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History professor Morgan Kousser featured in *The New York Times* editorial

NEERA SHAH
Editor-in-Chief

On April 18, *The New York Times* published an editorial, "Voting Rights, by the Numbers," which cited the research of Caltech's own Morgan Kousser, the William R. Kenan Jr. professor of history and social science. Upon seeing his research as part of the lead editorial of the Sunday NYT, Kousser was both "surprised and ... delighted." He has previously been referenced in a few op-eds in the Los Angeles Times, two articles for Reuters and briefly in a NYT editorial, but, as Kousser put it, "nothing has been this big."

After the 2013 Supreme Court Case *Shelby County v. Holder*, Kousser had the opportunity to publish a report in a special issue of a French journal of American studies on the Voting Rights Act. Although it has not been published yet in the journal, Kousser was able to upload a pre-print to the Social Science Research Network, where it was posted on April 12. Within one day, a NYT editorial writer contacted Kousser with several

in-depth questions. A subsequent correspondence led up to the final article at the end of the week. The editorial itself examined similar questions as Kousser's study and referred to Kousser as a source of "a fresh trove of empirical evidence to refute [Chief Justice Roberts'] assertion."

Kousser's report titled "Do the Facts of Voting Rights Support Chief Justice Roberts's Opinion in Shelby County?" focuses on the claims of the majority opinion of *Shelby County*, which struck down the "most important provision of the most successful civil rights law in U.S. history," according to Kousser. The extensive study was conducted from 2009 to 2013 with the help of SURF students Adam Adler and Matthew Smalley and pre-frosh Judy Mou. According to Kousser, Mou and Smalley "turned [Kousser's] somewhat vague vision into reality" by developing three-dimensional maps to present data on voting rights issues. These maps emphasize Kousser's claims and provide visual evidence that easily shows that voting rights violations

Continued on page 2

Just how serious is Caltech about water conservation, anyway?

CASEY HANDMER
Contributing Writer

California has at least a decade of ground water but is consuming water much faster than reserves

suggesting students take shorter showers, presumably on the off chance they were taking showers in the first place.

More seriously, one Caltech crop can survive with much less



These sprinklers on Wilson Avenue are just one example of water misuse on the Caltech campus.

Photo Courtesy of Casey Handmer

are replenished. National hand-wringing manifests more locally in almond-focused guilt-tripping and bizarrely self-unaware emails from the Caltech Housing Office

water, namely concrete. According to Sustainability at Caltech, around a third of Caltech's water consumption is in irrigation, a fair trade for an environment of living

Techers to visit Nepal for Engineers Without Borders conservation project

KATHERINE GUO
Page Editor

Caltech juniors Jihoon Lee and Webster Guan, the president and secretary of Caltech's Engineers Without Borders chapter, respectively, tell all about their upcoming trip to Nepal and their spring conservation project.

How did the Caltech chapter of EWB get started, and what is your project exactly?

It started in 2012 with Sarah Wright (B.S. '13), who had the idea to start a chapter of Engineers Without Borders here. She was the one who got everything started and made us an official chapter of EWB. She's still very involved as an alum, actually.

We're currently partnered with the non-governmental



Engineering mentor Gordon Treweek and Webster Guan use a theodolite to gather surveying data during a previous trip to Nepal.

Photo Courtesy of Webster Guan

how we decided to do a project in Nepal, Justin Rolando, president of the University of Colorado Boulder chapter of EWB, informed us that they were working on a spring protection source program in Ilam. He thought it would be a good place for us to start, since we were a very young chapter and it was easier to follow in their footsteps instead of coming up with a completely new project and getting it approved. So we got into contact with NCDC, did the paperwork and got the project approved.



(From left) Nauman Javed and Webster Guan visit members of the non-governmental organization Namsaling Community Development Center (NCDC) in Ilam, Nepal.

Photo Courtesy of Webster Guan
What stage are you at in the project?

We actually have enough money to go to Nepal this summer for the beginning of our implementation phase. We'll probably be taking six students plus our engineering mentor, Gordon Treweek. The previous summer, we went on an

assessment trip, which I'd consider to be the end of our "beginning stage."

Essentially, we had to identify a problem in the world and come up with a solution. Once we decided we wanted to do spring protection in Nepal, we had to partner with NCDC to have a contact in the area to help us navigate the land and act as the direct link between us and the community.

Once we managed that, we got our feet on the ground and collected data like the topography of the land, the water quality, just necessary information for the engineering project. The social aspect is equally important: we had to understand the community's values, and the community had to understand our goals and that we wanted to help them. Of course, there wouldn't be a point to our project if the community were unwilling, since the community's satisfaction is what the focus is on here. The community is really enthusiastic about the improvements to the spring, so we're happy about that. We also have an education component to our project. Children are the most vulnerable to water disease and the least experienced, so we're going to go into elementary schools to teach kids about water safety.

Continued on page 2

IN THIS ISSUE

NEWS | PAGE 2
KOUSSEY FEATURED IN THE NEW YORK TIMES EDITORIAL

OPINION | PAGE 3
PRESIDENTIAL ELECTION CAMPAIGNS ALREADY BEGINNING

FEATURE | PAGE 4
THINK A LITTLE MORE ABOUT YOUR EVERYDAY CONVERSATIONS

SPORTS | PAGE 5
TRACK TEAM BREAKS MORE RECORDS

Y Column

CALTECH Y

The Caltech Y Column serves to inform students of upcoming events and volunteer opportunities. The list is compiled by Neera Shah from information given by the Caltech Y and its student leaders.

Founded by students in 1916, the Y was organized to provide extracurricular activities planned and implemented by students as an opportunity to learn leadership skills and discover themselves. More information about the Caltech Y and its programs can be found at <https://caltechy.org>. The office is located at 505 S. Wilson Avenue.

