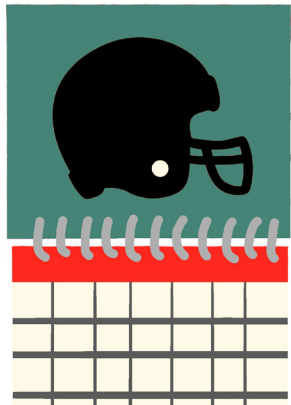


Football calendar helps Children’s Hospital

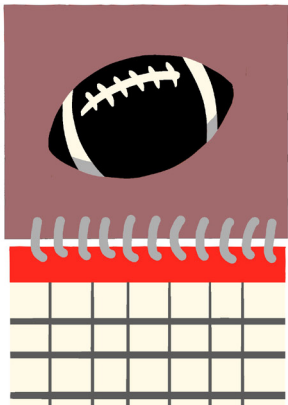


NEHA SRIVASTAVA
Staffwriter

This fall, Carnegie Mellon University’s football team captain, Samer Abdelmoty, a senior mechanical engineering major, along with the rest of the team, joined the Children’s Hospital of Pittsburgh to create a 2017 calendar. All profits from the calendar will go directly to the hospital.

Carnegie Mellon’s football team wanted to create a fundraiser that the team could start and continue as a tradition every year. “We have the Cindy Lackner Memorial game and fundraisers for breast cancer, but seeing that we do a lot with Team IMPACT, we figured it would be great to have an additional fundraiser for kids in the community,” Abdelmoty said. “The Children’s Hospital of Pittsburgh seemed like the perfect option!”

Team IMPACT is an organization that aims to improve the quality of



life for children facing life-threatening and chronic illnesses by matching them with intercollegiate athletic teams. Currently three of Carnegie Mellon’s athletic teams, including the football team, involve members from Team IMPACT in their program.

Carnegie Mellon’s connection with Team IMPACT began in 2014 when nine-year-old Brock Kitterman joined the Tartan family as an honorary captain of the football team. Kitterman attends many of the Tartan’s games and joins the other captains for the coin toss when he does.

The team’s relationship with Kitterman motivated them to choose a fundraiser which would benefit children. “The decision on a calendar kind of started as a joke with someone suggesting we do a type of speedo photoshoot and sell it to sororities,” Abdelmoty said. “Having the idea of the Children’s



Hospital in the back of our mind though we decided to get the best of both worlds and have a fun photoshoot while also helping the kids.”

Abdelmoty coordinated with the Children’s Hospital of Pittsburgh’s marketing team to choose patients and a venue for the photoshoot. Four patients and their families came to Gesling Stadium during pre-season in August to participate in the photoshoot.

“Honestly the planning phase was probably the most fun,” Abdelmoty said. “Each position group was given a month in the calendar for whatever theme they wanted, so it was great hearing the crazy ideas some of the guys had and the props they would incorporate. Then to see how much the kids enjoyed being apart of these crazy themes was a great sight to see.”

One of the patients from the photoshoot, seven year-old Mikey Witkowski, joined Team IMPACT after the



photoshoot and also became an honorary captain of the Carnegie Mellon Football team. The team was excited to gain a new member. “We got a Team IMPACT player from it which is awesome,” Abdelmoty said. “If we can help kids enjoy a photoshoot and families can get calendars, I think that would be an awesome thing to leave as a legacy of this team.”

He added that “the biggest take-away from this project for me was realizing how great and tight-knit of a Carnegie Mellon community I’m a part of. No one at any point shot down the idea, the team was all willing to give up their time and effort for the shoot, and members of the Tartan community had no hesitation whatsoever in advertising the calendars or purchasing one for themselves to help out the cause.”

Calendars can be purchased for \$10 from the Carnegie Mellon Athletics website.

Students respond to Greek lease changes

YIYUAN CHEN
Staffwriter

In late November, Carnegie Mellon Housing Services finalized the proposed changes in Greek housing’s 2017–18 lease. Some major proposed changes include discontinuing the collection of non-rent fees through the university sign over forms, restricting Greek organizations from subletting to boarders over the summer, and increasing the rent of Greek Quad housing by 5 percent in the next three years. Individual Greek organizations and Greek Life representatives are still debating some details of this new contract; if consensus is reached, the new lease will become effective on July 1, 2017.

In the initial proposal, Housing Services suggested that the university reserves the right to refund students who move out of Greek housing to other non-Greek affiliated on campus housing for approved reasons. Carnegie Mellon Greek organizations, however, were not in favor of this change. This is because having a vacancy in a Greek house would mean that the rest of the residents of that house would have to pay extra to make up for the person or people that left.

Though the proposed policy would allow Greek organizations to “pull in” other students currently living in on campus housing, this change would place more pressure on the organizations and lead to more disadvantage. Stephanie Kane, president of Alpha Chi Omega and a senior in the School of Drama states that “[this policy] would teach students not to honor contracts.” This proposed policy is no longer part of the new lease proposed by Housing Services because of the opposition it met.

The students’ responses to other proposed changes are fairly neutral. Rebecca Ahmad, the Vice President of Communication and Finance of Carnegie Mellon Panhellenic and junior psychology and statistics double major, said that students in Greek Life were not overly concerned with these new changes. “Overall, the biggest concern for people [in Greek organizations] is how to get people to fill the house. People are worried about how the prices have been increasing, and [Greek housing] might become less affordable,” Ahmad said.

Greek housing has always been the most affordable option for on-campus housing, but the projected five percent increase in rent over the three years and possible increase in other fees and

expenses might counter this attractive aspect of Greek Life. Ahmad also said that this increase was likely a result of the million-dollar Greek housing debt, and Greek housing residents were frustrated because this debt falls solely on the Greek residents instead of the entire on-campus population.

Tom Cooley, the director of Housing Services, anticipated that the new policy regarding the sign-over form would be met with frustration among Greek organizations. This is because all the fraternities and all but one sorority are currently using the sign-over form to charge fees and other expenses on top of rent. However, according to students’ responses, using a third party system for transactions might be beneficial and more effective for Greek organizations. Alpha Chi Omega, the only sorority that does not currently use the sign-over form to charge expenses other than rent, has been using Billhighway to charge fees other than rent and meal plan for years. “[Billhighway] is a nationally approved company that we’re allowed to charge our sisters on,” said Kane, “and [changing the sign-over form policy] would just mean we have to move a few charges from the student account to Billhighway.” In addition to these benefits, Housing Services also promised to help individual chapters find third party companies and provide training for chapter leaders to get used to the new systems.

The new policy that prevents boarders to sublet and live in the Greek houses could cause some financial difficulties for some Greek organizations, since a lot of Greek organizations view boarders as a means to raise revenue. However, Kane didn’t think that forbidding boarders in Greek housing would have a big impact on Alpha Chi Omega.

“We usually have a lot of sisters who would stay in the house over the summer because they take classes at Carnegie Mellon or they have internships in Pittsburgh,” remarked Kane, “it’s not really a problem for us since we usually don’t allow boarders to live in the house over the summer.” The main concern Housing Services had regarding boarders was that boarders are not covered under insurance, and are difficult to manage for individual Greek organizations.

In general, students’ responses to the new lease changes are optimistic as they believe that these changes will likely improve the way Greek organizations are run.

Professor Skinner joins Donald Trump’s National Security Council transition team

ROSE PAGANO
Staffwriter

Carnegie Mellon University is nationally recognized for contributing to fields in computer science and engineering, but future President Donald Trump chose to focus on the Dietrich College of Humanities and Social Sciences when appointing Professor Kiron Skinner to his transition team for the National Security Council which advises the President on national security and foreign policies.

The distinguished professor began her career in the field of political science by getting undergraduate degrees from both Spelman College and Sacramento City College. Skinner then went on to receive her masters and doctoral degrees in political science and international relations from Harvard University. She has also been awarded an honorary doctor of laws degree from Molloy College in Long Island, New York.

Skinner has been working at Carnegie Mellon since 1999 and has since then founded the Institute for Politics and Strategy in Dietrich College. Both undergraduate and graduate students utilize this institute for research and the university uses it to establish initiatives in various areas from political science to national security. Skinner



Carnegie Mellon professor Kiron Skinner has been selected to serve on Donald Trump’s transition team.

is also a fellow for Carnegie Mellon University’s CyLab and has received courtesy faculty appointments for the Institute for Software Research and Heinz College.

Additionally, Skinner manages the Center for International Relations and Politics, the Washington Semester program, and the Institute for Strategic Analysis, which Dietrich College, College of Engineering, Heinz College, School of Computer Science, and the Software Engineering Institute all contribute to. She is also one of the individuals who developed Carnegie Mellon University’s Master of Information Technology Strategy program. This masters program allows students to complete an

interdisciplinary education involving cybersecurity issues, international security, and decision-making challenges.

Outside of Carnegie Mellon University, Skinner has a lot of experience advising various types of people in Washington, D.C. For example, Skinner is a special adviser to the Chief of Naval Operations, Admiral John Richardson. In addition, Skinner is part of the Council on Foreign Relations, a research fellow for the Hoover Institution at Stanford, and a life director for the Atlantic Council. Previously, Skinner was part of the U.S. Defense Department’s Defense Policy Board and served as an adviser on the wars in

Iraq and Afghanistan.

Furthermore, Skinner is extremely involved in creating academic works for her field. She co-wrote “The Strategy of Campaigning: Lessons from Ronald Reagan and Boris Yeltsin” with Serhiy Kudelia, Bruce Bueno de Mesquita, and Condoleezza Rice. This piece of writing is utilized at numerous research universities in their political science courses. Some other books Skinner helped to write were the two *New York Times* best sellers *Reagan, A Life in Letters* and *Reagan, In His Own Hand*. Skinner is also a regular contributor of opinion editorials for *National Review online*, *The New York Times*, *The Wall Street Journal*, CNN, and *The Washington Post*.



Carnegie Mellon Greek students respond to the recently proposed lease changes made by Housing Services, which affect all Greek organizations.

FEATURE PHOTO

Museum of Broken Relationships opens in Pittsburgh



Theodore Teichman/Visual Editor

Throughout the semester, a group of Carnegie Mellon students co-organized the Museum of Broken Relationships which, showcases items that tell stories of failed relationships. There have been 40 exhibits in 25 countries which makes Pittsburgh its 41st collaboration since the museum opened in 2006. The exhibit opened at The Mine Factory on Dec. 3. *Editor's note: The Tartan's Forum Editor, Sinead Foley helped to organize the museum.*

NEWS IN BRIEF

Researchers at Carnegie Mellon and IIITD look into preventing selfie-related deaths

With a growing number of deaths involving people taking selfies in hazardous locations, such as on railroad tracks or cliffs, computer scientists at Carnegie Mellon University and the Indraprastha Institute of Information Technology in Delhi, India (IIITD), have conducted a new study to look into such accidents in hopes of finding a way to prevent them.

By looking through public records, researchers were able to collect and analyze a list of 127 deaths worldwide that were associated with selfies between March 2014 and Sept. 2016. They then designed a computer program that identifies a selfie as dangerous based on location, image, and text, with 73 percent accuracy.

Ultimately, the goal of the study is to develop an app that would prevent deaths, possibly by warning users of dangerous situations or temporarily disabling a phone's camera.

In addition, the data could be used in a public policy approach, by potentially establishing "no selfie zones" in certain areas and educating the public about dangerous selfie practices.

Ponnuram Kumaraguru, associate professor at IIITD with a Ph.D. in computer science from Carnegie Mellon, explained that if an app were successfully implemented, it could have far-reaching benefits, beyond the scope of selfie-related accidents. For example, augmented reality games such as *Pokemon Go* can similarly put users at risk by diverting attention away from dangerous situations.

"Every life is precious," commented Kumaraguru, who launched the study after hearing reports of a selfie-related death. "When you see a problem in society, you find ways to use technology to solve it."

Compiled by
DEBORAH CHU

PROGRESS helps women improve their communication and negotiation skills

A new program at Carnegie Mellon University seeks to help women and girls become better negotiators. It is called the Program for Research and Outreach on Gender Equity in Society (PROGRESS). Its goal is to help improve women's negotiation skills to help them achieve goals which rely on having good communication skills.

Ayana Ledford, executive director of the nonprofit, believes that there are numerous opportunities for students to negotiate in college. Some examples are negotiating with teachers on assignments or negotiating cleaning responsibilities with a roommate. "As part of the program, women — and also men — will learn how to negotiate, share experiences and learn to apply personal negotiation strategies in a casual environment," Ledford said in a university press release.

PROGRESS is based on the work of Linda Babcock,

the James M. Walton Professor of Economics and head of the Social and Decision Sciences department at Carnegie Mellon. Babcock co-authored the book "Women Don't Ask: Negotiation and the Gender Divide," which includes her research on the art of negotiation and explores how this affects women. Babcock believes that better negotiation skills can help women close the gender wage gap and earn as much money as their male colleagues.

PROGRESS has recently created a toolkit for university students which provides them with materials to create clubs to improve their negotiation skills. Participants can also serve as mentors for girls in economically disadvantaged communities.

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.

It's difficult to express all that student government does on campus without mentioning what it has yet to do. It's even harder for the different components of student government to realize what communities within Carnegie Mellon need assistance if those communities aren't being represented within student government's own system.

This past Wednesday, the members of the President's Cabinet, the Student Body Vice President for Organizations, Graduate Student Assembly President, and the Vice President of the Student Dormitory Council met for the November/December Board of Directors meeting. Board of Directors meetings allow the different components of student government to discuss relevant actionable issues regarding life on campus. Student Body President Vaasavi Unnava opened the meeting with a question: Who is underserved by student government on our campus?

Roughly ten groups were quickly brought up. Their members range from veterans to art students, as well as students with families. The next conversation was harder. Are these groups underrepresented in student government because of how student government is set up, or are we not doing an adequate job of being inclusive? What specific needs do these groups have that student government could assist in?

There were so many things I had never realized about what unique challenges students face on campus. Being a U.S. Citizen, I've never had to think about whether an employer would find my

candidacy worth managing the ever-complex U.S. Immigration system, and hadn't even realized how frustrating it must be for international students to find employment options at on-campus career fairs which are limited for non-citizens.

The percentage of international students involved in undergraduate student government doesn't match the 16 percent undergraduate international student population. Our task now is to determine how we can make student government more approachable for international students, to help ensure that their needs are met. (On a side note, the Graduate Student Assembly is doing a great job at matching their 60 percent international population!)

This was only the beginning of a long but much-needed discussion on how student government can and should change to provide better service for the students it is representing. This is the reason why a main tenant of Vaasavi Unnava and Aaron Gutierrez's campaign was focused on Student Government Transparency; student government reaches its highest potential only when students know what student government actually is and recognize their representation in it.

We hope that we can begin to reach out to individual students and organizations more effectively, to promote communication so that our representation goals are met, and also hope that these discussions about providing for the unique needs of all our students are continued for years to come until student government is as diverse as the student body. As always, if you have any concerns or questions on how to achieve diversity, or why it's important, please feel free to reach out to anyone on the student government cabinet!

Campus Crime & Incident Reports

Fire
Nov. 25, 2016

A University Security Officer extinguished a fire in Warner Hall. The fire was caused by a faulty power cord.

Suspicious Person
Nov. 26, 2016

University Police responded to the Cohon Center after receiving reports of a suspicious person. A non-affiliate of Carnegie Mellon was removed from campus without incident.

Theft by Deception
Nov. 27, 2016

A Carnegie Mellon student was contacted by an unknown person who claimed to be a representative of the Federal Bureau of Investigation. The individual stated that the student was in violation of tax laws and was subject to deportation if the student did not pay a fine. The Pittsburgh Bureau of Police is investigating this incident.

Criminal Mischief
Nov. 28, 2016

A Carnegie Mellon staff

member reported that an unknown person sprayed lubricant on his personal locker and damaged an item inside of the locker.

Suspicious Activity
Nov. 29, 2016

A Carnegie Mellon student was contacted by a person who claimed to be a representative of the Internal Revenue Service. The person told the student that they owed a large amount of taxes from recent monetary transactions. An investigation is ongoing.

Suspicious Activity
Nov. 30, 2016

A Carnegie Mellon staff member reported that an unknown person is unlawfully using a suite in Porter Hall overnight. An investigation is ongoing.

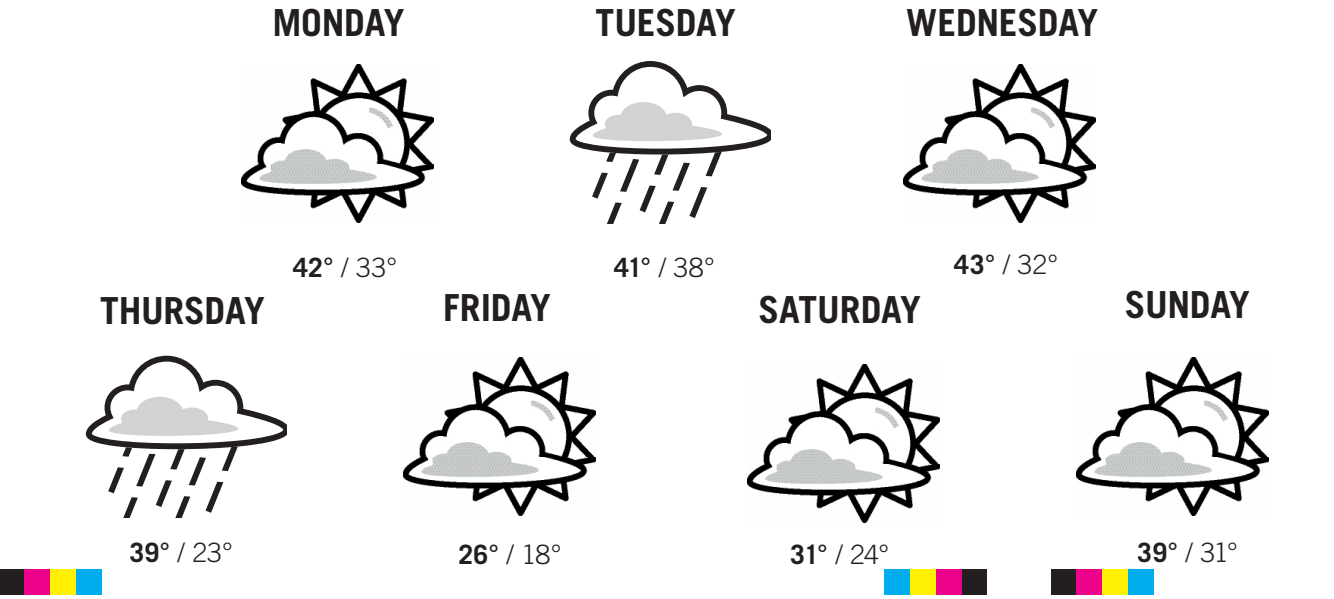
Theft of Key
Dec. 1, 2016

A staff member reported that a key was unlawfully removed from her mailbox in the College of Fine Arts.

Compiled by
VALENE MEZMIN

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.

