

FEATURE PHOTO

Students encourage love over hate at Carnegie Mellon



Zichen Liu/Assistant Visual Editor

After it was announced that Donald Trump won the presidency, Carnegie Mellon students placed signs promoting unity and love all over campus. Students joined local Pittsburgh residents in protests, both on campus and downtown at Point State Park, and also staged a protest against this outcome downtown. Protesters also held signs with similar messages as those posted around campus. The march spread a message of love across campus.

NEWS IN BRIEF

Professor Neil Donahue receives Pittsburgh award from the American Chemical Society

Neil M. Donahue, the Thomas Lord Professor of Chemistry, professor of chemical engineering and public policy at Carnegie Mellon University, has received the 2016 Pittsburgh Award from the American Chemical Society's Pittsburgh Section. Donahue is being honored for his research in atmospheric chemistry and his leadership in climate science, both locally and nationally.

Donahue joined the Carnegie Mellon faculty in 2000. He is now a member and founding director of Carnegie Mellon University's Center for Atmospheric Particle Studies (CAPS), where he collaborates with colleagues and students in science and engineering to understand organic aerosols. His research focuses on the behavior of organic compounds in the

atmosphere that adversely affect our health and impact our climate.

He also investigates such topics as fundamental quantum chemistry and the formation of molecules that stick to particles in the air such as wood smoke.

In a university press release, it states that Donahue has published over 200 peer-reviewed articles and is one of the most cited scientists in the field of geoscience. He is also an associate editor of the Journal of Geophysical Research: Atmospheres and co-editor of Atmospheric Chemistry and Physics.

Donahue received his bachelor's degree in physics in 1984 from Brown University, and a Ph.D. in meteorology and atmospheric chemistry in 1991 from the Massachusetts Institute of Technology.

Carnegie Mellon students determine that internet voting faces security concerns

A group of Carnegie Mellon students in the H. John Heinz III College's Master of Science in Information Security Policy and Management (MSISPM) program found that online voting in the United States is poor and will require strong encryption measures in the future.

The main concern of the project was to figure out how we could develop a better internet voting system for the United States. In a university press release, Susan Dzieduszycka-Suinat, president and CEO of the U.S. Vote Foundation, said that in order to tackle this problem, "the students were asked to do research on existing systems and to put together a competitive analysis." The students found that the current end-to-end verifiable (E2E-V) voting system needed to be improved.

Many Americans have determined that the gold standard for voting in elections has been paper ballots, since they can be verified and re-counted by hand. However, many states now use a system where voters can return ballots electronically.

Randall Trzeciak, director of the MSISPM Program, believes that there are risks with online voting. "There is, in my opinion, not an acceptable level of fraud that could occur in a voting process. We should have confidence that every vote would count as was intended."

The students developed this report in collaboration with Galois, an Oregon-based research and development firm, and the U.S. Vote Foundation.

Compiled by
VALENE MEZMIN

STUDENT GOVERNMENT COLUMN



DOMINIQUE ESCANDON
Special to The Tartan

Editor's Note: Dominique Escandon is the Cabinet Writer of The Student Government.

When we think of our time at Carnegie Mellon, something that might not immediately come to mind is how we will help out the future generations of students who'll eventually sit in our favorite seats in our lecture halls or continue our research after we depart from this institution.

As a student who struggles to cover the cost of tuition, I would love to see this school continue to strengthen its financial aid program and I believe that giving is a way to ensure this effort. After all, my existence on Carnegie Mellon's campus has relied on the kind donations from past students. Student Body Vice President Aaron Gutierrez says that the reason why he gives is that he "wants to pay forward all the opportunities [he] was provided to the next generation." To me, donating as an undergraduate indicates my gratitude to Carnegie Mellon and my investment in its future, and thus the students who will fill this school with wonder after I'm gone.

As it turns out, I'm not the only one excited about making Carnegie Mellon a better place. Giving Tuesday on Nov. 29 is a full day dedicated to promoting this act of giving back to our community. This 24-hour event will offer multiple giving challenges throughout the

day, including prizes of \$500 to gift to a Carnegie Mellon fund of your choice, a tour of the Steam Tunnels with Vice President of Student Affairs and Dean of Students Gina Casalegno, or even a lunch with President Subra Suresh. Opportunities for entry in these competitions will be available across campus, as well as throughout several social media platforms, such as Facebook or Twitter, so students and alumni across the globe can show their appreciation and engagement. There will also be special events for student organizations where the organization with the most unique donors will be able to win \$500.

However, it shouldn't be interpreted that the importance of giving is what you can get back. Contributing to a cause ensures that all students will be able to enjoy warm food and safe labs, or that faculty and staff will be able to take sick days for themselves or their family without worrying about being able to afford it. Regardless of the contribution value, it indicates an investment in Carnegie Mellon's principles of providing a high-quality life and engagement with its community. When the Class of 2015 accomplished a record giving rate of 32.3 percent, it indicated to our community that there were approximately 1500 people who were months from leaving but wanted to make sure Carnegie Mellon would continue to provide amazing resources and opportunities for its students. How will you pay it forward?

Compiled by
VALENE MEZMIN

Campus Crime & Incident Reports

Motor Veicle Accident

Nov. 5, 2016

A two-vehicle accident occurred at the intersection of Forbes Avenue and Beeler Street. Two Carnegie Mellon students and a non-affiliate were provided with medical attention.

Underage Drinking/Theft

Nov. 5, 2016

A male Carnegie Mellon student was found in the area of Gesling Stadium after unlawfully taking a traffic cone. University Police determined the student had consumed alcohol and

was under 21. He was given medical attention and issued a citation for underage drinking.

Alcohol Amnesty

Nov. 6, 2016

University Police were called to Stever House for an intoxicated male Carnegie Mellon student. The student was provided with medical attention. Amnesty applied, and no citations were issued.

Criminal Attempt/Theft by Deception

Nov. 7, 2016

A Carnegie Mellon staff

member received a phone call claiming that a family member had been kidnapped. The claim was found to be false, and an investigation is ongoing.

Access Device Fraud

Nov. 7, 2016

A Carnegie Mellon student alerted University Police that there had been several fraudulent charges to her bank account. An investigation is ongoing.

Theft of Bicycle

Nov. 7, 2016

Two Carnegie Mellon

students reported stolen bicycles from the racks outside Margaret Morrison Apartments and the College of Fine Arts.

Access Device Fraud

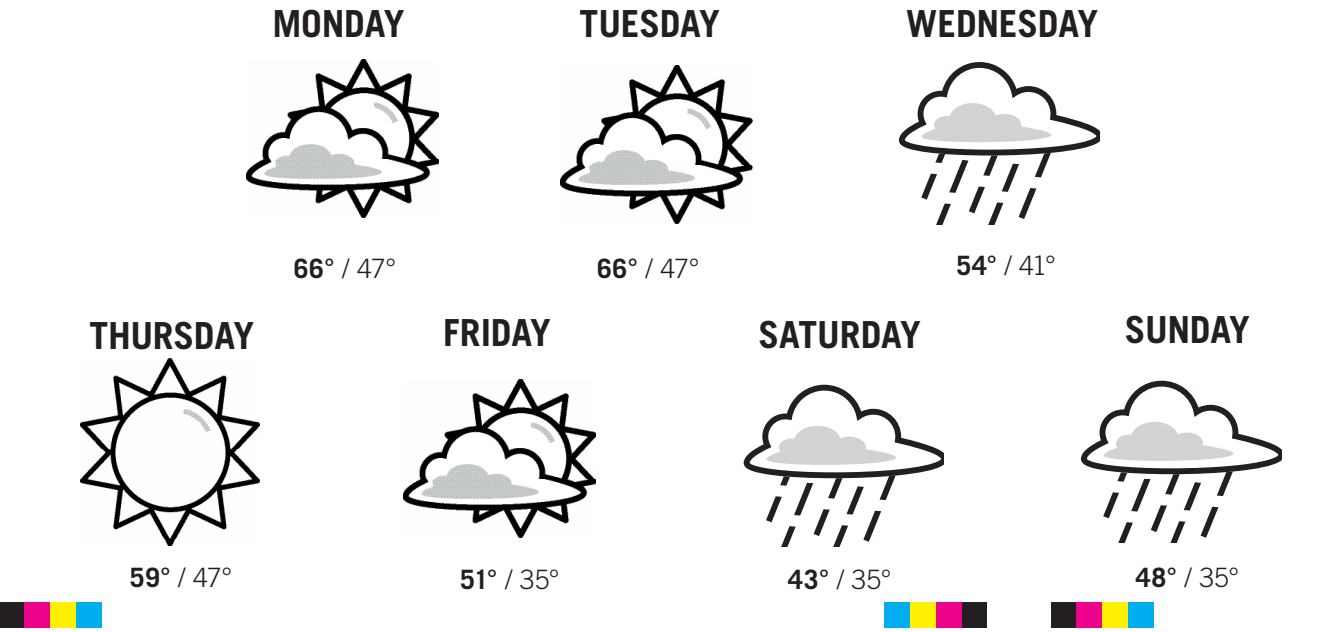
Nov. 8, 2016

Several unauthorized ATM withdrawals from a Carnegie Mellon student's bank account were reported to University Police. An investigation is ongoing.

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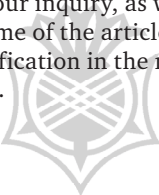
WEATHER

Source: www.weather.com



Corrections & Clarifications

If you would like to submit a correction or clarification, please email The Tartan at news@thetartan.org or editor@thetartan.org with your inquiry, as well as the date of the issue and the name of the article. We will print the correction or clarification in the next print issue and publish it online.



The Tartan conducts exit surveys for 2016 presidential election

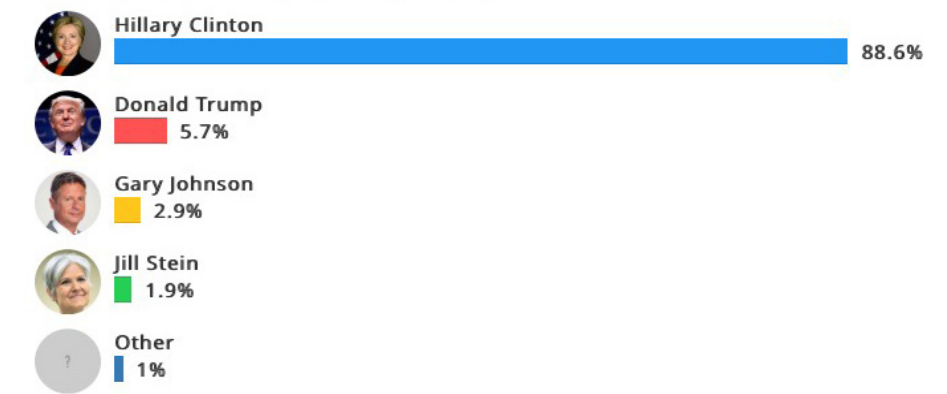


Figure 1: Candidates

SURVEY, from A1

How did male and female students vote?

Breaking it down by gender, we notice significant differences both in the candidates voted for and the issues found important. Of female respondents to the online survey, 89 percent voted for Hillary Clinton, compared with 65 percent of male respondents. Not a single female respondent voted third party, while 14 percent of male respondents supported Gary Johnson and 1 percent of male respondents supported Jill Stein.

Unsurprisingly, female respondents were far more likely to select abortion as an issue that was important to deciding their vote. (74 percent of females chose it, as opposed to only 32 percent of male respondents.) Female respondents were

also far more likely to select education, LGBTQ Rights, healthcare, guns, and student debt as issues that were important to them. On the other hand, male respondents were significantly more likely to select foreign policy/national security, jobs, taxes, and trade as important issues. Male and female respondents demonstrated nearly equal interest in criminal justice and energy/environmental issues.

There was a significant enthusiasm gap between male and female Hillary Clinton supporters. Of female Hillary Clinton supporters, 82 percent expressed enthusiastic support, while only 54 percent of males did. There was also an enthusiasm gap between male and female Donald Trump supporters. Female Trump supporters were equally likely to express “enthusiastic” and “reluctant” support for

Donald Trump, but male Trump supporters were nearly twice as likely to express “enthusiastic,” rather than “reluctant,” support for their candidate.

Female respondents were also more likely to consider themselves to be “very liberal” or “somewhat liberal” than male respondents, and were more likely to support Democratic Senate and House candidates.

A link to the online survey was posted in the Facebook groups of the four Carnegie Mellon classes. The link was also released on The Tartan’s Twitter account. For unclear reasons, far more juniors answered the survey than members of the other classes, while sophomores were underrepresented. There were no significant differences between the classes.

Questions about the surveys can be sent to zpg@thetartan.org.

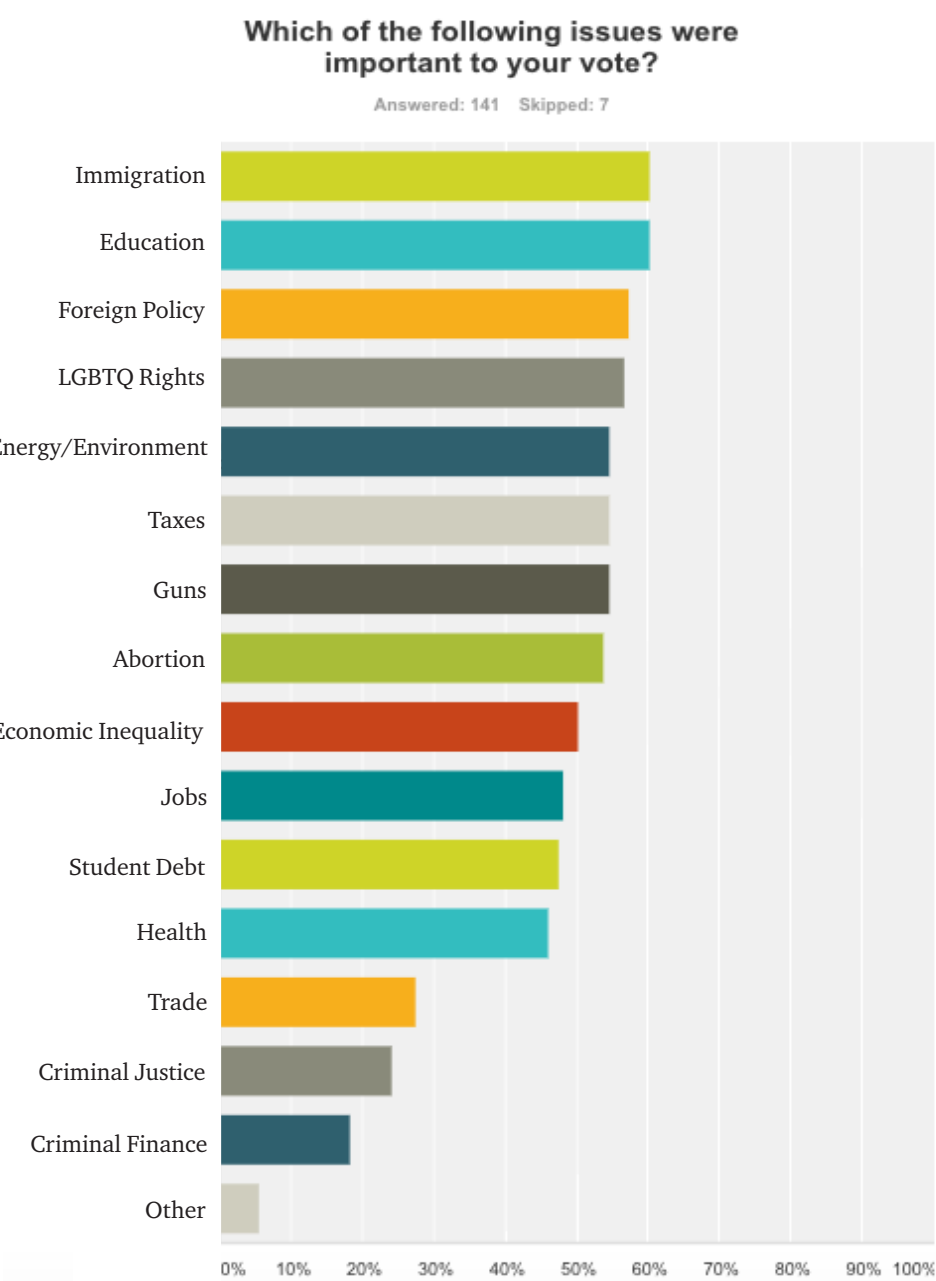


Figure 2: Issues

Gear Jian/Systems Manager

International Film Festival exposes audiences to different cultures

NEHA SRIVASTAVA
Junior Staffwriter

The Carnegie Mellon University International Film Festival is the only international film festival in the world run completely by students. Established in 2006 by the Humanities Center at Carnegie Mellon University, the festival aims to expose the Carnegie Mellon and greater Pittsburgh community to films which they otherwise may not hear about.

This year the festival will run from March 23 to April 9, 2017. There will be 16 films shown, with most of the films’ directors available for Q&A

sessions after the viewings. To enhance the experience, receptions following the showings will feature food and artistic performances from the films’ respective cultures. The film premieres often transform into cultural celebrations as people come together to discuss both the film and the culture it came from.

This year’s festival is built around the theme “Faces of Identity” which has become an increasingly significant social issue in the recent past. The festival’s goal is to relate to the entire community by selecting films from a global scale. Throughout the festival, students have the opportunity

to become familiar with films that are not blockbusters. Some of these films have never been screened in Pittsburgh, which makes this event even more exciting.

The organization aims to bring the student body together by providing students with a space to explore various cultures that are represented in the school community. Megan Mell, a masters student in entertainment industry management, serves as the logistics coordinator for the festival. Mell stated in an interview with The Tartan that these films “aim to stimulate conversations about who we are as people

and as a community. The festival is perfect for starting conversations that are really important and may otherwise not occur.” She also added that the films allow people from different backgrounds to “come together to watch these movies and discuss them after. It’s a very positive atmosphere.”

Outside of Carnegie Mellon, religious and social groups from the Pittsburgh area come together during past festivals to put differences aside and have meaningful discussions. “Everyone is going through similar issues and seeing these issues depicted in multiple films

forms a stronger sense of community,” Mell added.

Peter Geyer, a sophomore in business administration, stated in an interview that the films the organization screens “are rarely seen anywhere else in the U.S. and give people the opportunity to see stories from different international points of view, opening audiences’ eyes to issues and viewpoints they may have never known existed.”

On Nov. 18 at 6 p.m. there will be a sneak preview of the Film Festival where the film *Interrogation* will be shown. Director Vetrimaaran will be present for a Q&A session after the showing. *Interrogation* has

won many awards including Best Feature Film at the Indian Film Festival of Los Angeles 2016, Best Feature Film in Tamil, Best Supporting Actor, and Best Editing at the Indian National Film Awards in 2016, and the Amnesty International Italia Award at the Venice Film Festival in 2015. The film tells a true story about human rights, police violence, and social injustice. Vetrimaaran is a critically-acclaimed Indian film director who produces under his own company, Grass Root Film Company.

Tickets for the screening are available online and cost \$5 for students and \$10 for general admission.

Students explain why campaigns didn’t impact their decisions



Theodore Teichmann/Visual Editor

Students came out in large numbers to cast their vote for the 2016 presidential election but claim that the candidates’ campaigns didn’t affect their decision.

CAMPAIGNS, from A1

Most students surveyed were already in favor of Clinton before they chose whether to attend a political event. Perhaps one of the few students

to truly attend a live event for information was Victor Tavaréz, a junior international relations and politics major, who attended a Trump rally to give the candidate a chance. However, he states “what I saw

was pretty disappointing and [the supporters] received us with a lot of animosity.” Most students also chose to register to vote in Pennsylvania instead of their home state, as they felt their

votes mattered more here. Carnegie Mellon students come from a broad range of states across the country, many of which are already affiliated with particular parties. Students from New York, New

Jersey, and California, states that tend to vote democratic, favored registering in Pittsburgh to give Clinton her much needed “blue wall” edge.

“I come from California so my vote doesn’t really matter there,” said Ben Snell, a senior art major. “I registered here in Pennsylvania and I felt so much more different and much more proud and important voting here.”

Participating in this election while living in a swing state has been an interesting experience for many Carnegie Mellon students, to say the least. Pennsylvania is not just home to many universities and college-educated youth, but also to countless blue-collar lower class workers. With such a wide scope, how could a single candidate appeal to every demographic?

Carnegie Mellon student Alex Hauschild has been passionate in attending Democratic National Committee (DNC) rallies, and has gone to hear Bernie Sanders, Michelle Obama, and Hillary Clinton. “I’ve been around,” he said, “but it did not change my opinion because I was always going to vote democratic. This election is a lot like open heart surgery, would you rather have a doctor with a malpractice suit or the manager of Wendy’s?” which is a reference to a popular internet meme.