Upcoming Events

1a. Pasadena LEARNS

Friday | 3:00 - 5:00pm | Madison and Jackson Elementary School | Pasadena

Come volunteer at Madison and Jackson Elementary School! We are partnered with the Pasadena LEARNS program and work with their Science Olympiad team or do regular tutoring along with occasional hands-on science experiments. Transportation is provided. For more information and to RSVP, contact vkkumar@caltech.edu. Eligible for Federal Work Study.

1b. Hathaway Sycamores

Monday | 5:30-8:00pm | Highland Park

Volunteer at Hathaway-Sycamores, a group that supports local underprivileged but motivated high school students. There are a variety of ages and subjects being tutored. The service trip includes about an hour of travel time and 1.5 hours of tutoring. Transportation is included. For more info and to RSVP email Sherwood Richers at srichers@tapis.caltech.edu. Eligible for Federal Work Study.

Other Announcements - Beyond the Caltech Y

Science Fair Judges Needed

Judges are needed for multiple Science Fairs and other events during the month of May. Please email Karen Jain at jain.karen@pusd.us for more info or to volunteer for any of the events listed below:

Wednesday, May 6th, 8:00 - 10:00 AM

Washington Elementary School Science Fair

Grades 4-5

Friday, May 8th, 9 am - noon
(There is no need to stay for the whole session.)

Innovation Expo of science and engineering projects

Grades 4-9

Blair High School gym

Saturday, May 16th, 8 am - 2:30 pm (Again, volunteering for an hour or two will be great.)

Science Olympiad Tournament

Grades 2-8

Blair Middle and High School campuses

Friday, May 22, 9 am - noon

Judges for cardboard boat race

Grade 8

Sierra Madre community swimming pool

Kousser's voting rights research cited in *The New York Times*

Continued from page 1

have not decreased as Roberts asserts they have.

The research for this project began in 2009 after the Supreme Court decided *Northwest Austin Municipal Utility District No. 1 v. Holder*, in which "Chief Justice Roberts openly threatened to declare Section 5 of the Voting Rights Act unconstitutional unless Congress changed the coverage scheme." Kousser worked through two summers with Adler to compile a database of more than 4,100 voting rights cases to analyze, ranging from 1957 to 2013.

Kousser systematically examined evidence on the pattern of (legally proven) voting rights violations over time and space. By doing so, he was able to show in his report that Chief Justice Roberts was not correct in his claim that voting rights violations no longer "tracked the coverage scheme." Kousser argues that the decrease in recorded violations was not because the problems that

existed at the time of the original enactment of the Voting Rights Act no longer exist today, but because the Supreme Court has made it more difficult to win lawsuits on voting rights violations.

This data-driven approach is

"According to Kousser, the 5-4 ruling in Shelby County is but one in a series of cases which 'crippled and finally killed' the 'brilliantly successful' Voting Rights Act."

especially important because, as Techers may very well know, a comprehensive understanding of data is necessary in order to accurately assess conclusions made from the evidence. Kousser's argument superimposes the dates of cases on a series of timelines of the number of cases and other voting rights actions in each year. In creating this database, Kousser is the first to demonstrate that "when the Supreme Court issued opinions that made it easier for voting rights lawyers and civil rights activists

to win, more cases were filed and won; when the Court's opinions made it harder to win, fewer cases were filed, and many of them were lost."

The Supreme Court majority took advantage of the fact that there were fewer Section 5 objections by the Department of Justice to claim that discrimination had declined. Kousser recognized this and said that "by rendering decisions that make it easier or harder to bring and win voting rights cases or make objections, the Supreme Court can, in effect, manipulate the

evidence of discrimination, which it can then use, in a second stage, to justify a decision to further weaken or strengthen the tools. It can create the reality that it subsequently reacts to." He notes that it is important to know that the number of voting rights "events" does not simply measure discrimination but rather the "nature of the Supreme Court opinions that influence how many cases get brought and how many objections are made."

According to Kousser, the 5-4 ruling in *Shelby County* is but one

in a series of cases which "crippled and finally killed" the "brilliantly successful" Voting Rights Act. He recognized that "social change doesn't happen all at once, and once and for all." Kousser added that "perfection in any institution is a dangerous myth; there is only the repeated correction of imperfections. As long as there is discrimination, there will always be more work to do," as shown by his latest study.

Through his research, Kousser hopes to show that in a time when issues such as voting rights and climate change are dominated by ideological rants, "it IS possible to affect public debate on topics of national concern by working hard to produce accessible, objectively-based evidence." Additionally, "by meticulously gathering and compiling data, ... putting it into a form that nobody else had thought to do and working very hard to present it in a way that was both simple and persuasive, my research assistants and I have perhaps inserted a bit more reason into the debate. It's a small achievement, but large policy change is the sum of small achievements," Kousser said.

Engineers Without Borders team prepares for trip to Nepal as part of long-term project

Continued from page 1

talked to the locals ... pretty much to get a feel for if the project was feasible. Since it was, we created a design for the spring protection system. Very recently, we met with MWH Global, which is an engineering firm that focuses on water protection, storage and so forth. We have an engineering partnership with them, so they helped us refine the design.

Where is your money coming from?

We've been continuously fundraising for the journey by hosting the EWB-Caltech benefit dinner here, applying for grants from rotary clubs and water/environmental-related corporations, appealing for private donations and partnering with companies.

What are you doing to prepare for the trip?

Well, I (Webster) hope to learn some basic conversational Nepalese. Last time, on the assessment trip, I had Jihoon's co-president, Nauman Javed, who was able to speak to the locals in Hindi, but this summer Nauman and I will be taking separate "shifts" of our implementation trip, since we were the only two on the assessment trip last time. A lot of the time, you're on your own since NCDC doesn't provide a translator. NCDC does so much for us, though. They organize the transportation to Ilam, which consists of a flight to Kathmandu, a domestic flight to the Ilam district, and then a long jeep ride. They set



(From left) Nauman Javed, Webster Guan and Gordon Treweek visited Nepal in summer of 2015 as part of their assessment trip for Engineers Without Borders.

