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THE TARTAN Carnegie Mellon's Student Newspaper Since 1906

Northrop Grumman to fund AI research though new CMU agreement

ADAM TUNNARD

News Editor

Last month, Carnegie Mellon and Northrop Grumman signed a new master research agreement that will better allow the aerospace and defense company to kick start university research projects. The agreement launched five initial projects with the intent to aid in natural disaster response situations, but as stated by company representatives, the eventual application of Carnegie Mellondeveloped technologies could be further reaching.

In an interview with The Tartan, Karen Metzler, strategic director at Northrop Grumman, said that the initial five projects address "core technolog[ies] that could be applied to a number of different applications." She noted that the projects are "focused around solving the hard technical problems... that technical problem may reside in other domains, in other applications as well."

The projects fall under an initiative Northrop Grumman is dubbing "Strategic, Operational and Tactical Emergency Recovery through Innovations in AI," or SOTERIA. Each project seeks to address a different facet of natural disaster response through applying a range of technologies.

SOTERIA includes Senior Systems Scientist Yang Cai's "Learning-On-The-Fly Video Analytics on Small UAVs for Rescue and Recovery," professor of robotics Howie Choset's "Heterogeneous Multi-Search for Signs of Life: Ergodic Coverage," assistant pro $fessor \, of \, Computer \, Science \, Graham$ Neubig's "Situational Awareness



Courtesty of Northrop Grumman

An artist rendering considers the various applications of AI in a disaster relief context. Five projects have been launched under this agreement so far, but their uses expand beyond disasters.

Data Description Language and Explorer (SADDLE)," professor of robotics Katia Sycara's "Interactive Dialogue for Human and Robot," and ECE professor Carlee Joe-"Enabling Intelligent Wong's Communication for Disaster Response."

According to the project's written objective, Sycara's "Interactive Dialogue for Human and Robot" seeks to improve communication between humans and robots by

using machine learning techniques to send "directed/focused information," rather than a stream of all robot sensor readings, back to human operators. Though the project's listed intent is to improve robot and human communication in a disaster relief setting, Northrop Grumman has other potential uses in mind.

"Katia's research is critical for warfighters to use on the battlefield," said Erin Cherry, program manager for advanced intelligent systems at Northrop Grumman, in a statement to The Tartan. Cherry continued, "A fundamental contribution that robotic teams can provide to the warfighter is situation awareness." This research is important for the future of robot sensory transmission because battlefield scenarios, like natural disaster response, present communication limitations, said Cherry.

Choset's "Multi-Search for Signs of Life" project focuses on "deploying as many robots as available and combining their different motion capabilities (e.g. flying, ground, amphibious, etc.) and sensing modalities (e.g. camera, heat sensors, etc.) to search [for signs of life] faster." Cherry says that this project's applications "are very broad beyond disaster recovery, to

See NORTHROP, A3

Police host forum about using race in crime alerts

SUJAY UTKARSH

Pillbox Editor

Mellon's vice president for operations, Rodney P. McClendon, and the Carnegie Mellon police department hosted a discussion forum on the content of campus alerts. The discussion focused specifically on whether race should be included in the suspect description of Carnegie Mellon's

crime and safety alerts. Carnegie Mellon crime alerts get sent out when some crimes occur on campus, or when crimes directly target individuals affiliated with the university. A safety alert is for crimes that occur off-campus where Carnegie Mellon students may live. The content of these alerts includes the location and time, a description of the crime, a description of the suspect, and a general warning of precaution.

In 2016, the Carnegie Mellon police department removed the race of the suspect from descriptions, following feedback from faculty and students. However, by 2018, the move received pushback from some members of the community, who requested the policy be reverted. That pushback prompted last week's forum.

David Touretzky, a computer science professor at Carnegie Mellon, spoke against the decision to remove race descriptions, citing transparency and safety as his primary concerns. In his remarks, he described how some crime alerts cite the color of a car that was used in a crime, but not the color of the person, a policy that he found "silly."

He also compared the police report of one crime to the crime alert released shortly after, noting that the police report maintains the race of the suspect. "Does CMU want to catch this guy or not?" he posed to the audience.

From his point of view, he saw the removal of race descriptions as sending a message that the

Carnegie Mellon community "can't handle the truth about race...can't handle the Last Monday, Carnegie information responsibly" and that the community "is not entitled to the truth."

> In his remarks, Carnegie Mellon Police Chief Thomas Ogden made key distinctions concerning the policy. He stressed that crime and safety alerts are only meant to inform the community about a crime, where it happened, and to take precautions. "In my 41 years of law enforcement experience, we haven't caught anyone, in my experience, based on a crime alert or a community alert." In a follow-up comment with The Tartan, he said that the alerts do not function as a tip line either.

Another distinction Ogden $made\,is\,the\,unreliability\,of\,witness$ accounts. "Statistically speaking, eyewitness identification most of the time is not accurate because the people providing it were in the heat of the moment." He acknowledged that there is confusion over the crime alert policies, as there is no national or local consistency regarding racial descriptions of suspects.

Once the floor was opened to the audience for discussion, the overwhelming majority of the speakers spoke in favor of continuing the 2016 policy, with some advocating to remove suspect descriptions entirely.

The majority of the focus from the speakers, ranging from students to Carnegie Mellon professors, focused on the impact that including racial descriptions has on profiling.

One graduate student, who has been at Carnegie Mellon since 2013, quoted past examples of crime alerts that included racial descriptions. When the suspects were black, she said, black students on campus would "joke all the time like 'Have you seen the crime alert? It was you this time wasn't it?' Because it all sounded like us."

Sensors@CMU: Doorway Kinects



Chinasa Mbanugo/Junior Staff Photographer A Microsoft Kinect sensor is seen mounted above a women's bathroom in the CUC. The sensors are part of an ongoing research project.

CHINASA MBANUGO

Assistant News Editor

For many years, Carnegie Mellon University has employed the use of sensors on campus for different reasons, ranging from sensing the emotions of passersby to gauging attention in lectures. In other cases, sensors have been used to track foot traffic in certain areas of campus.

Several Xbox One Kinect Sensors have been installed above doorways across campus. Whether they're above the entrance to Wiegand Gym or the entrance to certain restrooms or labs, the sensors collect information about foot traffic in the building.

These sensors are part of an ongoing research project led by Mario Bergés, assistant professor of Civil and Environmental Engineering. As told to The Tartan in an email, Bergés is "interested in making our built environment more operationally efficient and robust through the use of information and communication

technologies." He hopes that, through the use of these sensors, the university "can better deal with future resource constraints and a changing environment." Currently, his work hones in on "developing approximate inference techniques to extract useful information from sensor data coming from civil infrastructure systems, with a particular focus on buildings and energy efficiency."

research anchors Bergés' on how sensors can help our community, he says. So how could

these sensors help the Carnegie Mellon community? What purpose would the data on the number of people entering the gym and bathrooms serve? Bergés says "the sensors are part of an ongoing research project to investigate how much energy savings could be achieved if the heating, ventilation and air conditioning were controlled in accordance to the occupancy of the room and thermal comfort preference of the

occupants in it." However, if the sensors are being used for data on temperature control, then why are there cameras in the sensors? Bergés explained that, "These are not regular cameras, but rather depth imaging sensors."

See SENSORS, A3

FEATURE PHOTO

First snowfall hits campus Tuesday as temps plunge to the teens



Marika Yang/Staff Photographer

This year's first snowfall of the year came this past Tuesday, with the week's cold spell breaking a 108 year old record for temperature in Nov. About an inch of snow fell on campus, but some parts of Allegheny County saw up to four inches.

Crime & Incident: Nov. 10-16

Underage Drinking

Nov. 10, 2019

Officers responded to the East Campus Garage for reports of a suspicious individual. When officers arrived on the scene, they located an intoxicated Carnegie Mellon student. The student was provided medical assistance and issued a non-traffic citation for underage drinking.

Criminal Mischief

Nov. 10, 2019

Officers responded to Stever House after property damage was discovered in the building's lobby area. Officers observed damage to a bulletin board and wall.

Theft by Deception

Nov. 10, 2019

Officers responded to Stever House after a Carnegie Mellon student reported another instance of what was reported in last week's crime alert (2019-003) The Carnegie Mellon student told officers that they were contacted by someone purporting to be a Carnegie Mellon faculty member, who offered them a position as administrative assistant. This fake offer solicited a service fee through the use of gift card transactions.

Disorderly Conduct

Nov. 10, 2019

Tepper Quadrangle for reports Theft of a large group of skateboarders performing tricks inside the Welcome Center lobby. Officers arrived and made contact with the parties, who were Carnegie Mellon non-affiliates. They were issued a non-traffic citation for disorderly conduct.

Burglary

Nov. 11, 2019

Officers responded to the Kappa Kappa Gamma sorority house after a Carnegie Mellon student reported that a burglary that had occurred a few days prior. The student told officers that that a purse was taken from their dorm

Theft

Nov. 13, 2019

A Carnegie Mellon student filed a report to the University Police Department regarding a theft. The student reported that money was stolen from her wallet in the Cohon University Center's locker

Pedestrian Incident

Nov. 13, 2019 Officers responded to the intersection of Fifth Avenue and Morewood Avenue following an accident involving a pedestrian. Officers assisted the City of Pittsburgh Police.

Nov. 14, 2019

Officers responded to Posner Hall after a Carnegie Mellon student reported a theft. The student said that their wallet had been taken from their office. The investigation is ongoing.

Alcohol Amnesty

Nov. 15, 2019

Officers responded to West Wing following up on a report of three intoxicated Carnegie Mellon students. The students were provided medical assistance and no citations were issued due to alcohol amnesty.

Theft by Deception

Nov. 15, 2019

A Carnegie Mellon student filed a report at the University Police Department regarding another instance of what was reported in last week's crime alert (2019-003). The Carnegie Mellon student also told Officers that they were contacted by someone purporting to be a Carnegie Mellon faculty member, who offered them a position as an administrative assistant. This fake offer solicited a service fee through the use of gift card transactions.

> Compiled by **ADAM TUNNARD**



Source: www.weather.com

WEDNESDAY

TUESDAY



THURSDAY

43° / 33°



53° / 42°



47° / 35° **FRIDAY** 46° / 30° **SUNDAY**



Corrections & Clarifications

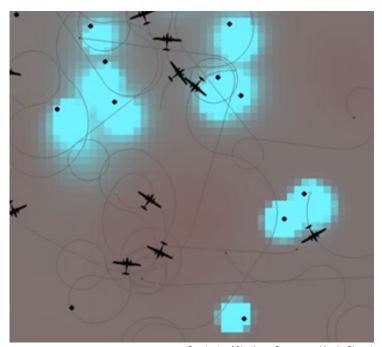
Last week, in an article titled "Highmark Health grants 35 million toward campus health, wellness, athletics center," we erroneously reported that CaPS would be moving into the soonto-be vacated UHS Morewood space. CaPS will remain in their Morewood facility, and also expand to the new facility as well, but not inherit the UHS space.

Also, in the online title of last week's news article "Traffic21 anniversary event met with protest as Secretary of Transportation pledges 8.4 million toward its research," the Secretary of Transportation was mistakenly called the Sec. Def.

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.



fund a range of research



Courtesty of Northrop Grumman, Howie Choset Professor of robotics Howie Choset's project plans to search for signs of life with a variety of sensors. It could be used in many autonomous systems, Northrop Grumman says.

