

THE TARTAN



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Plame discusses her cover being blown and the state of the US



Valerie Plame, an ex-CIA agent whose cover was blown in 2003, delivered the keynote address at Carnival.

EVANGELINE LIU
Staffwriter

As part of Carnegie Mellon's Information Networking Institute (INI) celebration of Carnival weekend, Valerie Plame was invited to give a keynote speech on the issues of nuclear proliferation and cybersecurity, two major threats that affect all of us today.

When you meet her, Plame may look like a regular activist for causes that all of us can relate to. But many may also remember her as the subject of the infamous 2003 Plame affair, which ended her twenty-year career as a covert CIA agent.

In her keynote, Plame gave a brief overview of the events leading to her career at the CIA and the subsequent Plame affair. She described herself as "very honored" to have had the opportunity to serve her country by working for the CIA, continuing her family's legacy of public service. Her expertise was in the issue of nuclear proliferation and the covert cyber-operations relating to it. She described the multifaceted training that she had to undergo, which included surviving in the wilderness, jumping out of planes, shooting automatic

weapons, and recruiting foreign intelligence sources.

In the years after 9/11, the U.S. government was preparing to invade Iraq with the justification that Saddam Hussein had nuclear weapons. Her husband, a diplomat named Joe Wilson, went to Niger to investigate uranium transactions there and to figure out if any of them involved the Hussein regime. Wilson concluded that America's justification for the war was false because he could find no evidence that Saddam Hussein was trying to buy nuclear weapons or nuclear material. After the war started, Wilson wrote a column discussing his findings. Shortly after, Plame's identity as a covert CIA agent was leaked to the *Washington Post*, which she believed was done by administration officials as political retaliation for her husband's article. She was forced to resign from the CIA. Plame described the situation at that time as a "complete loss of privacy."

"You don't know what it's like until you have photographers on your lawn snapping pictures of your toddlers," she remarked, reflecting her concern at that time about the safety of her family and the intelligence networks she had

cultivated for two decades. She believed that the media firestorm and personal attacks on her that resulted reflected the increasing unpopularity of the war among citizens. The leak became known as the Plame affair.

After summarizing her story, she moved on to the topic of nuclear proliferation. She first started by calling election night "just ugly," and said that the current president is very unstable and says many conflicting things. She remarked that none of the attributes she just described of President Trump "should be in the same sentence as nuclear weapons." She believes the problem isn't that President Trump has access to the nuclear codes — it's that they even exist in the first place.

Plame gave a brief history of nuclear weapons, starting with the Cold War. During that time, there was a policy of mutual annihilation if either the Americans or the Russians were to use nuclear weapons, which worked as a deterrent. However, by 1982, American citizens got tired of this perpetual brink-of-war state and approximately a million of them took to Central Park to

See **WARFARE**, A3

CMU team places second in 14th CME Group Trading Challenge

ROSE PAGANO
Personnel Manager

CME Group, Inc., a financial market company, recently released the names of the winning groups of the 14th annual CME Group Trading Challenge. Carnegie Mellon University's team placed second, right after Rutgers University, who ended the three year drought of not having an American university team place first in the competition.

The participation in the contest this year had almost 600

teams composed of over 2,300 students coming from 35 countries across the globe. This was the greatest number of participants the competition has ever had. The contest is a four-week electronic trading competition available to teams made up of undergraduate and graduate students. The goal is to provide a chance to gain experience with techniques for trading futures among major asset classes on CQG's professional trading platform. It is also the intention of the program to educate up and coming financiers.

"We are pleased that a record number of university students from around the world have chosen to participate in our annual Trading Challenge," CME Group's Managing Director of Corporate Marketing and Communications Anita Liskey said in a press release. "CME Group is committed to educating the next generation of finance professionals about the significance of derivatives markets in today's interconnected global economy." Many of these groups'

advisors view this event as a way for students to refine their financing skills and attain more exposure to that field.

"I am excited that our team's participation and commitment resulted in a first place win in this year's competition," said Ronnee Ades, adviser to the winning team from Rutgers University and Director of the Master of Quantitative Finance program Office of Career Management for Rutgers Business School. "The CME Group Trading Challenge is a great

opportunity for students to gain hands-on experience with financial markets, and complements what they learn in our academic program."