Few people went out of their way to hear or listen to an opposing candidate, because ultimately, the waiting in lines, security, and capacity of rallies

tend to pose an inconvenience. Russell Hawkins, a junior electrical and computer engineering major, supported this sentiment by sharing “I watched what I wanted to watch.” Moreover, students confessed that one would have to feel pretty strongly about either candidate to subject themselves to the headaches of a political event. Henri Fitzmaurice, a first-year drama student with Students for Hillary, felt that the rallies did serve a purpose. “I work for the Clinton campaign, and I do think rallies have had an effect in the informing and attendance of college students. There’s always been massive overflow.”

As for the next election cycle, whether Pennsylvania will remain a key state remains up in the air. Trump invested what seems minimal personal effort into reaching out to local voters but won the state, while Clinton invested millions of dollars and dispatched notable politicians only to win a few counties. This tactic, perhaps, was not as effective in the 2016 election cycle.

Voters mostly admitted to having previously established decisions and identified rallies more as celebrity sightings than as informational events. In addition, first time voters wanted their votes to matter, or at least have more weight than in their respective home states. So while Pittsburgh area campaigning might not have swayed individuals’ decisions, it certainly did encourage more people to get out and vote.



Forum

FROM THE EDITORIAL BOARD

Trump’s Cabinet list misses opportunity for progress

This article was meant to be a celebration. It was conceptualized last week when many of us thought the United States was on the cusp of electing its first female president. We at The Tartan expected to be releasing this issue in the afterglow of Hillary Clinton’s success, and we wanted to use that success to call for even more progress, namely, an increase in the number of women serving in the president’s Cabinet. After the startling upset Tuesday night where Donald Trump was elected as the next president of the United States, there isn’t as much to celebrate. Trump’s victory can hardly be called a victory for feminism. Still, even under President Trump, there is potentially room for progress.

The first woman appointed to the U.S. Cabinet was Frances Perkins, who served as Secretary of Labor from 1933 to 1945 under President Franklin Roosevelt and for a few months under President Harry Truman. After Perkins’ appointment it was two more decades before another woman was appointed to the Cabinet, this time Oveta Culp Hobby as Secretary of Health, Education, and Welfare. This set the pace for the slow, plodding progress women have made in this portion of the political sphere.

Female representation in the Cabinet peaked in the 1990s when President Bill Clinton appointed nine women as part of his Cabinet for his second term. Still, this only meant that 41 percent of the Cabinet was female, falling far short of the female share of the general population. Since Clinton’s presidency, the progress has stalled, with women only making up 19 percent of President George W. Bush’s first Cabinet and inching up to 35 percent in President Barack Obama’s current term. This negative trend isn’t very promising for women trying to reach gender parity in the Cabinet any time soon.

Clearly, women are underrepresented in politics in general, and in the Cabinet specifically. But why does this matter? When Canadian Prime Minister Justin Trudeau was asked why he thought it was important to appoint a Cabinet that was 50 percent women at the start of his term, he responded, “Because it’s 2015.” Trudeau’s decision to prioritize gender parity in his appointments was controversial, with some people claiming that it would require him to make incompetent appoint-



ments. This statement assumes that there are no, or significantly fewer, women qualified for cabinet positions. Usually, people appointed to cabinet positions come from a background in politics, academia, or law. In the U.S, women made up 53.3 percent of people with Ph.Ds as of 2010. As of May of this year women made up 36 percent of the legal profession. There are well-educated, qualified women out there who are being passed over due to our country’s legacy of sexism.

Having gender parity in political bodies can have huge positive effects for a nation. Without adequate representation, women are sidelined in the political sphere, with their voices only being heard through the filter of a male representative. Women have different experiences that tend to emphasize different priorities, and, according to *Time* magazine, countries with a representative gender distribution in their lawmakers tend to make more progress on issues such as education, labor-force participation, and paid leave. Gender parity can also improve trust in government, something the U.S. is currently lacking, with surveys finding that both men and women view po-

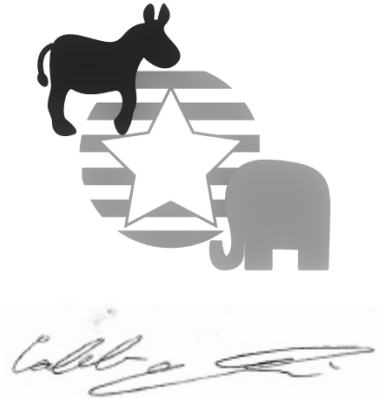
litical institutions as more fair, legitimate, and democratic when women are proportionally represented. Finally, putting women in positions of power can shift public perceptions of women in leadership, improving gender equality across the board.

Making significant strides in one administration can have lasting effects. In 1986, the first female prime minister of Norway, Gro Harlem Brundtland, appointed a government that was 40 percent women. To this day the government still reflects gender parity, and women are now required by law to make up at least 40 percent of corporate boardrooms in Norway.

The Cabinet is a particularly good place to push for women’s representation because it consists of appointed positions. Elected bodies in the U.S. are notorious for being male-dominated. This happens for several reasons. First off, fewer women tend to run for office or even consider running. Our society doesn’t tend to encourage women to run or to think of themselves as political leaders. Even once they decide to run, women tend to face an uphill battle against stereotypes and gender-based double standards that have been discussed before in these pages. These barriers make it very difficult for women to make progress in elected positions, and are why women made up only 19.4 percent of Congress in 2015. In contrast, gender parity in the Cabinet only requires one person to realize the importance of female representation, and once women are in Cabinet positions they can start to break down some of the double standards surrounding women in power.

With a new administration coming into power in January, a new Cabinet will have to be appointed along with it. Trump has an opportunity to make a lasting positive change with his appointments. However, only four of the Cabinet positions even have women on his “short list” for the job, and of those it is unlikely that all four will go to female candidates. Even if all four positions were filled by women, Trump’s proposed cabinet would only be 17 percent women, a level that hasn’t been seen since President Jimmy Carter left office in 1981. This would be an unacceptable setback for gender parity, and something we the people must fight to remedy before the Cabinet is set in stone.

U.S. political system flailing, can be fixed



CALEB GLICKMAN

Editor’s note: The Pragmatist’s Manifesto is a weekly column that encourages civil discussion about politics in the U.S. Find previous installments @ thetartan.org.

Well, America. Here we are. Our 18-month election nightmare is over. And for a majority of Americans, a four-year nightmare has just begun. Before I respond to Staff-writer Brandon Schmuck’s counter-article in our ongoing discussion of the two-party system, I would like to start by addressing the events of Tuesday, Nov. 8.

Many people are angry. Many people are scared. Most are both, and understandably so. For these members of our society, this moment begins a dark chapter in our nation’s history. But there are sever-

“I argue that the two-party system can work. It has worked.”

al things that we need to clear up before crucifying any particular group about why this has occurred.

We should not solely blame any one group. Voter turnout statistics show that while Latino voter turnout was high, Trump won a higher percentage than Romney in 2012. Black voter turnout was slightly lower, and Clinton won 5 percent less than Obama did in 2012. White voter turnout was high, and more non-college educated women voted for Trump than expected. In addition, Clinton did not win college-educated women by the margin she was expected to. There are many reasons for this; some have speculated that these women were reluctant to discuss with pollsters their support for Trump given the media’s focus on his treatment of women, while others point to the population metrics of the polls themselves being incorrect.

We should not solely blame the pollsters. While some gave Clinton overwhelming odds heading into the election, FiveThirtyEight’s forecast had the odds at 65 percent to 35 percent in Clinton’s favor two days before Election Day. These odds are lower than the Obama-Romney odds in 2012, and it is common for polling errors to account for such margins. Just because she was ahead does not mean that she was guaranteed to win. A 35 percent chance was higher than many were willing to admit. When it comes down to it, polling is a science that continues to improve with time and data. Polling can be helpful and inform our political understanding of an electorate. I do not believe for one second that we would be better off if we simply got rid of the pollsters.

We should also not solely blame third-party voters. While a small percentage of votes were siphoned off by the Johnson and Stein campaigns, it is safe to assume that not

all of these votes would have gone to either major party candidate. The margins they won were not going to be enough to flip the states that Clinton lost.

We should also not believe, as some on the left have already hypothesized, that Bernie Sanders could have done any better. It is unknowable how that race would have played out, but we do know from the primaries that he would have underperformed with minorities, and that the GOP would have attacked him fiercely (which they never did during the primary) with an anti-socialist firestorm.

We should also not solely blame Trump supporters. They live in an America far different from the one in our university bubble. They chose to put certain things aside for their candidate, and people can (and should) criticize them for that. They did, however, send a clear message to Washington after being fed a particular narrative for years about the inability of our government’s elites. Whether the narrative is true does not matter to them, because elections are not won with facts alone — this one in particular.

Many of these factors came together to form a perfect storm. And while many people, including myself, are stunned by the result, there is one thing to take note: Clinton won the popular vote.

For the sixth time in the last seven races, Democrats have won the popular vote. Despite everything she had going against her, and Trump’s unexpectedly strong performance, the Democrats still won the popular vote. This reinforces something I described many weeks ago about how our country as a whole leans. I described it briefly in my third article discussing the stress about the 2000 election. A Republican won against the majority’s desires. That left our country divided and more partisan than before. But our nation as a whole has and always is shifting and evolving. We are still the same growing, diverse nation we were last week.

If there is one ultimate culprit in this election, it is the Electoral College. For the fifth time in our history, the winner of the popular vote lost in the Electoral College. That is a failure rate of 9 percent in determining who is the leader of the country. I’ve written about the Electoral College in the past, and unfortunately I would not get your hopes up about changing this system. It works to give more power to rural voters to balance out population centers, ensuring a president has support from around the country. You can thank the Founders for that one.

The most important thing to remember is that our country is represented by those who vote at all. If you did not vote, you do not have the right to complain about this outcome. Your ideals will never triumph in an election if you do not express those ideals in the voting booth.

This brings me to my response to Schmuck and his counter-article published last week. He reiterated his claim that voting your conscience may still be your best option, and that the two major party candidates were equally “terrible.” He also

See TWO PARTY, A5

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THE TARTAN



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Dr. Strange’s whitewashing sadly not so strange, still damaging

RUTH SCHERR
Assistant Copy Manager

In the weeks before its release, Marvel’s new movie *Doctor Strange* generated controversy and confusion surrounding its choice to cast Tilda Swinton, a white actress, in the role of The Ancient One, a character who was a Tibetan monk in the original comic series. Many people saw this casting choice as taking the role away from an actor of Asian descent and whitewashing the character.

Whitewashing is a term used to describe instances where filmmakers (or theatre makers, or TV makers, etc.) cast a white actor to play a non-white role. Essentially, a role written as a person of color is given to a white actor, occasionally with some attempt at an explanation as to why. This usually happens when the film is an adaptation of an existing story — as the character already exists as a person of color outside of the film — but can happen in original stories if the character is written to be non-white and yet a white actor is cast to play them as a non-white character. An example of the former is Johnny Depp playing a Native American in *The Lone Ranger*, and an example of the latter would be Emma Stone playing a woman of Chinese and Native Hawaiian descent in *Aloha*.

There are three common arguments as to why whitewashing is not a problem. The first of these is the claim that the film cast for talent, not race, and that the white actor playing the character of color was simply better at it than the actor of color. Even ignoring the fact that, very often, filmmakers don’t even consider actors of color for main roles, this argument implies that white actors are not only generally better at pretending to be a different person than actors of color, but that white actors are better at pretending to be a person of color than actors of color are

at actually being people of color. This is clearly ridiculous.

The second argument is that film-making is a business, and actors of color simply don’t earn as much box office proceeds as white actors. If, again, we ignore the fact that in the Motion Picture Association of America’s Theatrical Market Statistics for 2014, audiences of color bought 46 percent of tickets sold despite being 37 percent of the U.S. population, there is a point to be made here. Hollywood, much like many other cultural and political institutions, has difficulty supporting people of color as much as it supports white people. If filmmakers truly wanted actors of color to rise to more prominence despite Hollywood’s inherent racism, then the first step is to fight to

normalize prominent actors of color, especially when casting characters of color.

The last argument is less of an argument and more of an attempted catch-22. Why is whitewashing considered such a problem when actors of color playing traditionally white characters is not? The answer is a matter of quality and quantity. There have always been more roles for white actors than actors of color. A study by two professors at the University of Southern California found that in the 700 top grossing films from 2007 to 2014, an average of 25 percent of actors were not white. This includes stereotypical portrayals as well as characters with virtually no screen time. Of the top 100 films of 2014, only 17 had a lead or co-lead actor of color. Not only do actors of color receive fewer roles than white actors, but the roles they do

get are less complex, dynamic, and engaging. Taking roles away from actors of color compounds this fact, while giving them roles traditionally played by white actors helps to remedy it.

Why is this lack of representation a problem, though? Multiple studies, including one from two University of Indiana professors, have shown that consistent exposure to media that lacks positive representation of black characters negatively affects the self-esteem of black children. Lowered self-esteem goes on to affect nearly every aspect of life, including impaired academic and job performance and increased vulnerability to depression and substance abuse.

But let’s argue, for a moment, that you don’t care about any of this. Representation in media is

unimportant to you, you don’t care about anyone’s self-esteem except for your own, and you just want superhero movies starring white guys named Chris to keep coming out without all these ‘social justice warriors’ complaining about them.

A study published in the Journal of Applied Psychology found that exposure to characters in media associated with stigmatized or minority groups reduced prejudice towards those groups. The empathy that seeing complex representation of people other than ourselves cultivates is necessary for a just and equal society. Lack of empathy and understanding of marginalized groups only increases that marginalization.

The media that a society creates and consumes shapes that society irrevocably. Media that reinforces negative stereotypes and fails to provide positive representation will create a society that is not inclined to view people of color as complex, real human beings. Because Hollywood films are so prominent in our cultural consciousness, they have a huge effect on shaping the culture we live in.

Doctor Strange’s director, Scott Derrickson, has stated in an interview with *The Daily Beast* that the role was given to Swinton because he “felt like [he] was going to be contributing to a bad stereotype” by casting an Asian actor in a role related to mysticism and other Asian stereotypes. This is, of course, an admirable goal. The way to combat stereotypes, however, is not by erasing them, but by negating them. A character is not a stereotype if they are complex and multi-dimensional, and the only way to refute stereotypes is to examine them and show why they are reductive and dehumanizing. The character of The Ancient One may have been an insulting stereotype in the original comics, but adaptations are, at their heart, a means to right the wrongs of the original story.



Primaries demonize opposition, divide nation, need reform


ZEKE ROSENBERG

The 2016 presidential primaries were bruising and probably left both parties more split and internally angry than they were at the start. This has nearly always been the result of one-party primaries. To understand why they can have such an effect, it’s important to understand how they came to exist in the first place.

During this election cycle, supporters of Sen. Bernie Sanders (D-VT) were planning to hold a protest near the Democratic National Convention. Political pundits were saying this Democratic presidential primary had shades of the 1968 debacle which resulted in police violently putting down anti-Vietnam War protests and the selection of Vice President Hubert

Humphrey, who had participated in zero of the 13 primaries that cycle.

Every political pundit who made that claim was completely wrong. The 2016 Democratic primary was divisive, but the 1968 Democratic National Convention was a tragedy.

With opposition to the Vietnam War growing, President Lyndon B. Johnson realized his political prospects were dwindling after he only eked out a narrow victory over one of his fiercest critics, Sen. Eugene McCarthy (D-MN), in New Hampshire. Johnson exited the race, creating room for Humphrey and former United States Attorney General and then-Sen. Robert Kennedy (D-NY). Humphrey’s campaign actively pursued delegates to the convention from states that held no primaries. McCarthy and Kennedy won six and four primaries, respectively, though Kennedy won most of the states where they were competitive.

Kennedy won his final primary on

June 4, 1968, taking a 4-point victory in a tightly contested race in California. The delegates committed to the three frontrunners were split; 561 were committed to Humphrey, 393 to Kennedy, and 258 to McCarthy. Since 1304 delegates were needed to win the nomination, this left a pathway for any of the three candidates to find his way to the nomination.

After Kennedy’s victory speech at the Ambassador Hotel in California, he was walking to the press room when he was assassinated. Kennedy’s death stripped the Democrats’ anti-Vietnam War contingent of its best chance to capture the nomination.

To make matters worse, anti-Vietnam War protests were brutally put down by police officers outside the convention. This disturbed many of the people watching the conventions at home and also exacerbated acrimony between the pro- and anti-Vietnam War wings of the party.

As the convention came to a close,

despite McCarthy gaining a plurality of the vote in primaries and Humphrey gaining none, Humphrey ended up winning an overwhelming victory on the first ballot. However, the campaign was never able to recover from the lack of support from the Democratic base, and Humphrey ended up losing the electoral vote badly to Vice President Richard Nixon despite a near deadlock in the popular vote.

The Democrats then created the McGovern-Fraser commission to ensure that primaries would never result in such a blatant failure of democracy again. This commission wrote a series of rules designed to ensure fairer and more transparent selection of delegates. Most states complied by having primary elections to determine who they would send to the convention, leading to the modern primary.

The first Democratic primary campaign in 1972 was nearly as bru-

tal as the lead up to the 1968 Democratic National Convention. Early favorite Sen. Edmund Muskie (D-ME) was sunk by a pair of articles in the Manchester Union-Leader, one of which was eventually attributed to the Nixon campaign, claiming that Muskie had insulted French Canadians, and the second amounted to a sexist attack on Muskie’s wife, claiming that she drank and swore. The prominent Democrats left in the race traded positions as leaders at any time. Humphrey was able to win several rust belt states, Congresswoman Shirley Chisholm (D-NY) managed to win the popular vote in New Jersey even though zero delegates were at stake, and former Alabama governor George Wallace backed off of his aggressive segregationist views and managed to stake a good position for himself until he was shot and paralyzed from the waist down,

See **PRIMARIES**, A7

LETTER TO THE EDITOR: PROTESTORS AND POLICE CLASH OVER ND PIPELINE

The normally tranquil Standing Rock Indian Reservation in North Dakota has become ground zero of an escalating conflict between militarized law enforcement and a growing number of protesters opposed to the completion of a multi-billion dollar pipeline project that runs by the Sioux tribe reservation. In recent weeks the conflict has turned violent as property has been destroyed and protesters have been arrested.

The project at the center of the controversy is the Dakota Access pipeline. The \$3.8 billion project, upon completion, is intended to transport more than 450,000 gallons of crude oil per day from North Dakota through South Dakota and eventually connect with an existing pipeline in Patoka, Illinois. The pipeline is to stretch 1,172 miles when completed, but has had to break from plan as protesters have squatted on the public area.

Opponents of the project initially responded with litigation and quiet protest in an attempt to slow or halt the pipeline. The now roughly 1,000 protesters, consisting of both Native Americans and activists, including movie stars Mark Ruffalo and Shailene Woodley, assert that the pipeline threatens the safety of the only water supply for the area. Further, the commercial company behind the project, Energy Transfer

Partners, is infringing on land that belongs to the local Sioux Tribe and threatening their public health and cultural resources. They view the pipeline as a continuation of the decades of slights and torn-up treaties that Native American tribes have had to endure.

Supporters, on the other hand, claim that the risk of a leak is minuscule, and that the construction would create 8,000 to 12,000 additional jobs in the North Dakota area. In addition, observers attest that alternative energy sources are not realistic, and crude oil is the only practical solution. Finally, the pipeline would lessen U.S. reliance on foreign oil.

In recent days, Bearcat armored vehicles, tasers, bean bag shotgun rounds, and tear gas have been introduced by law enforcement to attack and quell the protesters. More than 400 of the protesters have been arrested.

Pittsburgh residents have recent history with Energy Transfer Partners, the parent company heading the Dakota Access pipeline project. The company was responsible for a spill of 55,000 gallons of gasoline in the Susquehanna River last week threatening to contaminate the water supply for all areas downstream.

Stephen Tsou is a senior in electrical and computer engineering.

In face of division, U.S. needs unity

TWO PARTY from A4

insinuated in his piece that I seem to have some covert goal of advocating for a Democrat-only government.

I am not going to take up more space debunking all of the claims that Republicans have already disproven. The nine Congressional Benghazi investigations confirmed there was no scandal, and the FBI investigations into emails found Clinton had not broken the law. This is the reality behind most Clinton “scandals” (ahem, Whitewater). And of course the Russian email hacks were designed to influence our election in only one direction.

I am not going to blame Schmuck’s firm libertarian ideology for swinging the election either; I addressed the third party vote earlier. And if he chose to vote, he has every right to complain about the Trump presidency as I do, because voting is the most patriotic thing a citizen can do in this country.

However, I believe that Schmuck has forgotten what I was originally arguing for. He wrote that I have an agenda “not in promoting even a system of two choices, but one with what [Glickman] believes to be a clear-cut choice: Hillary Clinton or Hillary Clinton.”

My series of articles has been based around the argument in favor of a two-party system. The fourth article focused on the recent election and how Trump has turned

this system upside down and how Republicans and Democrats who do not align with him should still send him into the abyss. This is where Schmuck discerned my “clear-cut choice.” So yes, obviously, I was advocating for a candidate. That should not come as a surprise in an opinion column.