Neubig says he will not directly

contribute to his technology's use

in the military, but that it may

happen. "Given that I am making

[the] research available, having

better situational awareness can

help prevent civilian casualties,"

Neubig added. The three other

Carnegie Mellon researchers

leading SOTERIA projects did not

immediately respond to request

all in support of the Department

of Defense's Joint Artificial

specifically, their push for

humanitarian aid and disaster

in the planning of these projects

or the agreement itself, having

projects that support JAIC initia-

tives "allows us to really under-

stand their problems, show how we're solving them, and then

drive into some joint research

– customer funded research – between Northrop Grumman and

The master research agreement

(MRA), signed Oct. 30, will soon

promote a larger network of

Northrop Grumman-supported

Carnegie Mellon research, Metzler

says. She notes that the MRA is "a

vehicle that will allow anybody

across all of the company to work

ligence research and experience

with government partners, like

Carnegie Mellon's Army AI Task

Force, provides "really good syn-

ergy" between the company and

Mellon's Vice President for

Research could not be reached for comment but stated in

the MRA's press release that,

"having companies like Northrop

Grumman sponsor research

at CMU is an important com-

ponent of how industry and

universities partner to support

the nation's vibrant innovation

ecosystem." McQuade contin-

ued, "Working together, we can

accelerate the transformation

of knowledge learned through

basic research into applied

commercial products."

J. Michael McQuade, Carnegie

Metzler added that Carnegie

with Carnegie Mellon."

university's initiatives.

Metzler says that although no one from the JAIC was involved

Intelligence Center's

relief technologies.

Carnegie Mellon.'

The five SOTERIA projects are

Mission Initiative,

(JAIC)

for comment.

National

NORTHROP, from A1

any mission where autonomous platforms are scouting ahead."

Cherry told The Tartan that Northrop Grumman "does not own exclusive rights to the intellectual property" of each researcher's work, so currently, SOTERIA projects won't be repackaged for other applications. Metzler notes that Northrop Grumman hopes "to expand upon foundations" established in the SOTERIA projects for applications in other domains.

Alongside fellow professor Bob Iannucci, Joe-Wong is pursuing an IoT sensory that could transmit real-time data from a ground situation. In an email to the Tartan, Joe-Wong said that she wasn't sure whether Northrop Grumman would be free to use the project's findings in other domains, but thought they might. She added that other uses could include "monitoring traffic in smart cities" or "monitoring road infrastructure conditions."

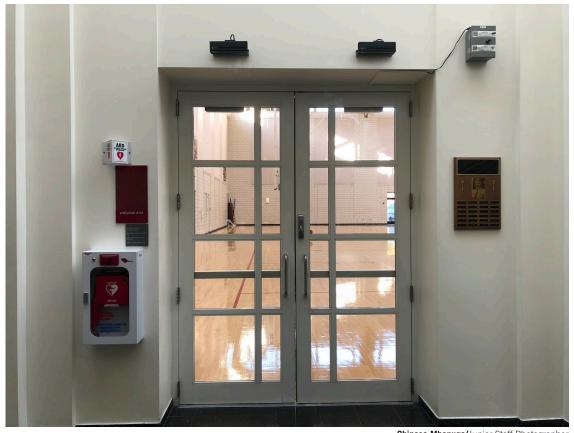
Neubig, another head SOTERIA researcher, is designing a new data description language to "be used by [analysts] to express their information needs, and then be used by machine learning methods to train automatic information extractors that learn jointly across multiple information classes." In short, it's an expansion of natural language-

understanding technologies. Neubig told The Tartan in Mellon's prowess in artificial intelan email that he will share the findings of his project with the broader scientific community through the release of open-

source software and datasets. Neubig says he does consider alternate uses, including potential military uses, of the technology which he and fellow researchers develop when he gets funding from sources like Northrop Grumman or the Department of Defence.

"I take on projects when I believe the possible upsides outweigh the possible downsides," he said. In the case of the Northrop Grumman project, Neubig states there are relatively few downsides, and that the upsides include saving people's lives in a disaster, or even further, contributing to cancer-curing research.

Northrop Grumman set to Sensors used for facilities control



Chinasa Mbanugo/Junior Staff Photographer

Two Kinect sensors are mounted above Weigand gym to see if heat, A/C, and ventilation should be responsive to occupancy.

SENSORS, from A1

"they Bergés continued, provide us with a depth map of the scene (i.e., how far from the camera each pixel in the image is). We use that to count the number of 'heads' coming in and out."

When asked why these sensors were only present on the doorways of some bathrooms, and why these cameras were not present on the doors of the fitness center, Bergés responded "This is a matter of experimental design and consultation with facility management services. We wanted places where we could showcase the savings and easily control the system."

In acknowledgement of the timeline of the project, Bergés says that "the research project ends next year, but there is no immediate plan to take them down. We welcome any feedback either way."

This is the second article in a series we're calling "Sensors at CMU," exploring the projects behind the cameras and sensors around campus.

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. In addition, one or two positions may be available as Co-Directors of Residential Life. 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. Directors of Residential Life (a.k.a. Head Counselors) are responsible for overseeing the TA/Counselors and fostering a safe, collaborative living and learning environment for the

TA/Counselor applicants should have finished their sophomore year by the start of the summer program. Consideration will also be given to extraordinarily qualified first-year applicants. 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. Applicants for Co-Director of Residential Life should have graduated from college or university by the start of the summer program. 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 \$3,000 for Co-Director of Residential Life Housing is included (in the PGSS dorm) as well as a food allowance. Duties begin Wednesday, June 24, 2020, end Sunday, August 2, 2020 Apply online at the CMU website; use the keyword PGSS: https://www.cmu.edu/jobs/index.html

Contact the PGSS Program Office at (412) 268-6669

or e-mail pgss@cmu.edu

Application Deadline: March 31, 2020 (Applications may be accepted after the deadline until all positions are filled.)

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Horum

FROM THE EDITORIAL BOARD

Billionaires' contribution to the American Dream

largely revered in the U.S., their societal value and power over politics are far greater than they have any right to be. The latest example is Michael Bloomberg, whose rumored announcement of his presidential candidacy has created further uncertainty in an already crowded field of Democratic candidates after the first candidates started dropping out.

Let's back up and assume that the upper class isn't getting enough credit. Maybe they're prime examples of the American Dream, hard workers who have pulled themselves up by the bootstraps to create thriving businesses and give others the opportunity to also make it to

However, this notion of the American Dream is a myth perpetuated by the top one percent, in an attempt to continue duping the middle and lower class into believing class mobility is far more real than it actually is. More insidiously, it's a method of control: a way

from taking place by promoting rugged individualism over all

Let's start with class mobility: the biggest lie capitalists try to sell when talking about markets. That's not to say mobility isn't possible; it is, but it's significantly more difficult without any policy to promote it. Billionaires exemplify the ways that markets are great at generating wealth, but not at distributing it. The "trickledown economics" theory was used to justify tax cuts and deregulation for corporations and the wealthy during the Reagan era. Its legacy is wealth inequality — which we're seeing at the highest rates since the Great Depression — a financial crisis, stagnant wages, and colossal debt.

In the U.S., the idea of wealth redistribution through taxes or any methods other than individual charity is denounced as socialism. Redistribution is not a socialist idea, and it's not even that revolutionary. It's

Although billionaires are to prevent collective action based upon the idea of a social contract that each member owes to a governing body and each other. If the majority were guaranteed access to basic needs, they would have a chance to actually gain wealth and provide for themselves, without having to work more than 40 hours per week. Wealth redistribution policies account for the fact that most people don't "make it," particularly those in the lower class.

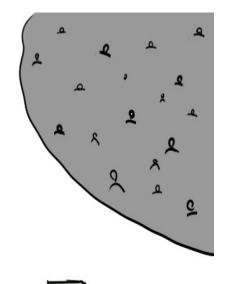
We could keep going on about the myths that the top one percent like to sell to promote a rigid class structure. All those myths are a major reason why wealth is so concentrated in the hands of so few people, who have an extraordinary influence on the direction of the country. This is one of the few times that the infamous "both sides" argument enlightened centrists tout is actually valid. Republicans have always been the party of the wealthy, and this continues to be true under a president like Donald Trump.

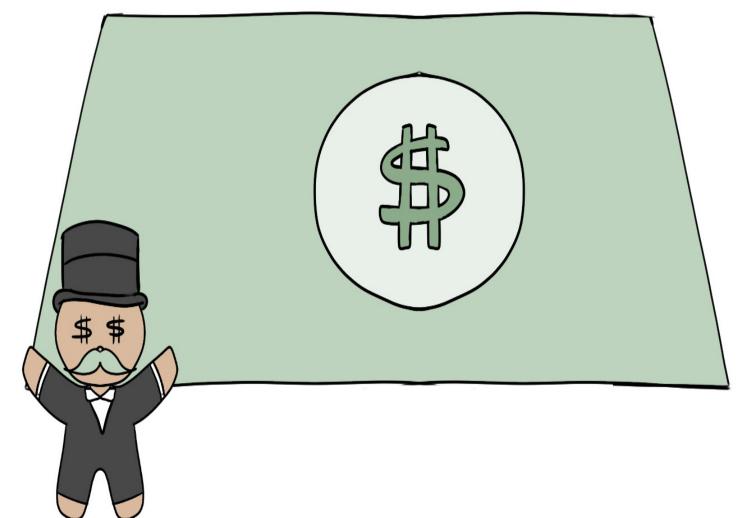
However, the wealthy Democrat donors' willingness to elect Michael Bloomberg shows just how much influence the top one percent really has. Although we could note that Bloomberg has revamped public transit and turned New York City's deficit into a surplus, Bloomberg has called taxes a "necessary evil," and was completely fine increasing property taxes while cutting taxes for corporations. He also didn't exactly address wealth inequality as mayor, and we must not forget about his disastrous stop and frisk policy, which overwhelmingly impacts Black and Latino communities.

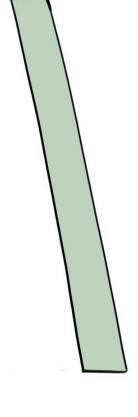
Frankly, billionaires shouldn't exist in the first place. These people are not billionaires from their income alone. They have a lot invested in equities, and they make absurd amounts off of capital gains. No one needs that much money. Sure, many billionaires give to charity, but this charity is not enough. Charitable giving as the primary source of wealth redistribution is another facet "trickle-down" that has

gone nowhere. It may alleviate some people from poverty, but that's the bare minimum. Plus, billionaires get a lot of tax writeoffs through their charitable giving, incentivizing billionaires to not support having their capital gains and income taxed higher.

We all owe something to each other. That's part of what living in a collective system is. Individuals' attempting to gain public office, whose only qualifications are extreme wealth, aren't particularly interesting or qualified. Let's stop treating them like they are. Wealth may be nice to have, but living comfortably isn't about wealth. Individualism can only go so far. In terms of our personal life choices, it's a good model. But when it comes to running a country, everyone needs to contribute, particularly those who are much better off. If billionaires can argue that it's socially responsible to give to charity, they can definitely pay more taxes to fund social programs.







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LETTER TO THE EDITOR: CMU'S MORAL OBLIGATION TO STAND AGAINST PALANTIR

We have tried many different approaches. We have done hours upon hours of one-on-one conversations with department heads, administrators, provosts, and many other "people in charge" of research and prep work, organizing and volunteering with immigrants' rights organizations, outreach, protesting. None of these efforts have yielded any results. This is emotionally-charged work that takes away from our mental health and productivity as students here. I feel compelled to add productivity since that seems to be one of the few things that Carnegie Mellon legitimately cares about.

We had people at and outside the Palantir seminar protest, for whom this issue isn't an abstract intellectual exercise. It affects us, directly and indirectly. Many of us were in tears. I know I was trying to hold mine off after the seminar as a faculty member insisted on a conversation about my taking their classes because "this" is what they worked on, and human rights were so important. If you think so, then live up to those professed opinions and don't invite companies that support their violation.

So while the organizers of this seminar (and too many others) wax poetic about intellectually stimulating, respectful conversations, and cry wolf at a couple of students attempting to have precisely those conversations outside of the seminar, let us be clear about what's actually happening.

Children did not forcefully separated from their hard-working parents, whom they may never see again so that you can have intellectually stimulating conversations. You continue to invite companies that directly support family separation — informed by violently racist policies into a campus where you have students with undocumented families, Jewish students whose communities were shattered by the largest anti-Semitic mass shooting in this country because of their opposition to such policies, students who come from countries where similar policies resulted or result in colonial wars, concentration camps, and torture. These are the folks that you repeatedly ask to come and speak for "the other side," no matter the cost. Yet you demand that they be respectful and only engage on your terms, otherwise you call it harassment.