Photo Courtesy of Webster Guan

up homestay arrangements for us with the families associated with NCDC, and they provide food for us. It's an amazing experience and I'm really excited to fly out again this summer. This implementation trip will involve more overseeing and participating in construction of the spring protection.

Looking forward, what are your next steps in the project?

Since the project is about a five-to six-year commitment, we're going to have to monitor the spring protection site in the coming years and make sure it's being used properly. We'll stay in contact with the NGO to check in on the community. We'll also definitely have to do more fundraising for when we make future trips.

According to Lee, the NCDC was not critically affected by the recent earthquakes in Nepal.



Gordon Treweek and Nauman Javed measure the flow rate of the spring.

Photo Courtesy of Webster Guan

Cherry Bomb shows different sides of Tyler, The Creator

NAILEN MATSCHKE
Contributing Writer

Anyone familiar with the personality and multimedia artist that is Tyler, The Creator can tell you that he loves attention. At just 24 years old, the leader of Los Angeles hip-hop collective Odd Future Wolf Gang Kill Them All has made himself an internationally recognized personality with four almost entirely self-produced studio albums, acting and writing in an Odd Future-centric TV show, and his own mobile app. Along the way, Tyler has been no stranger to controversy, brought on by an all-around lack of filter, reflected in his frequently politically incorrect and violent lyrics. While the shock of a teenager rapping about some pretty twisted topics over his own half-demonic, half-cartoonish beats was enough to kick-start Odd Future's launch into the mainstream, staying relevant requires a bit more in its wake. Tyler himself has acknowledged that he can't rap about the

things he used to, and on 2013's *Wolf* this manifested itself in an increased attention to his production. *Cherry Bomb*, released on April 14 (just one week after it was announced), demonstrates Tyler continuing in this direction, which makes sense, but in execution is a bipolar, confusing heap of tracks that raises more questions about where Tyler is going than it answers.

The album's opener, "Deathcamp," was one of the two singles released along with the album's announcement, and as a departure from Tyler's usual sound, it provides a starting point for understanding some of the tracks that follow. Kicking it off is an up-tempo aggressive riff led by a buzzsaw-like guitar with some ornaments including a tambourine and vocal samples, which plays one iteration before getting pummeled by an absurdly loud and distorted bass, with this alternating pattern forming the backbone of the song's instrumentals. This heavy incorporation of rock elements and the impressive attention to detail immediately show that Tyler has been making strides with his production ability. Until this point, Tyler's music has always sounded a bit like it was made by a kid messing around with a keyboard; even as his budget increased, it has been easy to pick out the forced chord progressions and arrangements of repeated simple yet poorly-executed patterns that are a sort of hallmark of early Tyler (and Earl Sweatshirt) releases. Obviously, Tyler embraced this aesthetic and it was increasingly intentional, but here he really sounds like he's grown past it, as this track has a lot going on and yet almost everything fits into place despite being

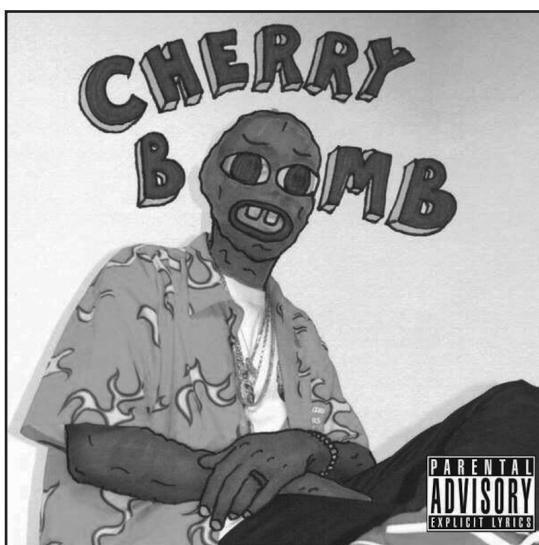
new to his repertoire. Importantly, he doesn't completely abandon his older style, which is particularly noticeable on many of the other tracks, such as the piano and synth patterns on "Buffalo" or the sugary-sweet "F----- Young / Perfect." Still, it comes off as much more intentional throughout the album, and overall it sounds like he has a much better idea of what he's doing.

On the other hand, the way Tyler decides to utilize this increase in technical ability not only comes at the expense of his vocals, but also rarely translates into music that's even enjoyable to listen to. Almost every track on this album has Tyler's voice mixed well below everything else and, as I mentioned with "Deathcamp," the bass up to an unreasonable level. The latter is generally not a huge deal; it can be distracting during instrumentally dense parts, but on most of the more aggressive songs it comes off as more of a gimmick that fits with some and feels unnecessary on others. The mixing of the vocals, however, makes picking out Tyler's verses an annoying process akin to trying to talk to someone at a loud concert. It's also clearly intentional on his part — title track "Cherry Bomb" is four minutes of borderline unlistenable synth distortion turned up so high that every note clips — and on tracks like "2Seater" and "Buffalo" where he has substantial lyrics, it's frustrating that he'd just cover them up with incessantly rumbling bass or a single, unwavering synth note in the middle of the mix.

It doesn't make that much of a difference, though, since many of the lyrics are weak to begin with. Tyler's flows have never been a strong point of his, and there are only a couple

on this album I was really a fan of, including the long first verse on "Buffalo" in which Tyler tackles an assortment of personal issues, and the head-nodding, Schoolboy Q-featuring banger "The Brown Stains of Darkeese Latifah Part 6-12 (Remix)." For the most part, however, Tyler's lyrics are reiterations of the "I don't like to follow the rules / and that's just who I am" manifesto presented in "Deathcamp." Verse after verse across the album is constructed out of disconnected two- or three-line brags and complaints that Tyler's the only "leader" in the industry, but I don't think even he knows where he's "leading" us. The rest of the album is largely Tyler's typical songs about girl problems, which are somehow hard to relate to this time and don't fit in thematically with the rest of the album at all. Between their poor performance and constant clashing with the instrumentals, the lyrics on this album are easily one of its lowest points.