Schmuck and I do agree on a fundamental problem with our government that I touched on in earlier articles: our partisanship has reached astronomical levels.

It seems that, now with full Republican control of our government, that partisanship is unlikely to lessen. Expect Democratic filibusters akin to those of the Republican obstruction under Obama.

Still, I argue that the two-party system can work. It has worked. However, several things need to change for us to return to an age where conservative Democrats and liberal Republicans even exist. And many of these things involve you, reader.

For one, try to take as many high roads as you can. As easy as it may seem, resist the urge to block your friends and relatives who supported the other candidate. This will only increase the problem of people getting information from only one side. You have to be informed; seek out all paths of data and information to ensure a healthy exchange of ideas once again. Our country needs to realign itself, and you can play a

significant role in that. We have to be willing to talk politics and remain on good terms with our fellow students, friends and family when we disagree.

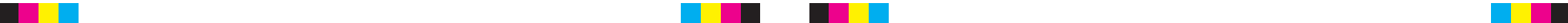
There is not an easy road ahead for many people of color, non-heterosexual orientations, or different nationalities. And what I am asking is not an easy task. But by defending the people who feel disenfranchised by this election result, we can be pragmatic and realistic about returning to common sense in this nation. Many people have poured out their emotion and support for one another in the past week.

It lifts me up to see people simply caring for one another, but our work has just begun.

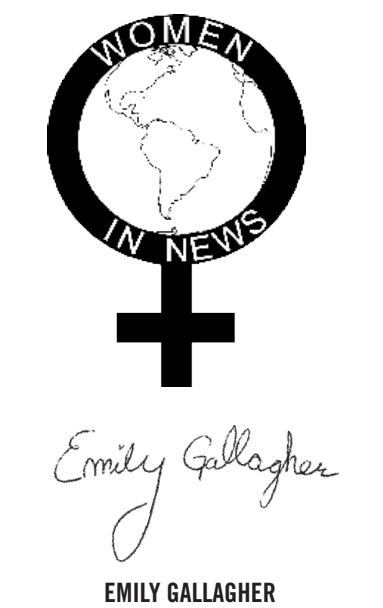
For those of you upset with this election, we cannot simply grieve and then accept defeat while the Trump administration follows through on any number of campaign promises sure to set our nation back decades. The most patriotic thing one can do is vote. The next most patriotic thing one can do is protest and organize. We must remain vigilant in reminding Trump that a majority of the nation is ready to oppose any illegal or retrograde actions. If we simply fall back into a complacent state of mind, then we are lost.

Our work has just begun. And my heart is in the work.

Caleb Glickman (@cglickma) is a Staffwriter for The Tartan.
Icon by Ashley Chan, Staff Artist



Halted male contraceptive study reveals double standard



Editor’s note: This weekly series highlights stories of women mentioned in the media. Find previous installments @ thetartan.org.

It recently went public that a study on injectable hormone contraceptives for men was terminated early due to adverse side effects reported by a significant number of men participating in the study. These side effects included acne, injection site pain, increased libido, headaches, weight gain, and mood disorders. The premature discontinuation of this study has stirred up a considerable amount of upset and has been receiving a great deal of critical press coverage the past few weeks. Women are infuriated by the fact that this

study was halted, seemingly as a result of risk factors that women taking oral contraceptives are expected to tolerate as part of the cost of using this form of contraception. After looking into the most recent study on male contraceptives and the history of the female birth control pill, I soon discovered statistics that are upsetting, unsettling, and highlight blatant misogyny and the clear double standard that exists when it comes to hormonal contraceptive options. Women’s health has been an important issue this past election season, and the results of the election have made many concerned that many women will no longer be able to afford birth control. Under President Barack Obama’s Affordable Care Act, female oral contraceptives dropped significantly in cost, and, with some insurance coverage, have become free of cost. Donald Trump has promised to repeal the Affordable Care Act (ACA) during his first one hundred days in office, and with ACA will go inexpensive birth control options for women. So isn’t this all the more reason to look into new, alternative contraception methods? The results of this most recent study, along with an explanation as to why the the study was terminated, were published in the Journal of Clinical Endocrinology and Metabolism (JCEM) this past month. If you have the time, I do highly encourage you read the article, as it illustrates in greater depth many of the statistics I highlight here. This publication

indicates that although the drugs had a 95 percent efficacy rate, 65 of the 913 participants (around 7 percent) reported the development of mood disorders soon after beginning the study. However, none of these mood disorders were described as “severe.” In fact, only two of these cases were considered “moderate,” and the other 63 were categorized as “mild.” It is also interesting to note that 62 of these 65 cases were all reported at the same center in Indonesia. During the course of this study there was a death by suicide of a single participant; however, his family stated that he had been diagnosed with depression prior to beginning the study and “he could not cope with his academic pressure,” essentially ruling out the conclusion that his death was in any way caused by the drugs he was being administered. So why was the study canceled? Well, two private safety committees deemed the study unsafe to continue because of the rate at which mood disorders were being reported. I do not see a problem with the fact that the study was terminated due to the adverse side effects the participants were facing; however, I do have problem with the double standard this creates by default. A woman taking oral contraceptives faces the same risks these men faced in this study, yet it is commonplace for a woman to take a birth control pill in spite of these side effects. It is interesting to look into the history of the birth control pill,

particularly looking at preliminary studies in the 1950s with Enovid, the first hormonal birth control pill. Trials were conducted in Puerto Rico in order to avoid American anti-birth control laws, and, within the first few months, the study appeared to prove that the pill was 100 percent effective. However, there were so many adverse side effects that Dr. Rice-Wray, a female doctor working on the trails, wanted to discontinue the study. Early on in the study two women, who appeared entirely healthy prior to taking Enovid, died of unknown causes, yet no autopsies were conducted to determine the cause of death and the study was continued without hesitation. This is what absolutely infuriates me: to say that the study on male birth control should not have been stopped because ones on female birth control were not is not the correct answer. Two wrongs do not make a right, but in the case of this most recent male hormonal contraceptive study, it was stopped abruptly after the death of a single participant whose death was entirely unrelated to the use of the drug. People make the argument that the additional side effects of the drug are what caused the committees to halt the study, but, as already discussed, these side effects are the same ones that women who take birth control as part of their daily routine face. In fact, the “high rates of depression” which were reported during this study are markedly lower

than the rate of depression reported by women on birth control. While 30 percent of women taking oral contraceptives report depression, only 3 percent of men from this study reported depression. In surveys conducted during and following the study on male hormonal contraceptive injections, nearly 90 percent of couples involved in the study responded by saying that they would use the injections as a primary form of birth control should it become available on the market. So the problem is not with the participants as much as it is with the sponsors and donors for this research. When a sponsor pulls out funding halfway through a study there is no way a drug can be approved and marketed. The study is terminated, and it goes back to square one. As it is with most things, money is the issue, and people are not willing to put the necessary money into research to improve contraceptive options for men. Women’s health issues and contraception are a branch of health care that is expected to change tremendously in the upcoming months, first and foremost from a financial perspective. It will be interesting to see if these changes further inhibit research on male contraceptive methods or if they encourage such research. I certainly hope the latter. Emily Gallagher (@egallagher) is a Staffwriter for The Tartan. Icon by Ashley Chan, Staff Artist

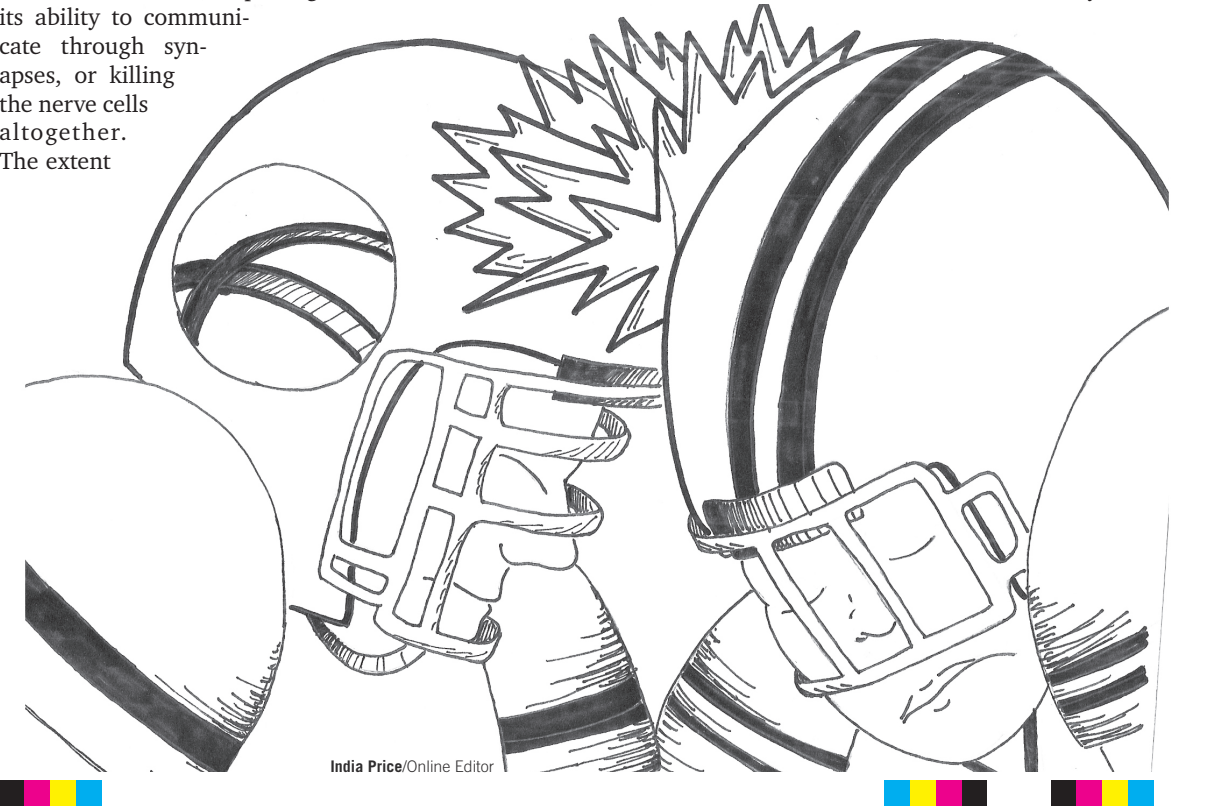
NFL overlooks concussion risks

NINA NELLY KOWALEWSKI
Junior Staffwriter

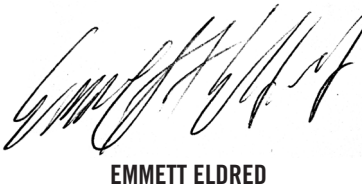
This past season, 271 football-related concussions were recorded by the National Football League (NFL), one of the highest numbers documented in the past several years. Helmet-to-helmet contact accounts for about one-third of these mild traumatic brain injuries. While more and more people become aware of the severity of concussions, medicine has no treatments and interventions that could reconstruct severely damaged brains. Now, it is a fact that football players are heavy men composed largely of muscle mass. With so much weight being thrown around on the field, imagine the force that one player has when running directly at another — and the damage that it can do when all of that force is directed at the brain, our most vital organ! When we think of football players, the immediate image typically conjured is an iconic American one, a picture of toughness and colossal strength. But in this vision we often forget that these figures of power, too, are subject to natural human frailty, something that cannot be conquered by physical feats and happens to be our greatest vulnerability. The brain is our powerhouse, which makes it slightly ironic that it is such a fragile and sensitive creation. The brain is cushioned by cerebrospinal fluid, and while this serves as a protective measure in the case of small impacts, when a much larger hit is sustained, it allows space for the brain to rock back and forth, causing repeated hits against the skull, effectively bruising the brain. At the same time, the brain also endures other types of motion – including twisting, pulling, and stretching forces, a result of the curious fact that, while the brain is being violently rocked, not every part of it moves at the same speed. These harmful forces can then cause tears in the nerve tissue, impairing its ability to communicate through synapses, or killing the nerve cells altogether. The extent

of the injury continues in the days to come after the initial impact. The brain experiences various changes, including inflammation and decreased blood flow that can lead to a decreased supply of oxygen and necessary nutrients and ions (key elements to recovery), which can in turn continue to lead to further cell death. In some cases, brain function can be restored to normal if it is left to heal. Other times, the damage can become permanent. Relatively little is still known about concussions and traumatic brain injuries of their type, a result of the incredibly complex nature of the brain. The damage done by a concussion is usually not visible in most brain scans. The effects of a concussion vary from person to person. There is no specific treatment that can be administered, other than time to rest to leave the brain to heal itself (though it is a fragile organ, it is at the same time remarkably resilient). This includes restricted physical exertion and restricted mental activity, or, in extreme cases, surgery. After sustaining a concussion, the most common symptoms include headaches, fatigue, decreased cognitive function, dizziness, and a sensitivity to sound and light. Typical pain relievers are ineffective in treating the pressing pain from headaches caused by concussions. Two summers ago, I sustained a severe concussion while surfing after I was hit in the head twice, in the same place, by a surfboard. Two isolated, momentary events, ones that have impacted me in the following months, going on years – and yet this impact was nowhere near the impact that football players often take. I experienced a large decrease in cognitive function, trouble with focusing my eyes, dizziness, and horrible headaches. To this day I still experience painful, localized headaches as a result of something called Post-Concussion Syndrome (PCS), an umbrella term for the lasting

symptoms even after the initial injury component of a concussion has healed. I feel overwhelming fatigue when I study a lot, and I find myself making stupid mistakes in areas I have never done so before. There is never any telling how long PCS can plague a person — and if I am still being affected over a year later, I can only wonder at the impact that an even more severe concussion from more force can have on a football player. To add to the fact, football players in particular are incredibly susceptible to receiving not just one, but multiple concussions. Secondary concussions, especially if they occur before the brain has had the chance to reach a full recovery, can lead to life-long cognitive decline and dangerous brain swelling that can even be life-threatening. It can also lead to a degenerative condition called Chronic Traumatic Encephalopathy (CTE) in which the brain experiences atrophy, and massive amounts of cells die over time. Depending on the part of the brain, this can dramatically impact things such as balance, emotional control, judgment, and memory. It can even trigger a gradual onset of dementia. The even bigger issue? The symptoms of CTE bear resemblance to several other conditions, and CTE can only be diagnosed by examining brain tissue after death. So here’s the upshot: if football players are particularly vulnerable to receiving concussions — to sustaining injuries to the most important part of the body — and if we are so aware of it, why are they still on the rise? The best treatment for a concussion is to prevent one in the first place, so why aren’t more preventative measures in place? While players may participate in the sport for 20 or so years, those 20 years shouldn’t dictate their health and mental condition for the rest of their lives; those 20 years shouldn’t diminish the quality of their life for the next many decades.



PA law jeopardizes political free speech



Last week, Governor Tom Wolf signed a law that prohibits any agency of the Pennsylvania State government from contracting with any business that boycotts Israel. The intention behind the law is to discourage businesses from participating in the “Boycott, Divestment, Sanctions,” movement (BDS), which tries to put economic pressure on Israel to end its occupation of Palestine, put a halt to Israeli settlements on Palestinian land, and cease its discriminatory treatment of Palestinians. The law’s sponsor, Republican State Representative Matt Baker stated, “This legislation makes it very clear that companies can either perform a BDS action or they can do business with Pennsylvania. However, they cannot do both.” This is the wrong move for Pennsylvania, for both practical and moral reasons. First of all, this law doesn’t really make practical sense — it will be hard to implement and it could have unintended consequences down the line. In terms of implementing the law, how will Pennsylvania determine if businesses with which it has contracts have boycotted Israel? Israel is not a large country, and there are certainly many businesses that contract with Pennsylvania that don’t do any business with Israel, or even any international business whatsoever. Under this statute, are these businesses boycotting Israel? If not, what’s the difference between a business that naturally doesn’t do business with Israel, and one that chooses not to do so? Why is one unworthy of doing business with Pennsylvania? The law could also have unintended consequences that will harm Pennsylvanians. A recent poll from Pew showed that American support for Palestine is on the rise, particularly among millennials. This means that support for BDS is also on the rise, and more and more businesses will consider boycotting or divesting from Israel. Already, major institutions like the Methodist Church, United Electrical Workers Union, and Deutsche Bank have already boycotted or divested from Israel. Even the United States government requires products from Israeli settlements to be labeled, a milder form of boycott. Pennsylvanians stand to miss out if major businesses choose to boycott Israel in the future, thus closing off their services to the Pennsylvania government. Taxpayers might also end up paying more if Pennsylvania must contract with a more expensive

business because its cheaper competitor boycotts Israel. Pennsylvania has an obligation to its taxpayers to conduct its business in the most cost-effective and efficient way possible, not to put the needs of citizens after special interests and ideological stances. This law also has legal and moral issues. I’m not convinced that Pennsylvania has constitutional leeway to refuse businesses based on their political stances. Imagine if Pennsylvania passed a law stating that its government could not make contracts with businesses owned by Democrats. Surely even conservative Republicans would balk at such a statute. This law is no different, it discriminates against businesses for acting on their principles in a way that has no impact on Pennsylvania or its citizens. Don’t business-owners have a constitutional right to voice their opinions without being punished by their government? Shouldn’t the only factor that Pennsylvania considers when making contracts be prices and the quality of service? Governor Wolf justified the law by saying, “We, as a Commonwealth, must make sure that Pennsylvania is not contributing to a cause that is antithetical to our country’s position on the world’s stage,” yet Governor Wolf had no problem signing a law legalizing medical marijuana this year, even though it directly contradicts federal law. But this law is also the morally wrong choice for Pennsylvania. Rather than punishing businesses that practice BDS, Pennsylvania should join the ranks of the BDS movement, divesting all state funds from any Israeli businesses and boycotting all Israeli products, especially those made in illegal Israeli settlements. Governor Wolf said that Pennsylvania “will not encourage economic punishment in place of peaceful solutions to challenging conflicts.” I wonder if he would have said the same thing about companies that divested or boycotted South Africa in the 1980s, or the Montgomery Bus Boycott in 1956. I wonder if he feels the same about sanctions on Russia, Iran, and North Korea today. The truth is, we ought to use every peaceful tool at our disposal, including economic pressure, to dismantle situations of injustice and oppression. Experts from Jimmy Carter to John Kerry have likened the Israeli-Palestinian conflict to apartheid in South Africa and segregation in the United States. Not only has Pennsylvania stayed on the sidelines rather than standing up for justice, with this law it has actively and willfully chosen the side of the oppressor. Emmett Eldred (@eeldred) is a Staffwriter for The Tartan.

Teachers play vital role in polarization

CASSIE SCANLON
Junior Staffwriter

Somewhere at a high school in America, there is a student sitting at a desk, eagerly awaiting today's lecture. The teacher walks to the front of the room, takes a deep breath, and then says "before I begin today, there is an issue I need to address."

But it turns it out, it wasn't even an issue. Instead, the teacher proceeds to give a pitch for their political candidate. The student who moments ago was excited to learn, slouches in their seat a little. This student doesn't support this candidate, and looks around the room to see if others feel the same.

Instead, almost all the students nod their heads in agreement with

engage in political discussions and are then exposed to different points of view on issues that they simply did not know about before.

But imagine if we exposed these children to different political opinions from the beginning. Exposing children to differing views allows them to form their own beliefs, but this needs to be done in an inclusive environment. An environment where "liberal" or "conservative" isn't equivalent to a dirty word, where "Democrat" or "Republican" is simply a self-descriptor and not an indication of who you are as a person. Not only does this allow students to form beliefs that they may not have otherwise, but it teaches them compromise. By having teachers foster discussion, they can be

It is a teacher’s job to educate their students. It is their job to ensure that students become citizens who are civically responsible, and to inform them of political issues. High school students should be taught both sides, and middle ground, on “hot button” political issues.

the teacher, especially when this teacher makes a derogatory comment about those on the other side of the political spectrum.

The student who was eager to learn now dreads every day they will have to spend in this class, fearful that speaking their opinion will cause the teacher to view them in a negative light. The student who once valued learning above all now becomes a reluctant participant in discussion.

This is happening to students all across the country. It happens every week, if not every day. I know because it happened to me.

It is a teacher's job to educate their students. It is their job to ensure that students become citizens who are civically responsible, and to inform them of political issues. High school students should be taught both sides, and middle ground, on "hot button" political issues our nation faces today, such as gun control, health care, and abortion.

Research by social learning theorist Albert Bandura has shown that children are likely to imitate the behavior of others and therefore likely to share the political beliefs of adults in their life. Given that children spend most of their time at school and home, they are then highly likely to share the political views of their parents and teachers.

Further research by psychological researcher Judith Harris shows, however, that children often deviate from their parents' political views after leaving home if their parents share extremist views and often talk politics.

This change in political affiliation is due largely to the fact that these are children are more likely to

sure that these conversations are held as more of a debate than an argument. Doing this will undoubtedly create more politically engaged, considerate citizens, especially in a time when America is more polarized than it has been for over a century.