You are not the people being harassed for getting office visitors. The people being harassed are those on this campus who have to time and time again see Carnegie Mellon

donate platforms to those who target their communities for harm.

So thank you for the invite, but no thank you. Do read up on tone policing and decolonizing academia? Speaking of policing, did you know that in Portugal, where I'm from, police are not allowed on university campuses without an expressed invitation from the university's president? Did you know that this was the case even during the fascist dictatorship my parents lived through? And did you know that, on the day before your seminar, some of the folks at this protest had to face-off with dozens of riot police in full gear, because the Jewish community was getting arrested for peaceful civil disobedience against the white supremacist, racist policies that Palantir supports for profit? You can imagine how lovely it felt to have the police come tell us we were not allowed to disrupt your seminar the following day.

There's a reason the swastika is largely banned in Germany. There's a reason we don't platform pro-dictatorship supporters or companies in Portugal, even if they also did do a bit of good on the side. If you're even tangentially involved in the violation of basic human rights, decency, or dignity, you don't get to have a platform, anywhere, until you

renege those activities entirely, apologize, and make material amends. Tangentially involved is where you are right now.

My parents did not see their friends shot and killed in the gut next to them while protesting "[white] race day," or live through a time when people were abducted to be tortured and killed by a white supremacist, racist, fascist, imperialist state, for me to come to the U.S. and see those ideologies on the rise here and given platform on my campus.

So again, let's be clear. You use the word extremists, but you are the extremists here. As much as you would like to see yourselves as benevolent and impartial facilitators, you are the ones giving a platform to those whitewashing and profiting from violent, racist and white supremacist policies, at the direct expense of your students, on your campus. There can be no middle ground here, so stop pretending otherwise.

Perhaps if companies that engaged in "controversial practices," were not invited anywhere, they would stop such practices. Also, what an eloquent euphemism you found for helping put people in cages, abandoning or abducting their children, for the crime of trying to put some food on the table!

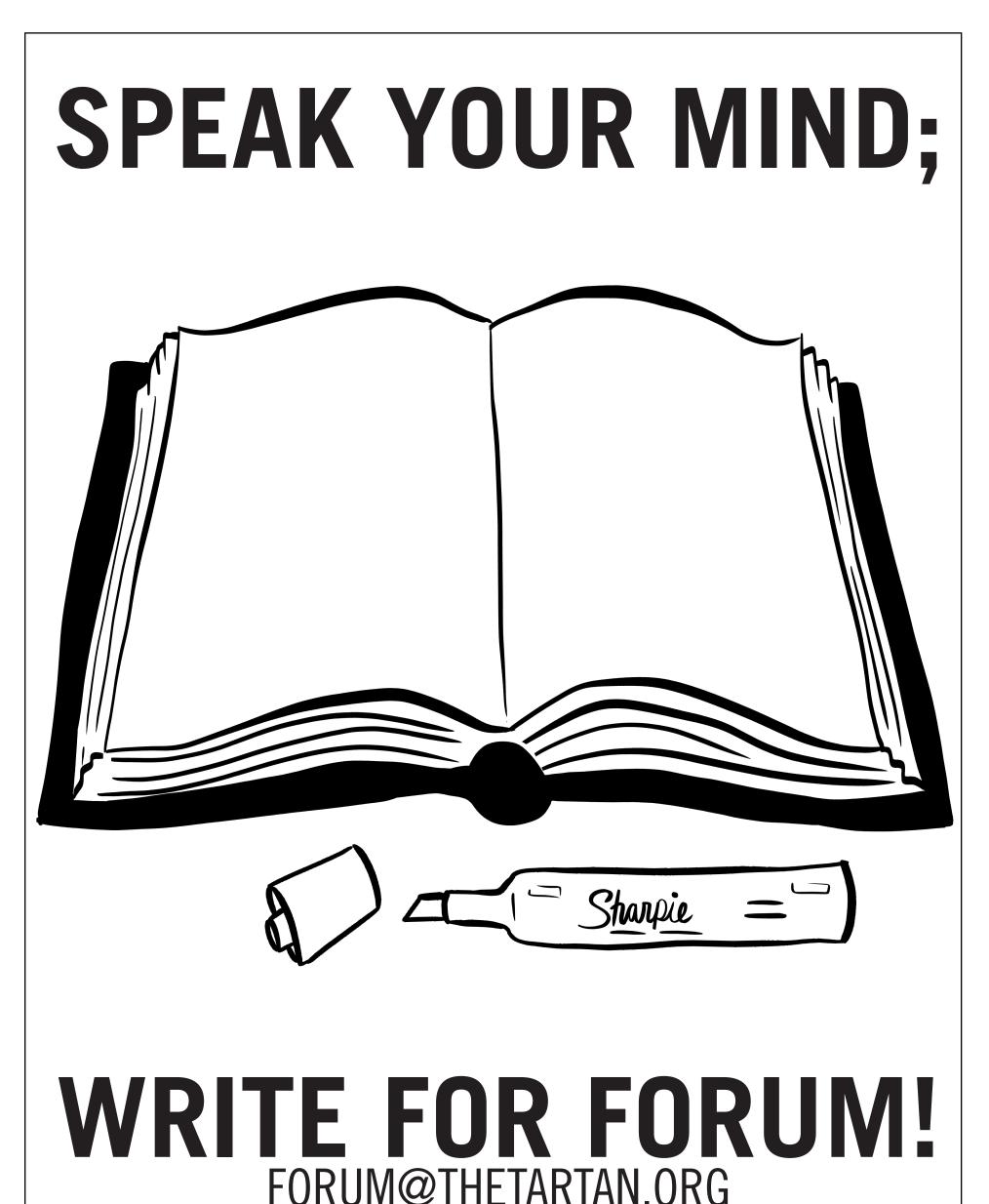
If you're feeling

uncomfortable about this letter, think about how you would feel losing your own children and being put in overcrowded concentration camps without basic supplies or amenities. Think about how uncomfortable those children felt, their parents taken away, and spending eight days with no adult supervision. And please don't bother responding with "it's within CMU policy." We know. The policy is mutable, and if it can be used as a tool for propping up racist violence, it needs to change.

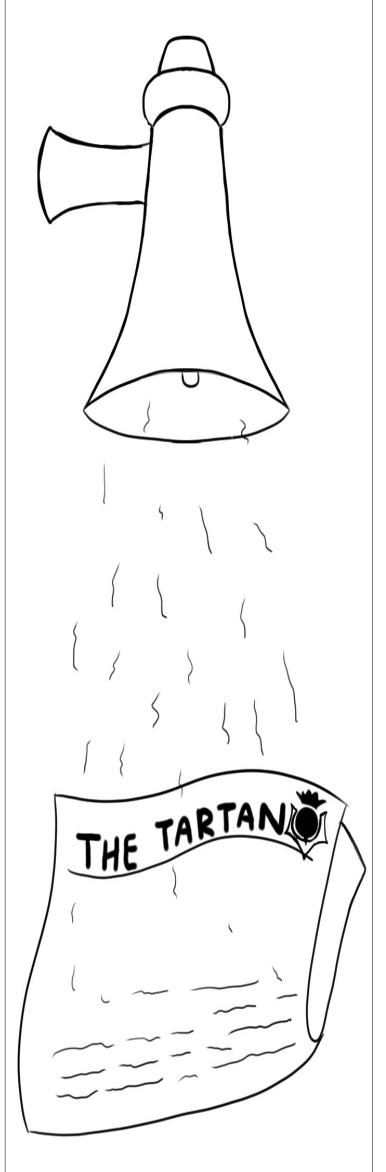
I'm tired and exhausted, but if Palantir and similar companies keep getting invited, I'll keep being there. In the meantime, do know I appreciate your invitation of Casa San José onto campus to talk about these issues, and of them being paid to do the emotional work of explaining morality 101 to this university. It is your very first baby-step toward reclaiming decency.

I also look forward to seeing you, along with your peers and mine, at Mijente's National #NoTechforICE Day of Action, Tuesday, Nov. 19, 12 p.m to 4 p.m. at the Wean Commons, Cohon University Center.

João Martins is a Doctoral student of Computer Sciencce at Carnegie Mellon University.



SPEAK YOUR MIND.



More Democrats join 2020 race



Courtesy of Massachusetts Office Of Travel & Tourism via Wikimedia

Former Governor Deval Patrick is one of the latest additions to the Democratic candidates for the upcoming 2020 election.

Lauren Kelly

LAUREN KELLY Staffwriter

Despite Democratic candidates dropping like flies, the field is not dwindling any time soon. Last week, Deval Patrick, former Governor of Massachusetts, announced his campaign for President and filed for the New Hampshire primary. Rumors have it that Michael Bloomberg, billionaire businessman and former Mayor of New York City, is also strongly considering a run for President and will announce in the coming days.

At its peak, the Democratic primary for 2020 had over 25 major candidates. Now it is down to 17, with the late entry of Patrick. Earlier in 2018, the former governor declared that he would not seek the Presidential nomination, citing the cruelty of the process. His recent declaration his intent to run for President has led many to wonder why the sudden change of course.

Michael Bloomberg, who has yet to announce his decision, is funding a digital anti-Trump ad campaign, which some have cited as his first step toward an announcement. Reportedly, Bloomberg plans on filing for the Alabama primary.

As long as someone is a U.S. born citizen over the age of 35, they can run for President. But that does not mean everyone should. In fact, most Democrats want the field to shrink. A recent Gallup Poll found that threefourths of Democrats are pleased with the Democratic primary field and the rates of satisfaction with the candidates are higher than that of the most recent elections.

So, if a majority of the

Democratic electorate is pleased with the current candidates, why are more candidates jumping into the field as others exit? Although most of the electorate is happy with the field, there is still great anxiety concerning whether or not any of the candidates can beat Donald Trump. This anxiety is most prevalent in large Democratic donors and party

At the start of the primary, these elites and donors found themselves donating to former Vice President Joe Biden, but debate after debate and gaffe after gaffe, he has shown that he is not the most electable candidate. Senator Elizabeth Warren, a front-runner in the primary, and Senator Bernie Sanders, a consistent third in most polls, are considered to be too "far-left" for the party elites and big donors as they are the targets of many of their policy proposals.

The rise of Warren and Sanders is in part due to their bold messages and the cracks in Joe Biden's candidacy, causing some party elites to search for moderate alternatives to Joe Biden. Mayor Pete Buttigieg is attempting to cast himself as the younger alternative to Joe Biden as he is currently surging in the Iowa polls. However, the anxiety surrounding Mayor Pete is that his campaign has shown its inability to reach a broad coalition, including voters of color.

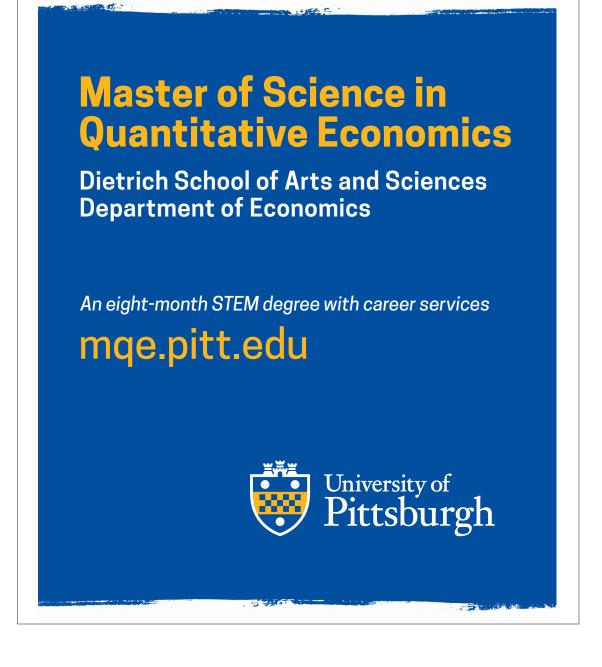
In attempts to calm this anxiety, party elites have pressured numerous individuals to consider entering the race, including Michael Bloomberg. In a recent interview, Hillary Clinton revealed that many people in the party have pressured her to run. Secretary Clinton responded that she would not run.

