitment required—from mini-workshops to pop-up courses, guided explorations and full-credit courses.

“I think there are some people who will make the time, and there are some people who will want to just dip their toes in the water,” Whitaker says. “That’s what the workshops are really good for. I think the hope for those is that it sparks something. If it sparks something, then you will carve out the time and you will make the commitment. But I think unless you get in the door, ▶



unless you start to get exposure to these ideas and these mindsets, you're never going to carve the time out."

This year's mini-workshops have ranged in topic from an introduction to improv theatre to empathetic listening to shoemaking. In the latter, students use plastic wrap, a hair dryer and tape to create a prototype of a shoe. Of course, the final products of that workshop will never make it to the shelves of your local shoestore. In fact, you'd barely recognize most of them as shoes. But that's not the point.

"There are few disciplines where you are expected, if not required, to be a maker, right?" explains Maiorana. "You've got engineering, possibly physics, studio art. So those students are going to have some level of comfort and facility with making. But the vast majority actually might not, or might not do it on a regular basis."

The point, he says, is to demystify the creative process, which is loaded down with preconceptions and misconceptions, and to give people a taste of what it feels like actually to make something. "It's really rudimentary, but it doesn't feel rudimentary,"

students will receive and for the potential to make a real difference in the world.

"One of the open-ended problems we're just in the process of getting started looking at is reimagining certain parts of the health care experience for patients with cancer," he says. "And if you think about that, if you put that in any kind of a disciplinary framework, what ends up happening is that you necessarily limit the ways you can imagine that. So if it's an engineering program, it wouldn't make sense to talk about this in non-technical solutions, because you'd be moving away from the very thing you're good at. Or if you were to think of it in the context of a computer science program, you would normally be thinking: 'How can we provide software or applications?' The beauty and, I think, the power of the Sontag Center is that it can start by dealing with the question of 'What are the needs?' rather than 'What are our capabilities?'"

It might be surprising to think of college students helping to solve some of the world's big, messy problems even before they earn their diplomas, but Little thinks they may be particularly

"THE BEAUTY AND, I THINK, THE POWER OF THE SONTAG CENTER IS THAT IT CAN START BY DEALING WITH THE QUESTION OF 'WHAT ARE THE NEEDS?' RATHER THAN 'WHAT ARE OUR CAPABILITIES?'" —Professor Patrick Little

he adds. "Creating physical objects is a way to have a very visceral experience of the lessons we're trying to impart."

However, that example also illustrates one of Whitaker's concerns, not about the center itself, but about how it might be perceived.

"Prototyping is one of the great tools of designers," he says. "That's just one of the great tools of creativity, having an object that you can play with. But the kind of low-resolution prototyping we use is pipe cleaners and construction paper, so definitely there's a danger that it can look like preschool. People walk in and say, 'This is an academic center? You're doing design-thinking? You're just playing with toys.'"

But in truth, the playfulness inherent in the program is an essential part of the design. "One of the challenges we have is that the approaches to creating a new mindset, a creative mindset, tend to involve ignoring the rigor to some degree," Whitaker says. "Because in that early stage, it's not about the details yet. It's about forming the question. So you need to create a generative space where everyone feels valued and all ideas are good before you start critiquing them."

Rigor comes later in the creative process, and there's plenty of it to go around at the upper end of that sliding scale of activities, which includes project-based learning. That's where teams of students and faculty take on daunting problems in the real world, a prospect that Co-Director Patrick Little of Harvey Mudd College finds particularly exciting, both for the experience the stu-

well suited to this sort of cross-disciplinary, out-of-the-box thinking. "They haven't yet been told these problems are beyond them," he says. "They haven't yet been told they have to stay in their silo. And as a result—whether you're talking about something that's really playful like making shoes or whether you're talking about something practical, like the work that's being done right now to reimagine the design of the GIS facility over at the library or whether you ask them about one of these large global problems—they just bring incredible energy."

As its reputation spreads, the center has also begun to attract groups from across the 5Cs that want to make use of its creative resources and ethos. For instance, Pomona's Quest Scholars recently met there for a brainstorming session. "We came to the Hive to brainstorm in groups and kind of figure out what we want out of our Resource Center," says Ashley Land '16. She goes on to add: "The space is just so great for being creative and being able to take an idea and make something bigger out of it, or take no idea and make an idea."

Indeed, the ultimate success of the Sontag Center may be the influence it has on the rest of the five campuses. Gail Gallaher '17 hopes that students will carry a little of the ethos of the Hive back into the rest of their college experience. "You're always thinking about how you can grow and how you can learn, even from mistakes and failures. You're not afraid of challenges because you know you're going to learn from them. I think the whole 5Cs could benefit from that spirit."

Nutritional Prejudice

Is Vitamin C better for you than an orange? Are omega-3 fatty acids more important for your diet than the fish they come from? This may sound like topsy-turvy nutritional logic, but a new study from Cornell University and Pomona College found participants judged individual nutrients as healthier than the whole, natural foods that contain them.

Published in the *Journal of Health Psychology*, the study by professors Jonathon P. Schuldt of Cornell University and Adam Pearson of Pomona College was sparked after the research partners read Michael Pollan's book, *In Defense of Food*, in which the author speculates about an effect he dubs "nutritionism."

Schuldt and Pearson devised a study to put this idea to the test: Two groups of research participants read an identical description of a moderately-healthy young man, but one group was told he made sure to include a variety of healthy foods in his diet, like bananas, fish, oranges, milk and spinach. For the second group, those foods were replaced with nutrients associated with those foods: potassium, omega-3 fatty acids, vitamin C, calcium and iron.

The group that read about the nutrients considered the man to be at significantly lower risk of developing a number of leading chronic diseases, including heart disease, diabetes, cancer and stroke—and study participants who described themselves as diet-conscious or who had higher SAT/ACT scores were even more inclined to do so. The results aren't surprising, Pearson said, in a society where people are constantly bombarded with health claims about nutrients and supplements. People who are more diet-

conscious may be especially attentive to and influenced by these claims.

"It points to the insidious ways that the marketing of nutritional information can actually be harmful," Pearson said. "If we are biased toward privileging the low-level properties of a food, we may overlook the many other healthy aspects of eating whole, natural foods."



City of Trees

For their capstone project, a group of graduating seniors in Pomona College Professor Char Miller's Environmental Analysis 190 class went out on a limb last spring and sought to map all of the public trees in the city of Claremont, sometimes called "The City of Trees and Ph.D.s." The result is a convenient online guide mapping more than 24,000 trees and serving as an educational resource for the community.

Ben Wise of the Tree Action Group of Sustainable Claremont, a local nonprofit, contacted the Environmental Analysis (EA) Program and proposed that a team build a digital inventory and guide to city street trees. Wise's aim was for people to see a tree in Claremont and then have a way to find out more about it.

So together, Alison Marks '15, Naomi Bosch '15, Nadine Lafeber SC '15 and Sydney Stephenson CMC '15—with help from geographic information system (GIS) specialist Warren Roberts at Honnold/Mudd Library—developed a website called Claremont Urban Arboretum (claremonturbanarboretum.wordpress.com) complete with an interactive GIS map and information on many of the life histo-

ries and origins of the tree species lining Claremont streets.