The teams that emerge victorious from the competition received a cash prize and attended a market education conference held at the CME Group. CME Group offers a variety of risk management education. Not only do they throw this contest for university students, but they also provide educational tools on the finance business.

"CQG is proud to partner with CME for the annual CME Group Trading Challenge," Stan Yabroff, product specialist at CQG said. "The Challenge continues our commitment of providing the next generation of traders and university students from around the world with real-time trading opportunities in a dynamic trading environment. We would like to honor the winning teams and congratulate the all the almost-600 teams that participated for continuing this great tradition."

FEATURE PHOTO

Pittsburgh residents march to support science funding



Evangeline Liu/Staff Photographer

Hundreds of Pittsburgh residents participated in the March for Science on April 22 to protest threats made to science funding by the Trump administration. Speakers included Mayor Peduto and Carnegie Mellon professors.

Campus Crime & Incident Reports

Disorderly Conduct

April 14, 2017

A University Security Officer observed a Carnegie Mellon student smoking marijuana in the Cyert School Playground. University Police Officers responded and the student was issued a citation for disorderly conduct.

Assist Outside Agency

April 14, 2017

University Police, along with Pittsburgh Police, University of Pittsburgh Police, Carnegie Mellon EMS, and Pittsburgh EMS, responded to the 4800 Block of Forbes Avenue for a report of a male who had been stabbed on a Port Authority Bus. The victim

was provided with medical attention, and the attacker was taken into custody.

Theft by Deception

April 15, 2017

A Carnegie Mellon student reported that a non-affiliate in a vehicle on Fifth Avenue stated that she had an emergency and needed money. The student provided the non-affiliate with the money. The non-affiliate is a known criminal in several similar incidents and an investigation is ongoing.

Theft

April 15, 2017

A University Police Officer on patrol on Beeler Street observed a golf cart

being driven on the sidewalk adjacent to the East Campus Garage by three college-age males. The males abandoned the golf cart and fled the scene when they observed the officer. An investigation is ongoing.

Noise Complaint/ Underage Drinking

April 16, 2017

University Police responded to Hamerschlag House for a noise complaint. Seven Carnegie Mellon students were issued citations for underage drinking.

Motor Vehicle Collision

April 17, 2017

University Police assisted

Pittsburgh Police with a three vehicle motor vehicle collision on Frew Street.

Criminal Attempt/Theft by Deception

April 17, 2017

Two Carnegie Mellon students reported that a male who identified himself as Pennsylvania State Police Trooper told the students they were under investigation and stated they needed to pay a fine to avoid arrest. An investigation is ongoing.

Compiled by
VALENE MEZMIN

STUDENT GOVERNMENT COLUMN



DOMINIQUE ESCANDON
Special to The Tartan

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

As buggies are brought back to workshops, booths are torn down, and mass amounts of Gatorade are ingested, Carnegie Mellon is being brought back from Carnival into impending-finals reality. With only a few weeks to go before the end of the school, it can be intimidating to think about what the new year will bring and what opportunities will arise. If you've found yourself wanting to get more involved with addressing the needs of the student body, look into serving in a position in student government next year!

Maybe after hearing about and voting in the second Student Senate elections, you feel inspired by our government's dedication to properly inform the student body and want to learn more about how Senate impacts lives on campus. Maybe you feel like the second election was superfluous and want to make a change. Consider getting involved with the Undergraduate Student Senate!

Within the Senate, two positions can be held: Member-at-Large and Senator. Both can be involved in general body meetings and Senate Committees, and Senators are able to vote in general body proceedings. Within Senate, there are seven committees: Academic Affairs, Business Affairs, Campus Life, Communications, Finance, Internal Development, and Advocacy. Each investigates how to expand student power on campus in their respective categories (with the exception of Internal Development, which works on creating a more unified Senate). Vacancy elections will be held in the fall to fulfill open seats in each college, so make sure to keep a look out for those if you're interested in running as a Senator! To be a member-at-large, you must attend three senate general body meetings and then get nominated by a current senator.