But instead of pressuring these people to jump into the primary, party elites and donors should be asking these individuals to

support the Democratic cause in other ways. For example, many political commentators, including Kellyanne Conway's anti-Trump husband George Conway, say Bloomberg should buy Fox News to take away Trump's main channel of propaganda. Michael Bloomberg has enough money that it is rumored that most of his campaign will be self-funded, but he could also use that money to build a media war chest for the eventual Democratic nominee. Bloomberg is the perfect example of someone whose influence would best be served by staying on the sidelines instead of running for President because he would have a greater opportunity to effectuate change.

Another issue causing anxiety is the shadow of former President Obama and his 2008 candidacy. Political pundits and party elites are searching for candidates comparable to President Obama, which is a mistake. Those who have worked with both former President Obama and former Governor Patrick say that they have similar leadership styles as they both shared top political advisors and have similar

backgrounds. But, the reality is, we should not be looking for another Obama. We should not be paying attention to what the party elites and mega-donors say because they have their own private interests. Instead, we should be looking for someone who matches the moment. We should be pressing forward and searching for something new. We do not need new candidates to enter the primary to find someone that meets these needs because we already have a few candidates in the current field that understand what we need as a country. More importantly, we have several candidates who know how to beat Donald Trump, and if put to the task, they probably would.



Science & Technology

CMU professor's work helps revolutionize redistricting

KIAN NASSRE

Junior Staffwriter

In 2018, Carnegie Mellon math professor Wesley Pegden's testimony before the Pennsylvania Supreme Court helped the achieve state nonpartisan congressional maps before the midterm elections. Now, his work is spreading to other states and may result in fair elections for North Carolina ahead of 2020.

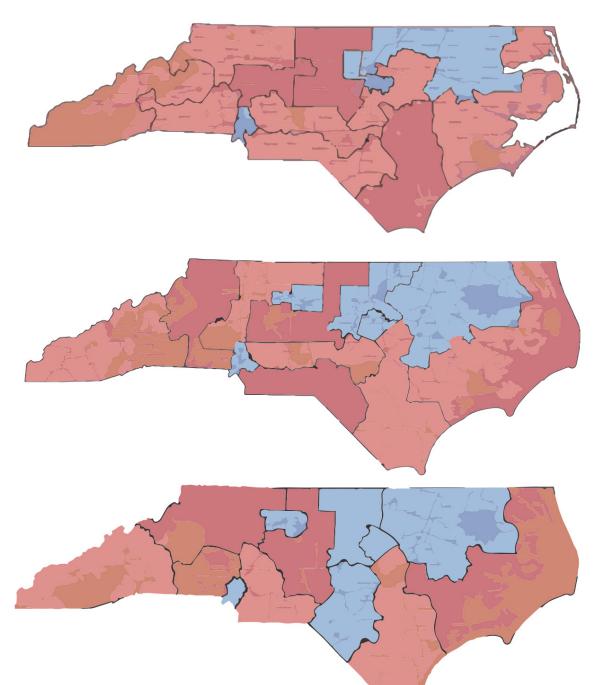
In the 2018 Pennsylvania case, the Pennsylvania Supreme Court ruled that the Republicandrawn gerrymander violated the provision in the Pennsylvania constitution mandating "elections shall be fair and equal." Under the old map, which had been in place since 2012, Democrats won five out of 18 seats despite winning a majority of the statewide vote in some elections. In 2018, under the new map drawn by a courtappointed export, Democrats won in nine out of eighteen districts and won the statewide popular

Pegden's work centers around Markov Chains, a mathematical system that describes

districts. Cracking is when the opposition is split up between multiple districts so that they can't win a majority in any of them. The suburbs of Austin, TX are "cracked" into five red districts, some of which reach almost all the way to Dallas or Houston.

Besides showing how to prove that a map is an outlier, Pegden also collaborated on methods to remedy gerrymandering. In 2017, he collaborated with Carnegie Mellon Computer Science Professor Ariel Procaccia on a paper which suggested that districts be drawn in a manner similar to cake-cutting. The "I-cut-you-choose" method works as follows: both parties take turns drawing the lines. When they are done, the other party picks one district and "freezes it," then redraws the remainder, back and forth until all the districts are frozen. This way, neither party is able to exert dominance over the drawing process.

An alternate method was previously implemented California and Arizona, and will take effect in Michigan for the next redistricting cycle. Those



Old, new, and nonpartisan (top to bottom) district maps for North Carolina. The nonpartisan variant was drawn by Daily Kos writer Stephen Wolf, similar to the new map recently passed by the state legislature, but with another district won by Clinton in 2016.

"The basic idea is that you test the districting by making random changes to it."

Wesley Pegden Carnegie Mellon University

movement between various "states" according to probability. Pegden used Markov Chains on district-drawing algorithms to generate various random maps and measure how much of an outlier they are. By quantifying how much a given map including current congressional maps — deviated from this norm, he was able to quantify a partisan gerrymander.

In an interview with The Tartan, Pegden stated "The basic idea is that you test the districting by making random changes to it, and the theorems that we proved allow you to make rigorous statistical conclusions. So basically, what you are doing is testing whether a map can be partisan when you make small random changes to the boundaries. What theorems do is they allow you to turn this into rigorous scientific statements."

In general, partisan gerrymanders are identifiable by two things: packing and cracking. Packing is the practice of placing as much of the opponent party in a single district as possible to minimize their impacts elsewhere. One example is North Carolina's first and fourth districts, which pack Democrats in Raleigh, Durham, and the Black Belt into just two states passed ballot initiatives that transferred the power of redistricting from politicians with stakes in the drawing of political lines to independent commissions. The Californian system prioritizes keeping "communities of interest" intact, while the Arizona system emphasizes swing districts.

None of these methods are perfect in isolation. The "I-cutyou-choose" protocol would not prevent the parties from protecting incumbents and depriving voters of competitive elections. California and Arizona still have some districts that look deformed. The "efficiency gap," which compares the number of "wasted votes" each party has in a state, can be blind to natural geographic advantages within a state. The same goes for the meanmedian test, which compares the mean vote share of a party to their mean vote share in the median district. FiveThirtyEight's Atlas of Redistricting showed that when blindly prioritizing compactness with respect to county and municipality borders can conflict with the Voting Rights Act, which requires a certain number of districts be drawn to respresent minority communities.

However, each of those systems are a substantial improvement

over legislatures drawing the maps. The old Pennsylvania map was notorious for its contorted shapes. The Lehigh Valley was split between two districts. Northampton county, which contains Bethlehem and Easton, was packed with Scranton in the so-called "octopus" district. Lehigh County, which contains

Allentown, was placed in the

the old map split the Pittsburgh suburbs between two red districts, but now all of Allegheny country outside of Pittsburgh is in just one suburban swing district.

After the new map was put into effect, Governor Tom Wolf appointed Pegden to a commission with the goal of reforming redistricting. The commission recommended that

maps be drawn by an 11-member

bipartisan commission, whose

members would be appointed by

various legislative leaders and the

governor. The recommendation

encourages that redistricting

be done with public input and

Carolina contributed to a ruling that the lines for the state legislature districts violated a provision in the North Carolina constitution. As a result, a new map was drawn by the Republican legislature which still favors their party, albeit by a smaller margin.

"The lesson is that these cases can still be successful in statelevel courts and that bringing rigorous data which allow you to analyze redistricting is key,"

Pegden said. The ripple effects of Pegden's work in this case were felt just a few weeks ago when the North Carolina courts ruled against the congressional map. As of publishing, the legislature is on the verge of passing a new map that enshrines an eightto-five Republican advantage instead of the current 10-to-three split. Daily Kos elections writer Stephen Wolf, who specializes in gerrymandering and regularly draws his own congressional districts for a fair comparison, has shown that the new map is still biased towards Republicans. His map is similar to the one about to be passed, except that it keeps the Sandhills region of North Carolina in a single district which voted for Hillary Clinton by about two percent, thus allowing Democrats to win six out of 13 districts.

All of these rulings are based in state constitutions, so they are independent of recent Supreme Court rulings that prevented federal courts from interfering in gerrymandering.

Regardless of the outcome of these redistricting battles, the fight for fair maps will restart in 2021 in the aftermath of the 2020 census and the decennial reapportionment of congressional districts. Pennsylvania will likely lose its 18th district and North Carolina will likely gain its 14th. The fairness of both states maps will hinge on the outcome of the 2020 legislative elections, in which none or all of the states' legislative chambers could flip to Democrats.

Regardless of the outcome of redistricting battles, the fight for fair maps will restart in 2021 in the aftermath of the 2020 census.

"crawfish" district, which reached

almost all the way to Harrisburg. Under the new map, both counties are in a single district. The Philadelphia suburbs, meanwhile, were cracked into the notorious "Goofy kicking Donald Duck" district and another which resembled a gecko. Additionally,

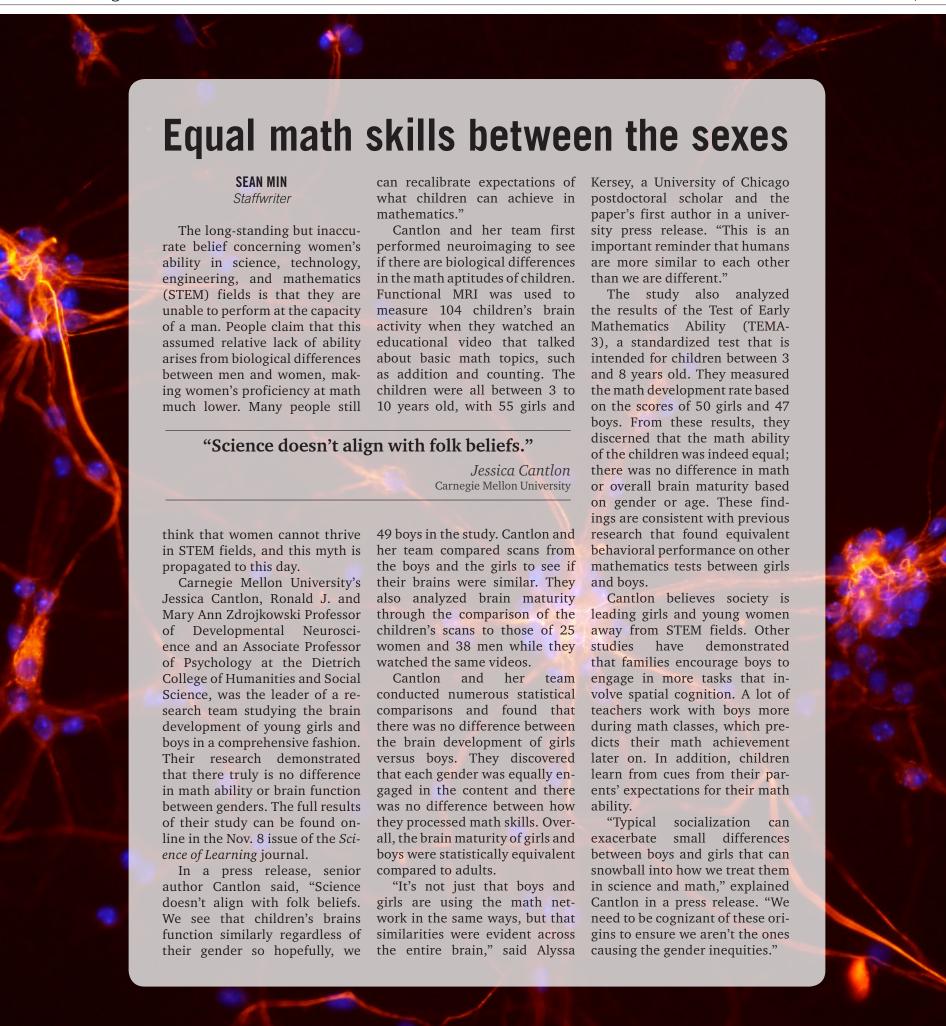
Nonpartisan Map New MapOld Map Share of Statewide Vote Required 60% 13 Districts Democrats Win Kian Nassre/Junior Artist