On the whole, my feelings on *Cherry Bomb* are actually fairly mixed. I've never considered myself a fan of Tyler's production, but I really prefer the lushness of this album's sound, which, despite drawing from a much wider variety of sources, maintains a honed version of his signature style. Unfortunately, even with some solid features on the second half (including a track with Kanye and Lil Wayne), the lyrics find Tyler with not very much to rap about. Amplifying this is lyrics' depth in the mix, which along with the prevalence of obnoxiously distorted tracks makes much of this album feel like just noise. *Cherry Bomb* was certainly an interesting release for Tyler, The Creator, but it's very much unclear what he'll do to follow this up.



-<http://consequenceofsound.net>

Presidential race of 2016 begins: What's in a nomination?

SEAN MCKENNA
Contributing Writer

I was trying to find the best way of complaining that candidates have already entered the race for president in 2016, given that we're not yet six months removed from the 2014 midterms. Then I realized that candidates throwing their hats in the ring this early means I have more time to be cynical about every single action they make. So, come along for the ride over the next 18 months as I sporadically laugh at, agree with or pity those who have the guts to run for the right to run this country. Today, I'll explain the two political realities which candidates are currently facing: state primaries and fundraising, which bog down the early parts of every campaign.

Hillary Clinton is the first candidate to look at. She announced her campaign on April 12, and she could not have been off to a more predictable start: she started with a good ol' American road trip from the East Coast to Iowa, and then she took a tour of New Hampshire. These two states have the first caucuses and primary elections. A candidate without a strong showing in either of those contests stands little chance of moving ahead with the rest of the campaign. So, Clinton has to pander to the interests of Iowans and New Hampshireites for the next eight months because they determine her future. I do not envy this task. Pandering to voters in early states instead of firing up a nationwide base is an unfortunate political reality which skews the early focus of campaigns and elections.

In the eyes of pundits, Clinton has all but won the Democratic nomination by default. In contrast, each of the three Republican candidates already in the nomination race (Ted Cruz, Rand Paul, and Marco Rubio) has a legitimate chance of winning it, and we aren't anywhere near the end of the announcements phase. We still expect candidates like Chris Christie, Jeb Bush, Carly Fiorina, and Mike Huckabee to announce soon. For Republicans, the 2016 nomination race is sure to be a bloodbath. Thus, their candidates are currently focused on the other unfortunate task charged to presidential candidates: raising money. Given the egregious sums it will take to fight each other, each candidate is focusing on convincing the donors that he or she is the Republican candidate who has the best chance of defeating Clinton. This is the second unfortunate political reality which takes candidates' energy away from focusing on the campaign issues. As money grows to be more important in politics, this energy sink detracts ever more from the overall quality of politics in America.

So if you're disenchanted with national politics like I am, let's focus on the only positive 2016 election news: Waka Flocka Flame has also announced his intention to run for president. Does anyone really care that he's not old enough to be president? Constitutionality aside, he's the ideal candidate from a fundraising and name recognition perspective: he already has enough money to pay someone \$50,000 a year to be his blunt roller, and he has more Twitter followers than any of the Republican candidates.

CALIFORNIA INSTITUTE OF TECHNOLOGY
CHARLES AND THOMAS LAURITSEN MEMORIAL LECTURE
DIVISION OF PHYSICS, MATHEMATICS, AND ASTRONOMY

Tuesday, April 28, 2015 / 8 p.m.

Daniel J. Levitin

New York Times Bestseller

**"The Organized Mind:
Thinking Straight
in the Age of Information Overload"**

Free Admission

Beckman Auditorium

Call campus x 4652 for information

CALIFORNIA INSTITUTE OF TECHNOLOGY
JAMES MICHELIN DISTINGUISHED VISITORS PROGRAM

Wednesday, April 29, 2015 / 6 p.m.

**"At the Intersection of Art and Science"
A Conversation with
Joyce Carol Oates and Charlie Gross**

Free Admission

Baxter Lecture Hall

Call campus x 4652 for information

Killing the small talk: Meaningful conversation matters

KSHITIJ GROVER
Contributing Writer

I find myself thinking all the time that I wish I had more meaningful conversations, especially over a meal or over coffee with someone.

It's hard.

Getting to know people, and steering the conversation into substance is one of the most invaluable traits you can possess. There is, of course, the classic question you can resort to when you're first getting to know someone: *What do you do? (or Where do you go to school?)*

This makes people uncomfortable. To me, it doesn't show that you really care about the conversation.

Next time you really want to discover something about the person sitting across the table from you at dinner, here's what I'd ask:

Brag about something.

This catches people off guard and tells you so much. Everyone has different priorities. Everyone is accomplished in one's own right. But what do people choose to tell you about when *asked to brag?* Oh, the things you'll find.

Tell me about your last birthday.

Frame of mind is *everything*. How do people highlight their day? Though most people react similarly in times of tragedy, celebrations are often where we're most different. You'll get to know their personality quirks, friend groups, and even how thankful they are about milestones in their life.

What are you obsessed with?

Everyone has an obsession. Yet, this question isn't just about people's priorities. It tells you how they perceive *obsession*. Do they see it as passion or something negative? How personal do they get in their responses? There's a lot you can learn if someone answers "chocolate" or if someone answers "my children."

What keeps you up at night?

This touches at another end of the spectrum. Everyone worries — often for good reason. This will usually get either a really emotional response or a rather dismissive one — either way, it's revealing.

Who holds you back?

The people in your life are most important. There's good

reason this question is negatively phrased. The positive phrasing — "*Who motivates you?*" — often lends itself to an easy answer (i.e., friends, family, idol). This one makes people think more about who they're afraid to disappoint. Who keeps them from achieving success?

When would you quit?

This is a purposely open-ended question. *Quit what? What's "when"?* Most people are taught that quitting is *wrong* and that we should persevere. How do people deal with difficulty? Where is the line for them when it's not worth it?