Interested in student government's legislative branch but you aren't an undergraduate student? Check out the Graduate Student Assembly (GSA), comprised of student representatives from each program and totaling over 90 members. If interested, speak with your Graduate Program Coordinator to learn more about how GSA representatives are chosen for your program!

If your interests lie more directly with how the University allocates the \$1.5 million funded by your Student Activities Fee to over 300+ organizations on campus, maybe the Joint Funding Committee is the right place for you. This is headed by the Student Body Vice President of Finance. Please contact sbvpf@andrew.cmu.edu if you'd like to get involved as a financial liaison to organizations on campus.

Maybe you're more interested in the organizations that make up the University itself. The Committee of Student Organizations (CoSO) processes, recognizes, and re-recognizes organizations to our community. If you want to learn more about how to support and advocate the needs of Carnegie Mellon's student organizations to student government, SLICE, and University administration, contact sbvpo@andrew.cmu.edu to learn more about CoSO's weekly meetings.

Along with the Committee of Student Organizations, our Vice President of Organizations also chairs the University Center Allocations Board, which determines how space in the Cohon Center is distributed to different organizations, and the Collaborative Funding Committee, which ensures one-on-one application assistance with the common-funding-application.

Wherever your interests fall, there's a place in student government where you can use those interests to aid the greater Carnegie Mellon community. For more information, feel free to explore our Student Government website to learn more about involvement at Carnegie Mellon University!