Gerrymandering has a tangible effect on election outcomes. The old North Carolina map cost Democrats several districts in 2018.

prescribes to a combination of the typical redistricting criteria. The criteria include preventing splitting counties or cities unless necessary and stating districts must be contiguous. "We conducted public hearings

where we collected feedback from people on ways to improve the redistricting process.... What's important is to not just add constraints to what the drawers can do, but actually, make it so that the people drawing are not some self-interested legislators. If you are trying to make the map less partisan, it's a problem to let the legislators draw the maps themselves because it's not clear that constraining them with things like compactness is meaningful," Pegden said. "As to whether the report, which legislative Republicans declined to participate in, will be ignored by the legislature, There is some indication that people are taking it seriously, but it's too early to

Recently, Pegden's testimony in a redistricting case in North



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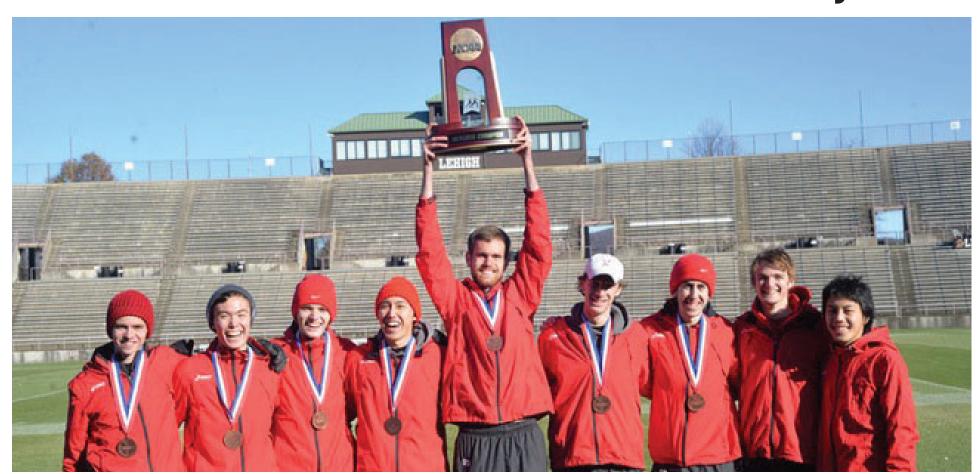
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Carnegie Mellon University

Two Tartan teams take NCAA tournaments by storm





Photos courtesy of CMU Athletic

The women's soccer team defeated Cairn University by a score of 7-0 at home in the first round of the NCAA tournament. The men's cross country team placed first in regionals at Lehigh.

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Sports

CMU Football victorious in Academic Bowl vs Case

NATHANIEL RICHMOND Staffwriter

The Carnegie Mellon University football team relied on their defense at home to shock Case Western Reserve University and

the rest of the PAC with a win. The final score of the game was 24-21, giving Carnegie Mellon the 34th annual Academic Bowl.

Carnegie Mellon forced some timely turnovers and managed just enough offense to hold the score at 24-21 in the final seconds of the game. Case Western mounted one final drive with 47 seconds left in the fourth quarter and made it to the Tartans' 33, but their final field goal attempt came up short and hit the crossbar to give the Carnegie Mellon the win.

The entire game was a backthriller and-forth between Carnegie Mellon and Case Western Reserve. The Tartans jumped to a 10-0 lead in the first quarter with help from a punt kicked deep out of Case Western territory that led to a quick touchdown. However, Case Western responded with 14 unanswered points in the second quarter. Carnegie Mellon fought back and capitalized on a couple of turnovers in the third quarter for its own 14-0 run, and they never trailed again.

The Tartans' defense carried a strong day for the team with 4 turnovers forced, including 3 interceptions. These interceptions were crucial for Carnegie Mellon, as one interception was returned for a touchdown and another set up a passing touchdown in the third quarter. The Tartans only gained 147 yards of total offense compared to Case Western Reserve's 399, but they came ahead where it counted with a field goal and three touchdowns.

The game was a satisfying



Nathaniel Richmond/Junior Staff Photographer

By a score of 24-21, the Tartans defeated Case Western in the 34th Academic Bowl marring Case Western's perfect record with a single loss.

conclusion for Carnegie Mellon football after a resurgent season. After going 6-4 in 2018, the Tartans improved to 8-2 to finish 2019. The football seniors were also able to

go out with a win for Senior Day. Of course, the seniors in Kiltie Band also got to celebrate the win after a halftime performance that briefly included Case Western's band. To

the delight of the Carnegie Mellon crowd, the Case Western fans who occupied one half of the stadium left disappointed after Carnegie Mellon ended Case Western's

undefeated season.

While the Tartan's football season is over, the Academic Bowl will remain in good hands for at least another year.

Section VIII complaint against USA Badminton filed by USOPC

CYNTHIA XU Assistant Sports Editor

Last Tuesday, the U.S. Olympic & Paralympic Committee filed a Section 8 complaint against U.S.A. Badminton, intending to revoke U.S.A. Badminton's status as the National Governing Body for badminton and para-badminton in the United States.

The complaint follows a 2019 follow-up report of a 2018 compliance audit that saw a host

situation by making the necessary changes regarding athlete safety, governance and finances, and adhere to SafeSport guidelines, it will lose its recognition with the U.S. Olympic & Paralympic Committee, which will move in to take over U.S.A. Badminton programs on an interim basis.

The revocation of U.S.A. Badminton's status as a National Governing Body would take several months, however. This means that should the U.S.

be a move in the right direction. The existence of "high risk" areas relating to athlete safety and SafeSport — the latter being an organization seeking to address and prevent child abuse in sports - is, in and of itself, a matter of grave concern. Swift action on the part of the U.S. Olympic & Paralympic Committee may not only mitigate the potential future offenses but also provides a precedent for the rest of the National Governing Bodies.

This crackdown on US Badminton's failure to prioritize the welfare of its athletes is most certainly a sign of progress by the US Olympic & Paralympic Committee, and it seems fathomable that it will continue in its reformed approach to non-compliant National Governing Bodies, having seemingly made the critical and necessary choice to prioritize its athletes.

of unresolved issues relating to athlete safety, governance, and finances, identifying four "high risk" areas in the athlete safety and SafeSport compliance alone. In an address to the public, the U.S. Olympic & Paralympic Committee wrote that they "[have] concluded that U.S.A. Badminton has failed to meet its responsibilities as an NGB [National Governing Body] and consistently failed to meet its obligations to its members and to U.S. athletes. Further, U.S.A. Badminton has failed to conduct itself in a manner that demonstrates [it can fulfill those responsibilities]."

The stakes are high for U.S.A. Badminton. Should it lose its recognition as a National Governing Body, it will also lose its ties to the U.S. Olympic Paralympic Committee. With eight months before the summer Olympics in Tokyo, this is a critical time in which the top badminton players in the country are intensifying their training regimen. If U.S.A. Badminton cannot resolve the

Olympic & Paralympic Committee choose to pursue and follow through with the revocation, they would have scarcely any time to assume adequate control over programs and athletes ahead of the games.

Recognizing this, Sarah Hirshland, the CEO of the U.S. Olympic & Paralympic Committee and the filer of the complaint made the following statement: "We have set high standards in order to associate with the Olympic & Paralympic movements in the United States, and we must hold organizations accountable when they don't live up to those standards. Seeking to revoke recognition is not a decision that the USOPC came to easily, but we believe it is the right and necessary action in the interest of the athletes we all serve."

In the wake of the Larry Nassar sexual abuse scandal and Congressional pressure towards more stringent regulations of National Governing Bodies, this decision by the U.S. Olympic & Paralympic Committee seems to In light of these events, issues regarding the adherence to the U.S. Olympic & Paralympic Committee will likely be quickly and appropriately addressed.

The U.S. Olympic & Paralympic Committee wrote in an open letter, that the filing of the Section 8 complaint is "the first step in an important process. Recognizing that what follows this process isn't clear, we have concluded that the uncertainty this will no doubt bring is better than allowing the status quo to continue. The athletes deserve better and we simply must hold organizations accountable if they can't meet our standards."

This crackdown on U.S.A. Badminton's failure to prioritize the welfare of its athletes is most certainly a sign of progress by the U.S. Olympic & Paralympic Committee, and it seems fathomable that it will continue in its reformed approach to noncompliant National Governing Bodies, having seemingly made the critical and necessary choice to prioritize its athletes.

Penalty Shouts is hit with a helmet, ouch!

MATTHEW BENUSA

Sports Editor

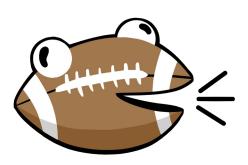
Tartan's sports column inspired by the The New Yorker's column Daily Shouts. This satire-fueled column will focus on anything and everything funny in the sports world that is deserving of our comedic attention.

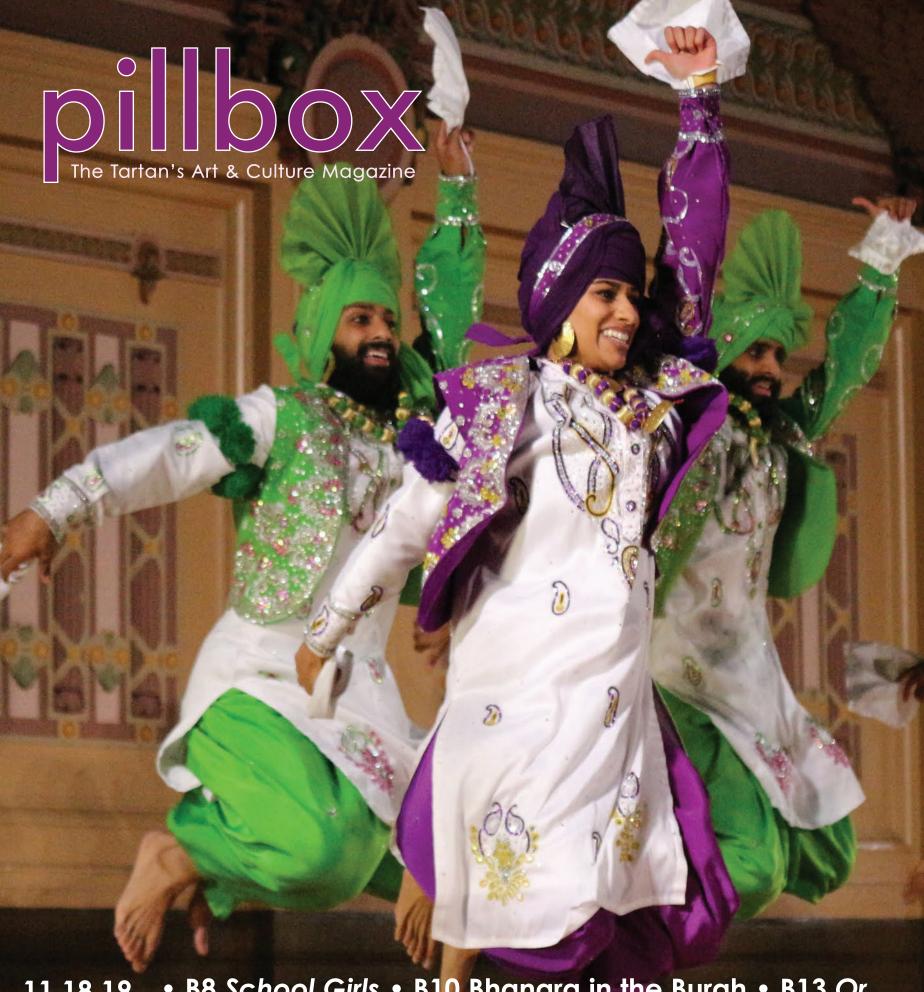
A really smart person a really long time ago once said, "the force of an object is equal to its mass multiplied by its acceleration," and that's how we got Einstein's Theory of General Relativity. Using this mathematically certain and certified True Science equation, we can extrapolate the answer to an almost unsolvable problem. The mass of a Browns defensive lineman, multiplied the standard rotational acceleration of a helmet at the end of an arm, equals the force of a black hole, or at least, the same amount of force required for Roger Goodell to take punitive action.