Richard Thaler discusses the importance of behavioral economics

ZACHARY GOLDSTEIN
Staffwriter

Richard Thaler, one of the most accomplished behavioral economists in the world, came to Carnegie Mellon on Thursday to give a lecture on “The Past, Present, and Future” of his field of study. In the talk, Thaler described his debates with skeptics of behavioral economics, illustrated fascinating examples of human irrationality, and outlined his vision for improving economics by making the field more evidence-based.

Thaler, a professor at the University of Chicago’s Booth School of Business, is renowned for co-authoring *Nudge: Improving Decisions about Health, Wealth, and Happiness* with Cass Sunstein, a law professor at Harvard University. The book explains how insights from behavioral economics can be used to make better public policy, and was one influence that led to the creation of the White House’s Social and Behavioral Sciences team and the equivalent Behavioral Insights unit in the UK. Both of these teams draw from research conducted by behavioral economists like Thaler to make government services more

effective and cost-efficient.

Thaler began his talk by explaining that even economists like Adam Smith and John Maynard Keynes, who lived long before the modern field of behavioral economics rose to prominence, incorporated insights from psychology into their work and recognized that humans often behave irrationally. Economics was behavioral from the start; however, economists in the mid twentieth century failed to develop realistic models of human behavior, which led economists like Richard Thaler and psychologists like Daniel Kahneman and Amos Tversky to re-invent the field of behavioral economics.

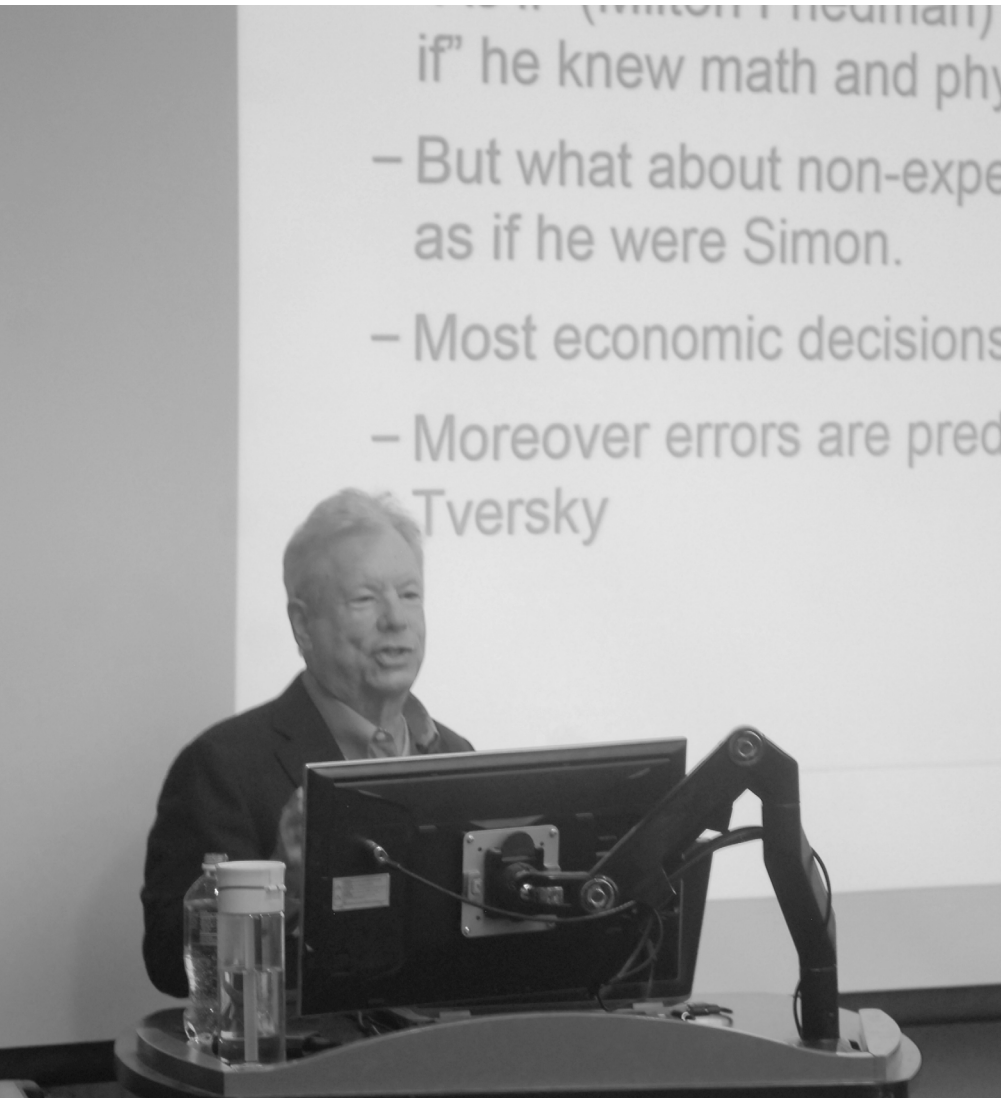
Thaler also mentioned that the late Herbert Simon, who he described as a “legendary” Carnegie Mellon professor (after whom half of Newell-Simon Hall is named) also played a pivotal role in the revival of behavioral economics.

Many amusing examples of how people behave irrationally were sprinkled throughout the talk. In one example, which resulted in laughter from the audience, Thaler displayed a graph showing the changes over time in the price of a stock with the abbreviation CUBA. Despite

the fact that the stock has no connection to the caribbean country, investors in this stock nevertheless responded to political events such as President Obama’s announcement of the easing of bilateral relations in 2014 and more recently, the death of Fidel Castro with huge fluctuations in stock price. In another example, Thaler illustrated his claim that default settings matter by telling the audience that on his flight to Pittsburgh, he observed that the majority of passengers were watching CNBC — the channel that the in-flight TVs were set to by default.

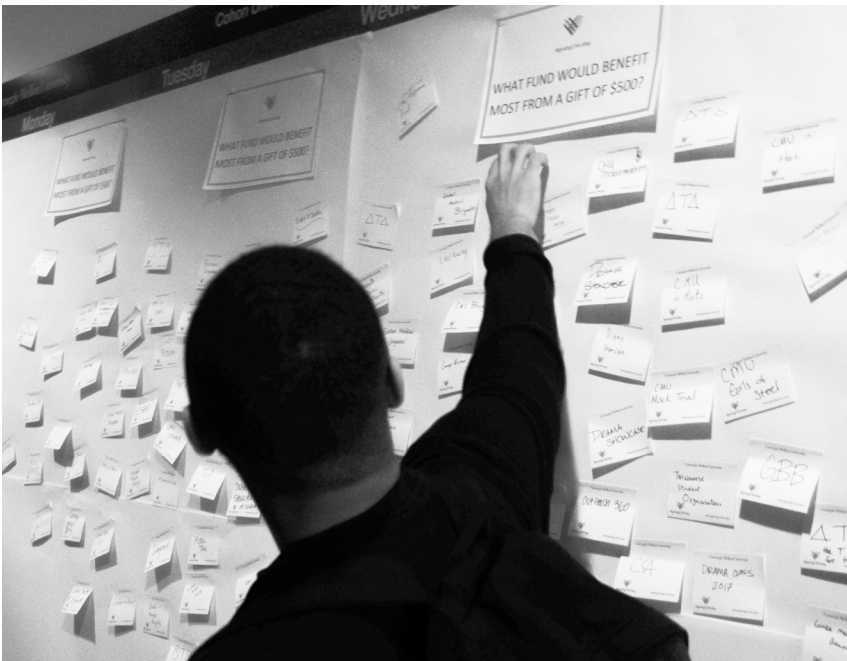
A consistent theme in Thaler’s talk was that many economists, even today, are skeptical of behavioral economics research and dismiss the field’s findings by using “explainawaytions” — a term coined by Harvard University behavioral economist Matthew Rabin that refers to flawed criticisms of behavioral economics.

Thaler concluded his talk by predicting that eventually, all economists will include evidence-based psychological insights in their work. In Thaler’s words, “All of economics will be as behavioral as it should be.”



Zichen Liu/Assistant Visual Editor
Behavioral economist Richard Thaler visited Carnegie Mellon University to discuss his vision for this field.

CMU’s second annual Giving Tuesday breaks previous records



Aisha Han/Assistant Visual Editor
Last Tuesday, Carnegie Mellon students, faculty, parents, and alumni participated in the second annual #givingCMUday. Participants contributed 1,350 donations, equal to a value of \$227,849, which exceeded last year’s donations.

SARAH GUTEKUNST
Publisher

For the second year in a row, Carnegie Mellon broke university fundraising records on #givingCMUday as part of the university’s participation in the international donor holiday, #GivingTuesday. This was Carnegie Mellon’s third year participating in the global day of giving that was originally started in 2012 by New York community cultural center 92nd Street Y. For the event, Carnegie Mellon encouraged constituents all over the world to donate to university funds, incentivizing participation with challenges on social media and with events on campus.

The Office of Alumni Relations and Annual Giving initially brought the event to campus in 2014, bringing out 533 donors. In 2015, Carnegie Mellon students, parents, alumni, staff, and faculty nearly doubled that benchmark and broke

a university record for most donations received in one day, totaling 1,209. This year, the same community turned out to break that record again, boasting 1,350 donations that added up to \$227,849.

As with years past, the Office largely carried out the events through social media. They conducted six pre-announced challenges and one pop-up challenge via social media, including Facebook, Twitter, and Instagram. The challenges asked participants to hashtag photos of themselves in Carnegie Mellon swag, share their favorite spot on campus, reflect on their Carnegie Mellon experience, and shout out what makes them proud to be a Tartan. Prizes for randomly selected winners included \$500 to a campus fund of their choice, and, new this year, the opportunity to have lunch with President Suresh and Mrs. Suresh or participate in a tour of the steam tunnels with Vice President of Student Affairs

and Dean of Students Gina Casalegno.

Also on social media, junior math major and Assistant Director for Donational Transparency on the Student Body President’s cabinet, Olivia Cannizzaro, hosted Facebook Live events throughout the day. One video featured two organizations that were awarded \$500 prizes in last year’s challenges. Sophomore statistics major Emily Chen from service organization CMU Juntos, described how their prize allowed them to purchase construction materials to build latrines for a community in Nicaragua, and senior saxophone performance major Laurel Beatty from School of Music’s Heritage Scholarship, shared that, during the last Giving CMUday, their campaign reached the \$50,000 benchmark that allowed their scholarship to be endowed.

On campus, representatives from the Office of Annual Giving tabled

in the Cohon Center, asking students to post a sticky note with the name of a campus fund that deserves a \$500 gift. Six of those sticky notes were awarded \$500. Each college also hosted its own events in their buildings across campus, promoting the spirit of giving back.

New to the lineup this year was the kickoff event Plaid Palooza. At midnight, first thing on Tuesday, over 100 students gathered in Rangos to enjoy tacos and popcorn, music, a photo booth to share photos on social media with the day’s hashtag, and an educational opportunity offered by the Office of Annual Giving to develop awareness of the day’s efforts and establish the transparency with the giving process. Two randomly selected students who posted photo booth pictures on social media were also selected to win \$50 gift cards to the bookstore.

Another new initiative this year was the Presidential

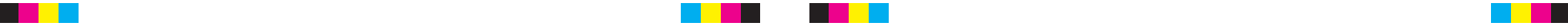
Student Donor Match. President Suresh established a fund of \$25,000 to match undergraduate donations of \$5 or more on #givingCMUday with a companion donation of \$25 to the CMU Experience Fund. According to Director of Annual Giving Mary Ann McCollough, President Suresh has generously promised to continue to offer matching donations at different amounts throughout the rest of the school year until the fund has been used. McCollough also shared that this Donor Match initiative came as the result of efforts from student Olivia Cannizzaro and Student Body Vice President and senior computer science major Aaron Gutierrez.

As the donations continue to be processed, the Office will have more information about which organizations will receive each \$500 award, but so far organizations ranging from CMU in Haiti to the Treblemakers have been selected as winners of the social media

challenges. The organization with the most unique donors giving \$5 or more, and a randomly selected organization with at least 15 donors giving \$5 or more will also win a \$500 prize.

According to McCollough, a donation to the university on #givingCMUday is a meaningful expression of confidence: “You spend more than \$5 on a cup of coffee, or going out and having a beer on the weekend. However, taking that and directing it to the university in some fashion is really a vote of confidence in this university and what it is doing for you as a student,” especially to funds that are not supported by tuition.

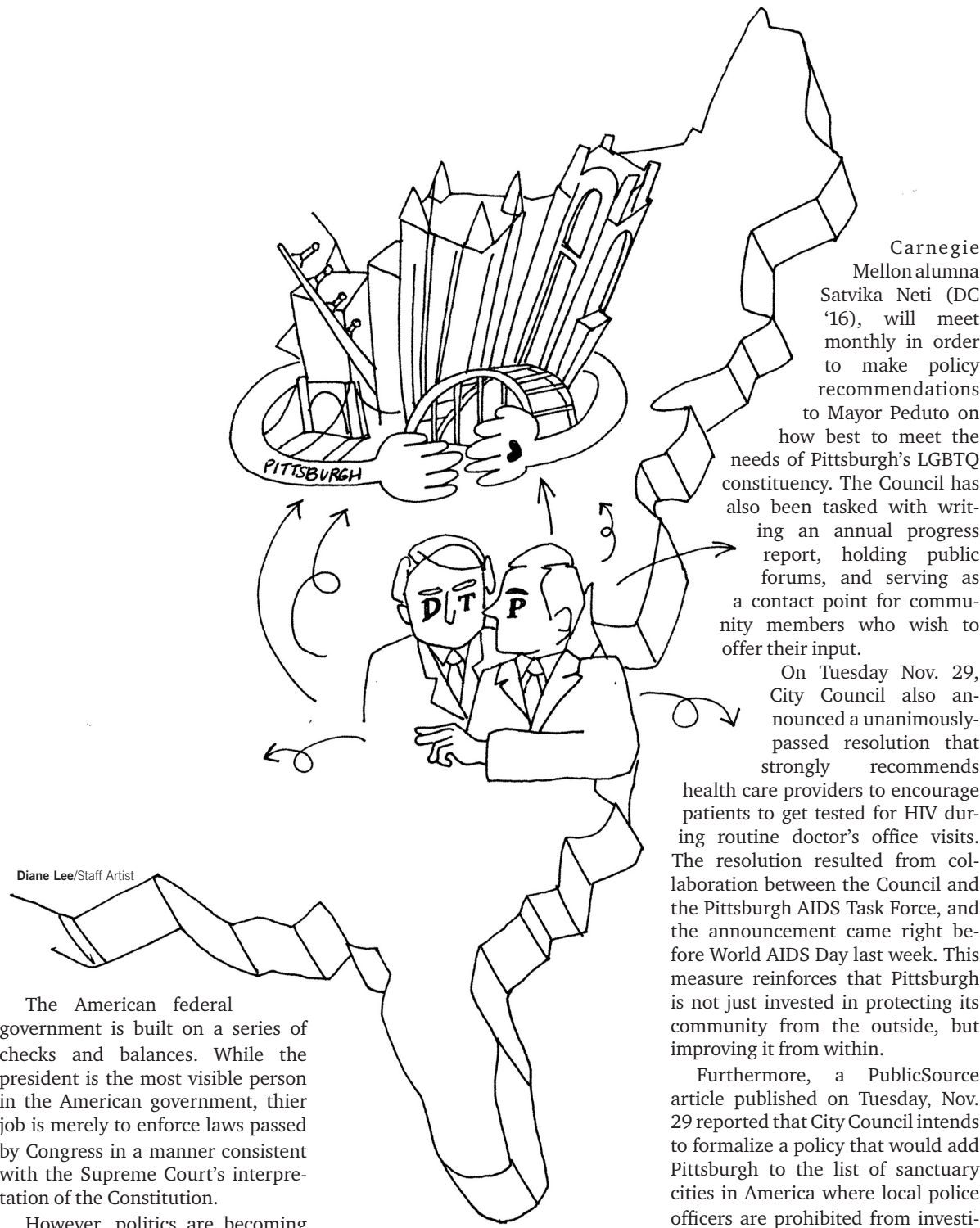
The donation form, which is Carnegie Mellon’s standard donation form hosted on www.giving.cmu.edu, gives donors the option to choose any campus fund ranging from academic departments and student activities, to athletic teams and Greek organizations.



Forum

FROM THE EDITORIAL BOARD

Local government can protect citizens from hostile feds



The American federal government is built on a series of checks and balances. While the president is the most visible person in the American government, thier job is merely to enforce laws passed by Congress in a manner consistent with the Supreme Court’s interpretation of the Constitution.

However, politics are becoming increasingly polarized. Even politicians opposed to their party establishments might vote against their party only once every three or four times, as in rare cases like Sen. Joe Manchin (D-WV) who opposes coal regulation despite his party’s support. But even in the case of the most extreme figures, like Sens. Ted Cruz (R-TX) and Bernie Sanders (D-VT), the internal opposition to the party still consistently votes with the party. With this in mind, Republican control of Congress combined with president-elect Donald Trump in the White House, where he is able to shape the Supreme Court, seems like it would make the Republican Party an unstoppable juggernaut.

Luckily, American government is intentionally decentralized. Total control of the federal government is a lot of power, but our local governments form a meaningful line of defense from an unimpeded Trump.

Since the election, especially in the past week alone, Pittsburgh has reaffirmed to its citizens that it will serve as this line of defense for them against an administration that campaigned against their rights.

One example of this affirmation happened on Nov. 29 when Pittsburgh City Council President Bruce Kraus and Councilman Dan Gilman moved to ban the use of conversion therapy on minors in Pittsburgh.

Conversion therapy is a brutal practice widely reviled in LGBTQ communities. The oft-mentioned electric shocks designed to condition LGBTQ children and teenagers out of their identities in Pavlovian fashion are only one form of conversion therapy, but psychotherapy and groups designed to “pray the gay

away” fall under the same category. All of them are considered to be pseudoscience and are known to be dangerous for the mental state of the person subjected to them.

Conversion therapy gained renewed prominence shortly after Trump’s selection of Indiana Governor Mike Pence to be his vice president. Pence has supported using federal dollars to support conversion therapy in the past and has not backed off on that stance yet in this election.

According to a quote in the *Pittsburgh Post-Gazette*, Councilman Gilman “think[s] there was a new level of fear that was brought on by this election,” and the Council intends to respond to that fear on a local level.

For Council President Kraus, Pittsburgh’s first openly gay politician, this ordinance is very personal. He shared in an interview with the *Pittsburgh City Paper* his memories as a third grader experiencing struggles with identity: “I do remember my parents seeking medical attention to help them understand who and what I was, and help me understand who and what I was.” And though his parents never actually subjected him to conversion therapy, Kraus wants this ordinance to remind parents that, even though they may be confused, no good will come from efforts to change who their child is.