SOCIAL ACTION CALENDAR

FORWARD!
a few of this week's activism opportunities at Carnegie Mellon

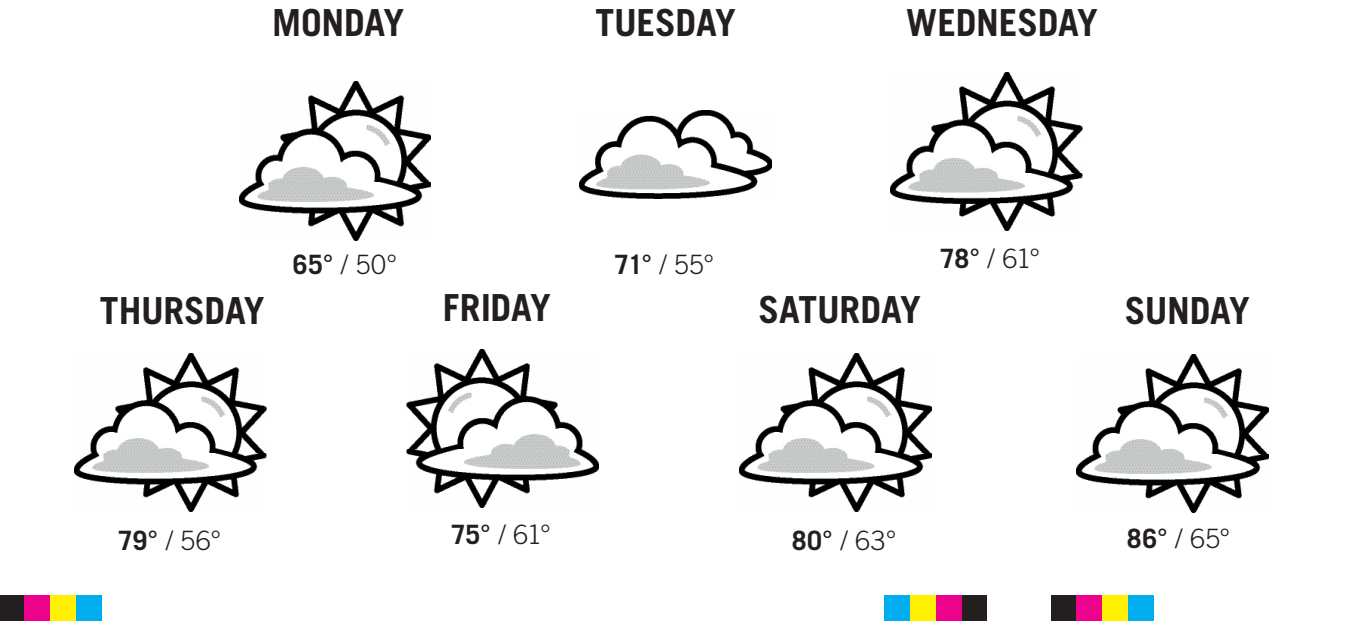
CALL TO ACTION
7:30PM EVERY WEDNESDAY
WARNER HALL
26

STUDENTS FOR A DEMOCRATIC SOCIETY
7PM EVERY SUNDAY
PORTER HALL, A19C
30

SUSTAINABLE EARTH
5PM EVERY WEDNESDAY
MARGARET MORRISON APARTMENTS ROOM 131
26

WEATHER

Source: www.weather.com



Ex-CIA agent Valerie Plame targets warfare and cyber security



During her address, Plame discussed the history of nuclear weapons and argued that President Trump is not fit to have access to nuclear codes (left). She also discussed the threat of Americans having poor cybersecurity (right).

WARFARE, from *A1*

protest the existence of nuclear weapons. She remarked that the good thing that came out of it is that the American stockpile has been reduced from 60,000 nuclear weapons during the height of the Cold War to 15,000 today. The protests in 1982 forced Reagan to talk with the Soviets and come up with an agreement to destroy nuclear weapons. Some of these materials were used for nuclear power plants. Yet this decommissioning of nuclear weapons has reversed for a few reasons — there are

more countries with nuclear weapons now (nine instead of two), terrorists have increased interest in attaining them, and there has been a rise of new U.S.-Russia tensions.

Pume brought up an issue that she said “rarely comes up in discussions” about nuclear weapons: the President is not legally required to consult with anyone before he launches a nuclear strike, because nuclear weapons are on “high alert” status. She believes that people now are less aware of the nuclear threat than they were during the Cold War, and one of her goals as an activist is to

raise awareness among the public on this issue.

Despite criticizing Trump for being unstable and unpredictable, Plame said that the president can lead the world into nuclear disarmament if he decides to. She suggested a few policies the president could change to lessen the nuclear threat, such as changing the high-alert status of nuclear weapons and changing the policy of nuclear-striking anyone who uses nuclear weapons in the world.

She also discussed cybersecurity, which is increasingly important as we become more connected than

ever before. As an example of how much of a threat poor cybersecurity can pose, she cited the example of a bank whose computer system was hijacked in a sophisticated attack that took over the systems and obtained a lot of confidential information. She offered an analysis on why some hostile parties act the way they do: Russia to carve out a sphere of influence, China because it is behind the U.S., Iran because it wants to be a revolutionary (she believes the deal is essential to keeping Iran from disrupting the US more), North Korea because it is starving for attention, and terrorists because

they’re just hateful. She believes the Sony and Democratic Party hacks were influence operations, and that in terms of cyber attacks, it just keeps escalating and there is little deterrence in play.

As a way to tackle cybersecurity issues, she said that the government must support the private sector more instead of making them comply with orders from the Department of Defense. This way, it would be easier to cooperate in the event of a cyber-threat and make use of the advantages that the private and public sector each have.

During her conclusion,

Plume asserted that we are living in unprecedented times. While we often shake our heads at every blunder — she gave the examples of Sean Spicer’s botched comparison of Hitler and Assad and United’s violent removal of a passenger from an overbooked flight — this leads us to lose sight of the real threats out there. She called for more diplomacy and increased citizen engagement and knowledge in regards to social issues. She also encouraged young people to explore public service as a potential career, despite lower pay and what she termed her “crazy story.”

CMU announces commencement speaker Whitman and honorary degree recipients



Meg Whitman is president and chief executive officer of Hewlett Packard Enterprise and this year’s commencement speaker at Carnegie Mellon University.

VALENE MEZMIN
News Editor

On May 21, over 5,000 bachelors, masters, and doctoral degrees will be given to students at Carnegie Mellon’s 2017 commencement ceremony. In addition to these students, Carnegie Mellon will also award honorary degrees to leaders whose work serve as an inspiration for Carnegie Mellon students, faculty, and staff. This year’s honorary degree recipients include Mahrazin R. Banaji, Vivian Davidson Hewitt, Michael Keaton, Bernard Osher, commencement speaker Meg Whitman, and student speaker Chrystal Thomas.