To continue making fun of Roger Goodell would be didactic. We all know that guy is bad, so I'm going to talk about something else entirely: the sports commentator discourse that has so unfairly maligned the name of Myles Garrett. So far everyone has spread the false news that Garrett, the Browns' lineman, performed a truly dangerous action out there last Sunday. I mean, sure, taking a potshot at a backup quarterback's noggin with a helmet is not generally considered "proper

football etiquette" or "safe." Let's step back for a moment, This is Penalty Shouts, The though. Garrett's daring attempt at a big-time, honest-to-God murder charge is a feat of athleticism more conceptually interesting than any attempted murder hithertofore seen in the history of the world. Step aside Tiger Woods driving an SUV under the influence, watch out OJ Simpson, forget about it Daryl Strawberry. There's a new champion in town, and his name is Myles Garrett. To be able to rip off a man's helmet, hold on to it for a few moments while a bunch of burly guys push you around, and then use it to strike the same dude on the head requires... well, it requires something.

Garrett, after this feat of athleticism, is now suspended indefinitely. Likely, that means he will not be playing for the rest of the season, and for those games, he will go without pay. While what he did has been decried as unsafe, I'd like to ask you all: was it really? Is it so bad that he hit Mason Rudolph with his own helmet? From over here, it seems pretty funny, so ask yourself a question: when was the last time you got to see someone hit by their own helmet? It's roughly the equivalent of your older brother going "Stop hitting yourself. Stop hitting yourself." Sure, what Garrett did could be construed as aggravated assault, manslaughter, or attempted murder, but things like that happen every game.





• B8 School Girls • B10 Bhangra in the Burgh • B13 Or, 11.18.19

table of contents

3 INNXINITOON

The Frame Gallery: Animal Cult / Lesser Men



Waitress on Broadway!

6	Revolution - The Music of the Beatles		
7	"We Drank Music"		
8	School Girls review		
10	Bhangra in the Burgh		
12	Pittsburgh Arts & Lectures: Madeline Miller		
13	School of Drama: Or,		
14	Markiplier stream shows how out-of-touch YouTube is		
16	Horoscopes: the signs as famous novelists		
17	Comics: Caffeinated		
18	Crossword: Sights at CMU		
19	Monthly calendar		

Publisher Marika Yang Editor-In-Chief Nora Mattson Pillbox Editors Sujay Utkarsh and Alexandra Yu Visual Editors Tracy Le and Anna Boyle Copy Manager Wilson Ekern Cover Photo Lisa Qian







She opened with her song "blame game," a grim love anthem backed by beautiful drums from Jacob Guzman and guitar from Keri Prath. She interacted with her audience in between every song, talking about the weather and how she is good at "writing sad songs about [her] insecurities" and that it leaves her unbelievably shocked when people listen to her music. She continued performing the song "unspoken words," "suffice," and "seasonal depression." The song "seasonal depression," she says, is to "throw a spotlight" on this rare form of depression, but I found it a tad hypocritical that she was monetizing this serious issue on T-shirts that said "seasonal depression" at her merch stand that night.

The audience was enamored as she continued playing "cliché," "feelings are fatal," and "porcelain." She talked about how her parents joked that her coming to Carnegie Mellon will be the "closest she'll ever get to college." She played many other songs as the night went along, from "i feel like chet" to "my TED talk" and her infamous TikTok sensation, "prom dress." Everyone in the audience was singing along to this last song and deafening applause rang throughout the room as she finished.

I knew of mxmtoon because I stumbled upon her songs on Spotify, which in my opinion, has been a huge factor in her success. Her effortless ukelele paired with soft tunes about love sells to every audience, and her short songs are the perfect recipe for repeat streams. She sounded better live than she does in her heavily produced studio album, showing her roots as a stripped-down vocalist on YouTube. Her vocal performance differentiates her from other contemporaries with a ukelele and GarageBand, and her journey as an immigrant bisexual woman of color forms a very unique identity, which is showcased in her music. She seems to be amassing followers even after her social media boom, which may help her music go mainstream.











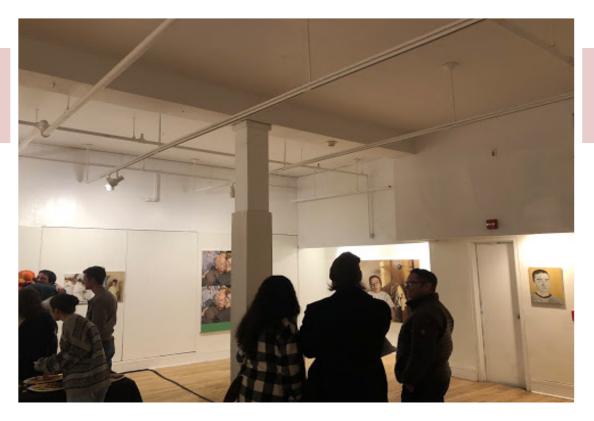






Animal Cult / Lesser Men

article and photos by Chinasa Mbanugo | Assistant News Editor layout by Robyn Lee | Junior Layout Designer



mmett Donlon's Animal Cult / Lesser Men explores themes of boredom and violence and where these themes intersect in everyday life, through pieces like "Jen with Bloody Nose" and "Gorbachev Kissing Honecker / Now Honecker Kissing Gorbachev / the Last Open Girls I Saw Before When I Had to Cough." In "Jen with Bloody Nose," a girl is centered in the painting with a mostly beige backdrop. She is wearing a white shirt and the observer can clearly see the blood dripping from her nose and onto her white shirt. Her facial expression, though, says it all: she is tired, but more so, bored. A bloody nose is violent, but it is also boring. Donlon's four pieces on Erich Honecker were desensitizing, but

as you realized what you were looking at, a man who had done so much to violently suppress homosexuality in his country, you did experience a "retraumatization" of sorts. Although it was the same portrait painted four times and could inspire a sense of boredom, there was also the feeling that you were witnessing an extremely violent person and that these two things, violence and boredom, often exist together.

In the back room, "Animal Cult," an installation comprised of plants, wood, fabric, hand woven baskets, and handmade nets, thrived with six small ermines ruling over the coyote and fox. Emmett remarked that he

"didn't know what they were doing" because there may be no way of knowing. In any case, the energy of the ermines was sinister and wise. The scene, while haunting, was also attention-grabbing. It was hard to leave the room and turn my back on the ritualistic endeavor taking place, as if once I turned around they would continue the ceremony. The themes of boredom and violence could also be seen in "Animal Cult." Taxidermy can be boring, but it is also a dead animal and therefore also extremely violent. However, dead animals are seen every day and so we are desensitized. Yet, the repetition brings us back. When you stare at the scene for long enough you realized that you are looking at dead animals in a ritual. Something that could have been boring at first glance had now transformed into something gruesome and violent.

Interview with the Artist

How would you describe your journey as an artist?

I've always really liked art. When I was young, I said that I wanted to be an artist. That changed a lot and when I was in high school, I thought I was going to be a musician, but I still really liked art, so I applied only to art schools and now I'm here. It's been a crazy three years, but it's been really good.

What influences you the most as an artist?

I am influenced by a lot. History. Here, I have some paintings of Erich Honecker, the head of East Germany, and over here I have a painting of him kissing Gorbachev, which was the Soviet fraternal greeting. I always found it really interesting, especially because these two governments suppressed homosexuality in their countries. So, trying to reclaim that history and insert myself into it as well, I'm really interested in that.

I'm also really inspired by what I find online, like that's porn and that's a porn magazine and there's dead birds with them, I actually didn't realize that there were dead birds in both those pieces. That's crazy. There's this pleasure in these bodies but





then you're really turned off because of the dead birds in the paintings, but then it's also a painting and a painting is also used as a form of pleasure as well.

I'm also inspired by Andy Warhol and the idea of repetition. I like to paint the same image multiple times. I have more paintings of Erich Honecker. There's this thing about repetition that desensitizes you to the image, but once you remember what you're looking at you experience this trauma of seeing an image for the first time.

Do you do that on purpose? Do you know when you're going to paint something multiple times?

I like to think of all of my paintings as almost the same image. There are some paintings that are outliers, but with these two paintings over here, that's a dead cat and this is me when I was younger, standing next to a really tall vase. I think of these as the same image. There is no difference between that cat and me because they're both just paint on canvas. I do think about whether or not I'm going to paint something again.

What does it mean to you that this is your first solo show?

It's a lot of pressure [laughs]. It's more to prove to myself that I can put together a body of work that works together and that can fill up such a large space. Proving to myself and to everyone else that I can be an artist. All eyes are on me.

Do you think that the serious in the not serious is a theme that you like to play with?

I try to find the absurdities in the uncomfortable to make the uncomfortable more easy to accept. A lot of this work is about boredom and violence and about how they are the same thing. Violence is so apparent in everyday life. For example, this piece is of me getting a haircut in a bathtub, but it's a very violent image but it's also a very boring thing because I'm just getting a haircut. We're so desensitized to violence that it's boring to us now. But even being bored is extremely uncomfortable. Like solitary confinement is forcing somebody into boredom which is a really violent thing.

When did you first start to explore those sorts of themes?

I noticed that that was what I was doing around spring of last year. Looking back through all of my work it became apparent that even though all of it was functioning totally in that vein a lot of it was pointing towards the fact that I was going to start making work about that.

If you could have one superpower, what would it be and why?

I wish I could teleport, because right now it's way too cold to go outside. Also if I could teleport with my paintings that would be great, because walking them down the street from the CFA isn't going to be fun. Also I wouldn't have to walk. So that would be great.





REVOL

THE MUSIC OF THE BEATLES

article and photo by Vidya Jayanthi | Staff Writer layout by Anna Boyle | Visual Editor

The two-time Grammy Award-winning Pittsburgh Symphony Orchestra (PSO) gave a moving tribute to The Beatles, performing some of their greatest hits from "Here Comes the Sun" to "I've Just Seen a Face" and even "Let it Be."

The evening was also graced by guest artists: vocalists Paul Loren and Colin Smith, guitarist Greg Mayo, drummer Zach Jones, keyboardist Andy Robinson, and electric bassist Brian Killeen, who each added their own flair to the music of the Beatles. The onstage charisma of Loren and Smith easily won over the audience, even getting them to sing along in "Hey Jude." Meanwhile, Mayo's guitar solos drew heavy amounts of well-deserved applause.

The Beatles, often regarded as the most influential band of all time, have certainly left a permanent mark in musical history. Their experimentation with musical styles and instruments is regarded as a

revolution (no pun intended) in music production, and the PSO certainly didn't shy away from experimentation. The addition of strings and brass added an unexpected, rich flavor to the pop and rock of The Beatles. To quote PSO conductor Todd Ellison, "It was almost like the songs were written just yesterday."

On that note, the orchestral version of "Yesterday" was honestly one of the best versions I had ever heard. The way that the strings crescendoed and decrescendoed along with the vocals enhanced the meaning of the lyrics. In a sense, it made the song more emotionally expressive.

The same could also be said for another favorite, "Eleanor Rigby," whose staccato-filled opening is usually hauntingly beautiful, and the incorporation of the brass almost gave it a slightly jazzy and smooth feel that subverted that trope. Simply put, I loved it despite its lack of vocals. For once, I actually enjoyed the

subsequent "Here Comes the Sun," a song my inner cynic usually turns her nose at.