Environmental Analysis majors must complete two capstone projects: one individual and one group. "EA 190 is a group initiative defined by a real client with a real problem that must be resolved by the end of the spring semester," says Miller, director of the EA Program. The aim is to push students to synthesize all they've learned over four years and translate that knowledge into action, he says.

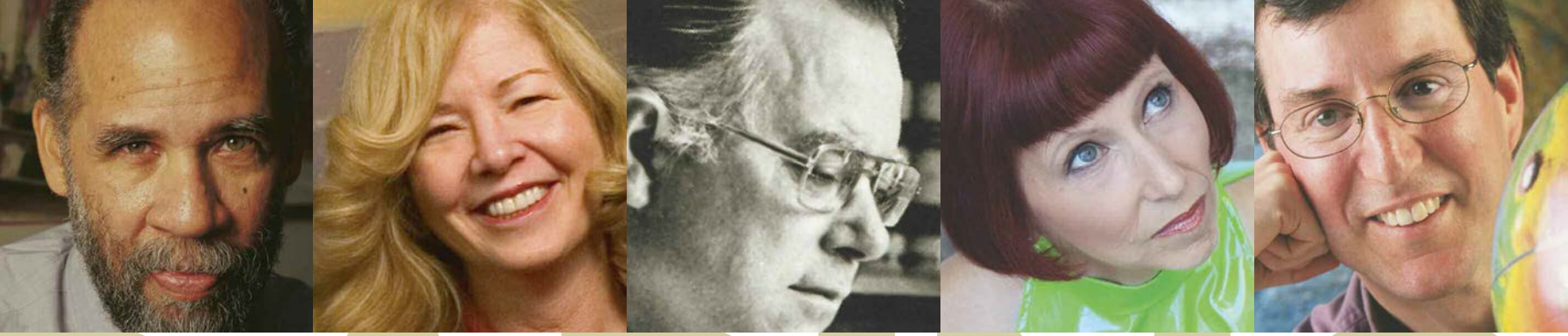
Miller says public awareness about trees is a live issue, especially these days. "Claremont, the self-described City of Trees, has had a long love affair of the arboreal. But the current and crushing drought has made it essential that the community know more about the trees that are rooted into our stony soil," he says.



Once Upon a Time in the Cambrian

Once there was a lobster-like predator with two pairs of compound eyes and large, toothed claws that prowled the Cambrian seas. After its death, its fossil lay waiting in a place now known as Marble Canyon—a newly discovered part of the renowned Canadian Burgess Shale deposits—for more than half a billion years before a team of researchers, including Professor of Geology Robert Gaines, brought it to light once more.

In a paper published last spring in the journal *Palaeontology*, Gaines and his co-authors announced the discovery of this strange new creature, named *Yawunikootenayi*. Gaines was also part of the team that discovered the Marble Canyon deposits last year.



John Payton '73 Colleen Hartman '77 Cruz Reynoso '53 Kathleen Supove '73 Professor Eric Grosfils

DARING



Professor Monique Saigal Mikey Dickerson '01 Jane Chen '00 Professor Sid Lemelle Katherine Pollard '95

MINDS



James Turrell '65 Jennifer Doudna '85 Bill Keller '70 Myrlie Evers-Williams '68 Emil Kakkis '82

HONOR A DARING MIND

Who stands out when you think of Pomona's daring minds?

Over the years, many of them have been featured in the pages of this magazine—the array of portraits at left serves to remind us of just a few. But there are many, many more than we have pages in which to feature them.

That's why, as *Campaign Pomona: Daring Minds* draws to a close, we are inviting you to join in Pomona's celebration of the extraordinary Sagehens whose ideas and actions reflect the spirit of this historic campaign.

All you have to do is visit pomona.edu/hdm to see who is being recognized and to make sure the Pomona professor, student, sponsor, coach, staff member or friend who inspires you most is listed among those being honored.

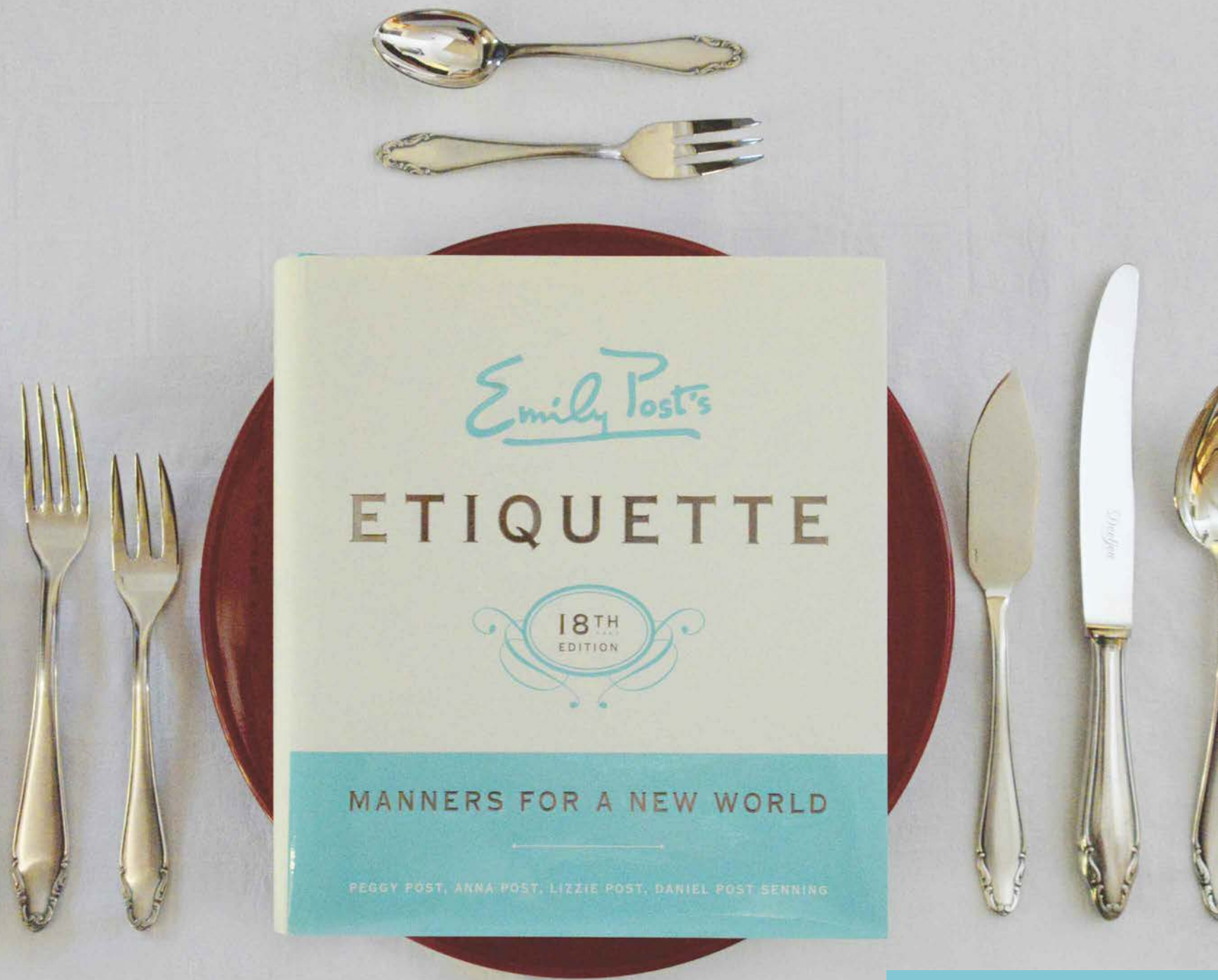
Here are a few recent honorees:

- Martha Andresen
- Sefa Aina
- Lisa Beckett
- Eleanor Brown '75
- Debby Burke
- Betsy Crighton
- Jo Hardin '95
- Rick Hazlett
- Sid Lemelle

- Susan McWilliams
- Pat Mulcahy '66
- Jose Luis Ramirez
- William Russell
- Monique Saigal
- David Foster Wallace
- Frank Wells '53
- Dwight Whitaker
- Wig 1 Back Hall Sponsor Group '07

You can also help keep the spirit of daring inquiry and innovation alive for today's Pomona students and faculty by making a gift in honor of your favorite Sagehen. Gifts received before the Campaign closes on Dec. 31, 2015, will be matched dollar for dollar by the Daring Minds Fund, doubling your gift in support of the daring minds of the future.

Honor your daring mind at pomona.edu/hdm.



EMILY POST'S ETIQUETTE

By Peggy Post, Anna Post, Lizzie Post and Daniel Post Senning '99

William Morrow, 2011
736 pages • \$39.99

Manners for the 21st Century

As the great-great-grandson of the world's most famous expert in etiquette and a fifth-generation steward of "the family business," Daniel Post Senning '99 is a co-author of the 18th edition of *Emily Post's Etiquette*. He and his cousins Anna and Lizzie Post are part of a new generation working to keep that classic work relevant in the 21st century.

PCM: Today the word 'etiquette' has an old-fashioned ring. Is that justified?

Daniel Post Senning: It's certainly a perception that I'm used to. The Emily Post Institute is a five-generation family business. The original Emily Post was my great-great-grandmother, and she wrote the first edition of *Etiquette* in 1922.

If you were to pick up that book today, it would read like a historical document. It's actually quite remarkable as that. There are people who love looking at etiquette books that have been produced throughout history. One of my favorites, Castiglione's *The Courtier*, predated *The Prince*. Oftentimes, a good book of etiquette will tell you a lot about a culture or a time.

We are very fortunate to be part of a tradition that has continued to update that original book. It was incredibly popular in its time. They couldn't print it fast enough. But as times changed, they found that it was absolutely necessary to revise it. It's that process of revision that I think has really become the substance of what we do at The Emily Post Institute.

PCM: Define 'etiquette' for me.

DPS: We say that etiquette is a combination of manners and principles. For us, the manners are time-, location- and culture-specific. They're the particular expectations we have of others and ourselves in a particular social situation. The principles are what we use to guide us as manners change and evolve, or to help us make choices when we're in a new situation. For us at the Emily Post Institute, the fundamental principles for all good etiquette are consideration, respect and honesty.

Here's an Emily Post quote for you, "Any time two people come together and their lives affect one another, you have etiquette." Etiquette is not some rigid code of manners. It's simply how persons' lives touch one another. Any time you have people interacting, you've got social expectations.

PCM: So how do you become an expert on etiquette? Is it something you just absorb?

DPS: I never thought a liberal arts education would prepare me

so well for the work that I do. Being someone who writes about etiquette, researches about etiquette, teaches about etiquette, I find myself drawing from so many disciplines and so many skill sets. When I'm teaching and I'm presenting, my background in dance and the performing arts comes out. When I'm doing research, my background in critical inquiry comes out. When I'm assessing a new study that we're getting, and I'm looking at data that's come in from our survey partners, my background in microbiology and having the ability to look at data sets come into play.

Let me tell you a personal story. I was living in Claremont, working with the Laurie Cameron Company out of the Pomona College Dance Department, when I first started working for Emily Post. At the time, I was answering questions via email. My cousins and I cut our teeth on those emails. We would get batches of questions. We'd go through the books. When there was a particular question that had a historical precedent—questions about how you use formal titles or orders of introduction or protocol and courtesy around weddings—oftentimes we would refer to the book and find an answer that was pretty concrete.

Other times, there are relationship situations that people are trying to resolve, and that framework of consideration, respect and honesty comes into play. You ask yourself: Is the advice that I'm giving considerate? Is it taking into account all the people who are involved? Is it respectful? Is it recognizing their worth and their value? Is it honest? Is it something I can do with a sense of integrity and sincerity? It's really a pretty powerful framework to give advice from.

PCM: How much of etiquette is timeless and how much do you believe is bound to the times?

DPS: Our whole approach is that etiquette is a moving, living, breathing thing. It changes and evolves all the time. That's why the book is currently in its 18th edition. It's never been out of print, and we think that's really important. That's why it's important to continue to update it, because it is a moving target. If it were to ossify, it would lose its meaning very quickly.

When you look at the 1922 edition of *Etiquette* and the 18th edition of *Etiquette*, there's some material that looks remarkably similar. You can probably guess that the way my great-great-grandmother described using a knife and fork is very similar to the way I would describe that today. Manners around how we share food and how we eat change relatively slowly. Those are cultural expectations that are very firm. The ones that we see changing the most rapidly are manners around communication. ▶

PCM: So, do you have etiquette suggestions for Twitter?

DPS: We absolutely do. The framework that we use is relationships. When you're assessing behaviors around new communication technology, you use the relationship as your guide. My cousin Anna's really good at this. When she's presenting, she'll take her phone, hold it up and say, "This is my phone. It's the newest, the latest, the greatest. It's amazing. I can do incredible things with it. It's not rude. It's not polite. It's how I use it that matters." If you think about the relationships that are being impacted and affected, it helps you make good choices in those environments.

PCM: Still, there's a lot of rudeness out there in cyberspace. Do you think this is a particularly bad-mannered period in history?

DPS: Sometimes we hear from people, "Oh, there are no manners today; manners are in a state of decline." One of the nice things about having a generational perspective on this work is that every generation perceives that to be true, witnesses the changes that occur over time and thinks that the state of manners are in decline.

Like so many things in life, I really think of it as a pendulum. I think that people challenge and push the boundaries, and then there's a response. New structures come into being. I think the generation that had the most difficult time with this was my parents' generation, and even my grandmother, who was writing in the late '60s and early '70s. You had a generation that was intentionally trying to deconstruct the social order at that time.

I don't think that happens in the same way right now. Quite the contrary, I think we might be in a time where, because there is so much choice, because we do live in an increasingly casual and informal world, people are looking for information to help them make choices in that environment.

PCM: You said it's mostly about relationships. But a lot of modern communication is more like broadcasting. Emily Post didn't have to worry about the etiquette of announcing one's foibles to seven billion people around the world.