Mayor Bill Peduto also announced last week on Nov. 28 that he had finalized the makeup of Pittsburgh’s new LGBTQIA+ Advisory Council, initially announced in August. The 15-member group, including

Carnegie Mellon alumna Satvika Neti (DC ‘16), will meet monthly in order to make policy recommendations to Mayor Peduto on how best to meet the needs of Pittsburgh’s LGBTQ constituency. The Council has also been tasked with writing an annual progress report, holding public forums, and serving as a contact point for community members who wish to offer their input.

On Tuesday Nov. 29, City Council also announced a unanimously-passed resolution that strongly recommends health care providers to encourage patients to get tested for HIV during routine doctor’s office visits. The resolution resulted from collaboration between the Council and the Pittsburgh AIDS Task Force, and the announcement came right before World AIDS Day last week. This measure reinforces that Pittsburgh is not just invested in protecting its community from the outside, but improving it from within.

Furthermore, a PublicSource article published on Tuesday, Nov. 29 reported that City Council intends to formalize a policy that would add Pittsburgh to the list of sanctuary cities in America where local police officers are prohibited from investigating a person’s immigration status, leaving that responsibility to manpower and funds from Immigration and Customs Enforcement since immigration policy is federal law, not local law. Pittsburgh already operates under a de facto sanctuary city policy, keeping local officials out of matters of immigration, but this policy would solidify this commitment.

The sanctuary city movement is the perfect example of local governments upholding constitutional ideals of checks and balances, maintaining a separation of powers that prevents incorrect authorities from unjustly targeting immigrants. In the face of Trump’s promised immigration policy, the move speaks even louder volumes. In Pennsylvania, House Bill No. 1885, which promises to put economic and criminal sanctions on cities in Pennsylvania that declare themselves sanctuary cities, passed by a large margin in the House. If it passes in the Senate, Governor Tom Wolf’s veto may not matter. Yet, despite these threats, Pittsburgh joined Philadelphia in defying this dangerous attempt to systematize police racial profiling.

All in one week, both the City Council and Mayor’s Office sent a strong message to their constituency with their actions. Pittsburgh’s officials are invested in the health and safety of its citizens, and will go to lengths to protect and defend those who need protection and defense. In the face of an uncertain national future, we can be certain Pittsburgh’s administration remains firmly on the side of its people.

Regardless of national and state election results, Allegheny County voted blue.

U.S. must stop stalling global women’s rights

SAHANA THIRUMAZHUSAI
Junior Staffwriter

It’s 1979. The Iranian Hostage Crisis has just ended. There’s been a coup in Nicaragua, and a war between China and Vietnam. The world is complex, constantly shifting between peace and tension in every region.

This was the state of the world when the Convention on the Elimination of All Forms of Discrimination against Women came in front of the U.N. Usually referred to as CEDAW, it came to fruition after thirty years of debate on women’s issues in the United Nations.

The U.N. took several routes to examine the different perspectives and scenarios among their member countries. Commissions were created and different Conventions were passed, eventually culminating in CEDAW.

CEDAW was intended to serve as the central international agreement on the rights of women and the protections that they need. It also lays out actions that should be done in order to ensure those protections. In a time when women’s

issues. That’s why it has never been up to vote — ducking a vote is significantly easier than casting a Nay vote in front of the country.

If you’re wondering what’s so controversial about CEDAW, the answer isn’t surprising. It’s what’s always controversial in terms of women’s issues in the United States. One of the actions CEDAW urges members to follow is providing access to education on family planning as well as health services that may be pertinent. Reproductive matters can be hugely controversial in the United States, but words like abortion are never used in CEDAW. It only mentions that information and health services should be available — there are no requirements as to what type.

Many of the other objections to CEDAW in the U.S. come in a similar vein. CEDAW is not a terribly specific document. Many of its terms can be interpreted in different ways, and allow each nation to determine the best course of action to achieve them. There isn’t any punishment for not completing them either. Any worries about the terms of CEDAW should be dissuaded by the wide

The United States never ratified CEDAW... For context, most countries have approved of CEDAW — of [U.N.] member-states, the only others who haven’t yet ratified are Iran, Sudan, Palau, Tonga, and Somalia. In the area of women’s rights, that’s not the best company to be in.

rights were threatened across the globe, CEDAW was meant to help push positive change worldwide. It was signed and ratified by most countries, which should have been enough. It was enough for it to come into effect under the U.N.

However, what the U.N. says needs to happen doesn’t always quite filter into the world in the same way. CEDAW was missing something important, something that would have given it a weight it did not have.

The United States never ratified CEDAW. Without that tacit approval of a superpower country, it lacked a certain legitimacy. Ratification would require the entire Senate vote on the bill, with two thirds approving. However, CEDAW has never even appeared before the Senate for a vote.

For context, most countries have approved of CEDAW — of member-states, the only others who haven’t yet ratified are Iran, Sudan, Palau, Tonga, and Somalia. In the area of women’s rights, that’s not the best company to be in. In fact, there are so many countries with major human right’s violations who at least paid the lip-service of ratifying. The U.S. hasn’t even given it the chance of a vote.

That’s the main issue here — the fact that it hasn’t been in front of the Senate. The issue is that it’s very hard to vote against a women’s rights bill. Sure, there’s a question of United Nations interference in national law, but there’s 30 years of history to show that signing CEDAW won’t weaken the United States in any way.

Other than U.N. overreach, there isn’t much cause to block without getting into hugely controversial

range of countries that have ratified the convention. Even extremely conservative nations have ratified the convention, which would not have occurred if they were worried about the terms outlined clashing with their principles. And countries similar to the U.S., allies like Canada and Germany, have given it their approval as well.

CEDAW has accomplished some things since its passage. Laws against human trafficking and domestic violence have been passed around the world. More rights have been given to women in various countries. CEDAW has made a difference in the lives of many women.

And yet, that’s not enough. There’s more to do, and there are areas of the world where women don’t have the equality that CEDAW presses for.

In the grand scheme of things, the United States has to consider so many factors in how it conducts its foreign affairs. The U.S. can’t simply decide that the choices of a nation are unacceptable and single-handedly change them. But what the U.S. can do is ratify a document it should have ratified ages ago.

It’s been over three decades since CEDAW was presented to the United Nations. The U.S. is lagging behind other countries in demonstrating its concern for women’s issues. Giving CEDAW its chance in front of the Senate would show people around the world and here in the U.S. that the U.S. government does not dismiss these issues.

It would add legitimacy to the document that the biggest superpower in the world supported it. It’s time to give CEDAW the chance in the Senate that it should have had a long time ago.

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THE TARTAN



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How to deal with final exams stress in college

SHANTANU CHHABRA
Junior Staffwriter

Let’s face it, most of us are hard workers here — it’s the reason we’re at Carnegie Mellon. College is not for everyone, and we wouldn’t be here if the people in Warner Hall didn’t think we could handle the stress that comes with being at Carnegie Mellon. We are a very stressed people — there’s no denying that, it’s been acknowledged and decried. In the aftermath of the election results and with finals week upon us, stress levels are probably soaring high right now. And the truth is — that’s fine. It’s okay to be stressed. It’s okay to be sad. It’s okay to be dejected. You’re definitely not alone. But here’s another (rather ugly) truth — your finals are still happening in a week, your project deadlines are not changing, and you need to positively and rationally respond to them.

So what do we do about the stress?

We’re not the only college in the world that’s stressed. I do agree we have our problems, but that’s a subject for another opinion piece altogether. College is a stressful time. It makes sense and some stress is inevitable. But it is getting worse over time. On average, our parents were less stressed than we were. A recent study by The Huffington Post showed that “the proportion of freshmen saying they “occasionally or frequently feel overwhelmed” by all they had to do jumped to 34 percent last year, from 24 percent in 2005. Only half of 2015’s freshmen consider themselves “above average or better” in emotional health, continuing a skid from 63 percent in 1985 and 54 percent in 2005.

I don’t know if there is a community-wide or economy-wide solution to fixing these alarmingly high levels of stress — I really hope there is, and I hope we come up with something or that our legislators can do something about it.

As for what is within our power and what we can do right now, I strongly believe the key to solving this problem at the grassroots is to talk about your problems. Talk about what bothers you with someone you can trust. It could be anyone — your significant other, your friend, your parent, your House-fellow, your RA, your TA, your advisor, or Counseling and Psychological Services (CaPS). More often than not, whoever you talk to will respond better than you’d imagine. Talking your heart out even strengthens

your relationship with that person.

How should I manage my time?

Our favorite Randy Pausch gave a 76-minute talk on time management in 2007 at the University of Virginia. Most of what I’m going to say is, at its core, derived from there. Everyone has a different approach to managing time. I think what generally works well is a simple three step feedback loop: Plan, execute, and evaluate.

The first (and very important) step is to plan. I cannot state how important this step is. Pausch summarized

it in a very succinct way I couldn’t agree more with, “Failing to plan is planning to fail.” While planning, simply sorting tasks by their respective deadlines is the wrong way to go about managing your time. It’s more important to sort things by importance — something that’s intuitive to think about, but not trivial to implement in practice.

The second step which is probably the hardest, is to execute that plan. One technique that is known to make this step work well is to disengage from all kinds of distractions. An hour of focused study is more productive than three hours of unfocused work full of distractions. So if you want to be really productive, putting the phone away for an hour or two is probably a good idea.

The final step is to evaluate — to ask questions like “What went wrong?” and “What could I have done better?” Not only does this help you be more

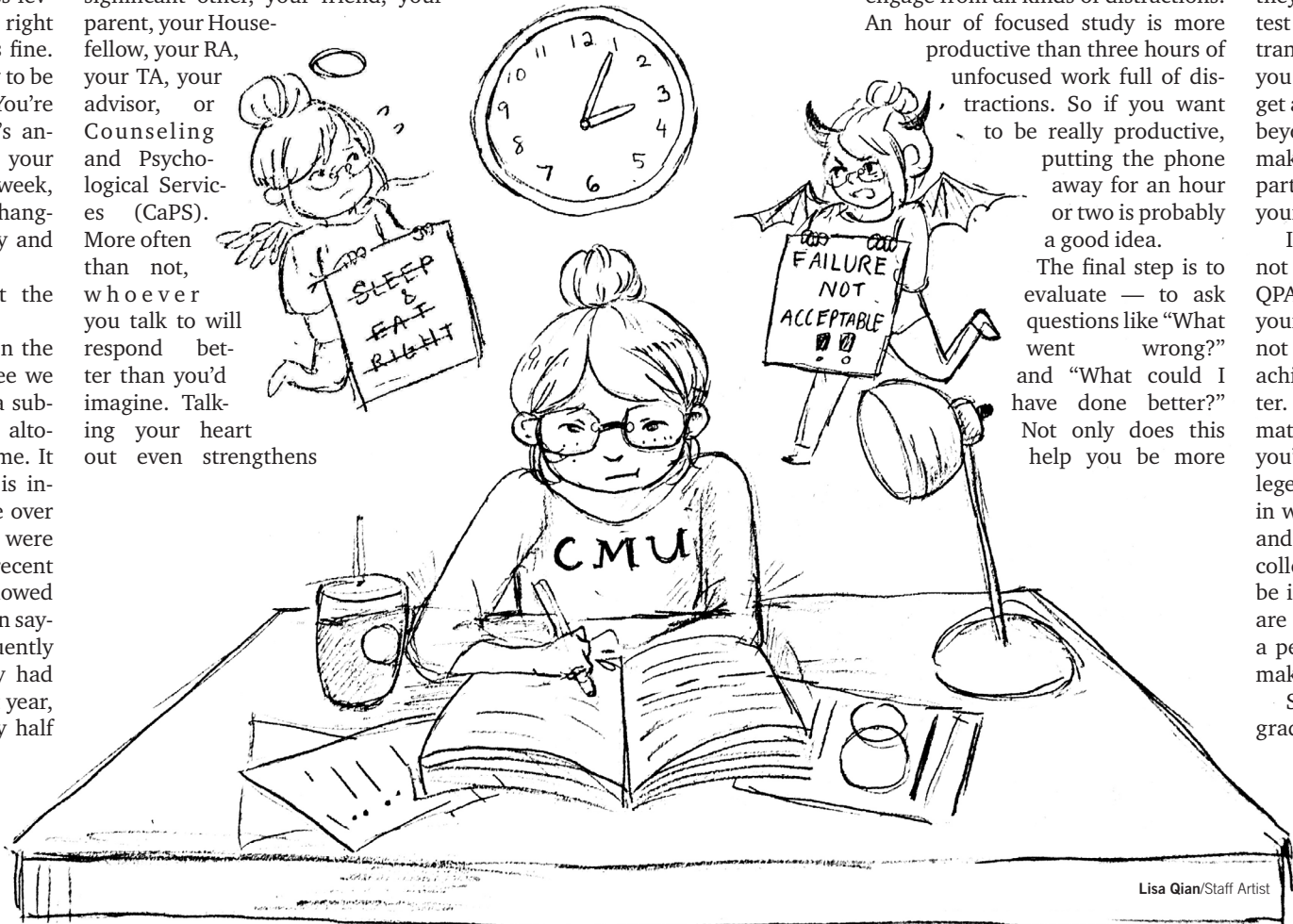
productive in the future, but it also helps you understand your work ethic better. Evaluation and feedback are the key to keep humanity going.

What if I blow my finals?

We’re not all perfect. We all have bad days, we all have tests and interviews that we wish could have gone better. Blowing your finals would affect your QPA. Your QPA could potentially affect your job prospects for certain fields. But not by much. As far as jobs go, companies have interviews for the very reason that they want to know the candidate and test his/her skills beyond just what transcripts and resumes say. Sure, you may need a respectable QPA to get an interview in the first place, but beyond that point, your QPA doesn’t make or break the deal for the most part. And even so, for how long will your QPA do that?

In the long run, next week does not matter. In the long run, your QPA does not matter. In the long run, your next summer’s internship does not matter. In the long run, all your achievements in college will not matter. From a career standpoint, what matters keeps changing and once you’re a few years away from college, people become more interested in what you worked on after college and how you used your learning from college. Of course, they will always be interested in how passionate you are about what you do, what kind of a person you are, and how you can make the world a better place.

So instead of fretting about our grades and seeking higher grades, let’s focus on the learning because that’s what matters more. That’s what adds real skill. That’s what enables us to tackle and solve problems in the real world.



Energy, environment, civil rights collide in Standing Rock protest

Chie Wach
CHIE WACH

Standing Rock. It sounds like fortitude. Like endurance. The name invokes a sense of everlastingness, of proud stamina, a determination to be as eternal as the rock it is named for.

This is the name of a Native American Sioux tribe in North and South Dakota. It has also become the headline of an enormously contentious debate over Native American rights.

This battle is a bizarre match-up between the natural gas company Energy Transfer Partners and the Standing Rock Sioux Tribe over a large plot of land in North Dakota.

Energy Transfer is constructing the Dakota Access Pipeline, a 1,170-mile pipeline that happens to be routed under the professedly sacred land of Standing Rock. Native Americans and other activists have been protesting for months, in demonstrations that have occasionally turned violent, both on the side of the protestors and law enforcement. Conflicts in these demonstrations have included throwing rocks and even firing guns at police or security guards, who in turn have used pepper spray and hosing to subdue or disperse the crowd. It

has become a nationally-recognized David and Goliath narrative, meriting the sympathy or condemnation of activists, politicians, and celebrities alike, as well as the support of a peaceful protest in our own Schenley Plaza this past Saturday.

However, as clean-cut as this story may appear — a big, heartless oil company bulldozing through sacred ground, and the small Native American tribe standing up to protect it — there are many nuances to the reality that render it much more complex, though not any less significant and respected. The Standing Rock Tribe’s motives for protest are twofold: the pipeline poses an environmental threat to their water as well as a desecration of ancient burial grounds.

Since part of the pipeline crosses under the Mississippi River, the Standing Rock Tribe is concerned that it could cause disastrous damage to their drinking water. However, this is a misconception of how the pipeline essentially works — any leakage would seep downwards into the ground, rather than significantly affecting the river water. The greater concern, in fact, is that of any drinking water wells nearby. This drinking water would come from an aquifer, or an underground body of water, likely a couple hundred feet below the pipeline. Thus, if the pipeline runs anywhere near drinking water wells,

the propane could potentially seep through the ground to the aquifer.

This concern, with its Erin Brockovich-esque undertones, is perfectly legitimate, but it is also important to realize that there are already numerous federal agencies and systems in place for exactly this kind of situation. The EPA closely regulates all real estate like this Dakota Access Pipeline, and has an almost excessive number of restrictions designed to protect the environment. These governmental systems are infamous for their strident protection of environmental issues, and would never allow a company such as Energy Transfer to endanger the environment in any way. In fact, these companies spend millions ensuring protection of the environment — not out of the kindness of their hearts, but because the system is set up to force them to do so. Considering how reliable this system is, it is important to consider that state and federal agencies have already approved the pipeline. The only reasonable conclusion from that, with the knowledge of how highly regulated these projects are, is that the pipeline does not pose a significant environmental threat.

The cultural threat, however, is a different story. Imagine a construction crew arriving to route a drain pipe through your family’s cemetery, and you may understand the reaction

of the Standing Rock Tribe to this Dakota Access Pipeline project. Burial ground is sacred to every people, regardless of culture or ethnic background. However, the essential problem, in this case, is that the Sioux Tribe does not own this ground; it is next to their reservation, but not legally a part of their land.

In just the past fifty years, the American government has become very sympathetic to the causes of Native Americans; quite understandably, given their tragically unjust history. The government also has a privilege called “eminent domain,” in which it has the right to appropriate any land for the sake of the public. It is therefore its responsibility to take possession of sacred land and give it to the Native Americans. So why hasn’t the government done so before now? Why isn’t this sacred ground already a part of the reservation?

This is the oddest part of the debate, and where the conflict ultimately lies: the government did not deem this land to be culturally significant, and the Standing Rock Tribe claims that their reviews of the land were inadequate. If the reviews had yielded stronger results, there would have been no way for Energy Transfer to build there. All companies are required to contact the Department of Native American Affairs multiple times in planning a construction

project, and if any ancient burial grounds are found there, the project is shut down or rerouted. Period.

This superficially simple debate is clearly much more complex than many realize, but the determination of Standing Rock to protect the land of their ancestors is unquestionably admirable. While the environmental concern is likely unfounded, the cultural significance that they believe lies in their land should be respected regardless of any governmental report, especially considering the history of Native Americans in this land. The pictures and videos of protesters versus police that have been circulating for months, some very violent, are disturbingly reminiscent of the massacres of Native Americans in this country’s history.

While law enforcement was justified in removing the protestors from private property or blocking highways, it is nonetheless an extremely volatile situation that should best be resolved with some sort of concession on the part of the oil company. Energy Transfer is not stupid, nor is it suicidal. It is aware of how public opinion affects its brand. Although it may cost this company millions of dollars, it must realize that this land is priceless.

Chie Wach (@cwach) is a Staffwriter for The Tartan.