In terms of staging, I personally thought the lighting was perfect for the evening. There was a tasteful balance of bright colors, including cyan, magenta, red, and yellow that would occasionally spot during the chorus and even during vocal high points. The continuous slideshow presented behind the orchestra with images and photographs seemed a little cheesy during most parts. However, there were some great shots that truly showcased a glimpse of the world during the sixties and the history of The Beatles themselves.

All in all, I began the evening under the chandeliers with a notebook and tired eyes, and I ended the evening with starry eyes and a grin from ear-to-ear. I don't think I could've found a better way to have spent my Friday night and I'd do it again, time after time.





Before there was Regina George, there was Paulina, a queen bee and undisputed ruler of Aburi Girl's Boarding School. Set in 1986, School Girls; or, The African Mean Girls Play, tells the story of a group of high school girls in Central Ghana. The play is a wonderful mix of laughter-inducing lines, teenage girl drama, and African girls struggling to find beauty and identity in their skin color. The plot centers around the girls getting ready for the Ms. Ghana pageant; the winner of which will compete to become Ms. Universe.

The show begins with Paulina surrounded by her loyal posse: Gifty, Ama, and Mercy. Seated by herself is Nana, the odd one out, eating a bowl of porridge. Paulina immediately rips into her for being chubby and constantly eating, asking sarcastically if Nana wants to be "fat fat or popular." Paulina's sidekicks chime in and laugh, but as soon as Paulina exits, the other girls rush to Nana's side to comfort her.

Right away, you can definitely see the parallels between this story and Mean Girls. Paulina asserts her dominance as the ringleader, surrounding herself with loyal Gretchens and Karens and putting down innocent, vulnerable Nana. She continues to torment Nana throughout the story by calling her a "cow" and threatening to rat her out for always having a supply of food. Paulina also makes it clear that she is the obvious choice to win the Ms. Ghana pageant, and none of the girls should stand in her way. Paulina will not be intimidated.

That is, until a new student enters. Meet Ericka, the Cady Heron of this story. Ericka is also Ghanian. However, she has lived most of her life in the United States, and the girls at Aburi are absolutely fascinated by her. They want to hear everything about her life in the U.S.: what the people are like, how she got her hair to be so long, what kind of makeup she uses. When Ericka tells the Aburi girls she has a poster signed by Bobby Brown, they lose their minds in total teenage-girl fashion. Paulina also fumes when she learns the pageant recruiter has her sights set on Ericka over her. Motivated by money and power, the recruiter thinks Ericka and her lighter skin will have a better chance on the world stage than Paulina and her deep complexion.

Tensions rise and fall as the girls prepare for the pageant. When it comes time to compete in front of the recruiter, all hell breaks loose. This is when the Burn Book pages are discovered and everyone breaks into jungle madness, as Cady would say. Secrets are revealed, gut-wrenchingly foul language is used, and punches are thrown.

I cannot divulge any further details without spoiling the plot. No, I am not going to tell you who threw the punches or who won the pageant. But what I can tell you is that this is an important, worthwhile play to see. The light-hearted, comedic moments are thoughtfully blended with the somber, serious ones. I laughed out loud when the girls repeatedly said "Calvin Kleen" instead of "Calvin Klein" and sang horribly out of tune for the pageant. But when I saw some girls question their beauty because of their skin tone, when I saw Nana being bullied for being chubby, when I heard them call each other the most horrible names, my heart ached.

Stepping aside from the actual content of the play, I thought the Pittsburgh Public Theater (PPT) brought School Girls to life in a deliberate way that yielded outstanding results. First off, they selected great artistic talent to tell the story. The play is directed by Shariffa Ali, a Kenyan-born director who boasts an impressive resume between being faculty at Princeton University and directing an upcoming world premiere at the Oregon Shakespeare Festival. Each of the actors in the eight-character ensemble are female and African-American, one of whom is Ghanaian-American, all of whom played their characters wonerfully.

Not only was the acting and directing on point, but the set design was incredibly realistic as well. Every detail from books on the shelves to cafeteria tables convinced me it was plucked from a high school. The costumes accurately reflected the time period and were beautifully crafted. I liked the traditional African clothing worn by the headmistress and the coordination of the girls' school uniforms. I was especially impressed by the detail of Paulina's pink pageant gown — I'm sure those poofy, '80s-style sleeves were not easy to make.

Overall, the execution of the play by PPT was top-notch. I applaud them for their commitment to accurate representation in their storytelling in all aspects, from the cast to the set to the costumes. No worries if you have not seen School Girls yet; it runs through Dec. 7 at PPT's home, the O'Reilly Theater, on Penn Avenue in downtown Pittsburgh.

BHANGRA in the

BURGH

written and photos by Vidya Jayanthi | Staffwriter layout by Sahaana Sethu | Junior Layout Designer

Last Saturday, seven dance teams from across the country came to Pittsburgh in the celebration of bhangra dance, music, and culture in an annual contest named Bhangra in the Burgh. The sold-out audience gathered to support their favorite teams and offer moral support, as well as celebrate South Asian culture in the largest student-run event in Pittsburgh.

As the staff hustled to put the finishing touches before doors opened, I had the pleasure of speaking with co-director Madhuri Raman about her experience being involved in Bhangra in the Burgh. "I started freshman year, I was always a member of the op-staff. I loved the music, I loved the dancing, I really got to meet people and learn about how it all works."

This year Bhangra in the Burgh decided to donate a large part of their proceeds towards the Greater Community Pittsburgh Food Bank, a nonprofit organization that helps people in need and works to eliminate hunger in the Pittsburgh community. "Every dollar earned translates to five meals, it's really exciting", Raman said.

The night began with the emcees getting the crowd excited with a few jokes ("What did the buffalo say when his son left for college? Bye-son.") and they certainly had no trouble keeping the audience excited for the rest of the night.

Also, I'm starting to think that bhangra music is just energizing in nature, but maybe that's just me. The Cornell team near my seat couldn't keep their shoulders down when a bhangra mashup of "Taki Taki" by DJ Snake began to play.

Throughout the show, there were several wonderful and outstanding performances including special appearances from CMU Deewane, Carnegie Mellon's all-male South-Asian acapella team; Pitt Mastane, the Bollywood-fusion dance team of the University of Pittsburgh; and the local Nandaik Dance Studio, a studio that teaches and celebrates dances from all over India.

All in all, it was a great evening and a show not to miss. Bhangra in the Burgh should definitely be on every Pittsburgh college student's bucket list.













Madeline Miller

Pittsburgh Arts & Lectures

When she was young, Madeline Miller's mother would read her passages from The Odyssey, and she quickly fell in love with Greek mythology and the classical works of Homer. Madeline Miller's books, The Song of Achilles and Circe, are retellings of ancient mythology as well as acclaimed New York Times bestselling novels.

Miller was one of the visiting authors for the Pittsburgh Arts & Lectures series, which has been bringing acclaimed authors to Pittsburgh to discuss their literary background and novels. Miller's visit was a rare opportunity to learn more about the celebrated author who transformed the modern perception of classical texts, broadening the literary horizon for many who have never read Homer.

During her talk, Miller discussed her motivation for writing The Song of Achilles and Circe. Both novels tell the story of an underdog and breathe life into otherwise one-dimensional side characters that are often forgotten. Regarding the writing of Circe, Miller felt that the original story, The Odyssey, constricted a powerful female character and portrayed her as being bested by the male hero, with the unrecognized truth lying under the surface.

Miller asked the audience to consider how often the word "witch" is still used to describe women who wield power that society cannot control. As a result, Miller said that Circe is often demonized in the media as a woman who is scorned by love and is vengeful towards men. Thus, it was particularly important that Miller took on a feminist lens when writing Circe's character because she is a powerful female icon that forged her own path in the world, rather than being defined by society and other men.

Circe is most famous for turning men into pias, and Miller wanted the reader to understand the reasons for her actions. She stated that "it is a pretty extreme thing to do, and it is treated in later literature as, 'Well, you know women, that is what they will do to you." By giving Circe a life beyond The Odyssey, giving context to her life before and after Odysseus, Circe becomes a multi-dimensional character who has her "whole host of associations." Told from the perspective of Odysseus, The Odyssey took on a very male-centric perspective where powerful females like Circe and Calypso were always subjugated under male power. Miller hoped to subvert this impression and revitalize Circe, as she wanted to "put Circe at the center of the epic, giving her the mistakes, the passions, the victories that the male heroes had by right." Thus, including the other aspects of her life that did not include Odysseus was a crucial aspect of Miller's story. Circe is not only a powerful witch, but also the daughter of Helios, the aunt of the Minotaur and Medea, and much more. Each of these stories that Miller found was weaved into a beautiful story of Circe's life

journey of "trying to find her way in the world and find her people in the world."

When asked about her writing process, Miller stated that, as a classist herself, she used Homer's original text, as well as other translations and Greek texts for reference. In particular, Emily Wilson's translation of The Odyssey played a crucial role in her own development of Circe. Traditional translations of The Odvssev are often still male-centric, but Wilson stayed true to Homer's text while also offering a fair place for the women in the story. Miller mentioned that while she does do some preliminary research, she often goes back to her sources to find the "shiny pieces" that stick out to her and incorporate that in her story. She did extensive research on material culture, such as the daggers, loom, and clothes referenced in the book. Every single herb that Circe uses has been referenced at some point in traditional Greek texts.

Miller's insightful talk answered many questions that her readers, including me, had about the story and her own motivation for writing the story. Listening to an author explain her own work is always an invaluable opportunity. The Pittsburgh Arts & Lectures series is still ongoing, so don't miss out on great opportunities to listen to more visiting authors.



article by Elizabeth Rodriguez | Assistant Pillbox Editor layout by Tracy Le | Visual Editor

A dazzling spectacle to witness, Or, a colorful play directed by Kim Weild, is hilarious, heartwarming, and inspiring all at once. The cast members Dylan T. Jackson, Katie Sacks, and Georgia Mendes did a truly fabulous job of immersing themselves into their characters. In particular, Jackson and Sacks took on the challenge of playing multiple characters throughout the play, their flawless costume changes and transitions into character almost one after the other responding with a resounding "challenge accepted." Their penetrating performance absorbed the audience into the time period as they followed Mendes's character, Aphra, an aspiring 17th-century playwright and ex-spy for the King. Just released from debtor's prison, she seeks to gain recognition in the theater as a woman. The play was carried by the passion of these three actors, their hearts on their sleeves and the enthusiasm in their voices enchanting. I, for one, left the theater practically baptized in the unapologetic energy that these strong characters bestowed upon the room, and had to remind myself that I am, indeed, not a Reformation playwright on the verge of a theatrical breakthrough (although that doesn't sound too bad to me).

Wonderfully executed, Jackson, Sacks, and Mendes displayed true and raw

talent. Having the opportunity to watch them display such brilliance was a thrill that brought a script of written words to life and the audience along for the ride.

As Carnegie Mellon students in the graduating class of 2020, the School of Drama allows them the opportunity to present their work in New York and Los Angeles at showcase presentations in these areas. As described on the Carnegie Mellon School of Drama webpage, these showcase presentations are designed to give graduating students across all disciplines the chance to meet "leading arts and entertainment professionals," launching "new graduates into professional work within their fields." However, to get there, they need funding.

Much like Or, embraces the emergence of women into the theatrical world, so should we embrace the emergence of these skilled actors into an experience that holds immense opportunities. Take a quick look at their GoFundMe page to donate, support, and help this remarkable graduating class of exceptional actors showcase their God-given talents in New York and Los Angeles. Or, you might regret it.