Mahzarin R. Banaji, the Richard Clarke Cabot Professor of Social Ethics at Harvard University, will receive a Doctor of Science and Technology degree. She is a renowned experimental psychologist, known for her study of the disparity between conscious expressions of attitudes and beliefs and their less conscious representations. Banaji is the co-author of *Blindspot: Hidden Biases*

of *Good People* along with Anthony Greenwald.

Vivian Davidson Hewitt graduated from Carnegie Mellon in 1944. She will be awarded a Doctor of Humane Letters degree. Hewitt is now a librarian and African-American art collector who served as the first African-American Chief Librarian for the Rockefeller Foundation, the Carnegie Endowment for International Peace, the Council on Foreign Relations, and President of the Special Libraries Association. “The Hewitt Collection” was recognized as one of the finest African-American art collections in the world.

Actor, producer, and director Michael Keaton, star of *Spotlight*, *Birdman*, and the upcoming *Spider-Man: Homecoming* and *American Assassin* will be presented with a Doctor of Fine Arts degree. “I am truly honored to be a part of Carnegie Mellon’s commencement ceremonies and deeply humbled being selected to receive an honorary degree from such a prestigious university,” said Keaton in a university press release. “As my career path

led me away from graduating college, I am fortunate to be able to ‘spread my wings’ with the class of 2017.”

Bernard Osher, who started the Bernard Osher Foundation in 1977 to improve the quality of life for higher education and the arts, will receive a Doctor of Humane Letters degree.

Chrystal Thomas, this year’s student speaker, will be receiving a bachelor’s degree in biological sciences. Thomas became the first student from Carnegie Mellon to be named a Schwarzman Scholar and will receive funding to complete a master’s degree in global affairs with a concentration in public policy at Tsinghua University in Beijing.

Meg Whitman, president and chief executive officer of Hewlett Packard Enterprise, will be this year’s commencement speaker. “I’m proud to serve as Carnegie Mellon University’s 2017 commencement speaker,” Whitman said in a press release. “Carnegie Mellon is a unique community of scholars, creators, and makers, and I’m confident its 2017 graduates will make a great

impact on the world. I look forward to addressing the [Carnegie Mellon University] community.”

Whitman also has held executive positions at Hasbro, FTD, The Stride Rite Corporation, The Walt Disney Company, and Bain & Company. She currently serves on the board of directors for Procter & Gamble Company, DXC Technology, and HP, Inc.

“Meg Whitman is among the most respected leaders in the business community and a champion for women in leadership across all sectors,” said Carnegie Mellon University President Subra Suresh. “This university is committed to providing equal opportunities for women in every field, a fact that was underlined by our record number of first-year women undergraduate students in computer science and engineering this year. We are proud and very fortunate to have Meg Whitman as our speaker.”

Carnegie Mellon University’s 120th Commencement ceremony will take place at 11 a.m. on Sunday, May 21, in Gesling Stadium.

Klatzy and Morgan elected to Academy of Arts and Sciences

VALENE MEZMIN
News Editor

Roberta Klatzky, the Charles J. Queenan Professor of Psychology at Carnegie Mellon, and M. Granger Morgan, the University and Hamerschlag Professor of Engineering, have been elected to the American Academy of Arts and Sciences. They will now join 22 other Carnegie Mellon members also elected to the Academy.

“The American Academy serves the nation as a champion of scholarship, civil dialogue, and useful knowledge,” as stated on its website. “As one of the country’s oldest learned societies and independent policy research centers, the Academy convenes leaders from the academic, business, and government sectors to respond to the challenges facing the nation and the world.”

researchers in engineering and the life sciences.

Morgan holds positions in the Engineering and Public Policy (EPP) Department, Electrical and Computer Engineering Department, and Heinz College of Information Systems and Public Policy. He also serves as co-director of the Center for Climate and Energy Decision Making and the Electricity Industry Center. He was the founding head of the EPP Department for 38 years and was the founding director of the Wilton E. Scott Institute for Energy Innovation.