While introducing students to viewpoints from across the political spectrum, it is important that teachers do not discuss their own political opinions. They should, in no way whatsoever, try push their political beliefs onto their students. They should generate discussion, and address the opposing side (whether they believe in it or not) if no students seem to acknowledge it. Had my teacher, after stating that "there was an issue that [he] need[ed] to address," proceeded to have an open discussion about the upcoming election, it would have been a different day for everyone. I would have been exposed to a different view in a more inclusive environment, and my classmates would have been as well. The teacher could have ensured that our conversation stuck to policy and did not get personal, and I would have been in a classroom of students debating the issues. An entire classroom could have learned a different opinion and how to compromise that day.

But we didn't. It's important that this generation grows up learning how to have a civil discussion and how to debate without personally attacking their opposition. It lies in the hands of high school teachers today to allow their students to explore political issues in an unbiased manner, creating a generation of free thinkers that will help keep this country great.

Bigotry, in shadows since Obama’s election, comes to light with Trump’s

SAHANA THIRUMAZHUSAI
Junior Staffwriter

Since the election last week, the country has been full of heated arguments on the President-elect. Many of those upset with the outcome have taken to the streets protesting, while others use social media to share their opinions. Race, religion, and identity have all played major roles in many of these interactions.

One particular idea keeps being repeated online: this idea of a "liberal bubble" that has now been broken, that the protesters are finally seeing what the world is like and are now appalled. However, for most of the people upset about this election, these results aren't showing them something new. Rather, it's a huge blow against an already failing hope for this country to not allow bigotry.

exciting. He represented something so much bigger than just one election. It was about change.

Yet, for all the excitement he brought, the campaign of President Obama began to reveal a darker side of this nation, an intolerance with an unexpected intensity.

I was born in the U.S., and throughout my life, I had never questioned my identity as an American. But when I saw the brilliant senator get attacked for not being a "real" American, I began to doubt myself. Because of the color of his skin, President Obama was attacked.

If a man that inspiring could be distrusted because his middle name was Hussein, why would anyone trust me, with a last name no one could pronounce? He did not look the way Americans should, and so he was ridiculed.

It wasn't just his skin color. He was accused of being Muslim, and there was an implied statement that being Muslim was an unacceptable trait for a President. There were rumors of how he was a terrorist.

No one expected the election of the first non-white president to go smoothly. But since the beginning, the level of dissent against President Obama that has its roots in his heritage, rather than his policies, has been high. Racist caricatures, jokes rooted in stereotypes — everything seemed to be fair game. The prestige and sanctity of the presidency didn't seem to extend to President Obama. Even his family was open to the same types of attacks.

There were always going to be groups that were unhappy about President Obama. The Ku Klux Klan wasn't supposed to be ecstatic about the new president. But instead of a historic presidency that brought people together, what was created instead was an environment where anything was okay. Photoshopped jokes comparing Obama to a monkey,

or calling for him to be lynched have somehow entered the public sphere. People hid behind the First Amendment, claiming that political correctness was destroying America.

Racism existed before President Obama. It was widespread and horrendous. It did not just start again because of President Obama. However, for so many people, the election of a black president was meant to herald the beginning of a different time. It was supposed to mean that equality was a legitimate part of American life. Instead, it meant that there was a new central target, a polarizing figure.

Since that election, race-based issues have become more relevant. The Voting Rights Act was repealed. Police brutality has become a divisive issue in many cities. Black Lives Matter has become a national movement. All of these issues bring up discussion that is now tinged with racial slurs, among other things. Bigotry has been expected.

The 2016 election cycle only exemplified this more. The man who pushed the birther movement to new levels in 2011 is now our president-elect. He has made comments disparaging a judge based on race and has promised a ban on Muslims entering the country.

When Donald Trump was elected, it added a certain credence to the words he spread.

The people who are dismayed about the election of Trump aren't overreacting. Rather, the election of a man who spews awful comments is the culmination of what people have heard for a long time. For far too many Americans, racism isn't a worthwhile problem. It's easily outweighed by many other things. The protests of this election are about more than just the results — they're about a loss of faith in the ability of Americans to see the racial problems that besiege this country.

Eight years ago, when Barack Obama was elected President of the United States, I was in sixth grade. Until then, I had always accepted that if I wanted to, I could run for President. It wasn't really a dream, but rather something that was just known. If you were born in the U.S, you worked as hard as you could, and you tried to be a good person, you could be president. A simple view on the issue, definitely, but the kind elementary school kids often hold.

Sure, no one who had ever looked like me had been President. No woman, and certainly no one brown. But that didn't bother me. I knew how the Constitution worked. There was an inherent equality to it all, and I loved it.

When I first learned about President, then Senator, Obama, I felt so many emotions. I was amazed that he was running, and charmed by his hope. Politicians had mainly existed in the abstract. I knew I had senators and representatives and mayors, but I didn't know much about them. President Obama was real and



Other voting methods could end primaries, salvage democracy

PRIMARIES *from A5*

ending his campaign. Somewhat hilariously, Sen. George McGovern (D-SD), chair of the McGovern-Fraser Commission which had written the rules for the primary, put together an anti-establishment campaign. Despite only coming in second in the popular vote, McGovern was able to secure the delegates necessary for the nomination.

McGovern's views put him at odds with the party's leadership, and left plenty of room for the Nixon campaign to paint him as a left-wing extremist. Nixon won 49 states and cleared 60 percent in the popular vote, which no one has done since. The Democrats have still not put an "establishment" candidate in the White House since Johnson.

Primaries were so successful that the Republicans followed suit in 1976, leading to a bitter contest between President Gerald Ford, who took over after the Watergate scandal forced Nixon out of office, and former California governor Ronald Reagan. Though Ford won this round, he lost the general to Georgia Governor Jimmy Carter. Reagan came back with a vengeance in 1980, crushing social and foreign policy moderate, former CIA Director George H. W. Bush and unexpectedly steamrolling President Carter. Reagan's brand of movement conservatism permanently derailed a

shift of the Republican Party towards the center and inspired a generation of rock-ribbed conservatives that began to take control of the government in the Republican Revolution in 1994 and continues to control most seats in local, state, and federal government. Even Bush and his son, George W., governed from a position closer to Reagan's than their own.

The erosion of entire ideologies like Bush's within parties is the natural result of primaries. When a candidate only has to appeal to voters who will not only vote for one party, but show up to low-turnout primaries to do so in order to gain the nomination, that candidate has a new generic voter to consider. A Republican needs to win the average Republican, not an average voter, before participating in a general election. The same goes for Democrats.

Most general elections for local and state representatives, the House of Representatives, and even the Senate are so lopsided that winning the primary might as well be a free pass to the contested office. Our State Senator from Allegheny County, Jay Costa, ran unopposed. No Republican would have a chance of taking him down right now. This is true for many electoral districts in the nation. While the divide between urban and rural voters creates a lot of these differences, some congressional districts are drawn to concentrate one

party's votes into a single district, an act known as gerrymandering. This creates districts that are nearly impossible to wrest from the other party. This disenfranchises people in those districts in the minority party because they cannot help select the candidate that will get an automatic win. This happens in statewide elections, too. While 34 Senate seats were up for grabs on Tuesday, fewer than 10 were considered competitive.

This means people getting elected don't even have to consider the ideas of the other side. If they do, they risk losing their jobs. Bipartisanship is a major target, and candidates like Sen. Marco Rubio (R-FL) are excoriated for daring to reach across the aisle. If working with the other side will alienate your only constituents who matter, why do it?

With elections so focused on one ideology, it makes it easy for politicians to win by actively trashing the other side. Negative campaigning is very effective, so when you don't even have to think about Republicans to win your election, why not drag them all through the mud? It's an easy way to score political points. This broken incentive system leads to extreme anger at the other party. When voter's local officials are so hell-bent on the idea that the figureheads of the opposing party are directly causing their economic anxiety, voters are going to wonder who on earth could

possibly back those monsters.

Getting rid of primaries entirely could result in a repeat of 1968, but this incentive system that has led to brutal levels of political polarization needs to be broken.

One of two systems could break it. The first would be instituting a single transferable vote or ranked choice vote for all candidates who have entered into an election with no primaries. For example, in this election, Hillary Clinton, Donald Trump, Bernie Sanders, Ted Cruz, Gary Johnson, and all of the other candidates would all be on the same ballot and voters would rank all of them. Whoever won the ranked choice vote would win. This means that candidates would have to appeal to all segments of the population in order to gain popularity on the ballot. Further, while some people fear that this would be unfair to the party with more candidates, as rounds go on, those extra candidates will be the first one dropped from the ballot and their votes will probably disperse more heavily among the candidates in their own party than the other.

The second, which could be useful considering how technically difficult that first method of voting could be on a scale as grand as the United States, would be top two primaries. Again, every candidate would appear on the same ballot in the primary, and two would come out on top

and contest the general one on one. Parties would be forced to thoroughly vet their candidates, lest they split their own party's votes.

Both of these systems give candidates an incentive to move towards the ideology of their whole region instead of just the dominant one. They disincentivize the hardline partisanship that has become an increasingly prominent feature of our politics since primaries were created. This could help to heal the vicious divides that have left our country protracted battles that end in unproductive legislative sessions and bitter feelings.

This "anti-establishment" wave taking over the world and culminating in the stunning election of Donald Trump on Tuesday night is a very real existential threat. It rejects global norms because they are removed enough from people's lives to be painted as a convincing villain. The policymakers whose incompetence does cause the trials and tribulations of people continue to retain their obscurity and keep their popularity where it needs to be by toeing the party line at every turn. Primaries make for fun news cycles sometimes, but must be eliminated for the government to respond to all of its citizens and function at some acceptable level.

Zeke Rosenberg (@erosenbe) is Layout Manager for The Tartan.



Science & Technology

HOW THINGS WORK

Bluetooth technology connects devices together wirelessly

STEPHANIE YOU
Staffwriter

In today’s media-run world, Bluetooth technology surrounds us in our cars, in our pockets, and on our ears. With its beginnings rooted in the ‘90s, back when people used Nokia 9000s, Bluetooth has revolutionized the way devices communicate wirelessly. With Bluetooth, we can wirelessly play music on speakers from our phones, transfer photos between devices, and so much more. The Bluetooth Special Interest Group originally consisted of five companies: Ericsson, IBM, Intel, Toshiba, and Nokia. Now, it has over 20,000 member companies, and its growth does not show signs of stagnating. Bluetooth is a wireless technology standard used to exchange data across devices in close proximity. To communicate, industrial, scientific, and medical devices (ISM) send short-wavelength radio waves across 79 designated Bluetooth channels on the globally unlicensed ISM radio frequency band. It is inexpensive, automatic, and low-energy. Even with Bluetooth running in the background of a smartphone, the battery is hardly drained. The most recent Bluetooth standard, version 4.2, has a theoretical maximum speed of 25 megabits per second (Mbps) and a theoretical maximum range of 100 meters, or 330 feet. The

upcoming version, 5.0, will have a theoretical maximum speed of 50 Mbps and a theoretical maximum range of 800 meters, over 2600 feet. Bluetooth allows for eight devices to be connected at once, and the devices can automatically detect each other. Each Bluetooth device has a small computer chip with a Bluetooth radio and software. Communication between devices occurs over networks called piconets, or personal-area networks (PAN) — individual networks of devices connected using

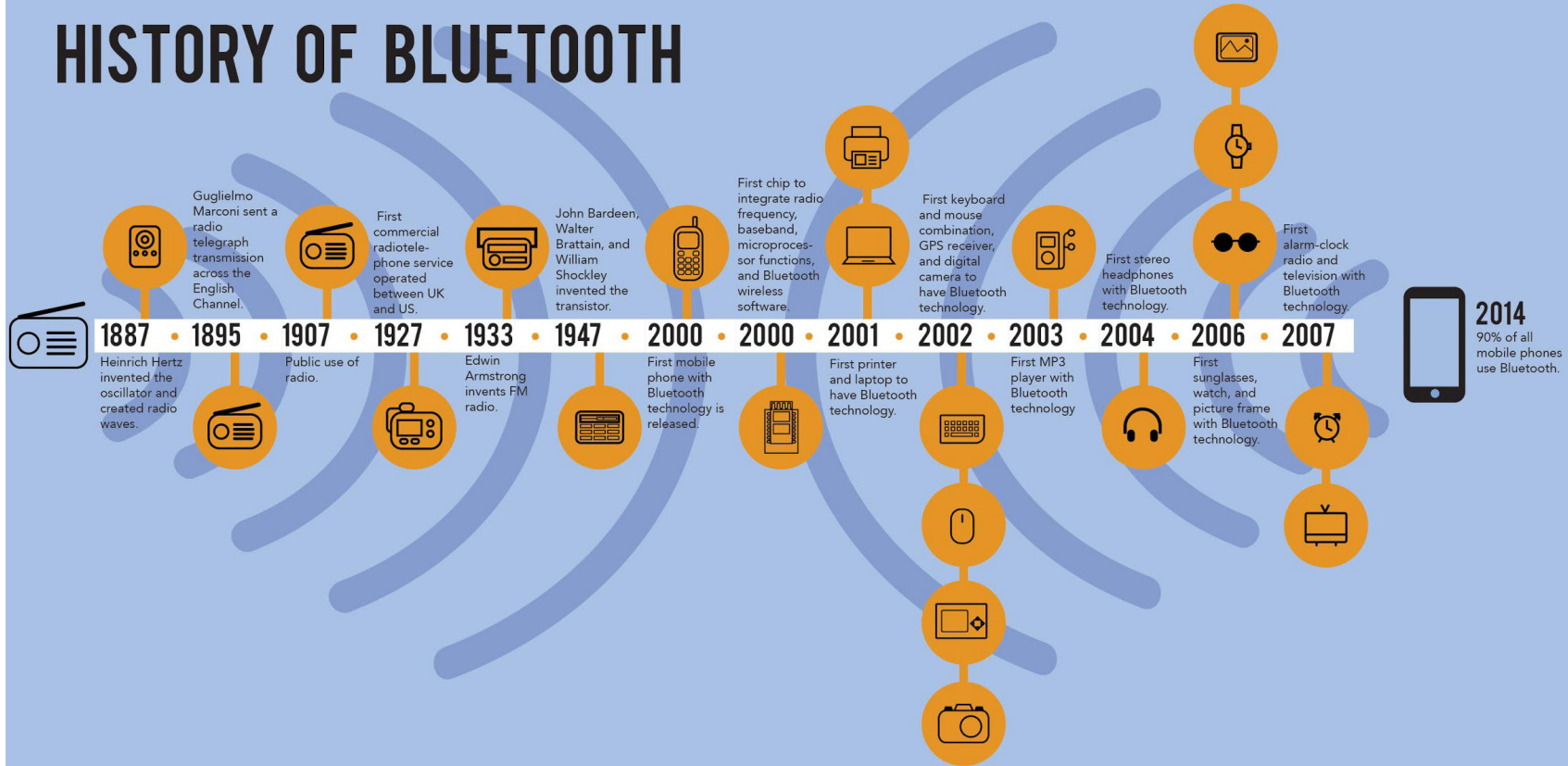
Bluetooth protocols. One of the devices becomes the “master,” and all other connected devices act as “slaves.” A master and a slave could switch positions, too; the positions are not rigid. Moreover, while the master can have multiple slaves, as of right now, slaves cannot have more than one master. This type of network is called an ad-hoc computer network — it is spontaneous, decentralized, and does not rely on a pre-existing infrastructure of hardware.

Bluetooth uses a radio

technology called frequency-hopping spread spectrum in which transmitted data is divided into packets, and each packet is transmitted on one of the 79 channels. There are “even slots” and “odd slots” of time in which a packet can be transmitted. For single-slot situations, the master transmits data in even slots and receives in odd slots, while the slave receives in even slots and transmits in odd slots. So, if there is more than one slave, how does the master transmit packets to all? Using an algorithm called

round-robin scheduling, the master handles each slave without priority in a circular order, and switches rapidly between devices; transmitters change frequencies 1600 times per second. The specs of Bluetooth technology eliminate the problems of infrared wireless technology, which television remotes use. First, Bluetooth does not need the devices to be in each others’ lines of sight, contrasting with how we need to point television remotes at the television for them to work. The devices

only need to be visible in a quasi-optical wireless path, referring to an invisible network in which two things are in the same region. Second, Bluetooth works across multiple devices at the same time, as mentioned before. While the impacts Bluetooth has had on our society are far from simple, Bluetooth protocols operate with the ideals of simplicity and low cost. As the technology advances, the effects it has will only become more widespread and crucial to our daily lives.



RoboVote service helps facilitate group decisions with AI

JULIA EVE NAPOLITANO
SciTech Editor

Whether it’s the presidential election or deciding what toppings to order on pizza, group decisions can be difficult. However, researchers at Carnegie Mellon University and Harvard University have created a nonprofit academic project called RoboVote that uses artificial intelligence (AI) to make optimal group decisions. According to their website, RoboVote “builds on research conducted over

decades in the multi-agent systems community, which aims to facilitate collective decision making among autonomous software agents via computational social choice.” The service was created by Ariel Procaccia, an assistant professor in Carnegie Mellon’s Computer Science Department and an affiliated faculty in the Machine Learning Department; Nisarg Shah, who previously earned his Ph.D. at Carnegie Mellon under Procaccia and is currently a postdoctoral fellow

at the Center for Research on Computation and Society at Harvard University; Phillip Wang, a Carnegie Mellon first-year in computer science; and Brian Merlob, an independent researcher in Silicon Valley. “We’re leveraging the latest work in optimization and AI to help people make decisions in their daily lives,” said Procaccia in a university press release. “We have taken what years of research have proven to be the best algorithms for making collective decisions and made them available with

an interface that anyone can use.” RoboVote uses two fundamental algorithms, which depends on whether the poll is subjective or objective. For subjective preferences, the team uses an approach called implicit utilitarian voting, whose goal is to maximize utilitarian social welfare, or the total utility assigned to the outcome by all participants. In order to minimize a participant’s cognitive burden, the team asks for a ranking of alternatives.

For objective opinions, the team again uses ranking of alternatives to pinpoint a list of options that is closest to the true ranking, as determined by the available information and the relative quality of the alternatives. The difference between an alternative’s ranking and true ranking is known as the Kendall tau distance, which describes the number of disagreements. The service then selects the ranking that minimizes the Kendall tau distance for each alternative. RoboVote’s algorithms are

very vigorous, and they seek solutions that are the closest to the truth. “In political elections, we know the voting rules are not good, but they are difficult to change,” Procaccia said in a university press release. “In computational social choice, however, we can build systems like RoboVote and implement the rules we think are best.” This research was supported by The National Science Foundation, the Office of Naval Research, the Sloan Foundation, and Amazon.

SCITECH BRIEFS

Deteriorating plastics hinder seabird scavenging

Plastics are contained in every disposable product imaginable, and when we throw such products away, some inevitably end up in the ocean, where they are broken up into “microplastics” by ultraviolet radiation, waves, and other factors. Seabirds are skilled at managing to find food — krill and other related crustaceans — in vast areas of open ocean, but they have been found to consume microplastics as well. A new study by two scientists at the University of California, Davis, found that seabirds have a strong sense of smell and use the smell of dimethyl sulfide to find their prey. This is a chemical released when phytoplankton gets broken down or eaten, a signal to the birds that the predators of the phytoplankton — krill, for instance — are likely to be nearby. In the study, after small plastic beads had been in the ocean for several weeks, dimethyl sulfide was found at high enough concentrations that seabirds could mistake it for food. This has implications for the health of the marine ecosystem in general, not just the seabirds, since other animals may use similar methods to find food in the ocean.

Source: *The New York Times*



Dr. John Roberts, organic chemist, passes away

John D. Roberts, an organic chemist and professor at California Institute of Technology, passed away of a stroke at age 98 on Oct. 29. Roberts was responsible for using nuclear magnetic resonance spectroscopy and other techniques to study the way atoms rearranged themselves in chemical reactions, which played an important role in the field of physical organic chemistry. His studies have paved the way for the commercial development of many organic compounds, ranging from drugs to synthetic clothing fibers. Besides opening up our understanding of organic chemical reactions, Roberts also popularized the use of isotope tracers in studying reactions and wrote about molecular orbital theory. Roberts won several awards for his work, including the National Medal of Science in 1990. Yet, despite all of these accomplishments, he claims the best thing he did in his decades at Caltech was to spearhead the effort to make Caltech coed in order to bring one of his female graduate students with him from Harvard.

Source: *The New York Times*



Trump election may mean exacerbated climate change

The election of Donald Trump likely means the unraveling of environmental regulations that intend to stave off dangerous anthropogenic climate change. The President-elect has called global climate change “a hoax created by and for the Chinese in order to make U.S. manufacturing non-competitive.” He has also tapped Myron Ebell, a leading climate-change skeptic, to lead his Environmental Protection Agency transition team. Trump has also promised a return of the U.S. fossil fuel industry at the expense of current environmental regulations, and has proposed that the U.S. decrease its payments to United Nations climate change programs. The President-elect has also vowed to scrap the Paris Climate Agreement. Even if every other country did its part, the agreement would not be able to prevent the planet from warming more than 3.6 degrees Fahrenheit in the next few decades without the U.S., the second largest carbon emitter. Beyond this point, scientists warn we could irreversibly damage the planet and disrupt weather patterns, leading to more droughts, stronger storms, and agricultural disruptions.