DPS: Absolutely, but here, too, there are lessons to be learned from the past. When I teach conversation skills, I'll teach three tiers to a conversation. Tier one is safe territory—sports, the weather, pop culture, local celebrities, what you had for breakfast that morning. Tier two is potentially controversial. People have different and valid opinions about these topics. They were not table talk. They were reserved for private conversation—religion, politics, dating, your love life. The third tier, the most intimate, is family and finance. You don't ask probing questions or offer too much information unless someone has already opened the door to that in some way.

Those rules for conversation around a dinner table or in the workplace function very well for the online space, where you're

talking about a much bigger conversation, but one where a sense of discretion and propriety are really important.

One of the immediate associations people often have with etiquette is that it's common sense or that it's the Golden Rule. It's treating other people the way you'd want to be treated. You hear that a lot. I like to emphasize the Platinum Rule these days, the evolution of the Golden Rule. In an increasingly diverse and complex world, it's really important to treat other people the way *they* would want to be treated. It's no longer enough to go around applying your own standard to everybody that you meet. You need to make an effort also to take into account the different standards that different people have. That's a challenge for all of us to continue to push ourselves to be aware of not just our own perspective, but that of others as well.

PCM: So what's the future of etiquette?

DPS: Sometimes people ask me, "What would success look like in this business?" and I say, "If I can be a steward for this tradition, if I can hand it off to the sixth generation, I'll absolutely consider that a success."

We're approaching the hundredth anniversary of the original publishing of *Etiquette*. The 20th edition will be out in 2022. They stopped, as you know, publishing *Encyclopedia Britannica* a couple of years ago. Being in the publishing industry, particularly publishing reference books, is a really challenging thing.

One of the challenges for our generation has been figuring out how to not just continue to evolve our content, but also to continue to find new mediums for it. The vehicle that I most like to promote these days is a podcast that I'm doing with my cousin Lizzie called *Awesome Etiquette*. It's produced by American Public Media, the folks that do *Marketplace*, and *Prairie Home Companion*, and *Splendid Table*. It's a Q and A show, kind of a *Car Talk* of etiquette.

To me, Emily was also a radio star. She was a lifestyle personality who was recognizable across America. The return of Emily Post to radio, I think, is a really big deal for us.

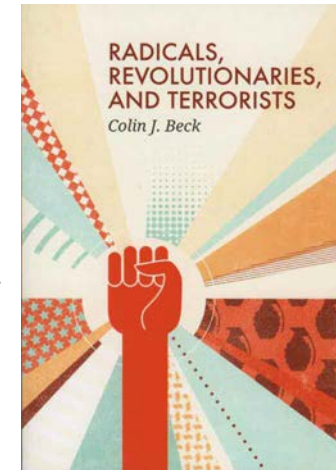
PCM: But is the printed book still the core of the business, or is it becoming less important?

DPS: It's the backbone of what we do. There have been other etiquette experts who have done amazing work. A contemporary of Emily's, Amy Vanderbilt, produced an amazing book. Letitia Baldrige in the 1960s, the Kennedy White House social secretary—her book is also very good.

Emily Post's Etiquette is unique in the fact that we are a reference book that has continued to change and evolve, and has been in print for over 90 years now. There is no replacing that. We sometimes call ourselves a social barometer. In figuring out which manners have lost their utility and have gone out of fashion and which are emerging and coming into being, the process of editing and rewriting that book every five to seven years is substantively the most important work that we do.

Who Decides Who's a Terrorist?

Pomona College Professor of Sociology Colin Beck says the genesis of his recently released book, *Radicals, Revolutionaries, and Terrorists*, can be traced back to a student's question during his course of the same name. "I'm just wondering why some groups get labeled as terrorists and others don't?" asked Emily Miner '12, an English major who was a sophomore at the time.



Radicals, Revolutionaries, and Terrorists
By Colin J. Beck
Polity, 2015 / 208 pages / \$22.95

An excellent question, as there had been no large-scale case studies on how those designations were made, says Beck. So he, in collaboration with Miner over the course of two years, looked at organizations listed as terrorist groups by the U.S. and the European Union, and then compared it to a dataset on terrorist events that occurred.

Policymakers and those responsible for the designation of "terrorist," seize on certain markers, Beck says. Beck and Miner couldn't find clear geopolitical interests at play, but they did find that the labels weren't given based on activity. Threat markers that landed groups on the terrorist list included whether they attack airplanes or U.S. and E.U. allies, and whether they are Islamic or not—just by virtue of ideology, not whether they had necessarily engaged in many or high-profile terrorist acts.

"What I concluded was that this is basically done in an ad hoc fashion. There's not a shadowy cabal of government experts sitting around with lots of information," says Beck, who calls that finding astounding.

"Looking through the terrorism lists, my sense was that most of the groups you'd want to designate are on there. But there's also a number who really don't make sense to receive sanctions when other similarly sized active organizations do not. Basically, it appears to be the irrationality of using markers—such as whether a group attacks air-

planes or is an Islamist organization—that drives the results at the margins," Beck says.

Beck believes this calls into question many of the justifications for the continuing "War on Terror." This focus on a few markers that signal terrorism—especially the post-9/11 focus on Islamist organizations—suggests that governments are not well equipped to perceive and respond to emerging threats, he says. "The Islamic State was quite downplayed during its initial formation, as was Boko Haram, etc. Like in matters of grand military strategy, it seems that governments are always preparing to fight the last war rather than the next one," says Beck.

Beck and Miner wrote a paper about their findings, which was published in the journal *Social Forces*. Miner, who is now an English teacher in Los Angeles, says of her work with Beck, "Researching together was an amazing opportunity; even though I felt vastly underqualified in comparison, Colin very deliberately involved me in every step of the process, and the study and paper felt completely collaborative. I learned a lot about the different pieces of sociological research, from data collection to analysis to publication," she says.

So how do you know who's a terrorist? Beck points to three aspects that are key to making the designation: First, whether or not the perpetrator is a legitimate wielder of violence—per international norms, governments are the only entities permitted to use violence, and so violent non-governmental actors are usually illegitimate, says Beck. Two, whether their violent action is routine or not routine; terrorism is non-routine violence, not actions during wartime. Finally, who is the intended target of the action? "If you just want to hurt the person, that's murder, that's not terrorism." ▶



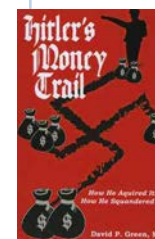
Working Through the Past: Labor and Authoritarian Legacies in Comparative Perspective
Coedited by Teri L. Caraway '89 with Maria Lorena Cook and Stephen Crowley, this collection of essays examines the clash of labor movements and authoritarian governments. *ILR Press*, 2015 / 296 pages / \$27.95



Global Families: A History of Asian International Adoption in America
Catherine Ceniza Choy '91 looks at the complex history and impact of Asian international adoption in the United States. *NYU Press* / 244 pages / \$25.00



Straights: Heterosexuality in Post-Closeted Culture
James Joseph Dean '97 explores how straight Americans make sense of their sexual and gendered selves in a time of dramatic change in societal attitudes. *NYU Press*, 2014 / 320 pages / \$26.00