TARTANS TALK

Compiled by Sarah Gutekunst and Julie Sanscartier

Between exams and final projects, The Tartan is ready for a study break. So we asked,
What is your favorite way to blow off steam during finals week?



Christopher Reyes
Design
First-year

“I try to get together with friends and game whenever we get the chance.”



Kruti Koppolu
Statistics
Senior

“I eat frosting and watch Westworld.”



Yash Maheshwari
Statistics, Machine Learning
Junior

“I go for a run every time I get the chance.”



Nika Finkelsteyn
Fine Arts
First-year

“I eat a lot of mac n cheese.”



Ronald Harris-Gavin
Vocal Performance
First-year

“...Do what I need to do. I write my feelings, I get my feelings out in whatever way I can that is healthy for me.”



Female musicians limited by sexism



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

The phrase “glass ceiling” is a popular terminology, and for good reason. The term is defined by the Merriam-Webster Dictionary as “an intangible barrier within a hierarchy that prevents women or minorities from obtaining upper-level positions.” We talk about glass ceilings in politics, in STEM fields, and in the military, but one field that is often overlooked is music.

The glass ceiling in music is particularly prevalent in the world of

symphony orchestras. Old biases and stereotypes continue to prevail in auditions for percussionists, brass players, and string bass players as these sections have continued to be predominantly male. Blind auditions, auditions where players are seated behind a screen so the audition board can only hear, not see them, have helped reduce gender biases to an extent.

However, these auditions have gotten to the point where musicians must take off their shoes in some cases so adjudicators cannot guess sex based on heel clicks. Why should the sex of a musician have anything to do with whether they are hired or not? What creates an environment where measures to prevent this basis have to be this extreme?

Of all the orchestras out there the Vienna Philharmonic is the one that has caused the most outrage with regard to gender discrimination. The Vienna Philharmonic is a world renowned orchestra whose work has been adored by classical music lovers since the orchestra's early beginnings. The fatal flaw of the group, though, is the fact that it did not have any female members until 1997 for no other reason than they were a male-exclusive group. Although this situation has been slowly improving in the past decade, the fact that an orchestra of such high regard was able to hold on to such backwards principles for so long is infuriating.

The place in the orchestra where progress towards equality is still painfully slow is on the conductor's podium. Orchestras have used

designated conductors since the early 1800s. Prior to this, one of the musicians would typically serve as a leader, conducting with one hand or through small gestures of the body or instrument. Moving into the 19th century, a designated conductor became an absolute necessity as orchestras grew larger and new scores with added complexity were near impossible to perform without a leader pulling the musicians all together.

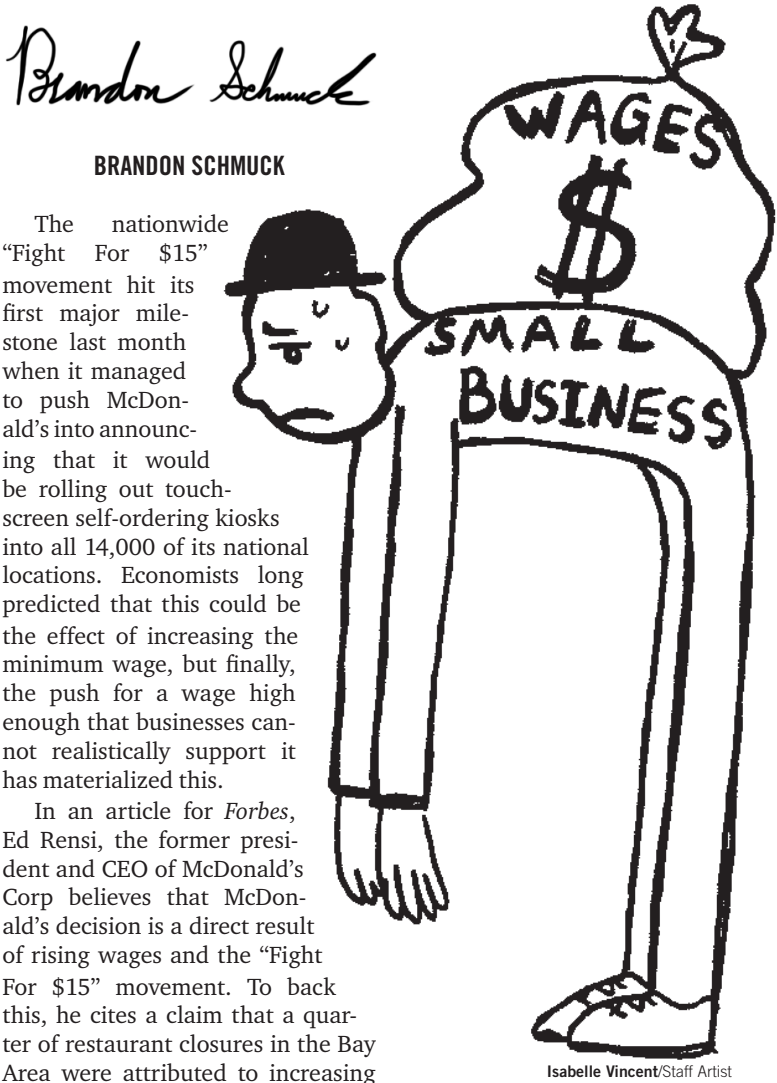
For as long as conductors have been around there has always seemed to be a shortage of female conductors. Now, there is no logical reason for this. Women have been accomplished musicians for as long as men have. What is most appalling, however, is how strongly this basis continues to prevail into the modern century.

In 2007, Marin Alsop was appointed as the conductor of the Baltimore Symphony Orchestra. This was a historical moment because, up until this point, no woman had ever served as the conductor of a major U.S. orchestra. Now, almost one decade later, Alsop is still the singular female conductor of a top-tier United States orchestra.

The next time you look up at the gorgeous ceiling of a concert hall, know that the glass ceiling there is only beginning to see cracks appear, but one day that ceiling will shatter and come raining down in sparkling glory.

Emily Gallagher (@egallagher) is a Staffwriter for The Tartan.
Icon by Ashley Chan, Staff Artist

\$15 minimum wage kills jobs, burdens economy



The nationwide “Fight For \$15” movement hit its first major milestone last month when it managed to push McDonald's into announcing that it would be rolling out touch-screen self-ordering kiosks into all 14,000 of its national locations. Economists long predicted that this could be the effect of increasing the minimum wage, but finally, the push for a wage high enough that businesses cannot realistically support it has materialized this.

In an article for *Forbes*, Ed Rensi, the former president and CEO of McDonald's Corp believes that McDonald's decision is a direct result of rising wages and the “Fight For \$15” movement. To back this, he cites a claim that a quarter of restaurant closures in the Bay Area were attributed to increasing employee wages.

The restaurant business has always been one with a low profit margin, and a look into food franchises shows just how much of a reality this is. According to a report by Franchise Business Review, 51.5 percent of food franchises earn less than \$50,000 a year, with the average profit of all restaurants being around \$82,033. According to the Carnegie Mellon School of Computer Science, the average salary of one of their graduates comes in at \$108,955. That means that right out of college, a student can already make significantly more than someone who has taken the enormous risk and investment of opening a restaurant — and that's with the current nation-wide minimum wage of \$7.25.

If the \$15 minimum wage resulted in a number of closures in the Bay Area, one of the most expensive areas in the United States, imagine what it would do to small towns and cities with a significantly lower cost of living. To equate this, let's compare the standard of living in San Francisco to that in Harlington, Texas. According to CBS News, Harlington is the town with the lowest cost of living in the United States. At \$15 an hour, a cashier at McDonald's would make around \$30,000. If this salary was made by a resident in Harlington, Texas, according to PayScale's cost of living calculator, this would be the equivalent of making \$59,415 in San Francisco.

The fact that money literally goes

twice as far in Harlington as San Francisco shows just how ridiculous the concept of a national minimum wage is if too high. Countless movements are calling out the \$15 minimum wage in San Francisco as their working example, but they fail to show that making \$15 an hour in San Francisco is the same as making \$7.57 an hour in Harlington. If restaurants have already begun automating restaurants in places like California, imagine what they would do in towns like Harlington if they were forced to pay all of their employees over \$15 an hour.

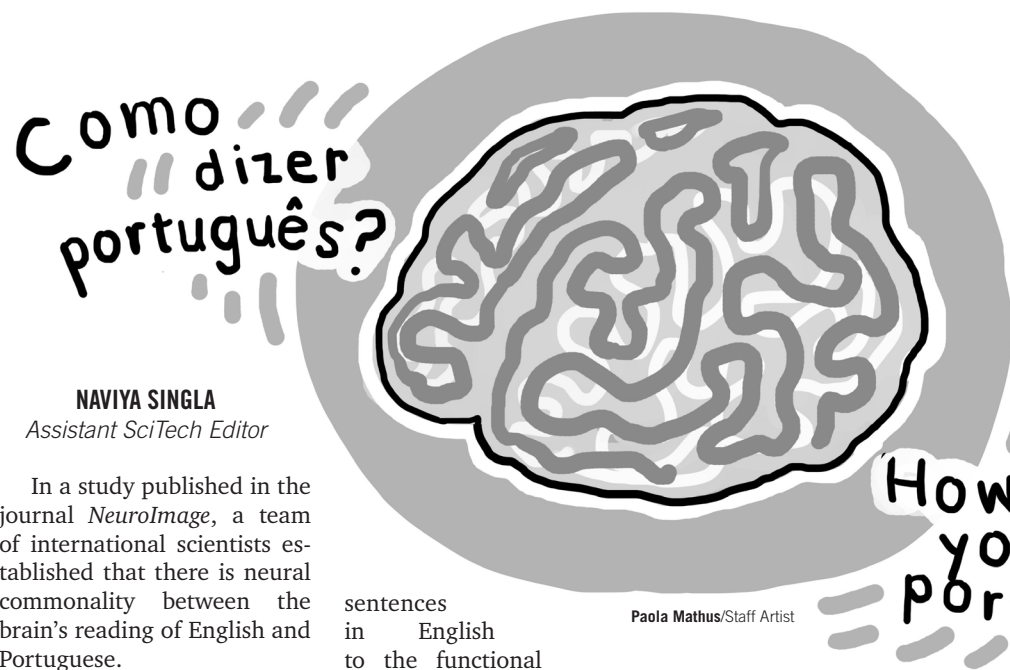
The benefits of automation are clear to businesses — more efficiency, no sick days, no protests, a fixed cost that could be elapsed by the wages of a worker in less than a year, and in many cases, an improved customer experience. That being said, we should be doing all that we can to ensure that Americans continue to have jobs in a sector that accounts for nearly 10 percent of total jobs in the nation according to *restaurant.org*. Because America is a nation with a vast variation in cost of living from city to city, such policies should be made on the city level, not nationally. The “Fight For \$15” movement is one led by some of the cities with the highest cost of living in the nation with little thought into the implications that such a policy may have for areas of less economic wealth.

Brandon Schmuck (@bschmuck) is a Staffwriter for The Tartan.



Science & Technology

Brain reads Portuguese and English language the same way



NAVIYA SINGLA
Assistant SciTech Editor

In a study published in the journal *NeuroImage*, a team of international scientists established that there is neural commonality between the brain’s reading of English and Portuguese.

The team, led by Carnegie Mellon University scientists, first created a model that mapped meanings of certain

sentences in English to the functional magnetic resonance imaging (fMRI) brain activation scans of the subjects. Using this model, the researchers

then predicted the meaning of new sentences in Portuguese with 67 percent accuracy. This

means that the brain activity shown while recognizing and understanding similar content in different languages is very similar. Furthermore, the images of the neural signatures obtained were similar in both location and intensity.

This study is the first of its kind to show that neural signatures are similar across different languages while describing things. The study was conducted using 60 different

Portuguese sentences constructed from 96 different word concepts. These word

concepts are also known as content words.

These sentences weren’t used to initially train the algorithm. Among the test subjects there were 15 Portuguese speakers, eight of whom were bilingual in both Portuguese and English. However, there was little to no variation between the results between the monolingual and bilingual speakers.

“This tells us that, for the most part, the language we happen to learn to speak does not change the organization of the brain,” said Marcel Just, the D.O. Hebb University Professor of Psychology, in a university press release.

“Semantic information is represented in the same place in the brain and the same pattern of intensities for everyone,” Just said. “Knowing this means that brain to brain or brain to computer interfaces

can probably be the same for speakers of all languages.”

This study could potentially help improve automatic, algorithm based translations and second language instruction.

In addition to Just, others involved in the study were Carnegie Mellon University’s Ying Yang and Jing Wang, postdoctoral associates at the Center for Cognitive Brain Imaging; Vladimir Cherkassky, a senior research programmer and systems manager in the psychology department; and the Federal University of Santa Catarina in Brazil’s Cyntia Bailor.

This research regarding the brain’s interpretation of language was funded through the U.S. Air Force Research Laboratory (AFRL), the Office of the Director of National Intelligence (ODNI), and the Intelligence Advanced Research Projects Activity (IARPA).

New epilepsy drugs block electrical signals in the brain

EVANGELINE LIU
Staffwriter

Epilepsy is a recurrent, chronic disorder of the brain characterized by repeated seizures, which can endanger the person in a variety of situations due to uncontrolled movement and put them at increased risk of certain health conditions, not to mention the stigma that is associated with epilepsy in some cultures. Furthermore, seizures can be fatal if they cause breathing problems, choking, drowning, or serious injury.

In about three-quarters of epileptic patients, the epilepsy can be controlled fairly effectively by available drugs, but for the other quarter of patients who do not respond to these drugs, the quest is still on for newer, more effective, and more powerful epilepsy drugs.

A variety of scientists are taking part in this mission, including Maria Kurnikova, an associate professor of chemistry at Carnegie Mellon. Kurnikova and her team

recently published a paper in the journal *Neuron* discussing their findings regarding how one class of anti-seizure drugs blocks certain receptors in the brain known as AMPA receptors — short for the -amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptors — from propagating the brain’s electrical signals further. Since seizures are caused by abnormally high levels of electrical activity in the brain that propagate uncontrollably via hypersensitive AMPA receptors, blocking these receptors is one way to control seizures.

In particular, Kurnikova’s work specialized in using powerful computer programs to simulate how many anti-seizure drugs have molecules that “sit” in the binding sites of AMPA receptors and thus prevent them from propagating seizure signals further. It helped identify the binding site of the receptor, which strengthened the theory that the medications act as a “block” in the receptor.

The simulations test

millions of different configurations of the interactions between drug and binding site, using technology available thanks to the technological advances made by video game manufacturers. The powerful graphics technology developed by game manufacturers allowed the team to be able to use computers with more computing ability — especially important for these simulations — for a lower cost. These technologies also mean that Kurnikova is able to access more powerful computers today than when she first started this work several years ago.

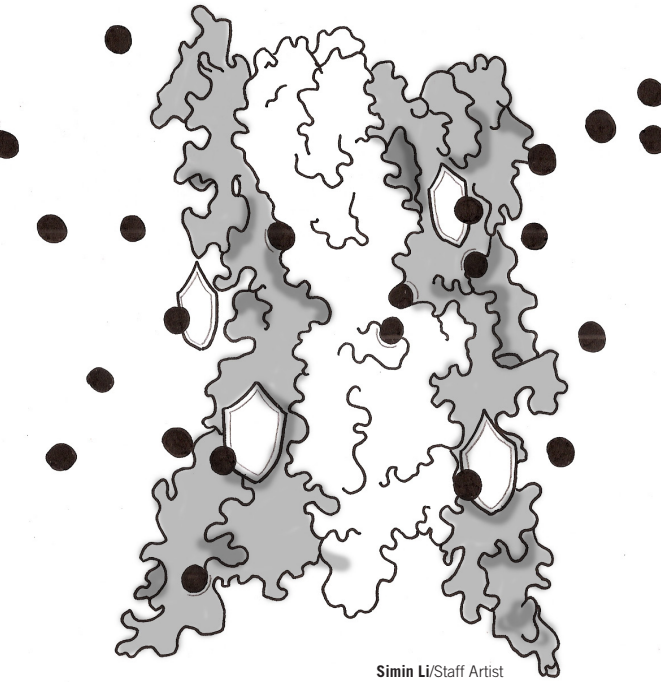
Besides the computers in the laboratory, Kurnikova and her team also use a high-speed computer called ANTON, located at the Pittsburgh Supercomputing Center, which is specially designed for molecular simulations. However, this computer is used by researchers all around the nation, so the team applies for time slots on ANTON through the National Academy of Sciences. ANTON simulations

are 100 times faster than the simulations in Kurnikova’s laboratory.

Currently, many anti-seizure medications have side effects such as sleepiness or headaches because AMPA receptors are necessary for normal brain function.

“Basically what you want to do with the drugs is create a situation where the excitation [in the brain] is not quite so easy to achieve, so you might create some sleepiness,” Kurnikova said in a university press release.

This study suggests that changing the drug design has the potential to make the drug more effective with fewer side effects. Together with work done by Alexander Sobolevsky of Columbia University and his team, which involved using techniques such as crystallography to study how anti-seizure drugs block the seizure signals from travelling further in the brain, Kurnikova’s work could help develop safer, more powerful anti-seizure medications in the future.



SCITECH BRIEFS

Engine turns waste hot water into electricity

Exergyn, a firm based in Dublin, Ireland, has created a new engine called the Exergyn Drive, that turns waste hot water into electricity, which will help to reduce carbon emissions and energy consumption in a variety of companies.

“There’s just so much waste hot water in the world,” said Exergyn CEO Alan Healy. “In most cases [companies] are actually spending energy to cool it.”

This type of engine is particularly useful for cargo ships, which typically pump waste hot water around the vessels to cool their engine down. Recycling this waste hot water in an efficient manner will help reduce both costs and carbon emissions.

The Exergyn Drive uses nitinol, an alloy of nickel and titanium that undergoes a phase transition when heated and reverts back to its original shape. When cooled, nitinol expands, similar to water and ice. In the Drive itself, nitinol wires attached to a piston are flushed with hot and cold water, expanding and contracting the wires to create a piston movement.

From 200 kilowatts of thermal energy in the waste hot water, the engine produces 10 kilowatts of electricity. Exergyn plans to run industrial trials next year. This engine can revolutionize the way companies deal with waste.

Source: *New Scientist*



False news floods social media, affects public opinion

In the aftermath of the 2016 U.S. presidential election, fake news has flooded social media, making it incredibly difficult to discern fact from fiction. An analysis published in *First Monday*, the peer-reviewed journal of the internet, by University of Southern California computer scientists found that nearly 20 percent of election-related tweets came from social media bots. A social media bot is any computer program that poses as a real person.

The abstract from the study claims, “The presence of social media bots can indeed negatively affect democratic political discussion rather than improving it, which in turn can potentially alter public opinion and endanger the integrity of the Presidential election.”

However, even beyond politics, fake news can be catastrophic for science. Click-bait headlines with fake news about “controversial” science topics such as climate change and vaccines can spread false information. With people unable to tell when information is not true, they may form opinions on a topic based on incorrect information.