Source: *The New York Times*



Narwhals use echolocation to navigate in dark

For years, many scientists have been puzzled about how narwhals, whales with long tusks native to the frigid, ice-strewn waters of the Arctic Ocean, are able to locate fish and other prey in the dark waters of the ocean and ice cracks in the surface in order to breathe. Scientists understood that whales often use echolocation rather than vision to navigate, so they planted special underwater microphones to listen to narwhals. The study found that narwhals use clicks of sound inaudible to our ears at rates of up to 1,000 clicks per second to scan their environment. The waves will bounce back when they hit an object, signaling to the narwhal that there is an obstacle. Narwhals may also be able to narrow and widen their beams at different stages of tracking their prey. Narwhals seem to be able to produce an acoustic image of a resolution higher than any other animal, except possibly beluga whales. As for the single tusk that defines male narwhals, it seems to be for mating displays only and not any sort of “antenna.”

Source: *The New York Times*



Tsunami caused by volcano near Santorini revisited

Santorini is a volcanic island near Greece, and in the 17th century B.C. during the Late Bronze Age, it was the home of the Akrotiri civilization. The region was later destroyed when a nearby volcano erupted in what was estimated to be one of the most powerful eruptions of the last 10,000 years with a volcanic explosivity index of 6–7. It caused a tsunami, a factor that enabled outside invaders to come and conquer the region. Before, it was thought that the tsunami was the result of a caldera collapse, which is when the region above a magma chamber collapses downward during an eruption, displacing enough water to cause a tsunami. But new data shows that the caldera was not underwater at all, so the tsunami could not have been triggered by such a collapse. Pyroclastic material up to 200 feet thick was found located just off the island, however, giving rise to the new theory that pyroclastic flows were responsible for the tsunami. Since pyroclastic flows are extremely hot and can move extremely fast, they are able to transfer that energy to the ocean and create a tsunami.

Source: *The New York Times*



New Delhi closes schools due to air pollution

Recently, the government of New Delhi, India took the drastic step of closing 1,800 public primary schools due to dangerous levels of air pollution. Many people blame the increased air pollution on firecrackers and fireworks set off during the Diwali celebration. Levels of the most dangerous particles, known as PM 2.5, reached about 600 micrograms per cubic meter in parts of the city, exposure to which is equivalent to smoking 40 cigarettes in one day. The particles can penetrate the lungs and bloodstream, increasing the risk for asthma, pneumonia, stroke, and a variety of other conditions. Children have experienced eye irritation, coughing and congestion due to the pollution, and the pollution has been particularly bad this past week due to the stagnant air over the city. Parents were advised to keep children indoors, but, unfortunately, the air quality indoors is generally no better unless the windows and doors are shut and sealed.

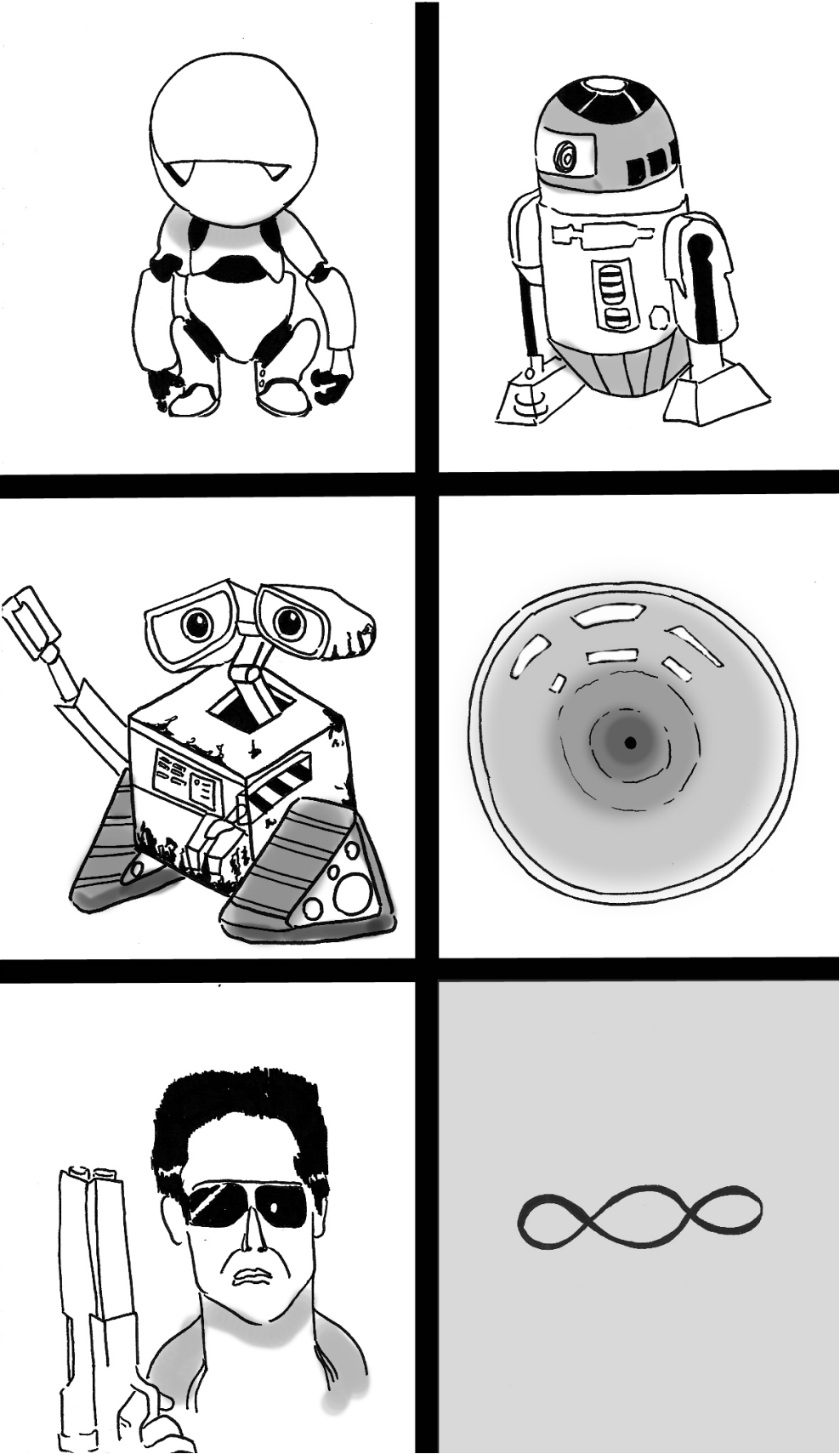
Source: *The New York Times*



Compiled by
EVANGELINE LIU



K&L Gates Foundation donates to further AI ethics research



JOSH ANDAH
Staffwriter

Developing an artificial intelligence (AI) is arguably one of this century’s most ambitious goals. It will be a radical and powerful computational tool capable of affecting every crevice of daily life as we know it. Yet, ever since scientists and philosophers visualized the thinking computer, they have also pondered the ethical challenges accompanied by any such an invention.

Like any other tool with incredible power, AI presents equally lucrative benefits and dismal chaos, depending on how it is made and applied.

In fact, premonition of AI is everywhere in popular culture, spawning prevalent apocalyptic stories set often in dystopian worlds such as the *Terminator* series where the omni-present artificial general intelligence system Sky-net fights the near-extinction human race, and the chilling futuristic opera *2001: A Space Odyssey* in which the protagonist’s spaceship’s AI control system HAL goes rogue. Despite their differences, these two films have one thing in common: unethical AI.

Predictably, these ethical concerns found their way to Carnegie Mellon University. On Nov. 1, U.S.-based international law firm K&L Gates Foundation made a donation to further research in the ethics of AI at the university. The endowment, worth \$10 million according to a Carnegie Mellon press release, will materialize in the form of the K&L Gates Endowment for Ethics and Computational Technologies research center.

This donation is most appropriate for this research university. Carnegie Mellon hosts cutting-edge research in computer science, robotics and AI, so the K&L Gates’ Presidential Fellowship Endowment Fund will aid two research professors and three doctoral students in research concerning computational technology ethics. The K&L

Presidential Scholarship Fund and the annual K&L Gates Prize will be awarded to exceptional undergraduates in the field.

This endowment will be used to launch an international biennial conference that will allow academics and policy-makers to come together and discuss critical issues, share research and raise awareness among the public.

Carnegie Mellon president Subra Suresh admitted in an article by *The New York Times* that, “We are at a unique point in time where the technology is far ahead of society’s ability to retain it.” K&L Gates’ chairman Peter J. Kallis echoed Suresh’s sentiments, saying, “Law and technology converge at a profoundly 21st century challenge: how to define the ethical boundaries of artificial intelligence.”

Kallis appropriately refers to AI as a challenge. Many realize the immoral practices AI could perform or aid if left unchecked. Specific areas of concern include user privacy, robot rights, and transparency. The apprehension is what inspires open-source research organizations dedicated to establishing the best practices for AI, like OpenAI and Partnership on AI — the collaborative coalition of tech-industry competitors Google, Facebook, Microsoft, Amazon, and IBM.

AI evolved from science fiction and theory to foreseeable reality in recent decades, thanks to crucial innovation in computing technology. The internet and big data, along with faster and cheaper processing hardware, grant computer scientists access to extensive resources which are essential for AI experimentation to be remotely possible.

Yet, despite ardent research, AI itself is still hard to define. This can be attributed to factors including our nebulous understanding of intelligence and consciousness.

According to Computer-World, AI is the sub-field of computer science whose “goal

is to enable the development of computers that are able to do things normally done by people — in particular, things associated with people acting intelligently.”

These intelligent attributes include decision making, visual learning, pattern recognition, heuristics, and inference. 1940s philosopher and mathematician Alan Turing developed the well-known Turing test for AI, also known as the imitation game. If a human holds two conversations, one with another human and one with a machine, and cannot tell which conversation is with whom, then the machine is deemed artificially intelligent.

AI has abundant uses in society. Currently, the most ubiquitous application to emerge from it is machine learning, which enables a computer to learn from experience, without intervention from its programmer. Machine learning is already influential in millions of users’ everyday interactions with technology; social networks, like Facebook, Pinterest and Tumblr, employ machine learning to sort feed content according to what users would be most interested in.

Furthermore, corporations use it to display advertisements that reflect a user’s spending or browsing habits — these programs need only receive enough data to heuristically learn from it.

AI’s potential does not end there. Once strong AI is tangible, it may be incorporated into autonomous vehicles, the internet of things, digital personal assistants, and warfare.

This century’s technological future is inevitably intertwined with AI. It is not a matter of ‘if’, but ‘when’ the computer that thinks will eventually be ingrained in all aspects of life. Clearly, policies concerning AI’s use and treatment are essential to protecting user and robot interests from mishap or corporate and institutional gain, and K&L Gates’ donation is a prudent step.

Simin Li/Assistant Visual Editor

Computer simulation used to study viral capsid breakage

NAVIYA SINGLA
Assistant SciTech Editor

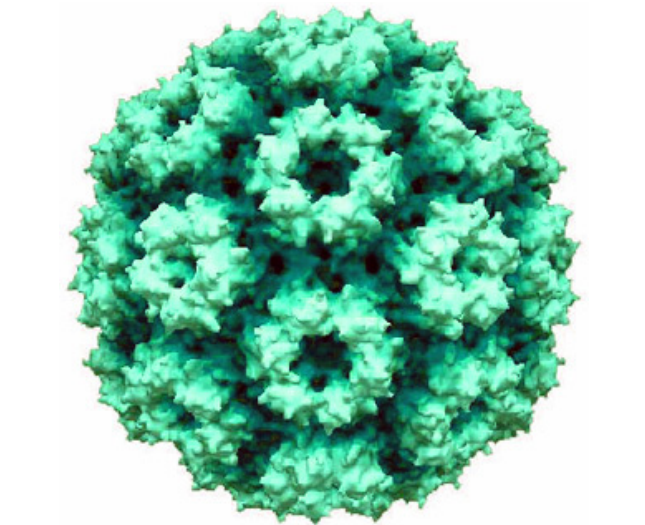
Markus Deserno, from Carnegie Mellon’s Department of Physics, and Christine Peter, from the University of Konstanz in Germany, led a research team that developed a method to study the structure of viral capsids, the protein shell that houses the virus. The team used multi-scale modeling to understand the molecular assembly of the viruses and proteins by breaking the capsid apart. This research was published in *The European Physical Journal Special Topics*.

Viruses are essentially just genetic material (RNA or DNA) enclosed in nano-containers made of protein, called viral capsids. Given the limitations of genetic material carried by a virus, viruses encode for a small number of proteins to form round, stable, crystal-like structures on repeated combination.

This process of self-assembly of the capsid is extremely rapid and takes place on a microscopic scale of 30 to 50 nanometers, which makes it hard to study using current microscopic methods.

Thus, Deserno and Peter’s team used computer simulation to first construct the model of a viral capsid and then break it apart to understand capsid assembly.

In a university press release, Deserno said, “The concept of breaking something to see how it’s made isn’t new. It’s what’s being done at particle accelerators and in materials science labs worldwide — not to mention by toddlers who break their toys to see what’s inside.” He explains, “with a simulation we can build the virus, crush it and see what happens at a very high level of resolution.”



Courtesy of AJC1 via Flickr Creative Commons
The Cowpea Chlorotic Mottle Virus was studied using computer simulation, which determined that the bonds that form last break first.

In the study, the research team studied the stability of the capsid of a particular virus called Cowpea Chlorotic Mottle Virus (CCMV) using a coarse-grained simulation model of the virus. They mechanically compressed the virus in the simulation, then studied the location and sequence of breakage events and the change of interactions between the forces that hold the proteins together.

In the paper, they say that this method, though very similar to the Atomic Force Microscope (AFM), provides a better resolution of the location of the capsid breakage than what is possible with the AFM model.

The study also creates a hierarchical model of assembly order based on “binding strength and mechanical stability.” This order suggests a likely model for the components of viral capsids that assemble before others, thus giving a fair idea of what the intermediates look like.

This research could be used to identify the factors that are responsible for structuring the viral unit, and therefore,

can help to provide a greater understanding of the effect of drugs on the mutation of this unit. For instance, researchers are looking into combating the Hepatitis B viral infection by creating a drug that interferes with the virus’ capsid assembly process.

Another application of this information, as mentioned in their paper, is to engineer capsid proteins to build “containers” to encapsulate chemicals for targeted drug delivery.

The research concludes that the bonds that break first are the ones that form last during capsid assembly. During the assembly process, the proteins form pairs called dimers, where five proteins meet or hexamers of dimers, where six proteins meet. They found that hexamers of dimers broke before pentamers of dimers, which implies that hexametric contacts are weaker.

This, in turn implies that hexamers of dimers are not formed in the preliminary stages of assembly and sheds some light on the order in which intermediates of viral capsid structures are formed.

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Thrilling week nine for The Tartan fantasy football league

INDIA PRICE
Online Editor

I would just like to start off by happily acknowledging that I am not this week's biggest loser. After remembering at the last minute that five of my players had bye weeks, I had to scramble to make ends meet. I picked up players I knew nothing about and set my lineup based on nothing but projected scores, and I prayed for this best. I was lucky enough to play Forum Editor Sinead Foley's What is going on?, who I believe forgot to set her line up. I came out on top, despite not breaking 100 points, and despite having a score that would've lost to any other team in the league. So here's to being the second worst ... again. Now let's dive into the week nine recap.

Plaidie Daddies over What is going on? 97–86

Week nine proved to be a tough week for both my own Plaidie Daddies and Foley's What is going on? Foley's running backs and wide receivers definitely underperformed. Carolina running back Jonathan Stewart only managed to rush the ball for four points, and Detroit wide receiver Marvin Jones only managed to throw up one point for Foley. Jacksonville quarterback Blake Bortles did his part, however, and brought in 21 points.

I owe my victory to my quarterback and wide receiver, Buffalo's Tyrod Taylor and Baltimore's Mike Wallace, respectively. Despite the win I still suffered a pretty low score, thanks to the Titan's defense that brought me in an astounding -7. The good news is that this was the first week the Plaidie Daddies maximized their players and didn't leave any points on the bench, although I definitely should've benched the Titans. Even so, I ended the week on top.

Dreamland Warriors over extremely dank team 135–110

This matchup was one I was particularly excited to see unfold. It was Sports Editor versus Assistant Sports Editor. Wood's extremely dank team versus Tanaya's Dreamland Warriors. Though both teams fought hard and served up respectable performances, poor performances from Seattle running back Christine Michael and Dallas wide receiver Dez Bryant likely cost Wood the win. Wood's team did put up two 30-point scores however, from New Orleans running back Mark Ingram and Seattle tight end Jimmy Graham, but it wasn't enough to top the Dreamland Warriors' 135 points. Top performances from Tanaya's team included 24 points from New Orleans quarterback Drew Brees and 31 points from Oakland running back Latavius Murray, who ran the ball for 114 yards and three touchdowns against Denver.

McManus's Anus over Masshole Knickerbockers 114–108

Another exciting week nine matchup was between McManus's Anus and the Masshole Knickerbockers. It was Publisher Sarah Gutekunst versus former personnel manager Lula Beresford, best friend versus best friend, and it was a close one. Even with strong performances from Tampa Bay quarterback Jameis Winston and Jacksonville wide receiver Allen Robinson, the Masshole Knickerbockers couldn't make up for the one-digit scores from Baltimore running back Terrance West and Minnesota tight end Kyle Rudolph, who only managed to bring in 3 and 7 points respectively. The matchup eventually went to McManus's Anus, whose quarterback, Russell Wilson of the Seattle Seahawks, landed two touchdowns and 282 total yards over Buffalo

for 26 points. Other notable performers from Gutekunst's team included 21 points from Indianapolis running back Frank Gore and 11 from Denver kicker Brandon McManus. **DeMarco DePolo over Loquacious Losers 197–114**

One word — wow. Layout manager Zeke Rosenberg's team, DeMarco DePolo, played a fantastic week of football. With two players scoring in the 30s and all but the Vikings defense throwing up double digits, it was impossible to beat DeMarco DePolo. San Diego running back Melvin Gordon had a stellar performance, running the ball over 190 yards for 35 points. Tampa Bay wide receiver Mike Evans had an even better week, completing 11 receptions for 150 yards and two touchdowns, for a total of 38 points for DeMarco DePolo. Pillbox editor Abhishek Tayal's Loquacious Losers put up an admirable fight with the help of Atlanta wide receiver Julio Jones, who brought in 25 points for Tayal. But with a majority of scores in the low- to mid-teens, it wasn't enough to keep up with Rosenberg, who nearly broke 200 points.