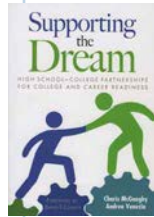
Hitler's Money Trail: How He Aquired It, How He Squandered It
David Green '58 fills a gap in 20th-century history by investigating the financing of Adolf Hitler's dramatic makeover of the German economy and war machine. *CreateSpace Independent Publishing Platform*, 2015 / 294 pages / \$16.95



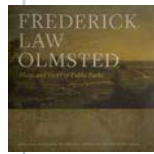
Two Women Against the Wind: A Tierra del Fuego Bicycling Adventure
Réanne Hemingway-Douglass '63 recounts her 300-mile bicycle journey across the southern tip of South America, one of the most remote and beautiful regions on the planet. *Cave Art Press*, 2015 / 130 pages /



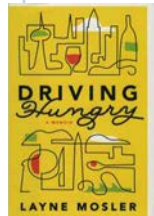
\$12.95
Faust, Parts I and II
 This curatorial version of Johann Wolfgang von Goethe's masterwork, intended to bring the tragedy back to the theatre, was translated into English by **Douglas Langworthy '80** and trims the 21-hour work to only six. *Richer Resources Publications, 2015 / 247 pages / \$18.95*



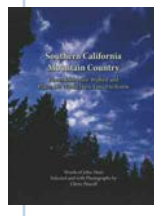
Supporting the Dream
High School-College Partnerships for College and Career Readiness
Charis McGaughey '91 and **Andrea Venezia '91** offer educators a guide to cross-system partnerships to support college-bound students. *Corwin, 2015 / 152 pages / \$28.95*



Frederick Law Olmsted
Plans and Views of Public Parks
 Coedited by **Lauren Meier '79** with Charles E. Beveridge and Irene Mills, this lavishly illustrated volume reveals Olmsted's design concepts for more than 70 park projects. *Johns Hopkins University Press, 2015 / 448 pages / \$74.95*



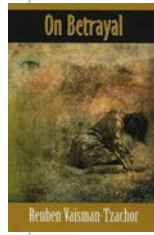
Driving Hungry
A Memoir
 The author of the cult blog "Taxi Gourmet," **Layne Mosler '96** takes her readers on a delicious tour from the back seat of taxis in Buenos Aires, New York and Berlin. *Pantheon, 2015 / 320 pages / \$24.95*



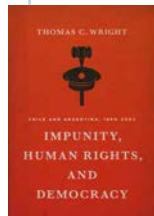
Southern California Mountain Country
Places John Muir Walked and Places He Would Have Loved to Know
 Photographer **Glenn Pascall '64** provides a delightful visual tour of the high country of Southern California, using the words of John Muir to tie the photography together. *Sierra Club Angeles Chapter 2015 / 106 pages / \$24.99*



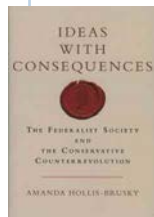
Interstellar Cinderella
 This futuristic retelling of the classic tale, in a new picture book written by **Deborah Underwood '83** and illustrated by Meg Hunt, gives Cinderella a fairy godrobot and an unladylike knack for interstellar mechanics. *Chronicle Books, 2015 / 40 pages / \$16.99*



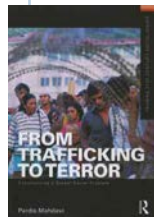
On Betrayal
 In his second book and first novel, **Reuben Vaisman-Tzachor '88** offers an intricately woven tale of betrayal and redemption spanning generations, places, cultures and languages. *CBH Books, 2015 / 266 pages / \$24.99*



Impunity, Human Rights, and Democracy
Chile and Argentina, 1990-2005
Thomas Wright '63 traces a triumph for human rights—the erosion and collapse of the impunity of former repressors in Chile and Argentina. *University of Texas Press, 2014 / 206 pages / \$55.00*



Ideas With Consequences
The Federalist Society and the Conservative Counterrevolution
 Assistant Professor of Politics **Amanda Hollis-Brusky** shows how a network of lawyers, judges, scholars and activists worked successfully to push American constitutional law to the right. *Oxford University Press, 2015 / 264 pages / \$29.95*



From Trafficking to Terror
Constructing a Global Social Problem
 Associate Professor of Anthropology **Pardis Mahdavi** challenges the anti-Muslim panic surrounding two socially constructed conflicts, the "war on terrorism" and the "war on trafficking." *Routledge, 2013 / 106 pages / \$18.42*

In Beck's "Radicals, Revolutionaries and Terrorists" course, students study groups and personalities from Che Guevara to Al Qaeda to Weather Underground. This semester, Beck will include ISIS and the Arab Spring in the curriculum. Beck says the class discussions and feedback from students gathered over the years were integral to the development of his book. "They were the first audience as well as the inspiration," says Beck.

In his book—which critics have called "sweeping and powerful"—Beck examines eight questions about radicalism, including its origins, dynamics and outcomes. He points out that terrorism is not a new phenomenon. There was a wave of terrorist activity around the world starting in the late 19th century through World War I, when more heads of state were assassinated than at any other time in history, he says. Then as now, there were sharp increases in telecommunications technology and international trade, ups and downs in global economic cycles and demographic pressures, says Beck.