Morgan’s research focuses on problems in science, technology and public policy. He places particular focus on energy, environmental systems, climate change and risk analysis. His work involves developing methods to characterize and treat uncertainty in quantitative policy analysis.

“As one of the country’s oldest learned societies and independent policy research centers, the Academy convenes leaders from the academic, business, and government sectors to respond to the challenges facing the nation and the world.”

Klatzky is famous for examining the relationship between human perception and action. She investigates sensory and symbolic modalities in real and virtual environments. Her research has been instrumental to the development of telemanipulation, image-guided surgery, navigation aids for the blind and neural rehabilitation. She became interested in perception while studying math at the University of Michigan. She believes that her background in math has been invaluable, especially as it applies to her work with her collaboration with

“In a tradition reaching back to the earliest days of our nation, the honor of election to the American Academy is also a call to service,” said Academy President Jonathan F. Fanton. “Through our projects, publications, and events, the Academy provides members with opportunities to make common cause and produce the useful knowledge for which the Academy’s 1780 charter calls.”

Klatzky, Morgan, and the rest of the new members to the Academy will be inducted on Oct. 7 in Cambridge, MA.



Forum

FROM THE EDITORIAL BOARD

Torture of gay men in Chechnya must be condemned



Tami Tedesco/Staff Artist

Since March, over a hundred gay men in Russia’s Chechnya region have been targeted, detained, and secretly tortured because of their sexuality. Located in southern Russia and in a historically homophobic region, Chechnya is a place where gay men have been forced to hide their identity, often through getting married to women and starting a family. But in a way, they still had some degrees of freedom: through some online chatrooms, they could connect with others in the community who are also gay and interact with them anonymously. However, this channel has been turned into a trap to capture gay men in Chechnya in a new anti-gay program initiated by the region’s new pro-Kremlin leader Ramsan A. Kadyrov.

Homosexuality has long been a taboo in Chechnya, because the majority of residents believe in Islam and consider the existence of gay men to be in violation of their beliefs. Religion has long been used as the justification for abuse of human rights of minority groups: in Western countries, Christians often justify the persecution of the LGBTQ population by using certain interpretations of passages from the Bible. Although much has changed in Europe and America in recent years and acceptance of the LGBTQ community is becoming more widespread, tolerating the use of religion as a means to justify such brutality in a region far from where we reside only diminishes the effort human rights groups have made in the past to ensure that LGBTQ rights are viewed no differently from the



basic human rights that heterosexual people are afforded.

Although various activist groups and many human rights volunteers have expended effort to evacuate Chechen gay men from the region, the amount of protection they could guarantee the LGBTQ population is limited without intervention from other countries. The United States government has not only failed to stand up and condemn such violation of basic human rights, but also chose to not address such a problem.

Nikki Haley, United Nations ambassador who represented the United States, was the highest U.S. government official to comment on this event. She described the detainment and abuse of Chechen gay men as “[the opening of the] first concentration camp for homosexuals since Hitler’s in the 1930s where campaigners say gay men are being tortured with electric shocks and beaten to death.” However, other high-ranking government officials have neglected to so much as comment on the situation, making it clear that they cannot be counted on to take a stand against the violence and hatred.

The United States’ choice to not intervene is eerily similar to the official response from the Russian government regarding this matter. When asked about the policy that led to this prosecution, Mr. Kadyrov responded, “I can officially say there is no policy because there is no problem. If there were a problem, there would be a policy.” But there is a problem, and the persecution that gay men are facing in Chechnya is only one manifestation of it: LGBTQ individuals are still seen as less-deserving of basic human rights in many places and situations.

We are privileged to live in the United States at this time, where much of the road to equality has already been paved for us. But this does not mean our job is done: Instead of being a fundamental human right, LGBTQ rights are still not universal, because they have not been widely recognized or addressed in many countries around the world, especially in majority-Muslim countries and those that were previously communist — or even in parts of our own country.