According to cognitive scientist David Rapp of Northwestern University, research shows that even if people initially know the news is false they will remember it to be true later.

Source: *Science News*



Parkinson’s may be linked to gut microbe

Parkinson’s disease, a chronic, progressive movement disorder, affects more than 10 million people worldwide, of which 70 percent have gastrointestinal issues such as constipation. Often, gastrointestinal issues manifest before neurological problems, but it was unclear as to whether there was a link between gut microbes and the disease itself.

This week, researchers published a report in *Cell* about how intestinal microbes send signals that set off Parkinson’s characteristic brain inflammation and motor problems in mice.

The team conducted a study raising two kinds of mice. In both cases, the mice produced too much alpha-synuclein, the protein that clumps in the brain and is believed to cause Parkinson’s. But one set of mice were raised to be germ-free while the other set was not.

In the germ-free mice, the alpha-synuclein wasn’t clumping in their brains, and they acted less sick. “Even though the mice that received the healthy microbiota received hundreds of bacteria, they didn’t get the disease,” said Mazmanian. These findings could help researchers understand the mechanism of Parkinson’s disease and develop new treatments for this disorder.

Source: *Science News*



Perovskite solar cells hit new world efficiency records

Recently, engineers at the Australia’s University of New South Wales in Sydney have created perovskite solar cells that break new world records regarding energy conversion efficiency. At the Asia-Pacific Solar Research Conference in Canberra this past Friday, Anita Ho-Baillie, a Senior Research Fellow at the Australian Centre for Advanced Photovoltaics (ACAP), announced the accomplishment.

The team’s perovskite solar cell is 16 square centimeters and has a 12.1 percent efficiency rating, which was independently confirmed by Newport Corp in Montana. The team’s 1.2 square centimeter cell has an 18 percent efficiency rating.

Perovskite is a compound containing a hybrid organic-inorganic lead or tin halide. The compound is cheap and simple to manufacture and is very versatile.

“This is a very hot area of research, with many teams competing to advance photovoltaic design,” said Ho-Baillie. “Perovskites came out of nowhere in 2009, with an efficiency rating of 3.8 percent, and have since grown in leaps and bounds. These results place UNSW amongst the best groups in the world producing state-of-the-art high-performance perovskite solar cells. And I think we can get to 24 percent within a year or so.”

Source: *Science Daily*



Europe presses ahead with plans for Mars rover

Europe now has plans to put a robotic rover assembled in the United Kingdom on Mars by the year 2021. In a meeting in Lucerne, Switzerland, research ministers agreed to fund the 436 million euro project. Because of the cost and timing, there is fear the European Space Agency (ESA) may drop the project.

However, the research ministers both confirmed their desire for the project and that European involvement in the International Space Station would continue through 2024.

“We need inspiration for the future. Inspiration is a driver, and from inspiration and fascination come motivation. And for me, it’s very clear we are responsible for the motivation of the next generation to create the future,” said Jan Woerner, the director general of ESA.

Getting the rover to Mars is the second part of a two-part project called ExoMars. The first part of this project was getting a satellite to Mars to explore different gases in the planet’s atmosphere that may come from other-world microbes.

“Nobody else is doing the science that is planned for ExoMars, drilling below the surface of the planet for the first time” said David Parker, the director of human spaceflight and robotic exploration at ESA.

Source: BBC



Evidence shows supernova formed our solar system

New evidence has emerged from a scientist at Monash University that uses data from meteorites and a new computer model to suggest that the formation of our solar system was triggered by a low-mass supernova.

Our solar system was formed around 4.6 billion years ago after a cloud of gas and dust was disturbed; the resulting gravitational collapse enabled the formation of a protostar, which later became our Sun, and the surrounding disc where the planets were born. One of the cosmic events that would have enough energy to cause the gravitational collapse would be a supernova, when a star explodes at the end of its life cycle.

“Before this model there was only inconclusive evidence to support this theory,” said Alexander Heger, a professor at the Monash School of Physics and Astronomy.

The researchers focused on radioactive nuclei in the decay products of modern meteorites that were only present during the early years after the solar system’s formation. These nuclei have a very short life span, and could only have come from a supernova.

The study was published in *Nature Communications*.

Source: *Science Daily*



Compiled by
JULIA EVE NAPOLITANO

Researchers discover each individual has unique brain

JOSH ANDAH
Staffwriter

Everyone is unique, and science has confirmed this. Researchers at Carnegie Mellon University successfully mapped nearly 700 human brains, finding that they all are unique from each other. The study, published last month in *PLOS Computational Biology*, was conducted by assistant professor of neuroscience and first-author Fang-Cheng Yeh.

The researchers generated these maps, called connectomes, and found that they are distinct from person-to-person, so much so that they were used to identify individuals at nearly 100 percent accuracy.

Researchers could even tell identical twins apart; in a Carnegie Mellon University press release, it was revealed that “Identical twins only share about 12 percent of structural connectivity patterns” in common. Timothy Verstynen, an assistant professor of psychology and co-author of the study, noted that “this confirms some things that we’ve always assumed in neuroscience — that

connectivity patterns in your brain are unique to you.”

In fact, an individual’s connectivity patterns over time are different. A connectome changes at a rate of 13 percent over a 100-day period, meaning daily experiences actively alter physical white-matter networks in the brain — a biological phenomenon known as plasticity.

In the research study, brains were mapped using diffusion-weighted magnetic resonance imaging (DW-MRI) — a version of the MRI scan that monitors the diffusion of water molecules and other liquids within tissue in order to generate highly detailed images of the brain. An MRI scan works by creating a magnetic field, then detecting resultant radio frequencies emitted by hydrogen atoms, mostly located in bodily lipids and water. As water molecules interact with white matter — the pale tissue within the brain consisting mostly of nerve fibers — a precise map of the brain’s neural network, called a local connectome, is generated.

This discovery offers far more than a novel method of tracking identity. The flood gates of formerly speculative research fields have been opened.

“Realistically, we would hope that this could be used to better understand how subtle differences in the brain’s wiring can predict certain behaviors and (eventually) clinical pathologies,” said Verstynen in an article by The Huffington Post.

Researchers now have the material opportunity to effectively observe the changes in the brain that cause afflictions such as Alzheimer’s disease and Parkinson’s disease — an arduous feat without DM-MRI technology. Personal identification using this technology is not ruled out for the future. At the moment, however, it is far too expensive, cumbersome, and slow to use it for such a purpose.

This research was funded by the U.S.’s Army Research Laboratory. Alongside Yeh and Verstynen, the research was co-authored by Jean M. Vettel of the Army Research Laboratory; Aarti Singh and Barnabas Poczos, associate professors of machine learning at Carnegie Mellon; Scott T. Grafton of the University of California, Santa Barbara; Kirk I. Erickson of the University of Pittsburgh; and Wen-Yih I. Tseng of the National Taiwan University.

The brain is inexplicably complex, and is arguably the least understood organ in the body. This research demystifies the elusive organ ever so slightly, allowing science to pick at the mind. Moreover, it confirms what has always been known — everyone has a unique mind.

HOW THINGS WORK

Self-driving Ubers navigate



Paola Mathus/Staff Artist

SINEAD FOLEY
Forum Editor

Since allowing customers to hail self-driving cars in mid-September, Uber’s futuristic vehicles have become a common sight around Pittsburgh. With their roofs chock full of cameras and spinning sensors, they’re pretty easy to spot. But what are all those gadgets actually doing?

The most distinctive part of Uber’s self-driving technology, and the cornerstone of its navigation, is the Light Detection and Ranging (LiDAR) unit, or what most laymen would refer to as the spinnny part on top. The unit is meant to map the car’s surroundings in 3D with minute detail so the car is aware of any objects surrounding, it like parked cars, buildings, pedestrians, or debris in the road. LiDAR works by firing a laser at an object and measuring the time it takes for the light to bounce back to the sensor on the LiDAR unit, thus mapping the location of the object. Because light travels at a constant and known speed, it’s easy to calculate the distance to the object once the light’s travel time is known.

The LiDAR unit on top of Uber’s self-driving cars fires 1.4 million laser points per second to build a picture of the car’s environment. It is placed on top of the car so the lasers can have as far of a reach as possible, unobstructed by pedestrians or other cars. The car also has four less powerful LiDAR units placed on the front, rear, and sides of the car to cover blind spots.

LiDAR’s main benefit is its accuracy. Before the advent of LiDAR technology, radar, which uses radio waves instead of light waves, was most commonly used for detecting and mapping objects. At 500 feet from its source a radar

beam disperses to a width of 150 feet, while a laser beam is only 18 inches wide at the same distance. This makes a huge difference for self-driving cars, where being a few feet off on an object’s location can lead to an accident.

Radar also finds its place in self-driving cars, however. While LiDAR is accurate in detecting the shape and details of objects, its Achilles heel is accurately monitoring the speed of surrounding vehicles. Uber’s cars are outfitted with two radar units on its bumpers that provide 360° coverage and detect the speed of other vehicles on the road in real time. The data from these radar units also serves as a crosscheck for the LiDAR data. Automobile technology relies on redundancies and cross checks for safety, since a malfunction can have tragic results.

The wave-based object detection technology is supplemented with 20 cameras placed around the car. The colored camera placed just below the largest LiDAR unit on top of the car plays the vital role of putting the LiDAR map into color so the car can see traffic lights. The cameras around the car pick up far more data than the other sensors, including color and texture. The problem comes with interpreting the overwhelming amount of data cameras pick up.

With all of these sensors telling the car exactly where it is, it still needs to figure out where it’s going. That is where the rest of the technology cluttering the top of the car comes in. The back of the car’s hood is covered with a collection of antenna that allows it to position itself via the Global Positioning System (GPS). The car receives precise information from at least three of the 30 satellites orbiting the Earth

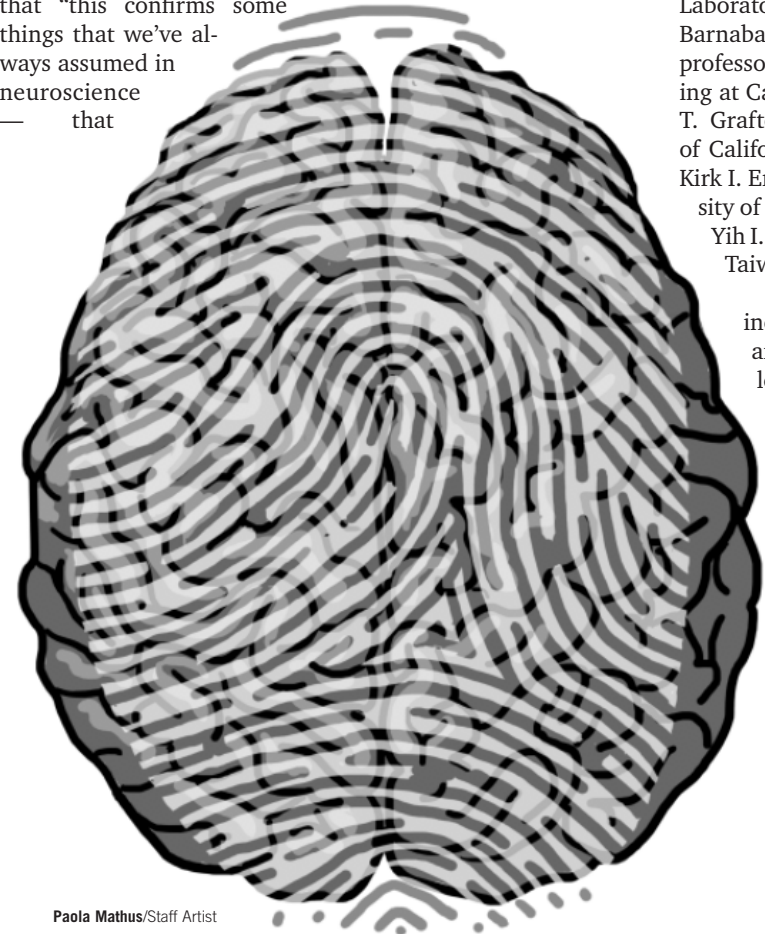
as part of the GPS network on its exact position and current time, and uses the overlap of the three satellites’ ranges to pinpoint its location. This method, called trilateration, is accurate within several meters and is effective in most scenarios.

However, several meters can make a world of difference for an automated car driving without human supervision. Uber has combated this problem by restricting their self-driving Ubers to certain routes and having them supervised by a vehicle manager behind the wheel at all times.

Google, which is also developing a self-driving car, has taken a different approach. Google has pre-mapped all of the 700,000 miles of road it allows the cars to drive on with exquisite detail, including everything from potholes to curb heights. When a self-driving car is actually on the road, its GPS position is matched with sensor map data previously collected in the same spot and adjusted accordingly.

Both Google and Uber’s strategies for dealing with the positioning problem have their flaws. Uber’s strategy limits the car’s flexibility and keeps it from being fully autonomous of a human driver, while Google’s strategy restricts cars to mapped roadways. And while 700,000 miles may sound like a lot, there are over 4 million miles of public roads in the U.S.

Uber’s self-driving cars combine an amazing array of technology to navigate their surroundings, and even more technology to make decisions based on the information they detect. While fully autonomous cars may still be far off, the technology being used today drives home the fact that we’re living the future.



Paola Mathus/Staff Artist

PUGWASH

Industry needs academics


RUIHAO YE
Special to The Tartan

Research has always been under intense pressures from the sociopolitical and economic states, but in recent years an increasing trend of corporate involvement has crept into this process with questionable results. When one considers industry-academia partnerships, some may imagine the majesty of historical industrial research giants, like Bell Labs, to current Information Age mini-academia research districts, like California’s Silicon Valley. Others may harbor reasonable doubt, with reports of dubious research produced at agenda riddled institutions like the European Hydration Institute or the Competitive Enterprise Institute. Without a doubt, it is important to consider the nature of such institutions as they become prevalent and stronger in the coming years.

First, as noted by one of the members of Pugwash, there is a distinction to be made between types of industry research. Direct research includes projects, such as those done by Shell, in which research would lead to a direct, marketable product or result.

On the other hand, indirect research, done by institutions such as the Competitive Enterprise Institute, uses funds to conduct research on less tangible or less directly

marketable products, instead developing results that affect the efficacy of their product or other research that may have long-term profitability.

There are many examples that question the relationship between industry and academia around these two styles of research. For example, under direct research, members discussed the role profit plays. One member brought up the Defense Advanced Research Projects Agency (DARPA) as a mix between government and corporate institution. He mentioned that DARPA encourages research in technologies that are directly of government interest, yet it may reorient towards industrial direct research profitability, resulting in a bridging between academic and industrial goals.

However, a different member voiced concern towards the motive of profit. Specifically, she mentioned how the University of Pittsburgh (Pitt) decides funding departments and the allocation of grants. According to her, Exxon recently provided funding to Pitt’s Civil Engineering department. However, this funding led to the defunding of some humanities departments. Also, she commented that grant money awards were being tied to the salary of requesters, but as a result was disadvantageous to those in Humanities programs.

Turning towards indirect research, one member mentioned the idea of Silicon Valley contributing to industrial formation and computer


technologies. Companies in Silicon Valley are interested in profit, but they are also interested in funding research into strategies and techniques to further increase the viability of those technologies.

This work is never too far from profit, though. For example, Disney research revolutionized snow physics for their film *Frozen*.

Such work may be physically intangible, but the awards given to works utilizing said tech can drive tangible product and sales. Again, in this case the primary motive is profit and not knowledge. Such a schism between industrial and academic research motivation should be noted. It is unlikely that Disney would research a field of computer graphics that could not be translated into profit at some point.

In the end, the relationship between research and industry is a rocky one with many benefits and drawbacks. But it does seem that the direction of this relationship is shaped more by the desires of those on top than a strict commentary on the nature of the relation. And as summarized by one member, it is up to the leadership of both academia and industry, current and future, to determine the orientation that this relationship takes.

Student Pugwash is a non-advocacy educational forum for the purpose of discussing the implications of STEM on ethics and policy. This article is a summary of last week’s topic of academic-industrial relations.



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.)



Upcoming Events

Men's Basketball
vs. Juniata
at Carnegie Mellon
Dec. 5, 7 p.m.

Men's Basketball
vs. Penn St. Behrend
at Penn St. Behrend
Dec. 7, 7 p.m.

Men's Basketball
vs. Saint Mary's College
at Carnegie Mellon
Dec. 28, 2 p.m.

Women's Basketball
vs. Wash. and Jeff.
at Wash. and Jeff.
Dec. 6, 7 p.m.

Women's Basketball
vs. Bethany College
at Carnegie Mellon
Dec. 8, 6 p.m.

Women's Basketball
vs. Muskingum U.
at Carnegie Mellon
Dec. 22, 2 p.m.

UAA Basketball Standings

Men's			Women's		
Univ.	W	L	Univ.	W	L
Rochester	8	0	NYU	7	0
Chicago	6	1	CMU	6	0
Wash. U.	5	1	Wash. U.	6	0
NYU	3	1	Emory	6	1
Emory	5	2	Rochester	6	1
CMU	4	2	Chicago	5	1
Brandeis	3	2	CWRU	6	2
CWRU	1	4	Brandeis	5	2

SPORTS BRIEFS

Women's Swimming & Diving

The Carnegie Mellon women's swimming and diving team finished the Kenyon College Total Performance Sports Camp Invitational on Saturday with first-year Emma Nicklas-Morris setting two new school records and senior Machika Kaku setting the record on the 3-meter diving board.

The Tartans finished fourth with 1,081.5 points and ahead of Division I Davidson College and Division III DePauw University. The University of Pennsylvania won the meet with 2,665 points.

Kaku dove to a career-best score of 492.70 on the 3-meter board to win the event and top the previous school record (473.55) set by Julie Pavia in 2006. Nicklas-Morris's first record of the day came in the preliminaries

of the 200-yard breaststroke when she touched in 2:21.54 to also record a NCAA provisional mark. In the finals, she touched ninth in 2:22.17. Junior Kim Hochstedler was 10th in 2:24.08.

The second school record of the day for Nicklas-Morris was in the 200-yard individual medley. She had the top time of the preliminaries when she touched in a provisional qualifying time of 2:04.55 to break the record set by Molly Evans in 2011. She finished second overall in the finals with a time of 2:05.45.

First-year Teagan Goforth earned a place in the A-Final of the 200-yard backstroke and finished sixth overall with a NCAA provisional qualifying time of 2:04.17. Junior Emma Shi won the B-Final by touching the wall in 2:05.28.

First-year Taylor Brown reached the evening finals of

the 500-yard freestyle with a season-best time of 5:14.41 during the preliminaries and surpassed the time in the finals to place 23rd in 5:10.88. Junior Miranda Ford also made the finals and finished 25th in 5:19.70. Her morning swim of 5:16.38 was a season best.

The 100-yard butterfly was led by senior Gillian Crews, who won the B-Final with a time of 57.24. Junior Mary St. John finished sixth in the same heat in 57.81 while senior Shieri Suzuka was eighth in 57.95.