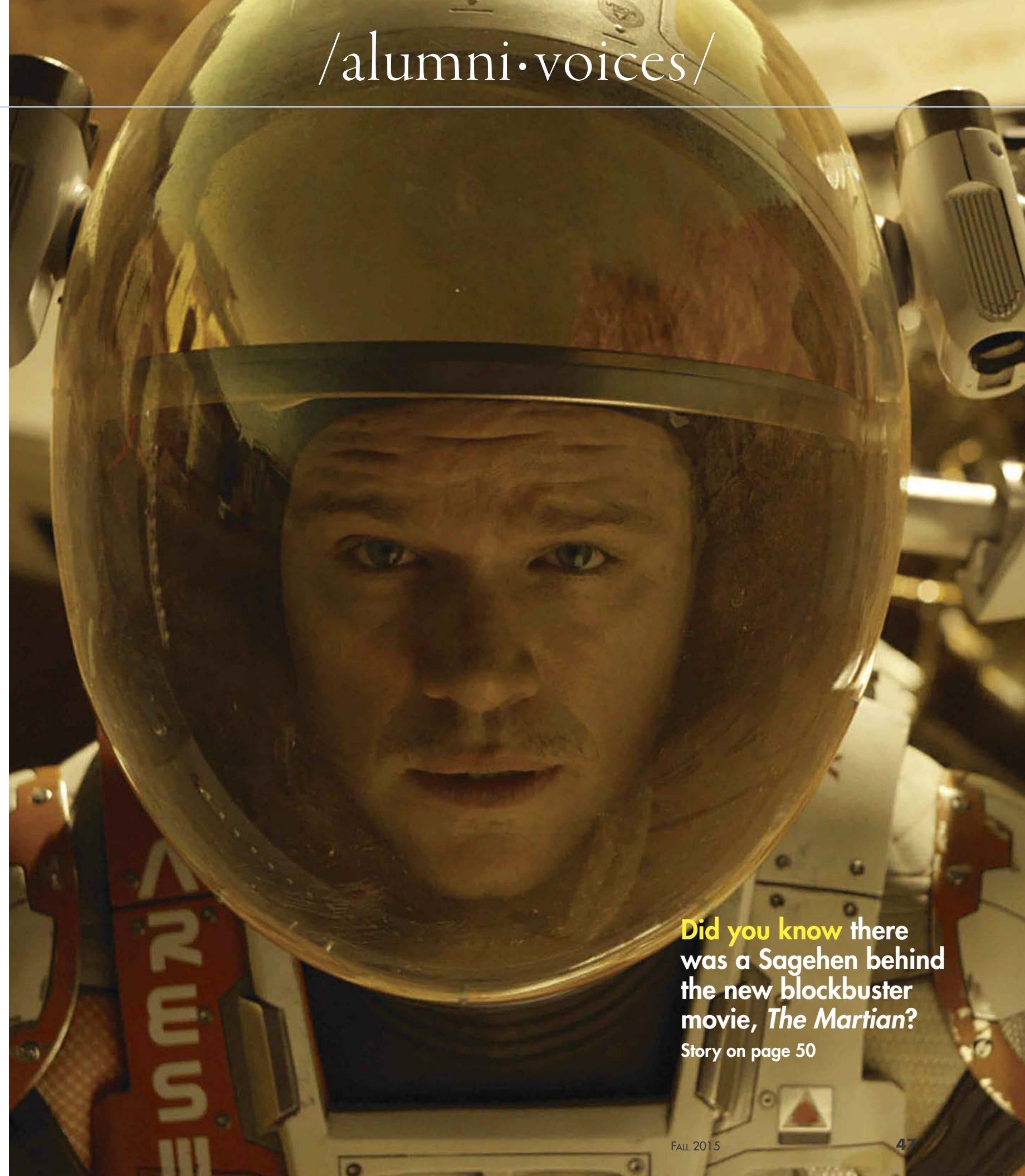
Beck says the impact of globalization is one factor that sets our current era apart from past ones. "Globalization gives movements a stage and a target. International connectivity makes it more likely that contention in one place will become contention in another," he says.

ISIS is a fascinating case, says Beck, and its rise is no surprise, as it developed in ungoverned spaces left by the American invasion of Iraq and the Syrian civil war. They are here to stay for the near term, he says, but in the long term, "when radical groups tend to seize power, they tend to either do themselves in by becoming either more radical or moderate over time."

Beck hesitates to make predictions, but he says the question is whether ISIS will change as other revolutionary movements have over time, like the Tamil Tigers or Hezbollah or Hamas. He says ISIS's endgame is still unclear and he questions what their objectives are, despite their stated aims.

"What is important is to look behind their actions," says Beck, "because the first wisdom of sociology is that things are not what they seem."

—Sneha Abraham



Did you know there was a Sagehen behind the new blockbuster movie, *The Martian*?
 Story on page 50

Flocking Together

The Alumni Association Board held its first meeting of the year, led by Alumni Association President **Onetta Brooks '74**, on October 4. President Oxtoby shared an informal “State of the College” and members were joined by parent and student guests for the following committee meetings:

- Athletic Affinity (alumni co-chair **Jared Mathis '94**)
- Alumni Career Services (alumni co-chair **Matt Thompson '96**)
- Young Alumni Engagement (alumni co-chair **Emma Fullem '14**)
- Giving/Service Days (alumni co-chair **Lisa Phelps '79 P'12**)
- Current Matters of Concern (alumni co-chair **Cathie Brown '53 P'75**)

To nominate someone for the Alumni Association Board, email alumni@pomona.edu.

Winter Break Parties

Celebrate the new year with a Pomona College Winter Break Party, coming to a city near you January 2–15, 2016! Held while students are home for winter break, this Pomona College tradition is one of the best ways for alumni to connect with students in their hometowns and to meet fellow Sagehens living nearby.

2016 Winter Break Parties are currently being planned for Boston, Chicago, Kansas City (Missouri), Los Angeles, Menlo Park, New York City, Philadelphia, Phoenix, Portland, San Francisco, Seattle and Washington, D.C.

Don't miss out—check out our listings at pomona.edu/alumnievents for details and updates about the Winter Break Party nearest you.

4/7 Celebration of Impact

Civic-minded Sagehens: Make sure you are part of Pomona's second Celebration of Sagehen Impact, scheduled for April 7 (yes, 4/7), 2016. Last year, more than 150 Pomona students and alumni flooded the College's Alumni Facebook group and Instagram feeds with pledges, shout-outs and stories about the many ways Sagehens are “bearing our added riches” on campus, in our neighborhoods and around the globe. Organize with fellow Sagehens or find your own ways to contribute your time, talent or treasure to the causes that mean most to you. Our community will be ready to celebrate your good work on April 7.



Members of the Alumni Association Board include: (from left, front row) Emma Fullem '14, Jared Mathis '94, U Kwak '05, Onetta Brooks '74, Cathie Moon Brown '53 P'75, Kyle Hill '09, (second row) Jahan Boulden PZ'07, Jon Siegel '84, Guy Lohman '71, (third row) Anne Bachman Thatcher '75 P'07, Diane Ung '85, Mac Barnett '04, Nico Kass '16, Maggie Lemons '17 (intern), Mary Raymond, (fourth row) Lisa Phelps '79 P'12, (fifth row) Roger Reinke '51 P'80 GP'14, Emma Marshall '14, Jordan Pedraza '09, Brenda Barnett '92, Matt Thompson '96, Professor Lisa Beckett, (sixth row) Ward Heneveld '64 P'92, Craig Arteaga-Johnson '96 and Taziwa Chanaiwa '95 P'17. Not pictured are: Conor O'Rourke '03 and Peggy Olson '61.

Budenholzer Heads List for Hall of Fame

National Basketball Association Coach of the Year Mike Budenholzer '92 and former Athletic Director **Curt Tong** were among the honorees when the Pomona-Pitzer Hall of Fame inducted six new members this fall. Also honored during the 58th annual induction ceremony were **Scott Coleman PO '05** (soccer); **Joy Haviland PZ '03** (water polo, swimming); **Kevin Hickey PO '99** (baseball); **Lucia Schmit PO '03** (water polo, swimming). Budenholzer was inducted as an honorary member (basketball) and Tong was honored for his years of distinguished service as athletic director.

Want to keep up with our sports teams and engage with the Athletics community? Follow @Sagehens on Twitter and like “Pomona-Pitzer Sagehens” on Facebook.



Mike Budenholzer '92 with Mens' Basketball Coach Charles Katsiaficas.

Ladd Named Inspirational Young Alumna

Jessica Ladd '08 has been selected as the recipient of the 2015 Inspirational Young Alumni Award. Ladd, who was featured in the summer 2015 issue of *PCM*, is the founder and CEO of Sexual Health Innovations (SHI), a non-profit dedicated to creating technology that advances sexual health and wellbeing in the United States. At SHI, she spearheaded the creation of the STD partner notification website So They Can Know, the STD test result delivery system Private Results, and the college sexual assault reporting system Callisto.