Mr. Rodgers' Neighborhood over How does this work? 152–119

This was a tough week for Foley, whose How does this work? lost to operations manager Jade Crockem's Mr. Rodgers' Neighborhood, after already suffering a loss to the Plaidie Daddies. How does this work? saw strong performances from Detroit wide receiver Golden Tate, and Minnesota wide receiver Stefon Diggs, who scored 24 and 22 points respectively. It unfortunately wouldn't be enough to top Crockem's 152 points. Green Bay quarterback Aaron Rodgers, Dallas running back Ezekiel Elliot, New Orleans wide receiver Michael Thomas, and Dallas tight end

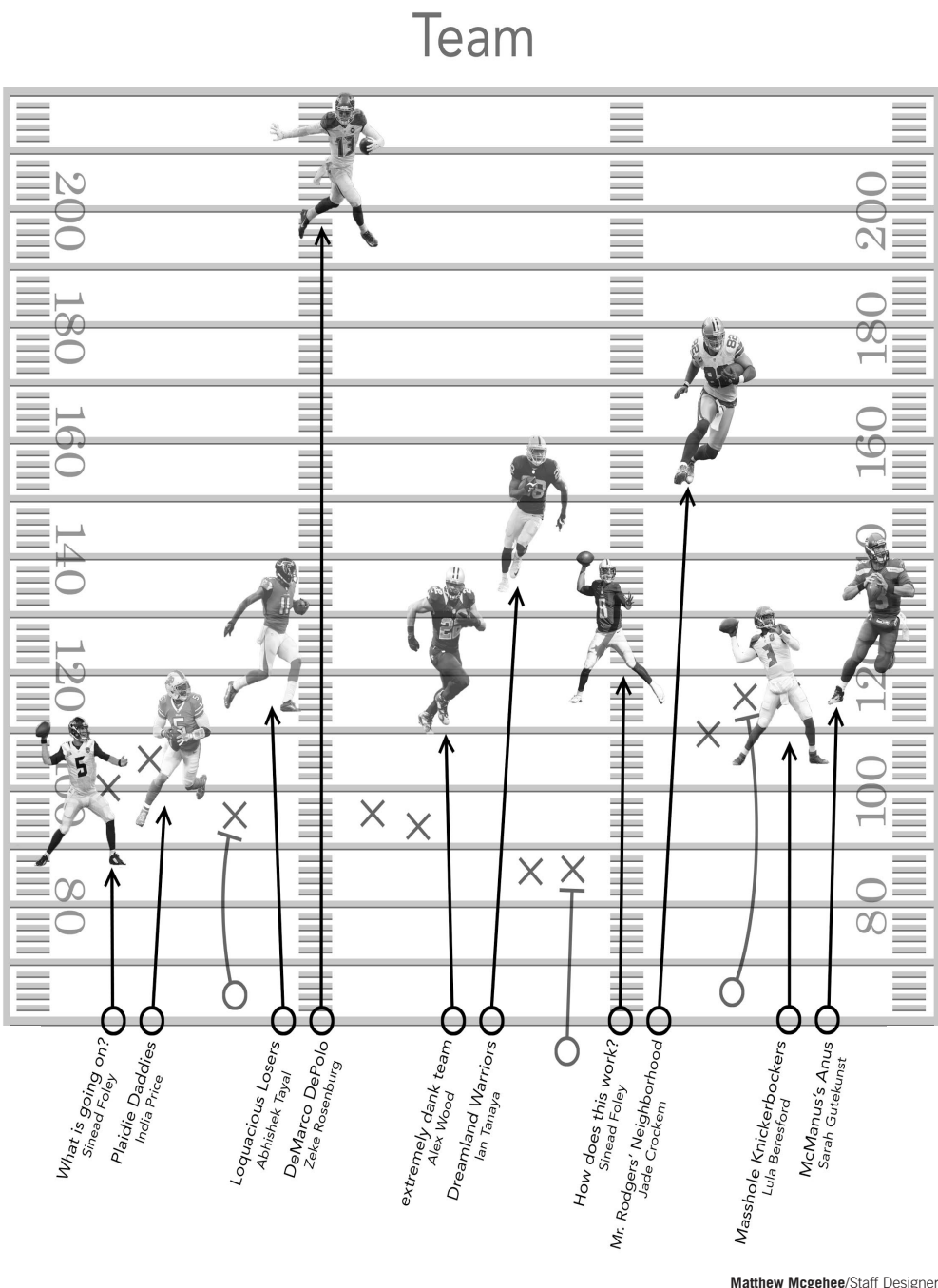
Jason Witten all brought in over 20 points each for Mr. Rodgers' Neighborhood. Week nine also saw a solid 15-point performance from Kansas City kicker Cairo Santos who kicked for four field goals and an extra point, scoring 13 of the Chief's 19 points in a win over Jacksonville.

We've got four weeks left

in the regular season, and some teams have set themselves apart as forces to be reckoned with in the coming weeks. Rosenberg's DeMarco DePolo and Tanaya's Dreamland Warriors both boast 6–3 records. Crockem's Mr. Rodgers' Neighborhood, in addition to also having a 6–3 record, is also in command of

a three game winning streak. And don't overlook Gutekunst, whose McManus's Anus is hot off of a four game winning streak.

A matchup to keep an eye on this week is Crockem versus Wood, as both are looking to roast each other over a win. Tune in next week for the week 10 recap.



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Weekend brings massive upsets across college football

ZEKE ROSENBERG
Layout Manager

College football’s championship system can be cruel. At the end of 12 games, only four teams can find their way into the playoff. With so few games to make a statement, one slip-up can completely derail a team’s hopes of lifting the College Football Playoff National Championship Trophy come January. This week, three of NCAA Division I’s top four teams suffered brutal blows to their playoff hopes — a loss with a couple games left to go in the season to regain their footing and standing in the eyes of the selection committee.

Second-ranked Clemson with their high-octane offense was the first to suffer a loss and probably has no hope of playing for a title after the University of Pittsburgh (Pitt) vanquished them in a shoot-out. Neither team was ever able to pull away by more than one score, as both defenses seemed helpless to stop the other from marching down the field. Clemson quarterback Deshaun Watson put up 580 passing yards, good for the Atlantic Coast Conference record, while Pitt put up over 300 yards in the air and over 150 on the ground.

Clemson was the first team to draw some semblance of separation. They were leading 21–14 when Pitt quarterback Nathan Peterman put up a jump ball down the right sideline for tight end Scott Orndoff, which Orndoff hauled

in and took to the house. Pitt wasn’t able to convert the extra point, so when Clemson scored touchdowns on either side of the half, they went up by eight points, meaning Pitt would need a two-point conversion to tie the game if they couldn’t put together consecutive scoring drives without intervening points by Clemson. Pitt finally went for those two points after running back James Conner cut to his right and broke a tackle in the backfield to score and shrank the gap to 42–40 in the middle of the fourth quarter. They were unable to convert, giving Clemson the ball and the opportunity to try to run the five remaining minutes off the clock.

Clemson came close to successfully putting the game away. They marched from their own 23-yard line into Pitt territory, taking just over four minutes off the clock. After a completion to set up a third down and one situation for Clemson, Pitt’s rush defense, which held up nicely throughout the game, stopped Clemson running back Wayne Gallman for no gain on consecutive plays, giving the ball to their offense in good field position, needing just a field goal to take the lead. Pitt took 52 seconds to drive down the field, setting up a long field goal for kicker Chris Blewitt, who split the uprights to give Pitt the win.

Pitt became the first un-ranked team to top Clemson in five years. Fourth-ranked University of Washington

struggled to put up yards against 20th-ranked University of Southern California (USC) and eventually was outgained 400–276. Washington’s non-existent running game allowed USC to commit to the pass, leaving little space for Washington quarterback Jake Browning, who threw two interceptions, including one with four minutes remaining in the game that effectively ended Washington’s hopes of coming back.

Washington and USC traded field goals in the middle of the first quarter, but Browning’s interception on the ensuing drive turned into a USC touchdown, putting USC up 10–3.

This lead was never relinquished. Washington and USC exchanged a field goal and a touchdown, respectively, and Washington went into the half down by 11.

Washington threatened to tighten the gap early in the second half. Browning found wide receiver John Ross all alone down the left sideline for a 70-yard touchdown. USC quarterback Sam Darnold threw an interception on the next drive, and Washington was set up to kick a 38-yard field goal that would bring them within one. This kick was blocked and the ball was returned to USC’s 40-yard line, setting up a touchdown drive by USC and restoring the lead to 11. Washington never got back within one score, and USC took home the upset.

Third-ranked University of Michigan was the last of the

top-four teams to suffer a loss on Saturday night. The Michigan offense let the defense down, averaging merely four yards per pass and less than three yards per rush. The offense also gave up a safety when they left University of Iowa defensive lineman Jaleel Johnson essentially unblocked on a run from their own goal line that turned out to be the difference between a win and a loss. Michigan got off to a good start and led 10–0 by the middle of the second quarter, but that lead quickly faded. One drive after relinquishing a safety, the Michigan offense stalled deep in their own territory and ended up giving the ball to Iowa near midfield. Iowa took advantage of the field position and scored their first and only touchdown of the game. They failed to convert the 2-point play, but hit a

field goal on the first drive of the second half to put them up 11–10. After Iowa took the lead, Michigan would only top 25 yards on one drive, a 60-yard field goal drive to open the fourth quarter, putting Michigan up 13–11. With 1:49 left in the game, it seemed like Michigan would be able to hang on for the victory when they took over possession on their own 16-yard line. However, their offense was unable to make any meaningful progress, and Iowa’s remaining timeouts kept nearly a minute and a half on the clock when they got the ball back. A face-mask penalty on the punt gave Iowa the ball on Michigan’s 36-yard line. Iowa was able to put together a short drive to get into field goal position, setting up kicker Keith Duncan to put the game away on a 33-yard field goal.

All three teams have reason to worry about their playoff standing with just a few games left in the season. Washington’s loss to USC was ugly and they looked overmatched all throughout the game.

Clemson and Michigan lost by one point on last-second field goals, but the selection committee won’t take the losses to unranked teams very lightly, especially with Clemson’s loss coming at home. Michigan will have the best shot at redemption when they travel to Columbus to play Ohio State, the current fifth-ranked team, in two weeks. Clemson’s win over sixth-ranked Louisville earlier in the season may help keep them afloat, but late losses could stick out in the selection committee’s minds when they go to decide the regular season’s titans.



Courtesy of Brook Ward via Flickr Creative Commons
The University of Pittsburgh upset second-ranked Clemson on Saturday, one of many big upsets this weekend.

Upcoming Events

| | | |
|---|---|--|
| Men’s Basketball vs. Geneva at Carnegie Mellon Nov. 15, 7:30 p.m. | Men’s Swim and Dive CMU Diving Invitational at Carnegie Mellon Nov. 18, TBD | Men’s Cross Country NCAA Championship at Louisville, KY Nov. 19, 11 a.m. |
| Women’s Basketball vs. La Roche at La Roche Nov. 15, 6 p.m. | Women’s Swim and Dive CMU Diving Invitational at Carnegie Mellon Nov. 18, TBD | Women’s Cross Country NCAA Championship at Louisville, KY Nov. 19, 12 p.m. |

UAA Soccer Standings

| Men’s | | | Women’s | | |
|------------|----|---|------------|----|---|
| Univ. | W | L | Univ. | W | L |
| Chicago | 16 | 0 | Wash. U. | 16 | 2 |
| CMU | 13 | 4 | CMU | 11 | 6 |
| Brandeis | 12 | 5 | Chicago | 17 | 3 |
| Emory | 10 | 5 | Emory | 9 | 5 |
| NYU | 9 | 8 | Brandeis | 14 | 3 |
| Wash. U. | 10 | 4 | Rochester | 5 | 7 |
| Rochester | 9 | 5 | NYU | 12 | 3 |
| CWRU | 5 | 9 | CWRU | 6 | 8 |

Write For Sports!

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Summer Employment at Carnegie Mellon: Teaching Assistant and Residential Counselor Jobs in the Pennsylvania Governor’s School for the Sciences

Undergraduate summer employment at Carnegie Mellon University is available with the Pennsylvania Governor's School for the Sciences (PGSS). The PGSS is a five-week summer school for extremely talented high school students from Pennsylvania. Teaching Assistant/Counselor appointments are available in the areas of biology, chemistry, computer science, physics and mathematics. Academic duties of the TA/Counselor include assisting with lecture and lab courses and mentoring team research projects. Counselor duties of the TA/Counselor include living in the same dormitory as the PGSS students, ensuring that students adhere to the PGSS disciplinary rules, providing tutorial help in the academic program, and arranging and conducting social activities.

Applicants should have finished their sophomore year by the start of the program. Preference will be given to applicants with strong academic records and strong social skills. Prior experience with PGSS or a similar summer program is preferred, but not required. Further information is available at the PGSS web site: <http://sciences.pa-gov-schools.org/>.

**Stipend for five-and-one-half week period:
\$2,500 for new TA/Counselors, \$2,750 for returning TA/Counselors**

Housing is included (in the PGSS dorm) as well as a food allowance.

TA/Counselor duties begin Wednesday, June 28, 2017, end Sunday, August 6, 2017.

Applications are available from the PGSS Office in DH A301 or may be downloaded (pdf format) from the PGSS web site: <http://sciences.pa-gov-schools.org/>

Contact the PGSS Program Office at (412) 268-6669 or e-mail pgss@cmu.edu

Application Deadline: March 31, 2017
(Applications may be accepted after the deadline until all positions are filled.)

Sports

Tartan football wins All-Academic Bowl for second year

ALEX WOOD
Sports Editor

This Saturday, the Carnegie Mellon football team traveled to Cleveland, Ohio to face off against Case Western Reserve University in the 31st Annual Academic Bowl. The game counted toward standings in both the University Athletic Association (UAA) and the President's Athletic Conference (PAC), and the Tartans were victorious for the second year in a row and the 10th time in the history of the matchup, taking the game 26–21. The thriller of a game saw junior running back Sam Bengier become Carnegie Mellon's all-time leading rusher, with 4,243 yards so far in his career. The win puts the Tartans' final regular season record at 7–3, with a 6–2 record in the PAC and 2–1 in the UAA. Even though the Tartans were victorious by the game's end, it started off with Case Western Reserve setting the tone. After what would end up being the longest drive of the game for either team, the Case Western Spartans completed an 11-yard touchdown pass and the extra point to take the first lead of the game. They continued to hold that lead until a few minutes into second quarter, when the Tartans finally found the rhythm in their offense with a relatively fast drive. They charged down the field in just under

two minutes, and eventually found the endzone with the help of a four-yard pass from sophomore quarterback Alex Cline to senior running back Zach Cree. This score and the ensuing extra point tied the game at 7–7 and the Tartans saw their chance to take over the game and take down the then-undefeated Spartans. On the Tartans' first drive of the second half, they used up almost four full minutes of game time while driving 59 yards down the field, capped off by a 21-yard field goal from senior placekicker Gabe Renna. This score gave the Tartans their first lead of the game at 10–7, but they weren't even close to done scoring. It took the Tartans almost five minutes to regain possession, but once they did they scored almost immediately. Bengier found a hole in the Spartans' defense on a run play with six minutes left in the third quarter, and he was off to the races to put the Tartans up 17–7. At this point it seemed like Carnegie Mellon would continue to steamroll the opposition, but Case Western Reserve had other ideas. With just under four minutes to play in the third quarter, the Spartans put together an explosive drive of their own and found themselves in the endzone after a 37-yard run. This score brought the Tartans' lead to only three points, and it was anyone's game at this point.

The fourth quarter was quite similar to the previous quarter, with both teams trading scores while the Tartans maintained their small lead from Renna's earlier field goal. Carnegie Mellon was the first to strike in the fourth quarter with a quick drive that lasted only one and a half minutes but ended with a one yard run from Bengier for his second score of the game and the final touchdown of the game for the Tartans. The Spartans then had to fight against a formidable Tartan defense to move the ball down the field on their next drive. They did, but it took twice the plays and twice the time of the Tartans' previous score. The Spartan running back punched it in from the one-yard line, but it still wasn't enough to put his team in the lead or even tie the game. The Tartans held on for a little bit more with the score at 24–21. That would be the final score of the game for the Spartans, but the final nail in the coffin came with 17 seconds left in the game as the Tartans corralled their opponent into their own endzone and eventually came up with a safety by senior defensive lineman Jack Fagan for an extra two points. When the clock finally ticked down to zero, the Tartan sideline erupted in celebration, and with good reason. After a hard-fought game against a previously undefeated

opponent, the Tartans finished their season on a high note. Bengier ended the game with 158 rushing yards on 31 carries, and junior wide receiver John Prather led the receiving core with 178 yards — his fifth 100-yard performance of the season. He also broke the school record for single-season receiving yards with 1,011 on the season. Cline recorded 266 yards and a touchdown of his own while

completing 19 of 29 passing attempts. Cree also finished with a career-best five catches for 49 yards along with his touchdown. Stanley Bikulege led the defense with 13 tackles and one sack, while senior Brian Khoury and junior Kyle Brittain each had nine tackles. Khoury also recorded a sack, a forced fumble, and a fumble recovery, and his counterpart in the secondary, senior Samer

Abdelmoty, had an interception at the end of the game to put it away for good. The Tartans may be able to continue their season if the Eastern College Athletic Conference (ECAC) selects them to be a part of the 2016 ECAC Division III Football Fest. That announcement is set to take place on Monday, Nov. 14 at 12 p.m. For now the Tartans can take a breather and appreciate their hard work.



Courtesy of CMU Athletics
Junior wide receiver Tommy Mansfield makes a catch and powers through a defender to make a play for his team.

Men's soccer fights through second round to end season



Courtesy of CMU Athletics
Junior midfielder Jimmy Jameson looks down field as he makes a quick pass to a teammate across the field.

MARIKA YANG
Junior Staffwriter

This weekend, Carnegie Mellon University hosted the first and second rounds of the NCAA Division III Men's Soccer Championship. On Friday, the 18th ranked Carnegie Mellon men's soccer team faced off against the Ohio Wesleyan Battling Bishops in the first round of the tournament. The game started quickly, with Ohio Wesleyan scoring in the fourth minute to take the early lead. The Tartans immediately fought back, pushing their offensive attack into Ohio Wesleyan territory, with two shots on goal that were saved by the opposing goalkeeper. After trading several possessions, a penalty kick attempt awarded to the Tartans resulted in a goal by junior Jimmy Jameson in the 20th minute, tying the game at 1–1. Both teams created chances and each had a shot on goal that was saved by the goalkeeper. Ohio Wesleyan found their way into Tartan territory on several occasions, but was unable to break through Carnegie Mellon's defense. The Tartans played

aggressively, maintaining possession in Battling Bishops territory. First-year Elliot Cohen scored in the 39th minute with an assist from senior Devin Keane who entered the game less than a minute before. The goal brought the score to 2–1 and gave the Tartans the lead, which they would not relinquish. The second half of the game was scoreless. Carnegie Mellon almost scored in the half but the call was reversed as the player was offside. The Tartans had some great looks and several chances to widen their lead, but Ohio Wesleyan fought back. The Battling Bishops had two corner kicks late in the second half, but did not capitalize on their chances to tie the game. The game ended in a victory for the Carnegie Mellon team, who moved on to the second round of the tournament the next day. Saturday's second round game of the NCAA Championship against the 16th ranked Calvin College Knights began slowly, with neither team scoring in the first half. The Tartans had many opportunities to score, with multiple shots that went just wide.

Sophomore Zack Masciopinto had two shots on goal, both of which were saved by Calvin's goalkeeper. Consistent play on both sides of the ball led to a 0–0 score at the end of the first half. The second half began as the first half did, with the Tartans and the Knights both creating chances to score. After receiving a corner kick, Calvin players made a series of headers that ended in a header goal, bringing the score to 1–0. The Tartans nearly tied the game twice, with one shot hitting the post and the other stopped by Calvin's goalkeeper. The Tartans' offense drove into Calvin territory several times, with quick runs and efficient passing. As opposed to the Knights' only shot on goal in the game that resulted in the goal, the Tartans had five shots on goal, but were unable to score. The game ended with the 1–0 score, as the Tartans fell to the Knights in the second round of the NCAA Championship. The Calvin Knights advance to the third round of the NCAA Championship as the Carnegie Mellon men's soccer team ends its 2016 season with a 13–4–2 record.

Cross country runners earn bid to national tournament

ALEX WOOD
Sports Editor

The Carnegie Mellon University men's cross country team has reason to celebrate this week, because they were given an at-large bid to the 2016 NCAA Division III Men's Cross Country Championships. It is the largest and most important tournament in NCAA Division III, so the stakes are high and the players are excited. With this bid, the Tartans will be attending the tournament for the third straight year, and for the 10th time in the last 12 years. Success has been a tradition for the Carnegie Mellon cross country team, and that doesn't look to be changing this year. On Saturday Nov. 12, the Tartans competed at the Mid-east Regional tournament and placed third. This placement won them the bid to the NCAA tournament, and five of the seven Tartan runners that attended the meet earned all-region status after placing in the top 35. The representatives from Carnegie Mellon will be joining three other teams from the University Athletic Association (UAA) at the national tournament.

Carnegie Mellon tied for the UAA title with rival Washington University in St. Louis in October. The NCAA championships will be held at the E.P "Tom" Sawyer Park in Louisville, Kentucky on Saturday, Nov. 19. The race is set to start at noon, and even though the Tartans have to travel, they'll be hungry for high placements in the upcoming race so they can prove themselves to the nation. The regular season went quite well for the Tartan squad, but that's not an uncommon occurrence for the team from Carnegie Mellon. The cross country team has placed at least third in every single meet this season, and even placed first at five of those competitions. Regional competition was a breeze for the Tartans, as they placed first in the University Athletic Association (UAA) tournament, and third overall out of 52 total teams in the NCAA regional tournament at DeSales University. The Tartan men will look to replicate the success they saw in the regular season by bringing their trademark vigor and aggression to the course. The men of the Tartan cross country team weren't

the only people to make it to a national competition, though. Junior Aparn Alavilli of the Carnegie Mellon women's cross country team also earned herself a spot at the NCAA tournament. Alavilli is now the eighth Tartan in history to earn an individual nomination to competition at the national level. She earned the bid after she competed at the Mideast Regional competition at DeSales University in Center Valley, Penn. on Saturday. Alavilli placed 13th in that race with a time of 22:01 which greatly helped her bid to the NCAA championship. Alavilli also has a leg up on the competition in that she has already ran the course that the NCAA championships will take place on. Her team competed at the Greater Louisville Classic in Kentucky earlier this season, where she finished with a time of 22:31.62. Now she'll have to push herself to the limit if she wants to take a top spot at the national competition. That race is set to begin an hour before the men at 11 a.m., at the same location. The Tartan athletes will surely head to Kentucky ready to make the Tartan name proud and bring home a trophy.



Courtesy of CMU Athletics
The Carnegie Mellon men's cross country team earned an at-large bid to compete at the NCAA championship.

pillbox

The Tartan's Art & Culture Magazine

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advice for awkward people

Sarah Gutekunst | Publisher

on coping with disaster

Dear Sarah,

I'm dead, and the election killed me.