What makes you tear up?

Some people genuinely don't cry. Others are hugely emotional. This question gives you insight into how willing they are to open to you. More importantly, it pushes them to recount a situation in which they were vulnerable — certainly not easy for most.

How satisfied are you?

People will take this *all sorts of different directions*. That's the magic of this question. Society attaches a lot of stigma to this — either you should always be full of passion and never content with your position, or maybe you should be happy with what you have and not be jealous. Where do they stand on this topic?

Describe the smallest form of happiness.

This "question" is powerful. Most people are scared of happiness because they're led to believe it's some intimidating, almost too-good-to-be-true goal in life. Downsizing that to "smallest form of happiness" really forces people to take a step back and see what puts smiles on their faces.

Who cares most about you?

This question makes them step out of their own boxes. It makes them think about which people depend *on them*. It'll give you a good sense of their perspectives on relationships.

Don't get me wrong — these questions are by no means conversation starters, especially with someone you're just meeting for the first time. Yet, if you're really trying to dig deep, you can't go wrong with these.

Check out other posts at <http://medium.com/@kshithappens>.

ART OF SCIENCE COMPETITION

-Share the beauty of your work with others--all the imagery you created in the course of research or through the incorporation of scientific tools and ideas
 -Entries should consist of one or several images, along with a caption to explain the context of the piece and give information on sizes of objects seen
 -Submit to www.artofscience.caltech.edu until 5 p.m. on April 30
 1st Place - \$250; 2nd Place - \$150; 3rd Place - \$100

Annual International Food Fair and Culture Show celebrates diversity



The Caltech International Offices and the Caltech Y hosted the annual World Fest and International Food Fair & Culture Show on April 23. Ethnic foods were served and performances included bagpipes, Indian tabla, Spanish guitar, Bollywood dance, Chinese martial arts, and Salsa dance (bottom right). A Peking opera costume was also displayed (bottom left).

Photos Courtesy of Neera Shah

It's getting hot in here: A review of Earth Day performance *Two Degrees*

MICHAEL L. WONG
Contributing Writer

Despite it being a chilly, overcast evening, the atmosphere inside Ramo Auditorium last Wednesday night was boiling hot. *Two Degrees*, the keynote performance of Caltech's Earth Day events, struck hardest at the theme of needing to drastically cut carbon emissions within the next few years to prevent suffering from dire, lasting consequences for decades to come.

The title of the play comes from the scientific view that increasing global temperatures by just 2 °C from pre-industrial levels will be the tipping point toward unhealthy, irreversible damage. Ocean acidity, glacial recession rates, the frequency of extreme weather phenomena and the severity of regional droughts are all menacingly sensitive to temperature.

Two Degrees follows climate scientist Emma Phelps (Brenda Varda) on her trip to Washington, D.C., where she must navigate a landscape of crisscrossing motives and uncertain allegiances. On Capitol Hill, Dr. Phelps meets Senator Louise Allen (Kila Kitu) and her assistant Wilson (Brian Brophy), as well as a mysterious patron of politics named Clay (Joshua Wolf Coleman). An incendiary brew simmers into existence when the anxious undercurrent of academia mixes with the designing mayhem of

policy. Dr. Phelps quickly discovers that Washington is a confusing and frustrating arena — who stands for what, when is "climate change" politically correct and when is it blasphemy, and why does it suddenly matter so much what she's wearing?

Two Degrees was the first performance of MACH 33, a series of new science-driven plays at Caltech. Heather Leigh Curtis, a Ph.D. student in biology, and Yazan Billeh, a Ph.D. student in computational and neural systems, narrated the staged reading on Earth Day. It was stage-managed by Arden Thomas, who produces the MACH 33 Festival, and Utkarsh Mital, a Ph.D. student in applied mechanics.

Written by Southern California playwright Tira Palmquist, *Two Degrees* weaves science into a pathos that runs straight to the heart. As Dr. Phelps struggles to convince a congressional committee of the dangers of inaction, she simultaneously learns to face the hauntings of her own past decisions. During the post-show discussion, one member of the Caltech community summed up the play's potential: "As scientists, we are trained to interpret information, but most people don't respond to information. People respond to stories." In a brilliant and novel way, *Two Degrees* delivers a critical message to the public via a truly captivating story.

After the show, playwright Palmquist was joined onstage by

actor/director Coleman and the play's science mentor, Jennifer Walker, to answer questions from the audience. An environmental science Ph.D. student at Caltech, Walker was instrumental in making the play both accurate and believable. "After we gave the first draft to Jennifer, she sent us back pages and pages of notes," said Palmquist. One critical contribution of Walker's was freeing Dr. Phelps from her just-another-scientist lab coat. Originally a nondescript researcher with nebulous academic goals, Dr. Phelps' character crystallized under Walker's gaze into a passionate ice-core-drilling paleoclimatologist.

Prior to the show, "Community + Climate Conversation" broke the ice between audience members. Climate researchers from JPL led discussions about the science behind *Two Degrees*, enhancing the uniqueness of the playgoing experience. Meanwhile, volunteers roamed the Ramo Auditorium patio carrying iPads loaded with SKIES, a collaborative learning app developed at Caltech. The crowd connected to one another via cyberspace: anyone could post a question about climate change, and anyone else could answer that question or add a follow-up thought. This technologically hip discourse sprouted a "tree of knowledge" that was projected and reviewed in the auditorium just before the lights went down and the actors brought the heat to the stage.

Derek Kearney pitches a super rad baseball game

GOCALTECH.COM

Actual Sports Content Editor

PASADENA, Calif. (Apr. 22, 2015) – Senior Derek Kearney (Carlsbad, Calif. / La Costa Canyon) turned in one of the best pitching performances in program history as the Caltech baseball team took SCIAC-leading University of La Verne to the wire in a 3-1 defeat on Wednesday afternoon.