The fact that the United States has neglected and refused to comment on this problem reflects the domestic problem with LGBTQ rights. Since President Donald Trump was elected, the protection of the LGBTQ

population in the workplace has been weakened.

Though claiming to support the LGBTQ community, Trump excluded transgender individuals from a much-needed protection thanks to his position on the transgender bathroom case. In addition, Trump has cut funding from AIDS and HIV research and treatment, among other protections for the LGBTQ community.

Hillary Clinton, former presidential candidate, spoke about the lack of response from the United States government on this matter, and the consequences of letting such brutality slide. “We may not ever be able to count on this administration to lead on LGBT issues,” said Clinton. But she continues to maintain that “gay rights are human rights,” and believes that the government has a duty to take a stand.

The danger of neglecting this issue does not only affect gay men thousands of miles away, but also to the currently established human rights within Western countries. By allowing Russian government officials to treat gay men like subhumans and deny their existence, we let them downgrade the importance of such a basic human right that should be universally applied to simply a policy in the United States or particular countries. This toleration also allows for people of dominant religions to persecute and discriminate against groups of other humans. The silence of the United States in this matter is no different than permission for such brutality to go forward.



SPEAK YOUR MIND.



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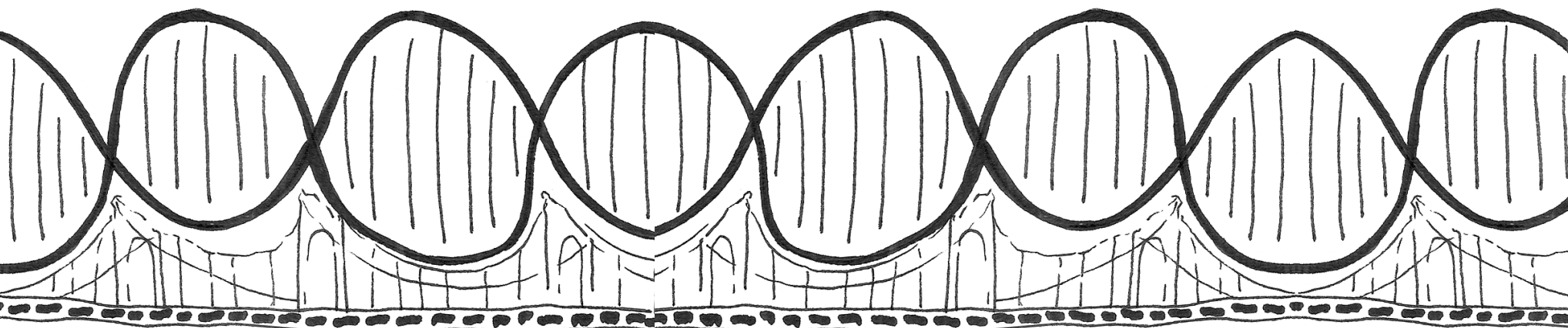


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March for Science shows importance of scientific advancement



Madeline Kim

MADELINE KIM

President Donald Trump’s plans have not been made without opposition. One of his controversial moves involves his budget plan. This new budget cuts funding for science research and ultimately shifts our research priorities away from environmental and climate programs. Programs, including but not limited to the Environmental Protection Agency (EPA) and the National Institutes of Health (NIH), find themselves having to conduct cutting-edge research with far less funds than ever before.

Trump is not known as the most environmentally-conscientious politician to enter the scene. In 2012, Trump used his Twitter to publicly

announce “the concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive.” Although he denies tweeting this now, it is clear that he continues to deny the importance of funding scientific research. The Trump administration plans on rolling back the Clean Water Rule, which currently protects streams and wetlands, thus negatively impacting public health, communities, and the economy, in the name of “promoting economic growth.” Scott Pruitt, Trump’s EPA Chief, rejects carbon dioxide’s impact on climate change.

The science community, as well as many other allies, congregated all over the world on April 22 to show the exigence for science funding. Thousands marched in the main march held in Washington D.C., and thousands more marched here in Pittsburgh. This sister march began near the Cathedral of Learning at the University of Pittsburgh.