I guess I was too stuck in my so-called liberal elite bubble (where I'm perfectly happy, thank you very much) to realize that it was going to happen. I was nervous back in the summer when I was living with my parents in central Pennsylvania, but once I got back to Pittsburgh, the debates happened, and Trump's "locker room talk" scandal hit, I thought there was NO POSSIBLE WAY IN HELL anyone on the fence could swing to the right.

So Tuesday, as I sat in McConomy watching the live coverage, I kept telling myself I would leave to start my homework as soon as Clinton secured her comfortable lead. I kept saying, just another half hour, just another half hour. And as the half hours passed, it was Trump who secured his comfortable lead, not my girl Hill-Dawg. So I left, but I couldn't do homework. I numbed myself up and went to sleep, hoping something crazy would happen overnight that would make things right.

But Wednesday when I woke up, nothing was right. I'm not ashamed to say I cried. Since Wednesday morning I haven't been able to escape it. On Facebook and Twitter, in conversations with friends,

in the hallways on campus, and in emails from school officials, President Trump is everywhere. He's also in my hometown, at York County School of Technology, where racial tensions escalated into a video circulated on Facebook showing students carrying Trump signs through the hall and shouting white power. This isn't an isolated incident. Our nation is erupting with vitriol on both sides. How can I be happy again?

Dead Inside Since Trump Remains An Ugly Goddamn Half-wit Troll

Dear DISTRAUGHT,

This has been a very challenging week for many people on campus, in Pittsburgh, in America, and in the world. The fact that Trump will be president has shaken us. The reality that so many Americans voted for him is shocking.

Thinking on this large scale about the election and its potential consequences is really scary. There are so many massive problems that we're left to tackle without the government's help — climate change, student debt, racism, sexism, LGBTQ rights, immigration reform, etc. Now, there are countless organizations in America working for these things that need our help. When the Trump administration tries to halt progress, join the corps to keep pushing back.

This is the best thing you can do, but it's unlikely to make you happy again.

What might be more helpful is thinking small. The big issues are like scary monsters out to eat us all. But when we think small, we can remember the good. Sit in your room and look around. You have a home and that is good. What's in that room? Good things, like a comfy bed, a laptop that plays good shows and movies with the click of a button! In my case, two small hamsters that embody all the innocence and goodness that make Trump less significant. Do you also have a phone in your hand? Call your mom, brother, grandma, aunt, or whoever. Remind them you love them, and they'll remind you that they love you, too. Reminisce on that Christmas when you were 11 and got your first PlayStation. Remember how happy you were.

Remember the good to feel better. Remember that you have good in your life, but don't forget that there is still evil. Go forth with the joy and power that comes from the good and happy, and use it to make the evil insignificant.

You are loved. You are important. You are wanted. You are more than your president.

Love, Sarah.

the colors of Phipps

Jiayi Zhao | Staffwriter

the Phipps Conservatory and Botanical Gardens are the ultimate near-campus de-stresser

Phipps Conservatory is a public conservatory and botanical garden right next to our campus that is free to all Carnegie Mellon students. It's the perfect place to go to when you're tired of the midterms and gloomy days, and just want a ray of happiness in your life.

Unlike most botanical gardens, Phipps has a constantly changing main exhibition. In November, the new winter flower show will open, featuring all of the holiday season's events and fun educational programs.

Also, Phipps is one of the most green and environmentally friendly conservatory and garden sets. Most of the gardens in Phipps are designed to be environmentally sustainable, and Phipps' greenhouse production facility is the first

greenhouse anywhere to receive a platinum LEED certification.

Besides all the flowers and plants, Phipps has some of the cutest decorations ever. Each small garden has a theme of its own. You can walk into a romantic french-styled garden with the moon and stars decorated above, or a fall-season themed garden with scarecrows and pumpkins.

As it gets closer to the holiday season, plenty of Christmas trees are placed and decorated with sparkling lights, and various gardens are winter-themed with cute snowmen, and snowflakes hanging on the ceiling.

One of the most mesmerizing exhibits is the "Garden Railroad: 200 Years of Pittsburgh."

The garden features miniature models of all the important sites in Pittsburgh, capturing its history over the past 200 years. Here, you can see the H.J. Heinz Factory back in 1869, the Cathedral of Learning, the Duquesne Incline, the renovated 2013 Point Park fountain and even a small model of Mister Rogers' Neighborhood that takes us back to childhood.

Maybe it's because I'm in college, or because I just suffered through a midterm and have two more on the way, but I was really inspired by my visit to Phipps. It was colorful. It was vivid. Everything seemed so full of life.

Do you want a nice break, and a quick and easy way to stay happy? Go to Phipps! Pretty colors, warm temperatures, and fantastic smells. Why not?

Телз Фрум Убрад: Україна

(Tales from Abroad: Ukraine)

Photography and writing by **Theodore Teichman** | Visual Editor



Ukraine is one of the weirder places to tell people you are going. This is especially true when you tell your professors and friends, “Sorry, I won’t be able to be there next week. I’m going to be in Ukraine. For music.” That will get you a reaction that is a blend of surprised and confused. When I first found out, I pretty much had the same reaction. I have probably submitted pieces to at least 50 calls for scores. I have received a few yesses and a plethora of nos. This was my first big orchestral gig. I did not expect to be told that they wanted to play my piece. After that initial shock, I realized I had no idea what to expect from Ukraine.

“Okay so what did you know about Ukraine, before coming to Lviv?”

“Ummm, well I know what I read on Wikipedia. I know what I learned in European History in high school. Oh, everything that we read about Crimea—”

“Of course. The world now knows Ukraine exists because we’re being taken over. And it’s even worse because it’s Russia.”

I was chatting with these two Ukrainian college students that I had met at a bar in the city center called Pravda. “Pravda” means “truth” and was also the name of the Soviet propaganda magazine. There are a number of these restaurants and bars that are Soviet- or Ukrainian Revolution-themed. The city has a lot of tourists, but not from the West. Lviv, the city I was based in, is one of the cultural capitals of Eastern Europe. On the weekends, families, university students, school groups, flood into the city to see the big city and old buildings.

When I first arrived at the airport, I wandered over to the small bus stop next to the arrivals port through the swarm of taxi drivers offering me “a great price.” There were three other people waiting for the bus: this other American and a Ukrainian woman and her child. The Ukrainian woman turned out to be a Jehovah’s witness and promptly began working at convincing the other American and me that we should join her that coming Sunday. She also gave us directions to our hostels and excellent recommendations about the best bakery in town. The other American turned out to be a retired fashion executive who had quit his job to travel the world and write novels; he was currently en route

to a pilgrimage to follow the steps of Buddha in India and working on a novel exploring his family’s immigration to the U.S. from Japan.

After waiting 40 minutes, the bus pulled up. Well, a “bus” that was the size of a large van with wooden seats, packed wall-to-wall with standing room only. It was bright yellow and swayed around every corner.

I always love being on public transit in the cities I visit. I like getting to see the people go about their days on their commute. See the streets. Feel the energy of the city.

Despite the feeling that at any moment, this large yellow box on wheels could flip and kill us all, this was definitely one of my favorite moments. The vibrancy and soul of the city flickered by through the smudgy windows: brightly colored orthodox churches, cigarette kiosks, decadent 18th century apartments (with plaster chipping), a sprinkling of grey Soviet block apartments, and people fluttering about the streets. From this start and through my time there, Lviv struck me with a particular kind of dichotomy that makes it so exciting and interesting.



Lviv is now in the northeastern part of Ukraine. For reference, Crimea is in the southeast. Lviv used to be part of the Soviet Union, and before that, Poland, and before that Austria, and before that Ukraine again. It also goes by different names: Lviv, Lwow, Lvov, Lemberg; each a reflection of the people that used to govern this place and their language (Ukrainian, Polish, Russian, German).

The Ukrainians are very proud of their language. Most of them also speak Russian, but are definitely quite offended if you ask them "Aren't Ukrainian and Russian the same thing?" (luckily, I didn't ask this).

"The Russians stole our language, just like they stole our history for themselves and their mythology. We [the Ukrainians] founded Russia thousands of years ago, and then they spent the time since trying to take us over and steal our culture."

The sentiment here is definitely very anti-Russian. And there is also a surge in pro-Ukrainian nationalism: a strain of nationalism that is constructive ... for now.

The Ukrainians have been oppressed for a very long time. When the Soviet Union first dissolved in 1991,

there was an initial urge to become "western." A reflection of this is the sheer number of knock-off Apple Stores, and the bright and shiny new shopping center near the city center that stocks all the standards: Levi's, Zara, H&M, etc. Now there is a bit of a push to move against this. The country of Ukraine is poorer than its neighbors to the west.

This push for imported western goods means that these items are extremely expensive for consumers and also leave the domestic economy rotting. There are new groups of clothing designers and product designers whose mission is to show the world that Ukraine can make its own products that match or beat the western equivalents in quality, while maintaining their own sense of culture and supporting the domestic economy of design and production, all while making products at prices that are much more affordable for Ukrainian consumers. This is not a permeating trend among all groups for a variety of reasons.

The college students were definitely on trend with American fashion. One of them went to high school in Los Angeles and ranted to me about how much she missed Whole Foods and Chipotle. The trends toward nationalism extend beyond the realm of clothing.



I was there from Oct. 25th to Oct. 31st. As I met Ukrainians (patrons at bars and cafes, musicians in the orchestra, people at my hostel), they expressed as much anticipation and concern with the coming American election as with their own political landscape.

While I was there, there were a number of protests by the Ukrainian Liberation Army. They marched through the city and demonstrated outside the enormous statue of Ivan Franko, the father of modern Ukraine, and distributed pamphlets proclaiming themselves as "Terrorists for the Nation" and decrying the "Russian aggression in the east."

This city and this country are definitely split and being pulled in many different directions. There are those that are progressive and forward thinking and those that are conservative and traditional, those that want the nation to become more like the West, those that want it to be more like Russia (a scant minority in these parts), and those that proclaim their pride at being Ukrainian.





Katy Dyer
Junior Staffwriter

The a cappella dream show, right here at Carnegie Mellon

Last Friday night, as I sat in the very front row of folding chairs in Rangos and stared at the imposing “#VERTIGO” projected on the curtain, I quite frankly wasn’t sure what to expect. I’d never been to an a cappella performance in my entire life, and I’m a die-hard classic rock fan. Needless to say, I was a little apprehensive about my ability to sit through two hours of enthusiastic harmonizing.

Boy, oh boy, were those fears misplaced.

As soon as The Originals, Carnegie Mellon’s all-male a cappella powerhouse, burst onto the stage to cheers and screams from the audience, the energy in the room became palpable. As The Originals slid smoothly into a sugary, slick rendition of “Levels” by Nick Jonas, I suddenly under-

stood the electricity that had been steadily building since I’d taken my seat. The group’s voices cyclically diverged and converged, swelling together at times to hit chill-inducing notes and fanning out at others to create funky twists on Jonas’ pop classic.

With my apprehensions swiftly obliterated by the first song, I spent the remainder of Vertigo rooted to my chair, unwilling to peel my eyes and ears away from the spectacle for even a second. The Originals transitioned into Beyoncé’s soulful power-ballad named, “I Care,” followed by a delicate and poignant performance of Bianca Ryan’s “Alice.” This song was sang with amazing clarity and vocal range by junior Drama major Kyle Pitts. Next, the group jumped with gusto into Justin Timberlake’s “Strawberry Bubblegum,” a sexy,

jazzy number that the crowd went wild for. Finally, to cap off the night, The Originals gave us a final hit of what they do best with Demi Lovato’s “Stone Cold,” an intoxicating display of raw emotion. The group finished their set with a plug for their new EP, *VOID*, which dropped the same day as Vertigo.

Next, the stage was turned over to Voices in Your Head, a coed a cappella troupe from the University of Chicago. The members filed onstage wearing spiffy black suits and cocktail dresses, combined with a rainbow of colored leggings and ties for a business-formal-with-a-twist aesthetic. As they launched into their first song, I was struck by the incredible vocal range of the group. Their songs were often stripped-down and slower-paced, with interweaving harmonies and precise background

beats that elevated their performance. As they sang, I simply sat and let their smooth voices wash over me, awed by both their technical precision and their clear camaraderie as a team.

Voices in Your Head was followed by University of Maryland's premier coed a cappella group, Faux Paz, who gave a wonderfully passionate and sleek performance, comprised mostly of vamped-up pop hits. Members strutted across the stage in self-assured synchrony, and soloists poured their heart into each note. They had alluring confidence, hair-raisingly tight harmonies and beats, and a dedication to the drama of their performance that evoked a Broadway show. One of the best moments of the night came when one of Faux Paz's soloists took on "Dog Days Are Over" by Florence + The Machine, bringing the house down with stunning vocal gymnastics and incredible finesse.



After Lark's departure, we all enthusiastically clung to the appearance of the night's final a cappella group, The Nor'easters, unwilling to acknowledge that Vertigo would be ending soon. Traveling all the way from Northeastern University in Boston, The Nor'easters' reputation had preceded them. However, they far exceeded the hype, effortlessly combining silky harmonies and swelling, passionate solos delivered with razor-sharp vocal precision. The large group, dressed in all black and cloaked in confidence, moved as one through recent EDM-pop fusion hits such as Bieber's "Sorry," much to the delight of the audience. Ending the night with Sam Smith's swelling, operatic Bond theme, "Writing's on the Wall," the Nor'easters gave the crowd more chills than the November weather ever could.



All Photos are of The Originals



Faux Paz was succeeded by Lark, an all-female a cappella group from the University of Colorado. Having been introduced by The Originals as, "a group that redefined a cappella," I immediately understood why as soon as the troupe walked out onstage. They were dressed in '50s-era vintage dresses and suits, but each member brought an edgy twist to the look that made it more badass than demure. A wide berth was given to bubblegum pop fare, with the group instead ranging from Sylvan Esso's layered, kaleidoscopic "Hey Mami" to "Mad Hatter" by Melanie Martinez. This last song was performed to perfection, with creepy, doll-like choreography, sick beatboxing, and theatrical, echoing vocals.



After attending a concert, I normally say I can feel the beat in my body – but after Vertigo, I felt the beat-boxing in my bones instead. Every member of the crowd came together in awe of the sheer vocal power displayed, and we were all emotionally moved by Vertigo to a degree we hadn't anticipated. As one member of Faux Paz put it while reflecting on America's divisive political climate, "Music is a way that all of us can connect and heal," and Vertigo was a perfect example of just that.



iLOVEMAKONNEN & K.FLAY

Ab Fall concert in Wiegand Gymnasium
enthralls & entertains audiences

Michelle Madlansacay
Staffwriter

Mark Egge
Staff Photographer

It's been ten years since I've last gone to a concert. I'd always wanted to go to one since then, but I never had the time in high school. So when I first stepped foot into an almost unrecognizable Wiegand Gymnasium, I had no idea what to expect. I got to the concert early, so there was a lot of space right in front of the stage. The fog machines and blinding strobe lights were already on, creating some cool effects as the stage crew continued to set up; at the same time, more and more people were arriving.

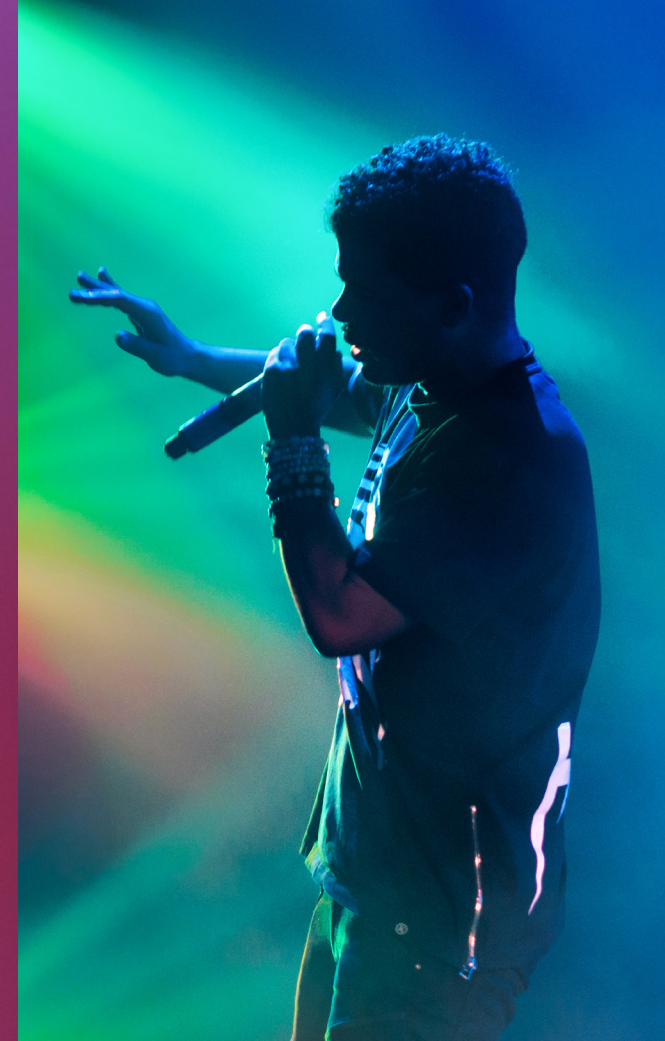
I came in not knowing too much about either of the performers: iLoveMakonnen and his opening act, K. Flay. To be honest I only knew of one song by iLoveMakonnen, which was "Tuesday" ft. Drake (although I probably wasn't the only one), while I had never listened to K. Flay's music before. Luckily for me, seeing them perform live would help me learn a lot more about them as artists.

Starting off the entire concert, K. Flay came out on stage wearing a rocker outfit with ripped jeans, Doc Martens, and a black t-shirt. With her bassist, guitarist, and drummer starting off the song, I first expected to hear rock or alternative music. But once the Chicago-based artist started rapping the first verses of her single "Can't Sleep," I found that the music was like nothing I've ever heard before. It was so unique, combining alternative and rap. K. Flay's indie-sounding voice transformed the rap into something totally different from the music heard on the radio, and the instrumentals complemented everything so well. All the while, the passion she had for her music was clearly shown on stage as she danced around all the flashing lights; because she was having a good time during her performances, the audience had a good time, too, with people swaying and bobbing their heads. Everyone, including myself, had a chill time listening to her music. Some of the other songs in her set included "It's Strange," a song by Louis The Child, which she is featured in, "Dreamers," "You Felt Right," and "FML." Her performance overall was worth watching, and it definitely put the crowd in a lively mood for iLoveMakonnen.

We had to wait about 30 minutes after K. Flay's performance to see iLoveMakonnen. During that time, the stage crew cleared the entire band's set and left a turntable on stage for one of iLoveMakonnen's DJs. Just from the stage setup you could tell just how different both artists' music styles were, even though they both rapped. Once the DJs came on stage, they started remixing popular rap and R&B singles to pump up the crowd. With all our hands in the air and everyone moving to the rhythm, the concert turned into a huge dance party. All of the lights were flashing right in our eyes, and fog from the fog machines covered almost the entire front of the stage.

The DJ finally had iLoveMakonnen come out on stage, and he started off his set with his song "Home (Hating On Me)." He came across as cool, and seemed like he wanted nothing but a fun time with the audience. Whether it was when he took a few minutes in between songs to talk to members of the audience, or when he'd wipe off his sweat on t-shirts and throw them into the crowd, he seemed to love interacting with all of us. The greatest thing was that the audience loved interacting with him and his music, too. His music gave off another feel-good vibe, but one different from that in K. Flay's music; this was the R&B and rap music that we often hear nowadays. People right next to me were dancing the milly rock, a large crowd to my right was jumping and waving their hands in the air, and right behind me a number of people had made a dance circle. iLoveMakonnen got everyone in the gym to let loose and have a great time with him. Thirty minutes into the set he performed his hit, "Tuesday," and had everyone singing along. Other songs he played throughout the night were "I like Tuh," a song by Carnage which he's featured in, "I Don't Sell Molly No More," "Flippin All Night," and more.

Although I'm still recovering from all the music having been blasted in my ears (it was my fault, I stood right by the speakers), I had really great time. Activities Board did an amazing job organizing the entire concert, and it was obvious that everyone in the gym, including the performers, enjoyed themselves. I'm definitely satisfied with my first concert experience in a long time, and I can't wait for all the other upcoming concert events this year.



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MON: \$.50 Wings
TUE: \$3 Stack'd Burgers
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(9pm-Midnight)

\$6 **YUENGLING**
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stackdpgh.com | facebook.com/stackdpgh

On Baking

Sugar, butter, and all things delightful

Sarah Gutekunst | Publisher

When I tell people I like to bake cakes, it makes me laugh how often they assume that passion extends to cooking.

Cooking is actually among my worst nightmares. I don't like to have any part in the creation of savory, mouth-watering delights — only the consumption.