Before founding Sexual Health Innovations, Ladd worked in the White House Office of National AIDS Policy, as a Public Policy Associate at The AIDS Institute, and as a sexual health educator and researcher for a variety of organizations. She also co-founded The Social Innovation Lab in Baltimore and a chapter of FemSex at Pomona College. Ladd has also recently been recognized as a Fearless Changemaker by the Case Foundation, an Emerging Innovator by Ashoka and American Express, and as the Civic Hacker of the Year by Baltimore Innovation Week.



Jessica Ladd '08

Video Corner

Daring Minds Talks

Tune in to a series of thought-provoking online lectures with members of our alumni community, including **James Turrell '65**, **Ed Krupp '66**, **Mary Schmich '75**, **Bill Keller '70** and **Gabe London '00**. To find the Daring Minds playlist, and for more inspirational speakers and enriching stories from campus, visit youtube.com/pomonacollege and click "Playlists."



Travel/Study

From Angles to Angels: The Christianization of Barbarian England

With History Professor Ken Wolf

May 18–29, 2016

The eighth in a series of alumni walking trips with a medieval theme, this is the first involving the United Kingdom. Its purpose is to appreciate the fascinating history (captured by the Venerable Bede) of the conversion of the barbarian conquerors of England, starring the Irish and Roman missionaries. In Scotland, you will visit Kilmartin, Dumbarton and Loch Lomond; in England, Lindisfarne, Hadrian's Wall and Durham Cathedral.

For more information, contact the Office of Alumni and Parent Engagement at 1-888-SAGEHEN or alumni@pomona.edu.

The Making of *The Martian*

When producer Aditya Sood '97

came across writer Andy Weir's self-published book *The Martian* in 2013, it was selling on Amazon for 99 cents a download. Sood read the book and knew he had found something incredible—this is part of his job: find great, new material and projects to turn into movies.

The film *The Martian*, starring Matt Damon, opened on Oct. 2 and is now a box-office hit making nearly \$100 million worldwide on opening weekend.

"When I read *The Martian*, I was blown away," says Sood. "It is one of the best books I have ever read. I hadn't seen anything like this, it's a warm, human book which is so rare in science fiction, which can be a cold and distant genre."

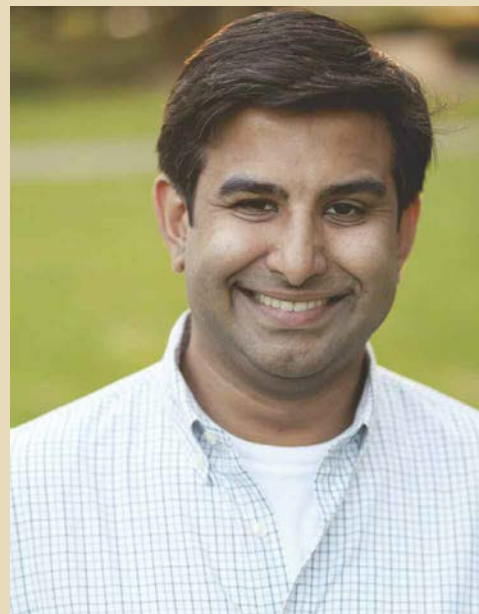
Sood, who is the president of Genre Films, brought the story to his company partner Simon Kinberg, and soon had Twentieth Century Fox behind it. With an incredible screenplay written by Drew Goddard, they were able to get Matt Damon and director Ridley Scott on board.

"We gave the script to Ridley Scott on a Friday and by Saturday, he called us to say he was in. Six months later, we were in Budapest starting filming," recalls Sood.

Many of the positive reviews of the film highlight the accurate science and meticulous research that makes *The Martian* so good.

"More than anything, I'm just happy that we were able to translate Andy's book into a movie that captured all of its values," says Sood. "I wasn't a science major at Pomona, but I've always loved science, and I get frustrated when movies don't get science right but *The Martian* does. It tells a story that is entertaining and scientifically accurate—we used science to tell the story."

Sood did major in Philosophy, Politics & Economics (PPE) at Pomona, but he took it upon himself to pursue his passion of films, signing up to receive the



Hollywood Reporter in his school mailbox, and interning at New Line Cinema and Dreamworks. Sood passed over film school to come to Pomona and valued what the liberal arts had to offer.

"The greatest thing about Pomona was taking classes in any field. I'd always wanted to be an astronaut for the first 12 years of my life and so I took Bryan Penprase's astronomy class my first year, which was great," says Sood.

But Pomona holds a fond spot in his heart for more than academics. It was at Pomona that as a sophomore he met Becky Chassin '98, his future wife.

"I was a sophomore with a terrible room draw, so my friends and I got doubles in Lyon. She was in a sponsor group right next door to us," remembers Sood. "We introduced ourselves and became good pals. We were good friends through college and it wasn't until many years later that we started dating. We got married three years ago."

Along with the success of *The Martian*, Sood also recently celebrated the birth of his son, who he says "will hopefully be Pomona class of 2037."

Sood has some advice for students wishing to make it in films: "Read everything you can—things that are movie-related, screenplays, books about the business, blogs, trade papers."