Senior Allison Kirkby had the best swim of the day for the Tartans in the 100-yard freestyle Saturday night when she touched 22nd overall in a season-best 52.99.

The last event of the meet was the 400-yard freestyle relay which the Tartan quartet of Nicklas-Morris, Shi, first

year Victoria Feng, and Kirkby finished in 3:33.10 to place eighth overall in the event.

The Tartans will return to competition on Jan. 14 at home against Westminster College and SUNY Geneseo.

Men's Swimming & Diving

The Carnegie Mellon men's swimming and diving team finished the Kenyon College Total Performance Sports Camp Invitational on Saturday. The Tartans finished fourth overall with 1,022 points and ahead of Division I Davidson College and Division III DePauw University. The University of Pennsylvania took the title with 2,572 points.

Sophomore Mitchell Riek cleared a provisional qualifying time in the 500-yard freestyle when he touched in a season-best 4:31.13 to place 12th overall. First-year

Daniel won the C-Final of the same event to place 21st in a season-best time of 4:38.58. Sophomore Gabe Bamforth topped his school record score achieved yesterday in the preliminaries of the 1-meter diving event with a score of 531.35 in the finals Saturday to win the event.

Three Tartans swam in the B-Final of the 200-yard backstroke with junior Michael DiBacco leading the way in 13th place in 1:54.84.

First-year Ben Baxter and Richard Deng were just behind him in 14th and 15th place, respectively, with times of 1:54.89 and 1:55.10.

Senior Sivan Mehta turned in a 50.22 performance in the 100-yard butterfly to finish 12th while first-year Ryan Fitzpatrick was 17th in 51.56 and first-year Preston Vander Vos was 18th in 51.63.

First-year swimmer Rip

Lyster recorded a season-best time of 2:05.72 in the 200-yard breaststroke when he touched 12th and just ahead of senior Brian Jay who was 13th in 2:06.05.

One event later, Lyster returned to the pool in the 200-yard IM and turned in a 13th-place finish with a time of 1:53.62. His time of 1:52.76 in the preliminaries is a team best for the year.

The Tartans placed sixth in the 400-yard freestyle relay to finish the meet. First-year Sam Hawke, Deng, Mehta, and Riek touched in 3:04.48 and were 38-tenths of a second off from a provisional qualifying time.

The team will next take on Westminster College and SUNY Geneseo on Jan. 14.

Compiled by
IAN TANAYA



Courtesy of CMU Athletics
A Carnegie Mellon swimmer slices his way through the water at the Kenyon College Invitational this weekend.



Courtesy of CMU Athletics
Senior guard Jackie Hudepohl makes her way to the net for an easy layup in another clean win for the Tartans.

Sports

Tartan women’s basketball scores over 100 after break

MARIKA YANG
Staffwriter

On Wednesday, the Carnegie Mellon University women’s basketball team rolled to another victory against the Mount Aloysius Mounties to continue their perfect season. The Tartans began the first quarter with a hot streak, quickly gaining a lead over the Mounties with efficient passing, consistent defense, and a commitment to scoring in the paint. As the first quarter entered its final minutes, Mount Aloysius began crawling back from an 11-point deficit. The quarter ended with Carnegie Mellon leading the game with a score of 25–17. The second quarter played out as the first did, with the Tartans maintaining their momentum. Their strong defense was on display as they forced several turnovers while also taking advantage of the Mounties’ errant passes, allowing the offense to score quick points off fast breaks. Mount Aloysius was unable to keep up with the surging Tartans, who gradually pulled away as the quarter progressed. Senior guard Lisa Murphy led the offense with perfect 6-of-6 shooting and a total of 14 first half points. Surging with an aggressive first half performance, Carnegie Mellon completed the first half with the score 51–33. The Tartans came out of the half with the same consistent play they sustained throughout the first half. They soon amassed a 21-point lead in the beginning of the third quarter. The Mounties fought back with good defense, but could not slow the Tartans down. The Carnegie Mellon offense took advantage of offensive rebounds to score on second chance shots, soon widening the lead to 30

points. While the Mounties struggled with getting to the basket and making shots, the Tartans found holes and open spaces in the Mount Aloysius defense. Though they had a comfortable lead halfway through the third quarter, the Tartans refused to get complacent and continued to play aggressively. As with the start of the previous three quarters, the Carnegie Mellon squad got to a quick start in the fourth quarter. With the team’s large lead, many reserves off the bench got the opportunity to play more minutes than in an average game, allowing the starters to rest. The quarter saw the Mounties finally finding some flow and momentum in the game, but it was already too late in the game to start a comeback. Though the Mount Aloysius offense cut the Carnegie Mellon lead by 10 points, the Tartans managed to break 100 points in a game for the first time this season. The Tartans won the game with a score of 108–71.



Courtesy of CMU Athletics
Senior center Lisa Murphy has been the star player for multiple seasons.

Murphy finished the night with a perfect 10-of-10 shooting performance and 25 points. Senior Jackie Hudepohl led the team with a total of 26 points on the night. Coming off the bench, first-year Katharine Higgins scored 19 points for a career-high. The Carnegie Mellon team completed 60.9 percent of field goals attempted; of the 42 baskets made, the team recorded 25 assisted. The Tartans scored 24 points off of turnovers, compared to the Mounties’ 16, while also scoring 12 second chance points to the Mounties’ 4. With a season high of 108 points in the game, the Tartans are one point away from tying the school record for points in a game. They broke the season’s game-high by a wide margin of 28 points. The team continued its impressive play this season, extending the perfect record to 6–0. Next, the Carnegie Mellon women’s basketball team will play Washington & Jefferson College on Tuesday, Dec. 6, 2016.

Men’s basketball wins more close games over weekend



Courtesy of CMU Athletics
Senior center Chris Shkil gets way up over a defender as he takes it to the rim in the Tartans’ victory last week.

ALEX WOOD
Sports Editor

The Carnegie Mellon men’s basketball team took no time off after this Thanksgiving holiday as they jumped right back on their home court to take on the Saint Vincent College Bearcats in the championship game of the Carnegie Mellon DoubleTree Invitational on Sunday, Nov. 27. The Tartans took the trophy in a decisive victory with a score of 76–62. The game did not appear to be in the Tartans’ favor at the outset, though. The team made one of seven shots from the field and was trailing after only four minutes of play, but they started to find a rhythm as the game progressed. The Tartans found themselves on a 9–0 scoring run and took a huge lead late in the first quarter, but the Bearcats found a groove of their own and managed to bring the lead to within seven points. The teams continued to scale

the length of the court and trade points, but the Tartans held onto their lead and matched their opponents on every score. The closing minutes of the half were tense as Saint Vincent earned eight unanswered points and took a two-point lead. The Tartans quickly squashed the small success of their opponents with a clean three-pointer from senior forward Jack Serbin, and coupled with some clutch free throw shooting they headed into the half in the lead, 34–33. The Tartans opened the second half with relentless offensive pressure, scoring on their first four shots of the period and eventually taking a 10 point lead to cap the 14-5 run. Junior guard Ryan Maha was a major contributor on this run scoring multiple three-pointers and eight of the 14 points. The Tartans never relinquished their lead. The Tartans finished the game shooting 44.8 percent overall from the floor, and

were led by Serbin who scored 30 points on the night. Maha was the only other Tartan to score in double digits with 15. Senior center Chris Shkil also contributed nine points and nine rebounds to the Tartan victory. The Tartans then went on a short road trip on Wednesday to Allegheny College to face off against the Gators. They continued their success from Thanksgiving weekend with a 71–58 victory to improve their record to 4–2 on the season. Serbin led the Tartans once again in this contest, scoring 22 points and 14 rebounds. Fellow senior Shkil also recorded a double-double with 20 points and 10 rebounds. Maha had 13 points of his own along with two clutch three-point shots in the second half to secure the victory for the Tartans. Carnegie Mellon will stay on the road as they travel to Juniata College on Monday, Dec. 5 for a heated game set to start at 7 p.m.

The Tartan fantasy football league settles for the winter

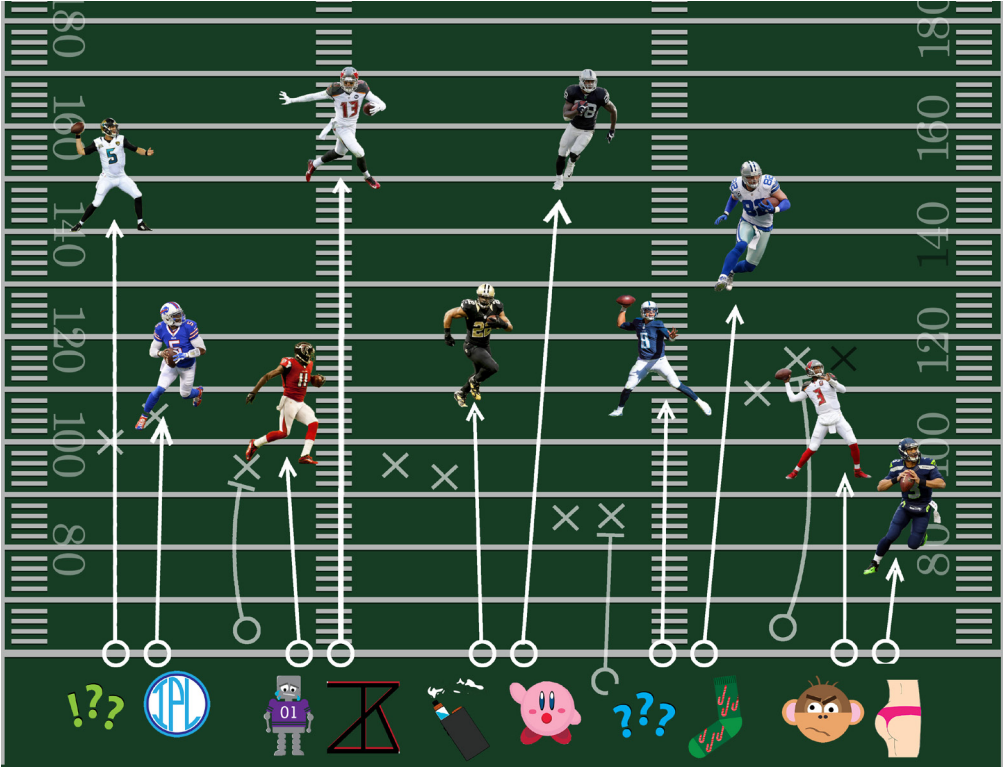
ZEKE ROSENBERG
Layout Manager

While most people were doing Thanksgiving activities like spending time with their families or eating food, The Tartan II featured four different games in week 12 with playoff implications and a battle to escape from the cellar between Forum Editor Sinead Foley’s How does this work? and Forum Editor Sinead Foley’s What is going on? This week could have upended everything, but it went all chalk. The team with the better record won every game and put the regular season to bed one week early. I needed revenge in this matchup. Week three, I put up 143 points, tied for my fourth best game of the year. Unfortunately for me, I was matched up against sports editor Alex Wood’s team who posted 144. I went with Texans wide receiver Will Fuller V in my flex spot, thinking he could torch the thin Patriots secondary. He managed only six points. On my bench, Patriots wide receiver Julian Edelman scored eight, Cowboys wide receiver Cole Beasley scored 14, and Packers wide receiver Jordy Nelson put up 28. I righted the injustice this week, though. I started Washington quarterback Kirk Cousins, trusting he could do more damage against the soft Cowboys defense than Falcons quarterback Matt Ryan could against the Cardinals, and I made the right decision. Cousins put up 29 points, the difference between me winning by 43 and me winning by 14, an unacceptably small revenge game margin.

If, for some weird reason, this league was on television and had flexible scheduling, this game would have been in prime time. Going into the matchup, McManus’s Anus held the edge in total points scored and a win here would have tied these teams’ records going into the final week of the season. In other words, this was essentially a playoff game. Instead, Gutie choked in the key moment of her season. The decision to play Colts running back Frank Gore against a Steelers team that can defend the run but nothing else while Raiders wide receiver Michael Crabtree had the porous Carolina secondary to light up would have helped, but it still wouldn’t have dragged McManus’s Anus out of the cellar for the week. Losing yet another week of Patriots tight end Rob Gronkowski almost certainly hurt McManus’s Anus, the team is 4–3 with him getting meaningful snaps as a receiver for a full game and 1–4 without his contributions. However, fantasy football is terrible and sometimes you have to work around injuries. Gary Barnidge wasn’t the answer this week. For their part, the Pladdie Daddies didn’t exactly do so hot either. Broncos wide receiver Emmanuel Sanders put up 29 points, essentially the difference between the two teams, and the squad barely cracked 100. That’s not a good thing to be relying on. That said, the Pladdie Daddies took home the W and their playoff ticket is punched with this final success of the season.

This matchup essentially locked the Dreamland Warriors into the three seed come playoff time. At 8–4, 200 points scored and one game behind me and 150 points and one game ahead of Price’s Pladdie Daddies, there’s no realistic combination of outcomes that sees the Dreamland Warriors swipe the division or slip into the second wild card. The Dreamland Warriors came to play to snag that three seed, though (McManus’s Anus, take notes). A score of 146 would have topped former Pillbox Editor Lula Beresford’s score any week this season. Performances of 25 points or more from Saints quarterback Drew Brees, Bills running back LeSean McCoy, and Giants wide receiver Odell Beckham turned into a huge week for the Dreamland Warriors. With the exception of a two-point performance from the Dallas Cowboys defense, the Mass-hole Knickerbockers did okay, but okay was not going to be enough this week.

What is going on? lit up the scoreboard this week to become the final team to snag a fourth win this season. What is going on scored 41 points from the defense and kicker spots alone thanks to big days from the Giants defense and Ravens kicker Justin Tucker. The rest of the team showed up, too with Dolphins quarterback Ryan Tannehill, Cardinals running back David Johnson, and Panthers running back Jonathan Stewart all topping 20 points. This game was between two cellar dwellers



belonging to the same person, so it had little in the way of implications, but it’s always an important milestone when everyone clears the 10-loss bar. What is going on’s victory ensured that no one will finish with double digit losses heading into next season. This game could have made things interesting. Pillbox editor Abhishek Tayal’s Loquacious Losers have spent some stretches this season as a point collecting juggernaut. A win for the Losers in this game would have made Loquacious Losers vs. Pladdie Daddies in week 13 a de facto playoff game with Tayal having an outside shot at the division crown. Instead, the Rams defense put up eight, and a few bad lineup choices ended the

Losers’ season. Now that they’re firmly out of contention, now is the time to ask why on earth the adjective here was loquacious. Are losers particularly talkative? Did I miss a memo here? It seems the obvious choice would have been lugubrious, or even lackluster. If the point was to put a long, alliterative, phonetically pleasing phrase, why not conjure the human response to losing and go with lacrimatory or evoke the grotesque and dub your squad the limacoid losers. L is basically the best adjective letter in the dictionary and, honestly, I’m glad this game went the way it did because this opportunity was blown so badly that this team deserved nothing good. Unprecedented levels of parity were a big storyline in the NFL this year, and the same could be said about The

Tartan II. If every game works out correctly, six of the 10 teams could finish with the same record. Unfortunately for those six teams, it’s the other four who will be battling it out over winter break for the big crown. Online Editor India Price’s Pladdie Daddies, assistant Sports Editor Ian Tanaya’s Dreamland Warriors, Operation Manager Jade Crockem’s Mr. Rodgers Neighborhood, and yours truly have built at least two games of separation from the field with only one game to go. The final weekend will still have drama. If Mr. Rodgers’ Neighborhood outscores me by 225 points or I lose my last game to Publisher Sarah Gutekunst’s McManus’s Anus, Crockem can take the top seed. Other than that, the regular season is set in stone and this year is in the books.



The Tartan's Art &
Culture Magazine

PILLBOX

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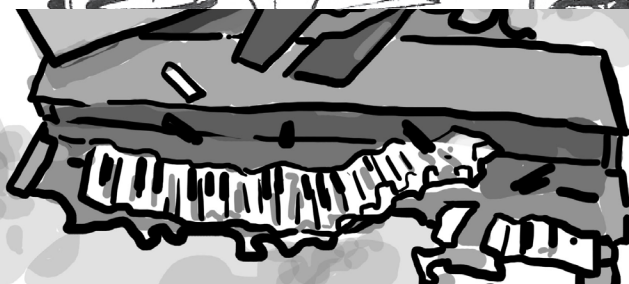
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Fantastic Beasts

magic brought to new life

Izzy Sio | Staffwriter

I can't remember my first encounter with J.K. Rowling's Wizarding World. Somehow, *Harry Potter* has always been a part of my life. I'd read the books diligently and I'd watch the first film, *Harry Potter and the Sorcerer's Stone*, on repeat. I felt an instant connection to the Ravenclaw house and knew I belonged there even before I was sorted into it. Watching the midnight premiere of *Harry Potter and the Deathly Hallows Part 2* with my cousins in the Philippines was a highlight of my teenage years, but it was a perfect conclusion to what I saw was a perfect franchise. I had said my goodbyes. The apparition of a new movie, and then the promise of four other films after that as part of a new franchise, was at first unsettling and uneasy to me, especially since *Harry Potter and the Cursed Child* was met with extreme division.

Fantastic Beasts and Where to Find Them is directed by David Yates, who directed the last four *Harry Potter* films, and written by J.K. Rowling herself. I instantly felt that familiarity as soon as the movie started, and the film wasted no time

welcoming folks into the Wizarding World. The comfort in this felt like a fuzzy blanket, the Easter eggs (which were mostly name drops) in the film felt like tasty chocolate, and pretty soon I was charmed by the adventures of the American Wizarding World, Newt Scamander, and his case full of magical creatures.

While this movie is certain to please many *Harry Potter* fans, Eddie Redmayne's performance as Newt Scamander is one of the shining reasons to see this movie. Redmayne's eccentric English magizoologist is layered, complex, and shows immense potential for his character, which was incredibly exciting. The roots he establishes for Scamander's character and eccentricity are relatable and striking, and his performance goes above and beyond to a level just as worthy as his Oscar-winning performance as Stephen Hawking in *The Theory of Everything*.

Unfortunately, most of the American characters and aspects introduced felt flat, unlikely, or

disappointing for stretches of the movie. No-Maj (or Muggle) Jacob Kowalski's presence initially didn't make sense on paper and it reverberated for half of the film's first act. Tina Goldstein came across as extremely uptight and the film seemed to clench up at points. So much of the Magical Congress of the United States of America, the American version of the Ministry of Magic, felt unexplored and the film felt like it had so much more potential to explore certain themes. In addition, the ending took a weird transition that felt unnatural and a bit forced.

However, it also made me excited for what's to come. *Fantastic Beasts* reignited my love for the Wizarding World and was an amazing reintroduction of magic into my life.

Every spell cast took me back to my childhood and the love and care of this franchise could still be felt through every frame. Not only did the film reaffirm that "Hogwarts will always be there to welcome you home," but it enchanted you to spread the magic for others to enjoy and cherish.