Markiplier stream shows how out-of-touch YouTube is

written by Madeline Kim | Forum Editor art by Aisha Han | Staff Artist layout by Anna Boyle | Visual Editor

Mark Fischbach, known online as Markiplier, began his "A Heist with Markiplier" special on Nov. 6. Hardcore subscribers could purchase a \$4.99 monthly subscription and help navigate the course of the livestream by "voting on which way they wanted to go with emotes," or emoticons in the live chat: "one red paddle, and one green paddle." What should have been an interactive experience for users and the YouTuber went haywire when the site banned hundreds of accounts that "spammed" the emotes. An hour and a half into the livestream, Fischbach and his moderators caught onto this trend, but the damage had been done by the time the viewers were warned.

On Nov. 8, Fischbach addressed the problem in his video "YouTube has a huge problem..." and expressed his frustration with the platform.

The termination of accounts would be infuriating enough on its own. However, many people whose accounts were restricted or even terminated had their appeals denied.

People's subscriptions that they paid money for disappeared. People's content vanished. Their engagement with the platform, gone.

The problem runs even deeper than people's YouTube accounts being terminated. Not only were people's YouTube accounts being terminated; their entire Google accounts were as well.

Markiplier said in a video, "What are they

going to explain to their boss: 'Oh, sorry, I can't get into my Google account; I was at a Markiplier livestream'?"

The following Monday, Fischbach uploaded "YouTube's Big Problem --- UPDATE" and gave his viewers an update on the situation. He thanked the YouTube team for being cooperative and even praised Susanne Daniels, the Head of Content at YouTube, for showing genuine concern.

"There are a lot of people at YouTube who genuinely care about the platform," said Fischbach, Daniels being one of them. This leads to the question: what is going on with YouTube if they're not run by money-hungry corporate drones?

In this case, the incident was triggered by an anti-spam measure running amok. A software engineer for YouTube took to Reddit to give a brief rundown of the situation. In this post, the user highlights one of YouTube's significant shortcomings: it is out of touch with its user base.

"The appeals should not have been denied," said the post. "The problem is that... for someone not familiar with the social context, it absolutely does look like (real) spam." This, in combination with the extensive size of the platform, triggered the incident.

YouTube is no stranger to accusations of not understanding its consumers. In 2017, many creators found themselves becoming victims of the "Adpocalypse" where controversial content and entire channels were becoming

demonetized. In a statement, the platform cited using "machine learning to determine if a video meets our advertiser-friendly guidelines" and publicly offered to send appeals to human reviewers should the creators feel that their content is mistakenly flagged.

However, YouTube failed to give every appeal the attention that the creators deserved, only having appeals manually approved should the videos have at least 1,000 views and come from channels with at least 10,000 subscribers. Even if the appeal passed successfully and the video is re-monetized, the video might have passed peak viewership and thus missed the opportunity to garner revenue at the right time.

Demonetization continues to be a pressing issue for creators, especially those who rely on the platform for their livelihoods. The peak of Adpocalypse may be in the past, but YouTube's algorithms for choosing what content to demonetize are still flawed. The platform has expanded to a scale that the company has failed to keep up with, and the lack of understanding of its users further digs its grave.

YouTube was probably not created with the intention of becoming the pinnacle of content creating that it is today. With its expansive growth and large user base, it's understandable that there will be hiccups. However, YouTube needs to prioritize getting in touch with its user base, especially if it wants to stay relevant.

















However, after over three-and-a-half years on Broadway, Waitress's run is drawing to a close. With the closing date set to be Jan. 5, 2020, there are less than 50 days left before its last performance.

— truly a lovely experience.

warm and fun

The theatre itself was filled

along with a feeling of community

with the sight and smell of pies,

the show was in

comparison to the

weather outside.

Carnegie Mellon University alum Drew Gehling will be closing out the show as Dr. Pomatter, the show's male lead. Gehling graduated from Carnegie Mellon University's drama program back in 2005 and was the first cast in the role of Dr. Pomatter in American Repertory Theater's debut production of Waitress. Though it was a limited engagement, the show became sold out. This popularity facilitated the transition to Broadway's Brooks Atkinson Theatre, where Gehling became part of Waitress's original Broadway cast.

Although in hindsight there's no doubt that Waitress has been a phenomenal success for all those involved, this certainly was not always present. "We never really knew that this was going to be a hit," Gehling said.



article and art by Cynthia Xu | Assistant Sports Editor layout by Tracy Le | Visual Editor

"When you start a new show, you never really have any kind of idea as to what its future might be. The majority of shows on Broadway do not recoup their investment or are a limited run, or just don't find their audience in time." In a spectacular turn of events, Waitress soared in popularity, managing to recoup its \$12 million capitalization cost in under 10 months. "We happened to be in a show that just somehow captured the heart of the public at just the right time," said Gehling. "We very quickly realized that we had something special on our hands, which," he acknowledged, "was wild considering we opened the same year as Hamilton... So we got to just have the pleasure of enjoying the ride as it came."

Drew Gehling eventually left the production, returning a couple of times throughout the three-and-a-half-year run to revisit his original character. On Oct. 30 of this year, Gehling made a final return to close the show as Dr. Pomatter. "Coming back, it's really wonderful," he reflected. "It's a lot like coming home. Knowing there's a specific end date is really, really comforting because it just allows us to fondly revisit the characters and the story that we created under no object about it running any longer than past January. So when it's done, it's done, and then we'll have gotten to start it and finish it — That's a unique honor."

When asked to describe the show in a single word, Gehling, without hesitation, replied, "love." He explained, "You gain a certain sense of community with a group of people that you go through something very, very intense with. It's hard to pin down, but it does

create a sense of instant family, where you are able to share in each others' successes and cry with each other when failures occur. That that doesn't happen in a lot of other professions. So for *Waitress*, specifically? It's love."

Overall, according to Gehling, "It has been an incredible ride, because we got to do some really, really, really wonderful and exciting things, right when the show opened. And then realizing that the show was going to be a success, you suddenly start to settle into the long haul, and then you have the experience of recording the cast album, and then listening to the cast album for the first time with the cast before it gets released, and then the cast album gets nominated for a Grammy Award, and the new guys get to share in the excitement, and the glory. And there's honestly a strangeness in watching a national touring company rehearse and get ready to present to the rest of the country the show that you essentially created. That's really pretty crazy. So it's been an incredibly rewarding experience, almost without fail, and it will always hold a special place in my heart for that reason."

Although Waitress may soon be closing on Broadway mainstage, it has inspired numerous productions all around the world, ranging from the current U.S. National Tour to the West End production in London and the upcoming Australian and Dutch productions (the latter of which will star Willemijn Verkaik as Jenna). An extraordinary slice of theatre, Waitress is a show that everyone should see while the opportunity is still there.

horoscopes

the signs as famous novelists

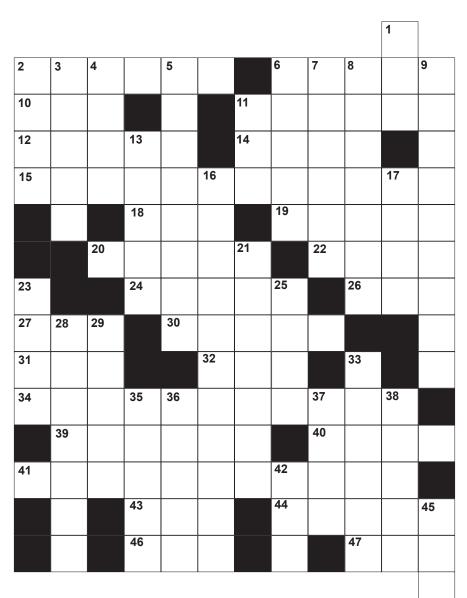
Aries march 21 – april 19	Maya Angelou	Libra sept. 23 – oct. 22	Anne Rice
Taurus april 20 – may 20	Harper Lee	Scorpio oct. 23 – nov. 21	Kurt Vonnegut
Gemini may 21 – june 20	Arthur Conan Doyle	Sagittarius nov. 22 – dec. 21	Emily Dickinson
Cancer june 21 – july 22	George Orwell	Capricorn dec. 22 – jan. 19	Edgar Allan Poe
Leo july 23 – aug. 22	H.P. Lovecraft	Aquarius jan. 20 – feb. 18	Viginia Woolf
Virgo aug. 23 – sept. 22	Agatha Christie	Pisces feb. 19 – march 20	Victor Hugo

Caffeinated by Meg Adams



https://artbymoga.com

Sights of CMU



Across

- 02. CMU building: Pringle
- 06. CMU building: Giant Eagle
- 10. Computer key
- 11. Evening party
- 12. Sans-serif font
- 14. Move from low to high
- 15. CMU Building: helix
- 18. Earth prefix
- 19. Vends
- 20. Cuban prison
- 22. River deposit
- 24. Make tea
- 26. Mass surveillance
- 27. CMU grad student org.
- 30. Opposite of chaos
- 31. Listen in Spanish
- 32. "Elastic Heart" singer
- 34. Clove crusher
- 39. Chinese pork dish
- 40. Med student exam
- 41. CMU building: atrium
- 43. Neptune's realm
- 44. Third rock from the sun
- 46. Brit. money
- 47. Smidgen

Down

- 01. Stinging insect
- 02. House Baratheon symbol
- 03. Gold measurement
- 04. "This won't hurt ____"
- 05. High voice
- 06. Evaporates
- 07. Church sections
- 08. Russian citadel
- 09. Un-fire
- 11. Lanka
- 13. Zeus' shield
- 16. CMU building: smoke-stack
- 17. "___ Well that Ends Well"
- 21. Psychological complex
- 23. Enthusiastic
- 25. Odd shaped fruit
- 28. Famous twins
- 29. Cupid's weapon
- 33. Usher
- 35. Fertile soil
- 36. Small island
- 37. Actress Stone
- 38. Claus
- 42. Roadside bomb
- 45. Good cholesterol

calendar

ongoing

Fast Fest (Row House Cinema) ongoing until 11.21.19

Or, (Purnell Center for the Arts) ongoing until 11.23.19

week of 11.18.19 - 11.24.19

Friendsgiving (Rangos Ballroom) 11.18.19 5 - 8 p.m.

CMU Art Lecture: Tschabalala Self (CFA) 11.19.19 6:30 - 8 p.m.

AB Presents: Self-Care Night (Connan Room) 11.19.19 7 - 9 p.m.

Veg-olution (Schatz) 11.20.19 5 - 9 p.m.

Compensation (Purnell Center for the Arts) 11.20.19 - 11.22.19 8 - 10 p.m., additional 4 p.m. showing on Friday

Artifacts of the Artificial (The Frame Gallery) opening 11.22.19

Comcast Light Up Night 2019 (Downtown) 11.22.19 4 - 10 p.m.

Peoples Gas Holiday Market 2019 (Market Square) 11.22.19 - 12.23.19

CaSigNu Royale VI (Connan Room) 11.23.19 2 - 6 p.m.

Lumaze Pittsburgh 11.23.19 - 1.4.19

Soulstylz Dance Showcase 2019: Transcend (Studio Theater) 11.24.19 7 p.m.

week of 11.25.19 - 12.01.19

Pittsburgh Pickers: Vintage Market (Ace Hotel Pittsburgh) 11.24.19 11 a.m. - 6 p.m.

Miyazaki Week (Row House Cinema) 11.29.19 - 12.5.19

week of 12.02.19 - 12.08.19

TEDxPittsburghWomen 2019: Bold + Brilliant (Roxian Theatre) 12.5.19 6 - 9:30 p.m.

The Joy of Cookies Tour (Lawrenceville) 12.6.19 - 12.8.19

Steel City Con (Monroeville Convention Center) 12.6.19 - 12.8.19

Handmade Arcade 2019 (David L. Lawrence Convention Center) 12.7.19 11 a.m. - 7 p.m.

Penguins on Parade (Pittsburgh Zoo & PPG Aquarium) 12.7.19 - 1.26.20 11 - 11:15 a.m. (weekends only)

classified

Make money over the holidays! Staff I Made It! Market artisan booths at Lumaze Pittsburgh. Email hello@imadeitmarket.com for more info.





TSA Culture Night: Awaken