Kearney tossed his sixth complete game of the season, allowing just one earned run while striking out four and recording a whopping 14 groundouts over the full nine innings. A pair of unearned runs made the difference as La Verne improves to 21-14 overall and 18-7 in the SCIAC, while Caltech dips to 2-32 (0-25).

The senior ace sent the Leopards a message early, coaxing a groundout to first base and whiffing two in the top of the first inning. He worked out of a jam in the second after a one-out walk and single put runners on the corners, picking off the man on first and getting another groundout to junior Dylan Schultz at shortstop to end the inning. Kearney tried to help his own cause at the plate with a two-out single in the bottom of the frame, but would be stranded.

La Verne threatened again in the top of the third inning with a one-out single, stolen base and sacrifice bunt advancing a runner to third, but Kearney induced a high fly out to right field to escape unscathed. The Beavers turned right around to nearly get on the board with sophomore Schaeffer Reed (Miami, Fla. / Westminster Christian) beating out a bunt for a leadoff single and moving to second on a perfectly placed bunt by sophomore Chris Bradley (Half Moon Bay, Calif. / Serra). Some awful luck left him stranded, however, as a pair of sharp liners by junior Daniel Chou (Blue Bell, Pa. / Wissahickon) and sophomore Harrison

Jacobs (Tucson, Ariz. / Catalina Foothills) were snagged in left field and at shortstop.

La Verne finally broke the deadlock in the top of the fourth inning. A leadoff single and sacrifice bunt moved the go-ahead run into scoring position, but a fly out to left seemed to dampen the Leopards' chances of scoring with two outs. Andrew Douglas, who would go a perfect 4-for-4 on the day, sent a sharp single up the middle to bring the run home and give the visitors the 1-0 lead and advanced to third on a stolen base and throwing error. Kearney was far from rattle, however, and blew a fastball by the next batter for his third strikeout of the day.

Rather than giving in to what could have seemed inevitable against the conference's top team, Caltech responded immediately to tie the game in the bottom of the fourth. Freshman Garrett Levine (Columbus, Ohio / Columbus Acad.) reached on an error to lead off the frame and was joined on the basepaths as Schultz drew a walk. A fielder's choice erased Schultz at second but put runners on the corners with just one out and Kearney stepping to the plate. The veteran continued to help his cause with a sacrifice fly to centerfield, plating Levine and chasing La Verne starter Javi Iniguez from the game.

The Leopards barely scratched out another run in the top of the fifth. A leadoff infield single was followed by a stolen base and passed ball, with the go-ahead run scoring on a groundout to shortstop. Kearney was not charged with the tally, though, as he recorded a fly out and groundout to end the frame. Chou stroked a two-out double to left center in the bottom of the inning, but could not be brought home.

Kearney worked his way around two singles in the sixth and Levine led off the bottom with a single. Two batters later, Leopards shortstop Woody Reyes made an incredible play ranging to his left behind

second base to nab a well-struck ball by freshman David Watson (Fort Collins, Colo. / Windsor) and flipping the ball straight from his glove to the second baseman to start a double play that ended the inning. Jacobs pulled down a sharp liner to record the third out with a man on second in the seventh inning, but La Verne would score an insurance run in the top of the eighth after an error allowed the leadoff man

to reach base. A sacrifice bunt moved the runner into scoring position and a sharp double down the right field line that just snuck under the outstretched glove of the diving Watson plated him. The Beavers were retired in order in the eighth and La Verne put runners on the corners with just one out in the ninth looking to put the game out of reach, but Kearney would have none of it, getting a weak grounder for the fielder's choice at second and a groundout to Watson at first to end the inning.

Down to their final chance, the Beavers certainly had the Leopards worrying as Levine led off with his second single of



Derek Kearney doesn't just throw pitches from the mound; he also throws massive side-eye shade.

-http://gocaltech.com

the day, prompting La Verne to yank Alex Bernstein from the mound after striking out four and allowing just the one hit over two innings. With closer Nick Byrd taking over, Schultz worked the count full before striking out on a blazing fastball and Watson grounded out to second, moving Levine into scoring position. Kearney would fittingly have the honor of representing the tying run with two outs, but whiffed on a high fastball to end the game.

Kearney's performance was by far the Beavers' best on the mound this season, bringing his season ERA down to 6.72, which would rank third all-time at Caltech.



How do I begin to explain Matt Lappin? Matt Lappin is flawless. He has two Fendi purses and a silver Lexus. I hear his hair is insured for \$10,000. I hear he does car commercials ... in Japan. His favorite movie is Varsity Blues. One time he met John Stamos on a plane and he told him he was pretty. One time he got one of my team members concussed ... I almost fought him.

-http://gocaltech.com



Soumya Kanaan catches sight of the ball. She whispers under the water, "I'm comin' for ya."

-http://gocaltech.com

Track updates school records

GOCALTECH.COM
Actual Sports Content Editor



Aditya Bhagavathi thinks he is too good for the ground, so he refuses to run on it.

-http://gocaltech.com

NORWALK, Calif. (Apr. 18, 2015) – Junior Aditya Bhagavathi (West Windsor, N.J. / West Windsor-Plainsboro North) set another new program record in the outdoor 5,000-meter run at the Beach Invitational hosted by Long Beach State at Cerritos College on Saturday.

Bhagavathi clocked a 14:46.66 to beat out Greg Griffin's 41-year-old converted record by nearly six seconds, finishing ninth overall in the 51-runner field. His time currently ranks fifth in the SCIAC this season.

Senior Eric Martin (The Woodlands, Texas / College Park) also impressed in his return from a five-month injury layoff, timing in at 1:57.32 in the 800-meter run to place second in his heat and best a total of 18 runners in prior heats.

Sophomore Lucy Chen (Boonton Township, N.J. / Mountain Lakes) continued to drop time with a 14.66 in the 100-meter dash (-0.19) while junior Anup Kishore (Chappaqua, N.Y. / Horace Greeley) leapt an extra quarter-inch in the triple jump and freshman Alex Bourzutschky (Potomac, Md. / Montgomery Blair) debuted in the 400-meter dash with a respectable 54.61.