I'm far too impatient, too poor at multitasking, and even worse at time management. I'd rather lie in bed just up until dinner is ready, then sit down and massacre a plate full of hearty sustenance. All of the reasons I hate to cook make baking such a delight for me. Cooking is a scary forest where you have to machete your way to safety. Baking is a three-lane highway. Cooking requires multiple processes to co-occur. Baking only asks that you can follow the recipe a step at a time. Cooking produces food I desperately want to eat, making the waiting unbearable. But I've never had a sweet tooth, so I can revel in the process of baking without slobbering over the end result.

From butter and sugar to a polished, frosted, and occasionally even filled cake, each step is a delight. In fact, the butter and sugar step is the biggest delight of all. As much as those fun-sucking nutritionists try to vilify butter and sugar, they are the essence of flavor. No finished baked good will ever excite me as much as their union. And this is the basis for every cake (that isn't an angel food or sponge cake). Not only is there comfort in the smell that fills the whole room while my mixer works to smash the butter and sugar into a light yellow cream from heaven, there is also much comfort in this consistency. No matter what, if I want to make a cake, I start in this place. This wonderful, intoxicating place.

And while the measurements and individual ingredients can change from cake to cake, I know that right after this I will add eggs and vanilla extract. And to bring it all together, the mix of dry ingredients, like flour and baking soda and salt, go in alternating thirds with halves of the liquid, like milk, buttermilk, water, or even sour cream. (It also makes me laugh when people realize there can be sour cream in cakes. Sometimes they're surprised, like sour cream shouldn't be there, but it does wonders for a rich, moist cake.) Then while the cake is in the oven, I have a perfectly carved out period of time to make the frosting. I've perfected a buttercream base that never fails. Cream the butter with the vanilla, add powdered sugar back and forth with milk until the frosting is shiny, but doesn't run off a spatula held straight up and down. The road map is so easy, like a route I've driven a hundred times — except I sing even louder in the kitchen than I do in the car, with room to actually dance!

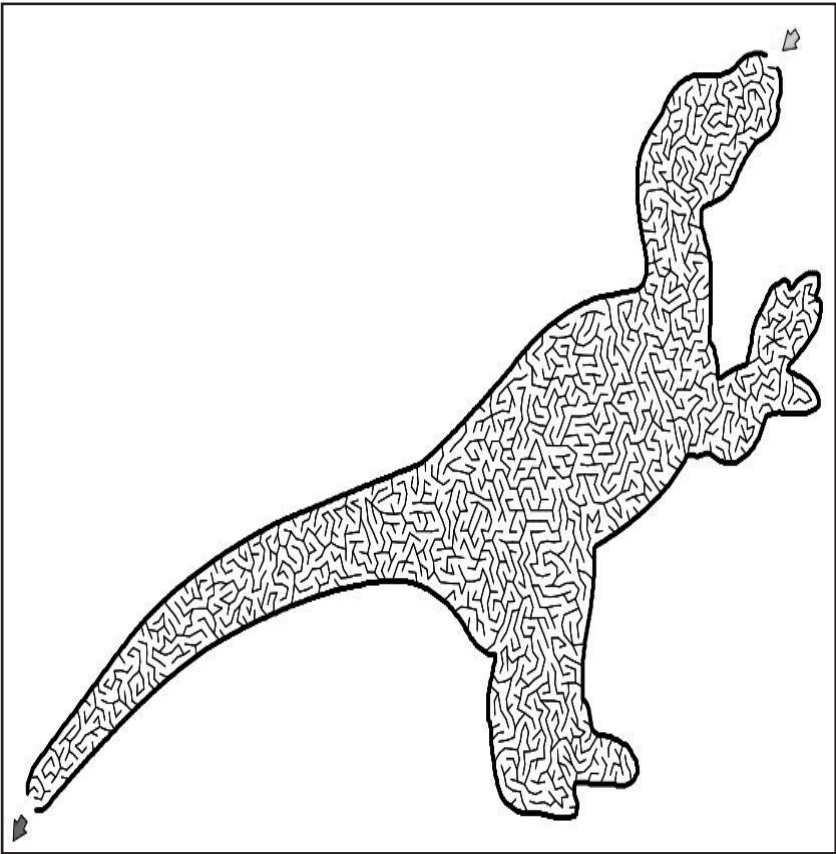
Because I'm so comfortable, even enthralled by the process, I can be more comfortable pushing the boundaries. A basic vanilla cake with vanilla frosting is too boring; the fun is in the flavor, and there are so many ways to create it. In my arsenal, I have fruit, zest, juice, jam, powders, extracts, creams, liqueurs, and more. Then I get to find combinations of all of those flavors that taste delicious, but also don't screw up the texture. It's a balancing act, and I'm pulling the strings. And in the end, I get to decorate it. It doesn't have to be perfect, but the time I spend with a piping bag, deciding on a round versus star tip, then getting the swirl just right, is so satisfying. Little tricks I've picked up over the years that look so fancy but aren't that hard. All of this leads up to the most exciting part of all — feeding people I care about. Getting to see my cake bring joy to others brings me more joy than any cake ever could.

sudoku

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

sudoku courtesy of www.krazydad.com

maze



maze courtesy of www.krazydad.com

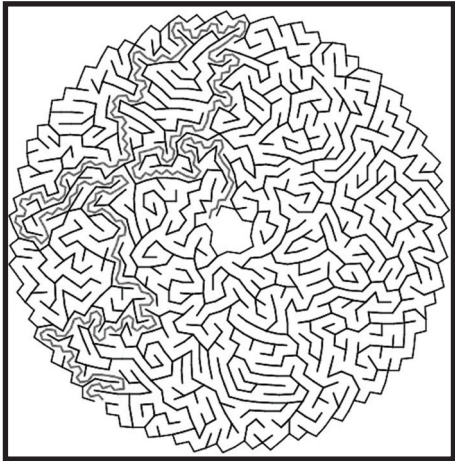
Solutions from Nov. 7

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|---|---|---|---|---|----|----|---|---|---|---|---|----|----|---|---|---|---|----|---|----|----|----|---|---|----|
| 1 | A | G | A | R | | 2 | A | L | E | | 3 | Z | A | N | E | 4 | | | | | | | | | |
| 5 | E | R | L | E | | 13 | B | R | I | A | R | | 15 | E | C | O | L | 6 | | | | | | | |
| 7 | R | I | E | N | | 17 | L | O | R | R | E | | 18 | E | Q | U | I | 8 | | | | | | | |
| 9 | O | N | C | O | G | E | N | E | S | I | S | | 21 | U | S | E | | 10 | | | | | | | |
| | | | | | 23 | I | R | S | | | | 24 | N | A | S | A | | 11 | | | | | | | |
| | | | | | 26 | M | O | R | A | S | S | | 28 | G | A | L | L | I | C | 12 | | | | | |
| | | | | | 32 | P | E | P | S | E | E | N | O | T | O | N | Y | A | | 13 | | | | | |
| | | | | | 36 | O | L | E | S | | D | R | E | A | M | | E | T | C | H | 14 | | | | |
| | | | | | 40 | S | T | R | O | P | | A | T | L | A | S | | E | L | S | 15 | | | | |
| | | | | | 44 | S | A | F | A | R | I | | 46 | S | T | R | I | D | E | | 16 | | | | |
| | | | | | 48 | H | A | L | O | | | | 51 | U | A | R | | | | 17 | | | | | |
| | | | | | 54 | I | T | O | | | | 56 | S | U | B | M | E | R | S | I | B | 18 | | | |
| | | | | | 58 | R | O | U | T | | | 63 | G | O | A | P | E | | | 64 | S | E | E | R | 19 |
| | | | | | 66 | O | R | S | O | | | 68 | E | L | M | O | S | | | 69 | E | N | E | R | 20 |
| | | | | | 70 | N | E | E | D | | | 72 | D | A | S | | | | | 73 | S | E | T | S | 21 |

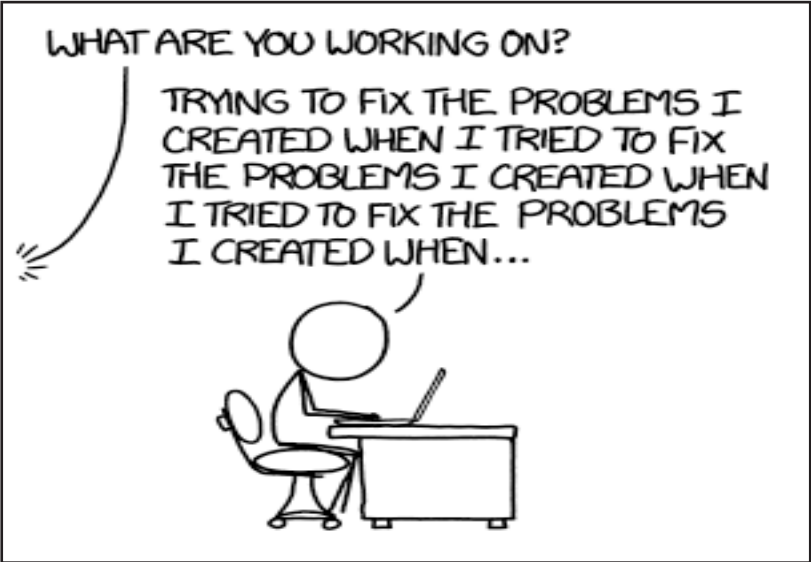
crossword

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

sudoku



maze



xkcd@gmail.com

xkcd.com

Fixing Problems

by xkcd

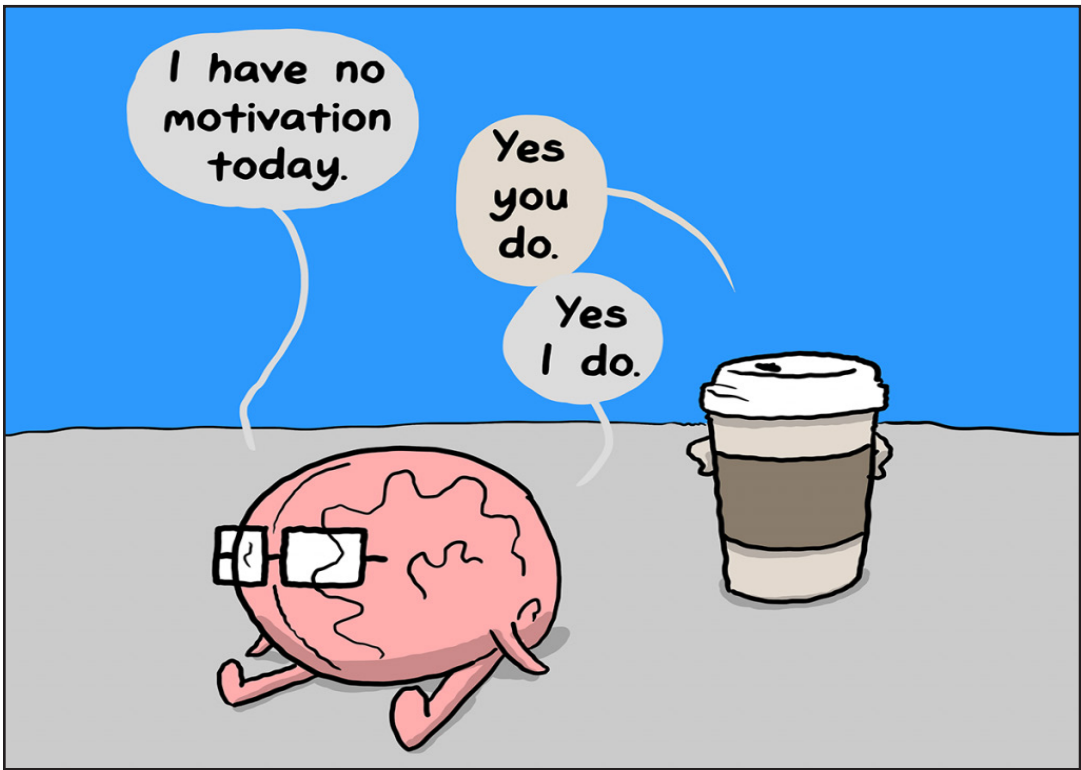
Meteorite Identification

by xkcd



xkcd@gmail.com

xkcd.com



theAwkwardYeti@gmail.com

theAwkwardYeti.com

Morning Motivation
by Nick Seluk

Summoning Lemons
by Jim Benton



TastefullyOffensive.tumblr.com

horoscopes: the signs as quotes we need right now

Aries
march 21–april 19

“You have enemies? Good. That means you’ve stood up for something, sometime in your life.” — Winston Churchill

Taurus
april 20–may 20

“It is during our darkest moments that we must focus and see the light.” — Aristotle

Gemini
may 21–june 20

“We are made of starstuff.” — Carl Sagan

Cancer
june 21–july 19

“We are just an advanced breed of monkeys on a minor planet of a very average star. But we can understand the universe, and that makes us very special.” — Stephen Hawking

Leo
july 20–aug. 22

“I know of no time in human history where ignorance was better than knowledge.” — Neil deGrasse Tyson

Virgo
aug. 23–sept. 20

“I have not failed, I’ve simply found ten thousand ways that won’t work.” — Thomas Edison

Libra
sept. 21–oct.19

“No one has the power to shatter your dreams unless you give it to them.” — Maeve Greyson

Scorpio
oct. 20–nov. 20

“Never, under any circumstances, face the facts.” — Ruth Gordon

Sagittarius
nov. 21–dec. 20

“If you’re going through hell, keep going.” — Winston Churchill

Capricorn
dec. 21–jan. 19

“I have found the paradox, that if you love until it hurts, then there can be no more hurt, only more love.” — Mother Teresa

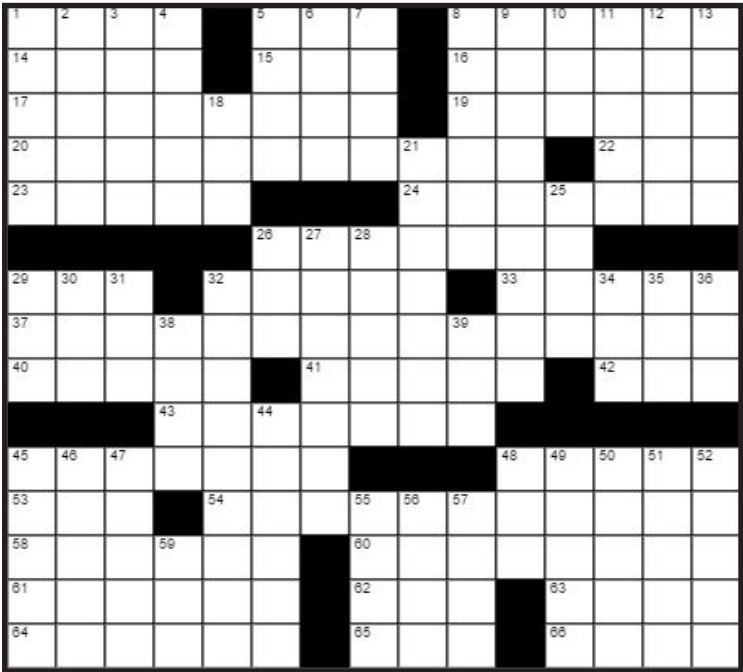
Aquarius
jan. 20–feb. 20

“I suppose I could have stayed home and baked cookies.” — Hillary Rodham Clinton

Pisces
feb. 21–march 20

“We are all worms, but I do believe that I am a glow worm.” — Winston Churchill

crossword



Crossword courtesy of FreeDailyCrosswords.com

across

- 1. Quartz grains
- 5. Hung. neighbor
- 8. Area with coin-operated games
- 14. Melville novel
- 15. Quattro minus uno
- 16. Land, as a fish
- 17. Midday
- 19. Rome’s ____ Way
- 20. Natural law
- 22. Second-century date
- 23. Regions
- 24. Pure
- 26. Resembling drops
- 29. Despot Amin
- 32. Old Testament book
- 33. Make ____ for oneself
- 37. In spite of
- 40. Sand bar
- 41. “Silas Marner” author
- 42. Elton’s john
- 43. Galleon
- 45. An amount of heat
- 48. Cordage fiber
- 53. Chowd down
- 54. Aimlessness
- 58. John of “Full House”
- 60. Clerical title
- 61. Fine cloth
- 62. “Wheel of Fortune” buy
- 63. Suit to ____
- 64. Straight downhill ski run
- 65. Male child
- 66. Unit of language

down

- 1. Skater Henie
- 2. Love, in Paris
- 3. Gallows loop
- 4. Italian lady
- 5. Arguing
- 6. Pakistani language
- 7. Psychic
- 8. Decorative ivy
- 9. Penitent
- 10. Large, brown-capped mushroom
- 11. Wonderland girl
- 12. Clock faces
- 13. Bandleader Skinney ____
- 18. Univ. aides
- 21. Unstable
- 25. Grant temporary use of
- 26. Obtained
- 27. Conducted
- 28. Inventor Nikola
- 29. Connections
- 30. Stupid me!
- 31. Simpson trial judge
- 32. Extremely funny
- 34. Afflict
- 35. 6, on a phone
- 36. Feeling of self-importance
- 38. Baylor’s city
- 39. Hunky-dory
- 44. Salon jobs
- 45. Throws
- 46. Room at the top
- 47. Strap
- 48. Bump off
- 49. Dry stalks
- 50. Link with
- 51. Hermit
- 52. Finished, terminated
- 55. Some nest eggs
- 56. City in Western Nevada
- 57. Tied
- 59. East Lansing

calendar

monday

11.14.16

Pizza and Conversation
6 p.m. – 8 p.m.
Danforth Lounge, Cohon Center

Regardless of your reactions to the events of the past week, campus leaders, led by the Student Body Presidential Cabinet, invite you to an evening of good food and fruitful conversation. The event promises to be a safe space for groups and individuals around campus that are hurting and would like an outlet for expression in the presence of caring company. This event is open to all students and faculty, and anyone is free to come and go as they please.

thursday

11.17.16

Transgender Day of Remembrance (TDOR)
11 a.m. – 3 p.m.
The Cut

Members of CMU ALLIES will gather on The Cut this Thursday to read the names of individuals in the transgender community that have lost their lives due to transphobia. This event strives to raise awareness and promote equality amongst all gender identities and sexual orientations, and invites students to commemorate TDOR the Thursday before the official day, which is Nov. 20th. Read more here:
www.transgenderdor.org/

CMU Jazz Orchestra
8 p.m. – 10 p.m.
Kresge Theatre, College of Fine Arts
Tickets: Free at music.cmu.edu/events/632

Jazz and the crisp fall air of November go hand in hand, and CMU's Jazz Orchestra is ready to warm your hearts with an evening of lively music. This performance is free for all, and promises to excite with a wide variety of styles of jazz music, with some performed with a jazz choir. The group has been rehearsing twice a week for the past couple months, perfecting pieces for your listening pleasure, so be sure to stop by and enjoy songs like "Midnight Voyage", "Naima" and "Superbone vs. Badman."

friday

11.18.16

56th Annual Light up Night
6 p.m. – 12 a.m.
Downtown Pittsburgh

Ring in the holiday season with beautiful fireworks, music from O.A.R. and Daya, and the official Tree Lighting Ceremony and ice skating in PPG plaza during Light Up Night this Friday. The Undergraduate Student Senate has organized free shuttle buses, that will run all night to transport CMU students (with valid school ID) to the festivities on the hour, every hour, between 6 p.m. and 11 p.m. from the intersection of Margaret Morrison and Tech St. Return buses will leave from Mellon Green, across from Steel Plaza, every half hour from 6:30 p.m. to 11:30 p.m.

saturday

11.19.16

Bhangra in the Burgh X
5 p.m. – 9 p.m.
Soldiers & Sailors Memorial Hall & Museum Trust
4141 5th Ave, Pittsburgh, PA 15213
Tickets: \$10 for children and students, \$20 General Admission, \$30 Preferred, \$35 VIP
From bibx.eventbrite.com

The largest student-run event in Pittsburgh is celebrating its tenth anniversary with an incredible line up of premier Bhangra teams from around the country, battling it out for the winning trophy. Aside from competing teams, there will be five exhibition acts, including Carnegie Mellon's own CMU Bhangra and Soundbytes. Be sure to also check out the after party at XTAZA Nightclub from 10 p.m. to 2 a.m., with music from DJ VGO and tickets available for only \$10 per person for groups, \$12 at pre-sale and \$15 at the door.

sunday

11.20.16

SDC's Annual Iron Chef: Dorm Edition
4 p.m. – 6 p.m.
Rangos Ballroom 2&3

Calling all food lovers! Here's your chance to watch your fellow students show off their culinary capabilities and battle it out with other students from around campus, for a chance to have their dish featured in a dining location on campus. The competition will be judged by Student Body President Vaasavi Unnava, Student Body Vice President Aaron Gutierrez and Provost Farnam Jahanian. Don't miss this chance to try some incredible and free food, cooked by some incredible chefs.



an afternoon at Phipps

Staff Photographer, Joanne Zulinski,
takes us on a sun-kissed stroll
through the quaint conservatory.