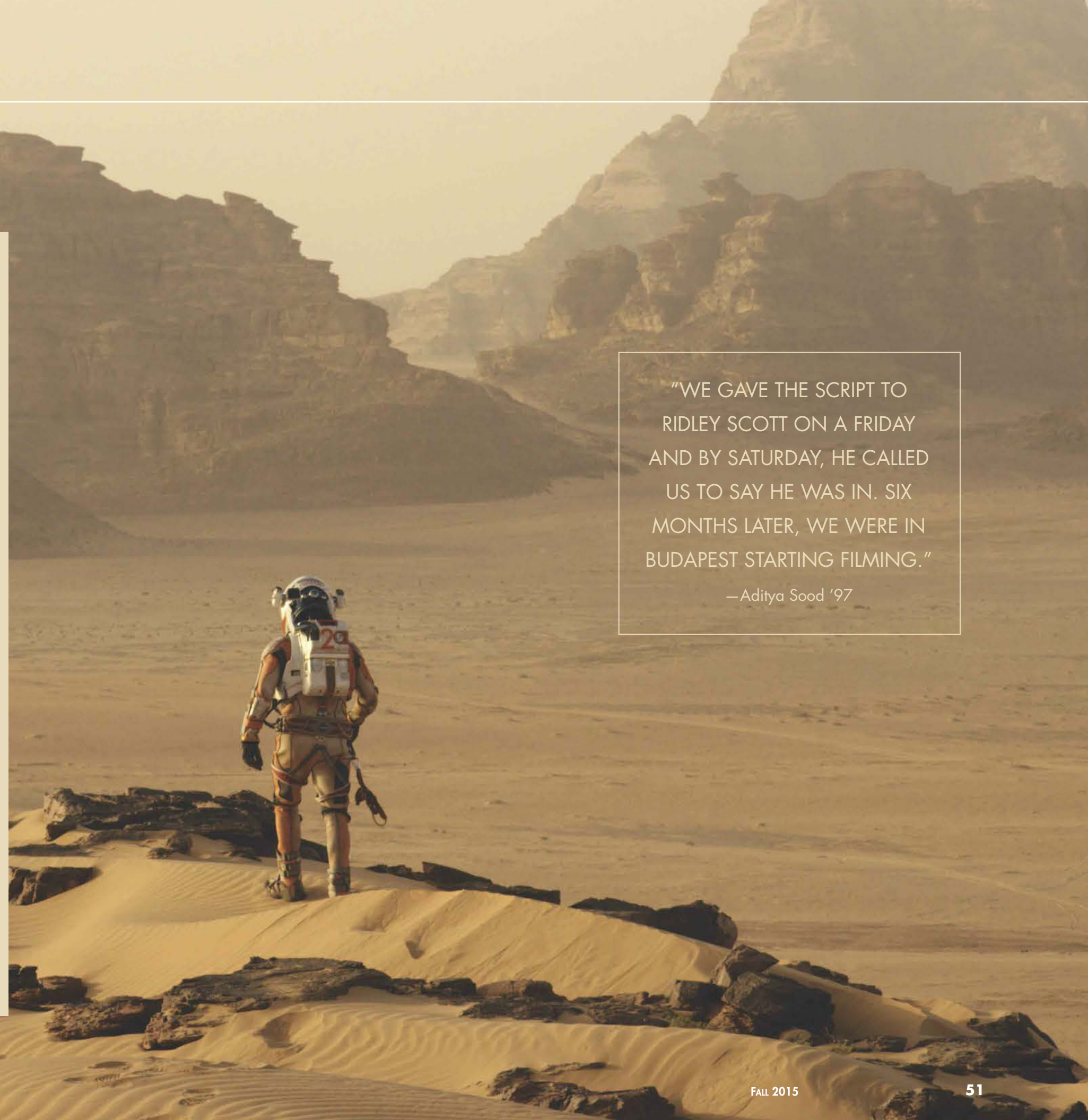
He also tells students to find a group of like-minded friends who are into the same thing, friends who you can share information and experiences, and network with. That's where 5C Claremont in Entertainment and Media (CEM) comes in. CEM recently organized a special screening of *The Martian* with a Q&A with Sood open to CEM and Pomona alumni.

"It's incumbent upon students to figure that part out. It only helps you when you're sharing experiences and information, that's really valuable."

—Carla Guerrero '06

"WE GAVE THE SCRIPT TO RIDLEY SCOTT ON A FRIDAY AND BY SATURDAY, HE CALLED US TO SAY HE WAS IN. SIX MONTHS LATER, WE WERE IN BUDAPEST STARTING FILMING."

—Aditya Sood '97



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"P-P Pride" by Joel Fagliano '14

ANSWERS ON PAGE 52

1	2	3	4	5	6	7	8	9	10	11	12	13
14					15				16			
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58												
61												

ACROSS

- Go around and around
- Florida's Miami-___ County
- White bills in Monopoly
- Craze
- Bullring cheers
- Bush strategist Karl
- Harry's Hogwarts nemesis
- Minute part of a minute: Abbr.
- Sly as ___
- Traditional Hanukkah serving
- Making a long story short?
- Flowers in a famous Monet series
- Vietnam document leaked in 1971
- Butter ___: ice cream flavor
- Served dinner
- Social media "I can't believe it"
- One conducting business in a stadium parking lot, maybe
- Overly
- Pub order
- "Let me repeat..."
- Flown, grown or mown

- "Hey, that's cheating!"
- Calls to mind
- Male and female
- "Life of Pi" director Lee
- Quick drink
- Omar of "House M.D."
- Consider
- Panther, Jaguar or Lion, briefly
- Energy
- KEY USED FOR THIS CLUE
- Pie ___ mode
- "God Forgives, I Don't" rapper
- Woven wall art
- Lubricates
- Poems of praise
- Formal headgear for an opera-goer
- Like an armadillo
- Currently on TV
- Meager
- Business card no.
- Walk very, very quietly
- Words with pickle or jam
- Cinnamon or cloves
- Black, to poets
- Green Jell-O flavor
- "2001" computer
- Opposite of WSW

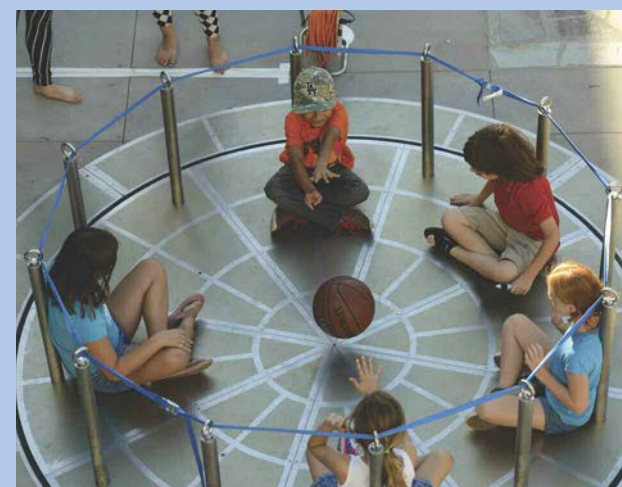
- DOWN**
- Iraq War concern: Abbr.
 - Laugh sound
 - If nothing else works
 - Lasagna cheese
 - Neighbors of the Vietnamese
 - "Please stay!"
 - In addition
 - Thought-provoking
 - Fancy Cadillac S.U.V.
 - ___ Arena, home of the Golden State Warriors
 - Pizza pieces
 - Like a used-up fountain pen
 - Does part of a driving test
 - "Put ___ writing"
 - News item listing surviving kin
 - "___ Places You'll Go" (Seuss book)
 - Coin with Lincoln's profile
 - "___ te llamas?" (Spanish 101 question)
 - Clear wrap
 - Pushing the envelope
 - Patched pants part
 - Panache

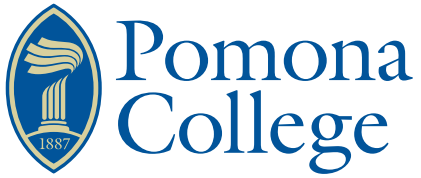
Founders Day at the New Millikan

Founders Day 2015 was a celebration of mathematics, physics and astronomy, centered around the dedication of the rebuilt Millikan Laboratory and renovated Andrew Science Hall. The day featured a range of family-oriented activities, including Planetarium shows, physics and astronomy demonstrations, math lectures and music.



Above: President David Oxtoby examining the remains of a model atom "smashed" by a couple of bowling balls during the Millikan dedication. **Top opposite:** a visitor studying minimal surfaces in the Math Commons using soap bubbles on zome structures. **Second row opposite, left to right:** children learning about forces while attempting to play catch in a rotating reference frame; Ian Descamps '19 demonstrating the Hitachi SU 70 Field Emission Scanning Electron Microscope in the new Microscopy Center; and Mathematics Professor Ami Radunskaya singing with the Millikan Family Band. **Bottom row opposite, left to right:** Angela Twum '18, Physics Professor Philip Choi and his son Phineus Choi watching a musical performance; and math student Peter Staub '18 showing off his academic passion.





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