Do you like sports? Are you witty? Do you believe in the Illuminati???? Then YOU should become the sports page contributor! Email tech@caltech.edu for more details. Do it for America; your country needs you.

ASCIT Minutes

ASCIT Board of Directors Meeting

Minutes for 21 April 2015. Taken by Sean McKenna.

Officers Present: Connor Rosen, Catherine Jamshidi, Connie Hsueh, Patrick Nikong, Annie Chen, Sean McKenna

Guests: Anne Dorsey, Ciara Ordner, Elliott Simon

Call to Order: 12:03 pm

President's Report (Connor):

- ASCIT election happened. Results will be released tonight pending no protest.
- Connor is looking for written comments on the new UASH policy. People were concerned about the delay in communicating ineligibilities. ASCIT will see if we can get the registrar to automate the process.

Officer's Reports:

- V.P. of Academic Affairs (ARC Chair: Nima):**

- The ASCIT teaching awards nomination form has been sent out. Nominate people! Nominations close May 3rd. The ASCIT teaching awards ceremony will be held in the beginning of June.
- ARC is working on peer advising for next year. Freshman would have 2 or 3 UCC peer advisors from each house with CTLO/Deans training. Sophomore house advising for options could happen too. This could improve upon the "option mentor" system.
- Nima will be analyzing the library survey data.

- V.P. of Non-Academic Affairs (IHC Chair: Cat):**

- Rotation schedule will probably be the same as last year, but there are still some details to work out before finalizing.
- Transition retreat happening this weekend. On top of transition stuff, graduation rates and interest surveys will be discussed. IHC will come up with projects for the year.

- Director of Operations (Connie):**

- ASCIT Movie night will happen on Friday 1 May.
- Avengers will be shown at 10pm on Thursday 30 April.
- Chouse Trivia moved to 10pm on Wednesday 29 April

- Treasurer (Patrick):**

- Reimbursements finishing up.

- Social Director (Annie):**

- Dachshund event happening this Saturday 25 April. Bus leaving at 12:30.
- Harvey Mudd party probably will not happen this year.
- Puppies will come on Saturday 6 June 6 at 6pm.
- Aquarium trip on Saturday 9 May from 10am - 4pm.

- Secretary (Sean):**

- Secretary signups due by 11:59 pm on Wednesday 29 April.
- Midnight Donuts on the night of Wednesday 6 May.
- Installation will happen immediately following the IHC Meeting on Monday 11 May.

If anyone has any questions or concerns about a section of the minutes please email the appropriate officer. We are happy to answer any questions. The next meeting will take place on **April 28th at Noon in the Winnett Common Space**.

Meeting Adjourned: 12:37 pm

REMINDER FROM THE COUNSELING CENTER:

Meditation Mob

(drop-in mindfulness meditation group)

Meets every Tuesday
Bottom floor of Winnett
12:00-12:50 pm

CALTECH PERFORMING AND VISUAL ARTS PRESENTS: SPRING CHAMBER MUSIC SERIES

The first concert will be the Mother's Day Concert on Sunday, **May 10**, at 3:30 p.m. Enjoy music of Romantic masters Mendelssohn, Brahms, and Rachmaninoff performed by outstanding Caltech student musicians.

The second and final concert in the series is the Annual Chamber Music Marathon on Sunday, **May 17**, from 2:00 to 6:00 p.m. Caltech students present music for every taste -Vivaldi, Mozart, Haydn, Beethoven, Mendelssohn, Schubert, Schumann, a complete performance of "Four Seasons of Buenos Aires" by Piazzolla, and much more!

Audience members may drop in at any time and stay as long they wish.

Please note that these concerts begin at different times. For complete program details go to music.caltech.edu one week before each concert.

Admission is free and no tickets are required.

Contact Cindy De Mesa at Cdemesa@caltech.edu or (626) 395-3295 with any questions.

Caltech

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The advertising deadline is 5 PM Friday; all advertising should be submitted electronically or as camera-ready art, but *The Tech* can also do simple typesetting and arrangement. All advertising inquiries should be directed to the business manager at tech@caltech.edu. For subscription information, please send mail to "Subscriptions."

Caltech Students only!!

Contact: Adam Jacobo

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The girl that cried wolf: Gender discrimination is a two-way street

BRAD CHATTERGOON

Contributing Writer

Hi, Caltech. It's week five, which means just 40 more days before I blow this Popsicle stand! The anticipation is real. Unfortunately, however, it also means that we have midterms starting this week so best wishes for your exams. Also, *Avengers* premieres this week, so that makes life worth living.

This week saw the revival of a

"We have made long strides toward gender equality in America since then, but it seems that the struggle for gender equality was only one side of the spectrum."

I have reviewed the suit and evidence myself and I also encourage the reader to do so if there is any interest in social issues of this nature, and more so if there is identification with the term "feminist." It is important to note that Nungesser was not allowed to present a record of his Facebook conversations with Sulkowicz at the hearing by Columbia. Having reviewed those conversations myself, and I encourage the reader

to look at those if nothing else in the suit, there were two thoughts that formed in my mind. First, "Do people really talk like that?" Second, "There is no way Paul Nungesser raped Emma Sulkowicz."

The general theme of the exchange was that Nungesser and Sulkowicz started off in a platonic relationship which eventually bloomed into a sexually casual one with consent from both parties. After some time, Nungesser moved onto relationships with other women, at which time Sulkowicz began showing signs of extreme unrequited emotional attachment to Nungesser, followed by a filing of the accusation quite a number of months after the highlighted incident. As far as this author is concerned, the plotline of the relationship gives credence to the old saying "hell hath no fury like a woman scorned." Of course, I again invite readers to review the evidence themselves and draw their own conclusions.