Moana

Disney outdoes itself again

Izzy Sio | Staffwriter

Who are you? That is the central question that Disney's new animated film, *Moana*, asks. It's very easy to get swept away by Disney's *Moana*. It's also very easy to get swept into a formulaic Disney film that's been told over and over again. And it's also very easy to lose sight of that message.

Moana, however, takes that order into new directions to tell an incredibly fun and insightful story that rings true to the heart of Disney, resonates with its audience, and strikes at the heart of one searching for their identity. Directed by the team behind *The Little Mermaid*, John Musker and Ron Clements, *Moana* tells the story of the titular character's journey to save her home by travelling across the sea to meet the demigod Maui and restore order to her world.

Every moment of this movie felt like a thrilling and exciting adventure, and the animation that helped to create and shape this movie only enriches the experience. The animation is absolutely mesmerizing and breathtaking

— each blue sea made you want to glide your hand through it, and the water's movements are a marvel of animation that can't be described in words. These landscapes and animations are built for the big screen. I also watched the film in 3D, and while 3D usually doesn't work for me, this movie is the rare exception, being made to be enjoyed in all three dimensions.

Besides being well-written, the characters of *Moana* are also incredibly impactful. The titular character, Moana, is an extraordinary, admirable woman who feels organic and real, and throughout the movie she constantly surprised me and made me smile. In addition, the movie was often surprisingly meta, with demigod Maui utilizing his arrogance to comment on Disney's typicality when he wasn't stealing the show with his infectious personality. Tamatoa, a huge crab, comments on his fondness for breaking into song and his quips were as dazzling as he was.

The music of *Moana* is written by Opetaia

Foa'i, Mark Mancina, and *Hamilton* creator Lin-Manuel Miranda. While Miranda's signature feel, style, and vibe are all over *Moana*'s music, there is a distinct theme that stands out on its own. All the tunes are destined to become instant classics, and fit perfectly within the world of *Moana*.

Miranda even lends his voice to some of the tracks, particularly a jazzy, upbeat cover of "You're Welcome" featuring *Grease! Live* star Jordan Fisher, which make them as equally amazing as *Hamilton* and this movie. *Moana* is groundbreaking for everything it stands for. It opens audiences up to the rich culture of Polynesia, delivers a journey and lesson of self-discovery in a powerful way, showcases a future classic collection of Disney songs, becomes a self-aware Disney film for the first time, and features a powerful heroine that is an inspiration to all in her demeanor and how she leads her people. This instant classic holds its place with the other great films before it, and is an incredible journey that teaches people to help find who they truly are.

Age 8, 18

Sinead Foley | Forum Editor

A girl's been haunting
the grimy bathroom mirrors
of every

restaurant,
bar, and
gas station

I stumble into.

~
Just a child,
she appears
on the kind of nights I throw
my shoes out after,
the soles completely saturated with
vomit,
mud, or
blood
from blisters born and broken on romps
across miles of rambling concrete.

Nights of skin to touch
and pills to pop
and moons to howl down
to the horizon,
arms flung wide
to encompass
the city's buzzing
electric dome.

The kind of nights that will have to be
phantom smiles of memory,
and sure as hell not stories
you tell the kids.

~
Her gaze catches me
in places she has no business being,
a child up after bedtime with
soap scum streaked cheeks
and timid, hungry questions
in her familiar eyes.
They're my eyes,
and the eyes of my sister,
and our mother before us.
Eyes colored empty bottle green
and lonely.

The kind of lonely that kills
tomato plants,
left to shrivel on the windowsill
with no one to house sit,
or lives off ramen
with no one worthwhile
to cook for,
or leaves you haunting bathroom mirrors,
craving a life with
better things to do.



Eyes that tie me
to our lineage
of trapped souls.

~
In the cramped claustrophobia
of a bathroom stall, her silence jumbles
with the chorus of chipped graffiti,
asks me, *did we make it out?*

There are no answers for her
when I'm alone.

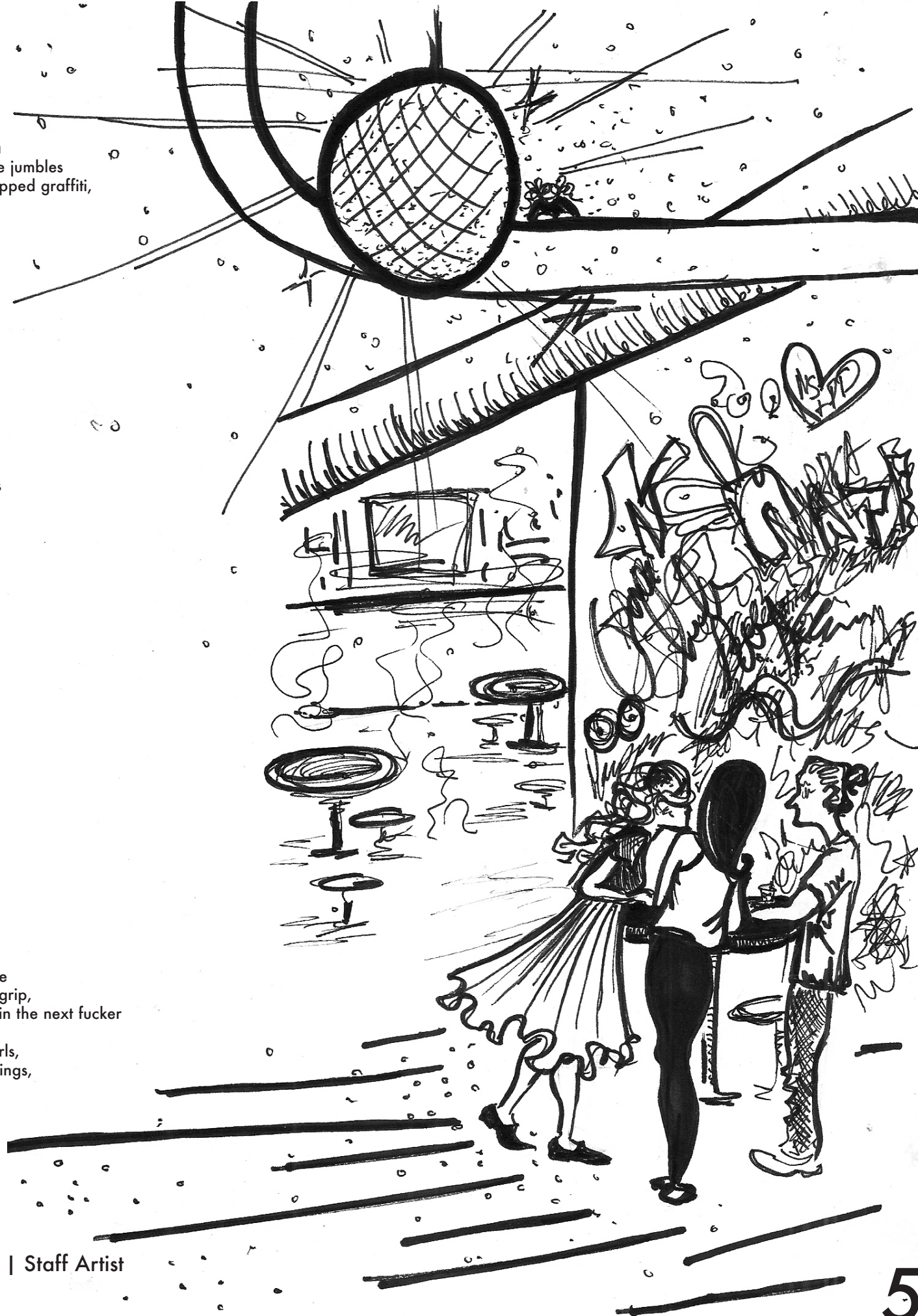
But in the next room
there's a rush of sound
ready to scoop me up
in the exhilaration
of exclusion,
fold me back into the pack
with our tiny passwords,
quick hand squeezes,
cackling laughter
and secrets kissed
into each other's ears
like prayers.

Public codes
and private rituals.
Tangling hair with dye,
painting each other
a hundred hues,
our choices coating
our roots,
growing away
from the children
in the mirror.

Scents cloaking us
with an idea
of luxury.

We consume,
morphing I to we,
build dialects that stain
our every breath
with our new origin.

~
Beyond her,
there's a night waiting,
heavy as a beer bottle
as I shift my grip,
ready to brain the next fucker
who catcalls
one of my girls,
light as dancing on bridge railings,
our toes protruding
into tenuous space,
Laughing,
mind the gap.



The Exploded Concert!

Apeksha Atal

Assistant Pillbox Editor

Editor's Note: The Tartan's Visual Editor, Theodore Teichman, is a member of the Exploded Ensemble.


The last time I ventured into the Alumni Concert Hall was for a senior recital. The brightly lit room was regal with decorative pillars standing tall at the head of the room, and red panels lining the walls. This past Wednesday night, the room was dark, with lights being focused ahead of where the chairs had been arranged for the audience to sit. The front rows were filled instantly, and before long people had to resort to skirting the edges of the seating area to catch a glimpse of what was to be a truly unique musical experience.

The Exploded Concert was performed by Carnegie Mellon's Exploded Ensemble, with pieces put together by students. Each of the pieces took inspiration from selected source material, and as the co-director of the show, Lance LaDuke, put it, was designed to "blow it up, or explode it, if you will." The results were thought-provoking and performed with a combination of electronic music and acoustic instrumentation.

The aim of assembling the ensemble was to give students in the School of Music some experience with more contemporary forms of music composition and performance. "Today, music is moving at an entirely different pace," LaDuke explained, which is why it benefits students to have exposure to as many genres as possible. This was the first performance by the ensemble in concert, but far from being their last. "We've been experimenting around campus quite a bit, and we'll be performing later on in the year," LaDuke promised.

Amongst the pieces was a video that had been conceptualized by the late Pauline Oliveros. Oliveros was an absolute staple in the early years of the constantly evolving field of electronic music, and was known for creating experimental musical environments, and liked to work with natural sounds. The video projected in three panes, separated by the pillars of the hall, and showed the members of the ensemble playing their instruments and marching around the periphery of a racquetball court. The camera continuously rotated, capturing all angles of the court, while a powerful microphone, seen as a gray fuzzy object facing one of the walls of the court, captured sound from 360°. The audio resembled that of an orchestra tuning their instruments, but with the echoes that resulted from the enclosed setting of the court,





the sounds melted into what I can only describe as an interlaced cacophony, that simmered down to a hush by the end of the video.

The other performances of the night encompassed the spirit of marrying the electronic and the acoustic. Each piece was complemented with projections ranging from thick streaks of colors melting into one another to a stopwatch that counted to nothing fast, and then slower as the performance went on.

"Time Lapse," by Theodore Teichman, included a graphic music display overlaying a live video feed of sophomore Steven MacDonald walking around the College of Fine Arts building while playing the bagpipes.

Senior Shoshana Klein also arranged an incredible rendition of Bjork's "Crystalline," entitled "Crystallinesque," which

incorporated the use of members of the ensemble using bottles and blocks as percussion instruments. The various materials of the percussion instruments creating a ringing atmosphere of tinks, clanks, and bangs that filled the entire hall, as members walked through the aisles and around the back of the hall.

The evening ended with a stunning tribute to David Bowie, arranged and conducted by fifth year senior Erik Fredriksen, titled "Warszawa." The tribute included the entire ensemble including electronic, acoustic and vocal counterparts. The deep and raspy voices of Jake Chirulla and Tyler Harper brought vibrance to an eclectic and interpretive orchestra, finishing the event on a moving note.

Since the ensemble has vowed to take the stage again, I encourage all lovers of experimentation to keep an eye out for announcements, and, in the words of LaDuke, "if you see us wandering around campus, join us."

To see the event, and more from the school of Music, visit:
youtube.com/CarnegieMellonMusic

Paola Mathus
Staff Artist

PHIPPS

Winter Flower Show

Michelle Madlansacay | Staffwriter

Photos by Rosemary Haynes | Staff Photographer

The holiday spirit is becoming more and more prevalent in Pittsburgh each day. From the decorated houses to the festive lights illuminating downtown, all of Pittsburgh is getting ready for this joyous season. However, the Pittsburgh holiday display that I've found to be the most unique is the Winter Flower Show at Phipps Conservatory.

When I went to this event, it was also my first time ever visiting Phipps; there were no expectations, only excitement. As my friends and I walked towards the entrance, the first things we saw were two large Christmas trees covered in colorful lights. There's nothing like two beautifully decorated Christmas trees to easily get visitors in the holiday spirit.

Once we were inside, we quickly bought our tickets and headed towards the first room of the exhibit, which was the Palm Court. This slightly humid room was filled with palm trees, and it made for a somewhat Floridian experience.

My friends and I kept walking to find that the holiday show actually began in the next room: mini Christmas trees, penguin sculptures, and beautiful red ribbons were all displayed, and you could feel that happiness of the holiday season. Poinsettia flowers were also dispersed throughout, already being the true stars of the show.

The exhibit pathway led my friends and me to a human-sized reindeer statue ice skating around a gigantic Christmas tree, which was decorated with lights, red ornaments, and white ribbons. Right next to this was a snowman display, surrounded by flowers of all different colors. The sight of wintry snowmen being surrounded by spring flowers was definitely something you don't see too often.

My friends and I continued to pass by more festive displays, with flowering plants such as Winterberry and Blue Holly making more frequent appearances. It wasn't until we went outside to see the light show, that we really started to feel that holiday excitement. Seeing all the bright and bold colors with the unique lighting patterns reminded me of watching holiday light shows with my family, as a kid.

At Phipps, there were giant lights shaped as ornaments and tree lights, as well as moving lights emulating dangling ice crystals. Even though it the temperature was very cold outside, the mesmerizing lights display along with the decorated outdoor garden made up for it. If you have the time, be sure to check out the light show at Phipps. It'll definitely help you relax before finals, and even get you in the holiday spirit!

STACK'D SHADYSIDE



1/2 OFF SPECIALS

MON: \$.50 Wings

TUE: \$3 Stack'd Burgers

WED: \$3 Veggie Burgers
(9pm-Midnight)

\$6 YUENGLING PITCHERS

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Ban All Blockbusters

Eric Wiegand | Staffwriter

Communication and the new movie *Arrival*

Arrival, a new movie directed by Denis Villeneuve and written by Eric Heisserer, is based on the short story "Story of Your Life" by Ted Chiang. It stars Amy Adams, Jeremy Renner, and Forest Whitaker.

I want to talk about how *Arrival* is an antidote to the flashy/skin-deep/overblown summer blockbuster, but it would be disingenuous to say that this film isn't aiming even higher. This is a movie that wants you to leave the theater talking about subjects ranging from the Syrian refugee crisis to Noam Chomsky to the fundamentals of human empathy.

I'll try not to reveal too much, but just trust that this is a bit more of a mind meal than *Independence Day*.

First of all, this movie is directed with an explicit interest in showing you images that will linger in your mind long after the credits roll. I'm fairly certain an imperative goal of the cinematographer, Bradford Young, was to make audience members dream vividly of the enormous egg-like alien crafts hovering precariously over us, or the austere rectangular cavity wherein most of the film's action takes place. The images are composed quietly and monumentally, with no (well, maybe a few) explosions or sugary excitement to confuse the experience. Even the chosen structure of the film, edited consciously and curiously, took me along in a way that was very unlike other movies, particularly in the sci-fi genre. It's not just the content of the story that's meant to communicate with you, but the idiosyncratically cerebral way that it is told. This makes for a brilliant compliment to the story itself.

There is reason to believe that *Arrival* was written at a more politically and socially hopeful time, with its gaze cast on the hurdles, challenges, and ultimate saving graces of our increasingly globalized society. Perhaps the writer assumed that the ideals which *Arrival* stands for would be nearly universally recognized and embraced, making the film itself a victory flag mounted atop our progressive social landscape. However, recent developments in nationalist rhetoric, the cooling of international relationships, and the souring of attitudes toward a cohesive global community force *Arrival* onto a different platform; it is an allegory, a voice trying to pull us away from the void of reductive thinking, crying out for actualized dialogue and intricately imagined communication.

The division of the country's conscience, done publicly and grotesquely, leaves us going home to loved ones who may feel philosophically or emotionally threatened by us or each other. Confusion over misunderstood ideals, a seemingly defining choice creating an ocean between siblings, parents, cousins.

This year has presented rare difficulties in family relations, each side heartbroken and angry. And beyond the family, we might feel an unbridgeable gap in sentiment between us and the more nebulous "other," those we do not know who do not agree with us. In this case, it's even harder to believe there could be any common ground to stand on.

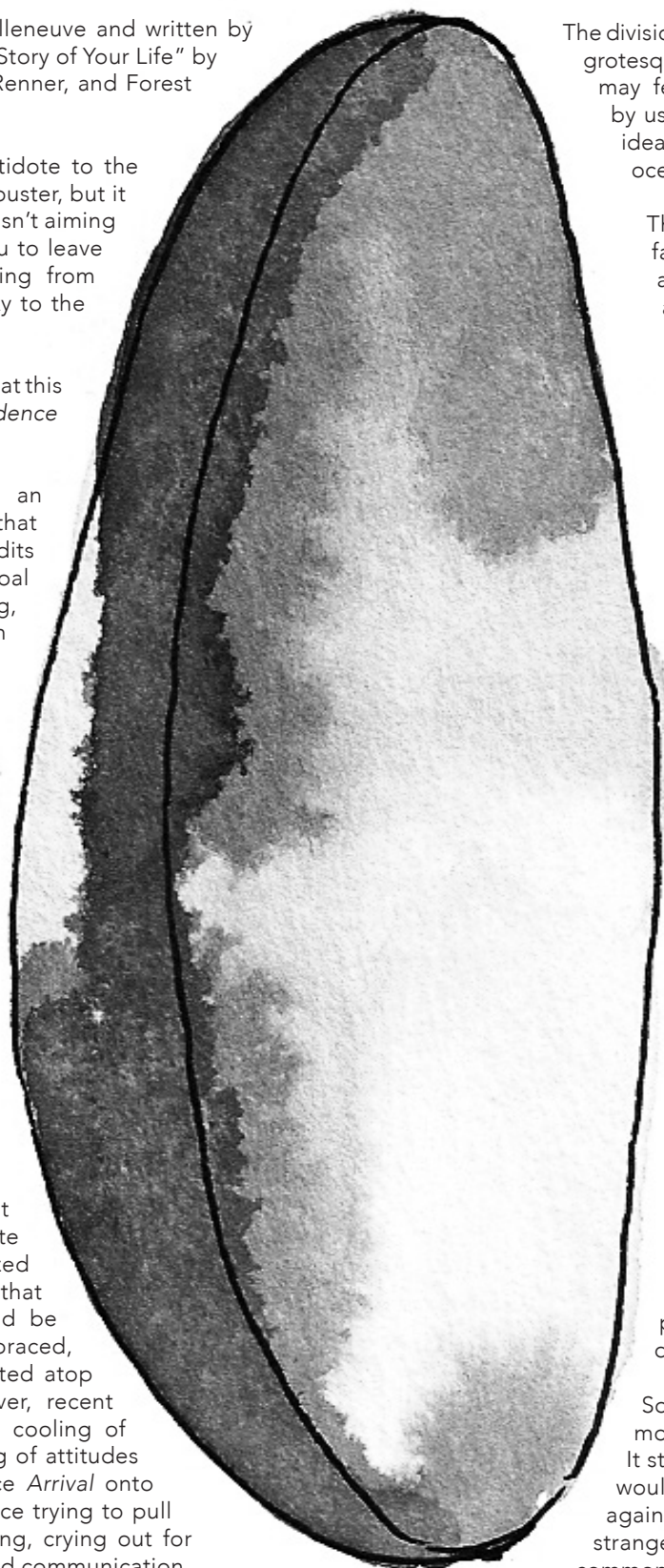
But, if *Arrival* is telling us anything, it's that there is always common ground. The virtue of the film's main character is that she is willing to put in the enormous effort it takes to listen, to take the time for intelligent consideration and deep understanding, which too often people mistake for being frivolous or unrealistic.

So maybe we should talk about this on an even larger scale, consider what the "other" is to a whole lot of people, maybe even a country. As mentioned earlier, this movie does bring to mind thoughts of Syrian refugees, or others forced into exile, looking for inclusion from a foreign power.

Consequently, I think about the reductive way that certain administrations have addressed and labelled these people. It seems that organizations of powerful people around the world have decided that what refugees or other marginalized groups communicate is death, and, in their fervor to squash a perceived threat, lead many more people to cataclysm. *Arrival* intends to land the point that this merely boils down to misunderstanding.

The only villains in *Arrival* are not people, but rather misguided principles, reactionary protectiveness, and defensiveness, which so quickly turns to violent offensiveness.

So, yes, in my mind *Arrival* is a truly perfect movie for the holiday season in this strange year. It stands hopeful in the face of so much news that would undercut its sentiment. I'll be sure to see it again, with my family, in a theater, surrounded by strangers with whom I'll be able to name at least one commonality.



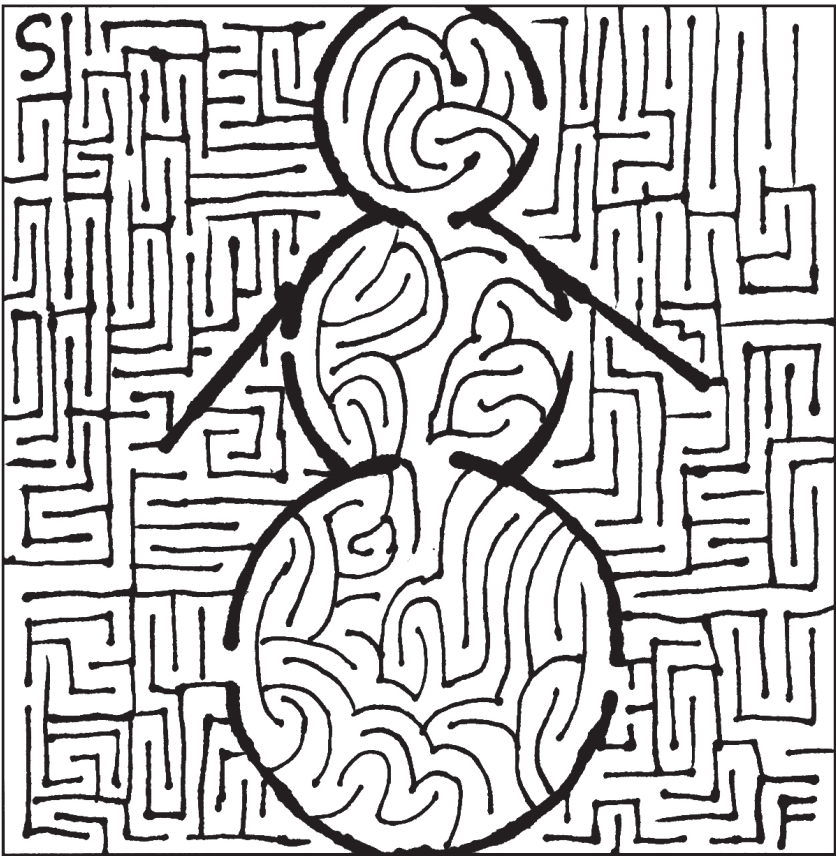
Simin Li | Staff Artist

sudoku

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

sudoku courtesy of www.krazydad.com

maze



Dylan Hyun | Junior Comics Artist

Solutions from Nov. 21

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

sudoku



Grab the stone and bring it to safety

maze

State Names

by xkcd

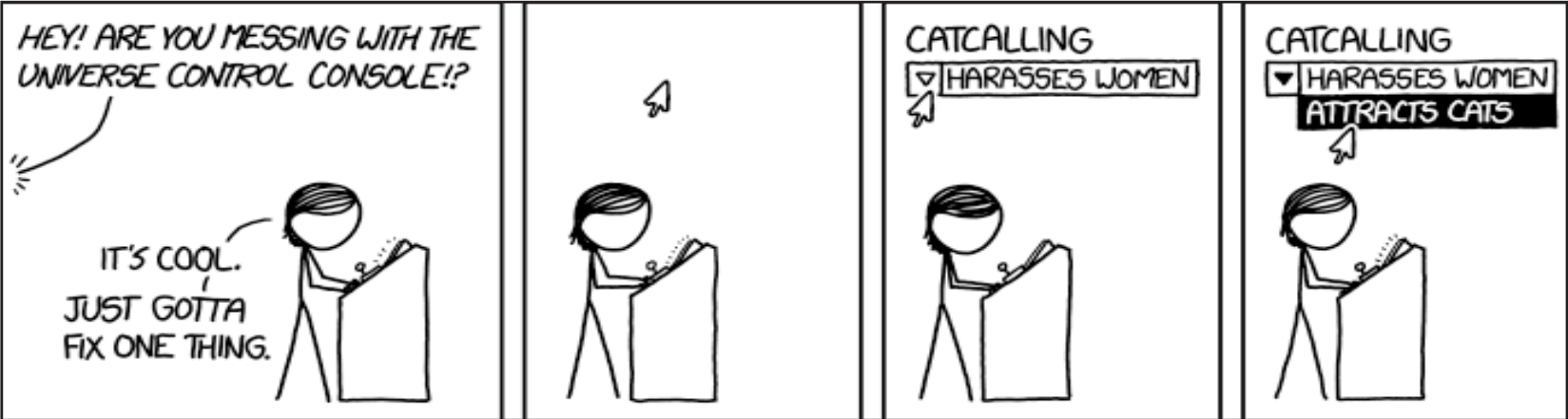


xkcd@gmail.com

xkcd.com

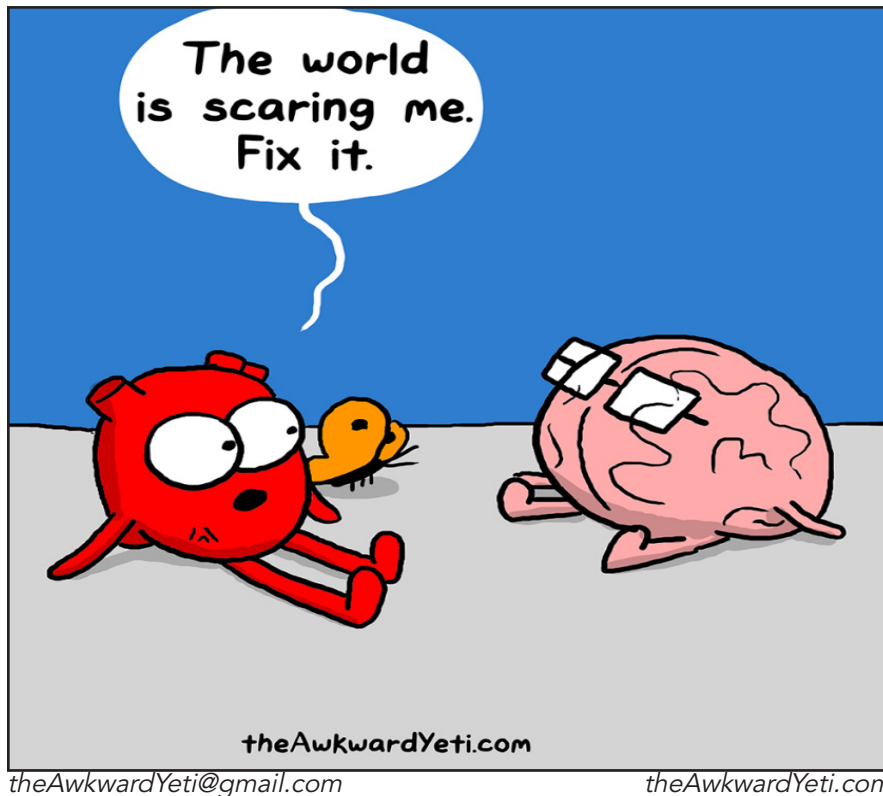
Catcalling

by xkcd



xkcd@gmail.com

xkcd.com

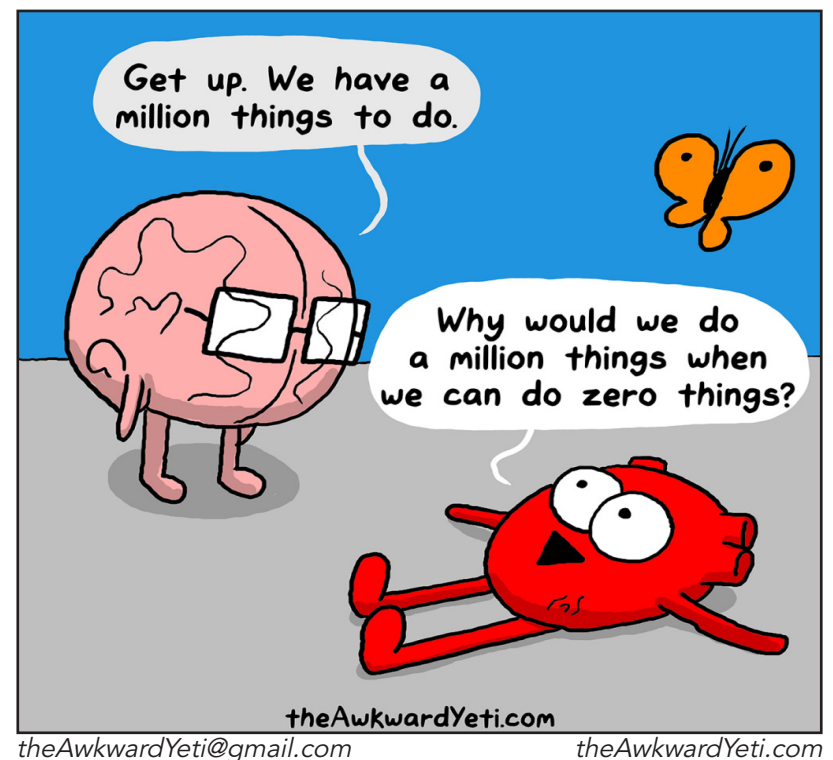


World in Turmoil

by Nick Seluk

Finals Week

by Nick Seluk



horoscopes: the signs as *Doctor Who* quotes*

Aries

march 21–april 19

“There’s something that doesn’t make sense. Let’s go poke it with a stick!”

Taurus

april 20–may 20

“We’re all stories, in the end. Just make it a good one.”

Gemini

may 21–june 20

“I am and always will be the optimist, the hoper of far-flung hopes and dreamer of improbable dreams.”

Cancer

june 21–july 19

“If it’s time to go, remember what you’re leaving. Remember the best.”

Leo

july 20–aug. 22

“We all change, when you think about it. And that’s ok, so long as you remember all of the people that you used to be.”

Virgo

aug. 23–sept. 20

“Never ignore coincidence. Unless, of course, you’re busy. Then always ignore coincidence.”

Libra

sept. 21–oct.19

“Small, beautiful events are what life is all about.”

Scorpio

oct. 20–nov. 20

“The darkest day. The blackest hour. Let’s see what we’re made of, you and I.”

Sagittarius

nov. 21–dec. 20

“Sometimes, very rarely, impossible things just happen, and we call them miracles.”

Capricorn

dec. 21–jan. 19

“I see keep out signs as suggestions more than actual orders. Like ‘dry clean only’.”

Aquarius

jan. 20–feb. 20

“In a unique, terrible, wonderful universe, one thing I can tell you: monsters are real.”

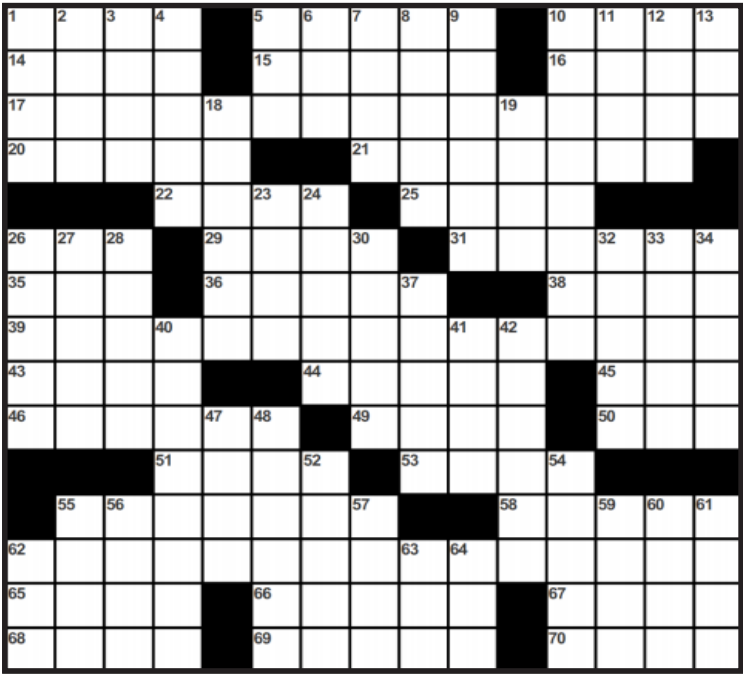
Pisces

feb. 21–march 20

“There is no such thing as an ordinary person.”

*All quotes by Steven Moffat

crossword



Crossword courtesy of *FreeDailyCrosswords.com*

across

- 1. Actor Guinness
- 5. Journalist Boothe Luce
- 10. Things to repent for
- 14. “Do you take me ___ fool?”
- 15. Gobi green
- 16. Bright brain concoction
- 17. Using more credit
- 20. Old-fashioned music hall
- 21. Eternal
- 22. Immature salamanders
- 25. Go to ____ (deteriorate)
- 26. Almanac feature
- 29. After the deadline
- 31. Worked hard
- 35. Altar avowal
- 36. Zinc ____
- 38. Like desert growth
- 39. Revealing
- 43. Nero’s robe
- 44. Artist’s plaster
- 45. Poem type
- 46. A tool for 55-across
- 49. Ice Follies venue
- 50. Bird’s beak
- 51. Extremely deep sleep
- 53. And others, for short
- 55. The grim one and others
- 58. Short summary, for short
- 62. Promoting
- 65. Good bit of land
- 66. Acts of the Apostles
- 67. Many household pets
- 68. “Use” homophone
- 69. Leave the flock
- 70. Leader in home entertainment?

down

- 1. Bushy hair style
- 2. Clear’s partner
- 3. Coastal eagle
- 4. Due for a paddling
- 5. One in jail
- 6. Drop back
- 7. Largest continent
- 8. The Lord of the ____
- 9. Have great respect for
- 10. Fries, often
- 11. Caesar’s bad day
- 12. Bills on birds
- 13. Obeyed
- 18. Receivables
- 19. Fake butter
- 23. Uber competitor
- 24. Emulate an angry bee
- 26. Some baseball gear
- 27. Committee type
- 28. Bess’ love
- 30. Lawn straightener
- 32. Disclose
- 33. Wear away
- 34. Star in Cygnus
- 37. Borden cow
- 40. Bran muffin alternatives
- 41. “____ It Romantic?”
- 42. Amusement park racing vehicle
- 47. Arizona Indian
- 48. Corrects text
- 52. In-group lingo
- 55. “Con mucho dinero”
- 56. Beige shade
- 57. “Judge Judy” hopeful
- 59. “Bye bye”
- 60. Crafts partner
- 61. “Hey ... over here”
- 62. Mary ____ Cosmetics
- 63. After-hours school grp.
- 64. Not outgoing

calendar

monday

12.05.16

Yoga with Live Music!

11:40 a.m.–12:40 p.m.
The Mindfulness Room, West Wing

Two Carnegie Mellon College of Fine Arts students will be performing in the Mindfulness Room. Come de-stress before finals with an afternoon of yoga, accompanied by live musical performances.

thursday

12.08.16

Playground

6:30 p.m.
Purnell Lobby

Join the student directors, dramaturgs, actors, playwrights, technicians, and designers of Carnegie Mellon's School of Drama for an exciting exploration of theatre-making. Playground: A Festival of Independent Student Work will kick off on Thursday evening and run through Saturday night. A schedule of all of the performances can be found at drama.cmu.edu/playground/.

friday

12.09.16

Last Day of Classes

2:00 p.m.– 6:00 p.m.
Wiegand Gymnasium, Cohon Center

Join the Activities Board in a last day of school celebration! Come out to Wiegand Gymnasium and enjoy a variety of inflatables, including Vertical Rush and the fan favorite Aztec Chair. The celebration will also include a selection of Pittsburgh Popcorn!

Dancers' Symposium

8:00 p.m.–11:00 p.m.
Rangos Ballroom, Cohon Center
Tickets: carnegiemellontickets.com
Presale tickets \$8
VIP tickets \$10
General admission \$10

Dancers' Symposium (DS) presents *Vibe*, their Fall 2016 showcase. The DS show, put on and performed by students of all majors and backgrounds, will be a mix of jazz, tap, contemporary, hip-hop, and other dance styles. Complete with professional staging, lighting, and sound, *Vibe* is a must-see. The show will also be performed on Saturday, Dec. 10.

coming up

12.13.16

Almost Midnight A Cappella

10:00 p.m.–12:00 a.m.
McConomy Auditorium, Cohon Center
Tickets: \$1 at the door

Join the Carnegie Mellon Soundbytes for a break during finals week, and come out to Almost Midnight A Cappella. The event will feature performances by Counterpoint, C#, Deewane, Joyful Noise, The Originals, Saans, Soundbytes, and The Treblemakers.

Almost Midnight Breakfast

9:00 p.m.–12:00 a.m.
Rangos Ballroom, Cohon Center

Student Dormitory Council hosts Almost Midnight Breakfast. Take a break from finals and head out to Rangos for a free breakfast, served by your professors!



the joy of cookies

Lawrenceville's annual cookie tour
spanned 40 stores and four days.

Theodore Teichman | Visual Editor
Aisha Han | Assistant Visual Editor