So where does the gender discrimination come into play? Despite Columbia's own internal investigation confirming Nungesser's innocence and a confidentiality agreement signed by all parties, Columbia went on to support Sulkowicz's mattress performance and her branding of Nungesser as a rapist and provides no recourse for her break of confidentiality by continuing to brandish Nungesser as a rapist on various media platforms. In fact, many hail Sulkowicz as an "idol and symbol," as reported in an article for *The Washington Post*. This is where the discrimination arrives. As a society, we discriminate against men as rapists. We are ready to launch an attack against anyone who has a finger pointed at them. What truly makes this worse and discriminatory is that we continue to attack even after they have been cleared. We treat men who have been cleared of any doubt of their innocence as undeserving of being recognized as innocent. Some decades ago, we did the same to women. Society viewed women as less capable or

**Across**

1. Trilby
4. Health spring
7. Ululate
11. Soft drink
12. Small piece of a pencil
13. Paragon
15. Interpret
17. Serenity
18. Small snake
19. Asian temple
21. Small cask or barrel
22. Acquire
23. Kitchen appliance
24. Set of cards
27. Consumed
28. Filament
30. Eager
33. Reconstruct
36. Go stealthily or furtively
38. Give temporarily
39. Be unwell
40. Ring recurrently
41. Lull

Down

43. Mixture of smoke and fog
45. Miniature whirlpool
46. Set of cooking instructions
48. Small insect
50. DNA segment
51. Officer below master on a commercial ship
53. Armed conflict
56. A great distance
58. Trained Japanese female entertainer
60. The night before
61. Impure form of quartz
64. Affirmation
66. Sum
67. Burn slightly
68. Legal document
69. Minute life form
70. Attempt
71. Peculiar

32. Incorporate

34. Facilitate
35. Lacking in light
37. One of the strands twisted together to make yarn or rope
42. When a wrestler's shoulders are forced to the mat
44. Collect in one place
47. Golf tee
49. Move towards
51. Hoarder
52. Appraisal of a substance
53. Uncanny
54. Stay clear from
55. Regular payment for use of a property
56. Adipose tissue
57. Highly excited
59. Compass direction
62. Old salt
63. Hard tough wood
65. A couple

less deserving, and even when successfully providing evidence defying that misguided notion they were still seen as underserving of being recognized as such. We have made long strides toward gender equality in America since then, but it seems that the struggle for gender equality was only one side of the spectrum.

To be sure, we are praising someone for allegedly falsifying accusations against a bystander proven to be innocent and continuing to celebrate her after those accusations have been determined to be unfounded. The mattress is not a symbol of survival; it is a symbol of a social agenda that propagates victimhood.

Media platforms such as Thought Catalog would have women believe that they are victims (although from my citation one would think that only Thought Catalog is culpable), that somehow

their lives are harder than it should be, that life is in some sense "unfair" for them, usually in comparison to men. But I believe that women are not victims. They're strong. They're independent. They can take control of their own lives. The problem with the media convincing women to embrace victim syndrome is that it suggests everything is always someone else's fault. Do you compare yourself to fashion models and feel subpar? It's society's fault for thinking that models are attractive. Did not get that promotion at work? It's the patriarchy and their gender discrimination. The most relevant part for this article, though, is, He's seeing other women after we slept together? He must have raped me.

It is important for me to stress that if there is gender discrimination or if there is rape, those are serious issues and need to be addressed. *I cannot stress*

that enough. However, those types of accusations should not be the first conclusion that gets proposed unless it is clearly such, and if declared unfounded then they should be removed and never spoken of again unless there is a new case. I recently spoke to a retired attorney from the Los Angeles District Attorney's Office, and he related to me that around 70% of sexual discrimination cases get dismissed right away because of how frivolous they are. Sexual discrimination suits have lost their seriousness. They have become the new form of the career whistle blower.

In the story of the boy who cried wolf, the villagers refused to believe the boy after he lied to them. In this story of the girl who cried wolf, the villagers have instead raised her into an idol. What sorts of incentives are we setting?

HUMOR

THE CALIFORNIA TECH

Acquired Taste

Dr. Z



Rochelle Weber

Ask Dr. Dirge

Subtitle

(Editor's note: the subtitle left "Subtitle" is intentional. Apparently it's funny...)

Once I graduate and I'm an adult, how do I make friends in the real world without the mechanism of becoming artificially becoming close to my house through proximity?

Great news! You'll still be close to people through proximity, although whether you want to make friends with them is another matter.

How do I get into CS grad school?

Why would you do that?

Where do we go when we die?

Into a hole in the ground. (Or into the air if you're cremated.)

I'm trying to start a column but no one wants to send me questions. What should I do?

I don't know, have you tried putting an unfunny meta-question in your column?

Send questions to askdrdirge@gmail.com and I guarantee that they may or may not be answered.



Answers to previous Sudoku

7	6	8	3	5	2	1	9	4
2	1	3	9	4	6	7	5	8
4	9	5	8	7	1	3	2	6
5	4	9	1	8	7	2	6	3
6	3	7	2	9	4	8	1	5
1	8	2	5	6	3	9	4	7
3	5	6	7	1	9	4	8	2
8	2	1	4	3	5	6	7	9
9	7	4	6	2	8	5	3	1

-<http://puzzlechoice.com>

Answers to previous crossword

S	H	A	P	A	B	U	T	P	A	S	S
L	I	N	E	N	C	A	S	H	A	C	H
A	G	E	N	T	T	R	U	E	P	U	R
T	H	W	A	R	T	D	R	O	P	T	U
N	E	W	S		P	R	O	T	E	G	E
R	E	C	E	I	P	Y	E	W			
R	A	C	E	S	O	U	P	M	O	D	Y
A	S	H	T	O	N	I	C	V	I	E	
G	H	O	U	L	L	I	L	F	E	R	N
S	E	A	C	N	O	F	Y	Y	O	N	
S	C	R	E	E	C	T	I	L	T		
O	R	E		S	U	E	C	A	T	N	A
L	E	F	T		M	A	R	E	N	I	E
I	D	E	A		E	V	E	N	G	N	A
D	O	R	M		N	E	E	D	E	E	G

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