The focus of the chants mainly circulated around climate change; the protesters could be heard cheering “climate justice cannot wait.” Posters criticized the Trump administration in various ways. Some posters parodied Trump and some of his iconic quotes; one poster read “grab ‘em by the data,” and another read “make America think again.” Others displayed posters that parodied the administration; one stated “there is no alternative to facts.”

Some protesters expressed near disbelief in the need for a march for science; one poster identified a Ph.D. student who “should be writing my thesis ... but instead I have to tell our president that science is real,” and a few other protesters held posters stating they “can’t believe I have to march for this.” Many marchers, furthermore, used their posters to criticize the administration’s erasure of the existence of climate change, which led the mantra “science, not silence” to emerge.

Guest speakers included researchers affiliated with Chatham University, the University of Pittsburgh, and Carnegie Mellon University. Although each speaker presented the urgency and need for funding in the sciences, each approached in unique angles.

Dr. Judy Yanowitz of Magee-Womens Research Institute testified the importance of funding when it came to groundbreaking research in epigenetics and discoveries in meiosis. Andrew Norman, philosophy professor at Carnegie Mellon University, took a more humanistic approach by calling the audience to think more critically about reason and science.

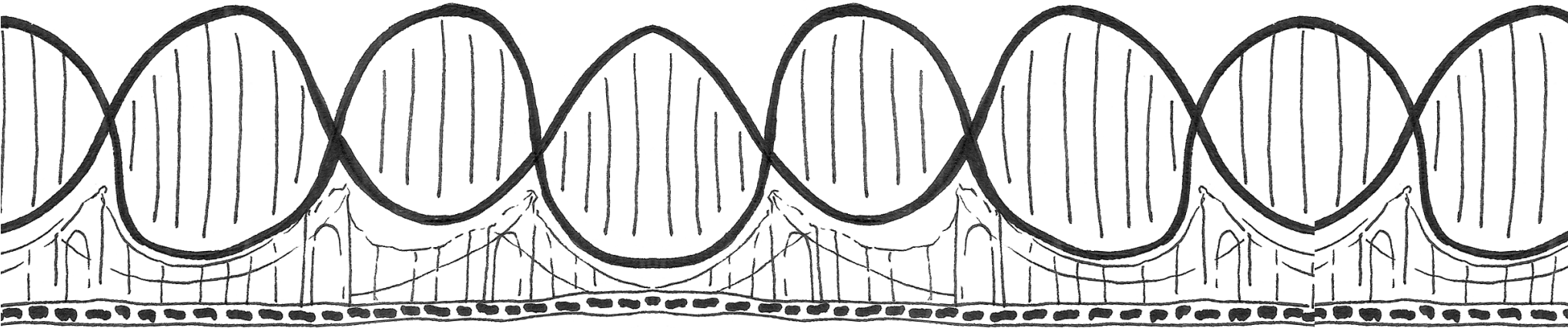
Robert Coulter, a doctoral candidate at the University of Pittsburgh’s Graduate School of Public Health, shared how a lack of funding for the sciences is a disservice to the LGBTQ community in his speech. The lack of funding, Coulter argued, limits the bounds for scientific research and thus does not permit important

health studies to expand very far.

Science is responsible for our innovations and technologies. Without it, society as a whole would not exist. Generations have seen the impact of science: over the years, life expectancy has increased significantly, and child mortality rates are at an all-time low.

However, this is just the beginning. With the proper funding and resources, today’s scientists may be able to make breakthroughs that innovate this country and ultimately this world. Perhaps these findings will allow America to be a more environmentally sustainable country, or maybe the clinical studies will lead us closer to a cure for cancer. However, if we cut funding, we tragically reduce the chance to give our country the opportunity to push the boundaries of status quo and thus we cannot make America great again.

Madeline Kim (@madelink) is a staffwriter for The Tartan.



Simin Li/Art Editor

Meg Whitman is out of touch with ideals CMU should value

JEREMY GOLDSTEIN
Staffwriter

Meg Whitman, the president and CEO of Hewlett Packard Enterprise and former president and CEO of eBay, was just announced as the 2017 Carnegie Mellon University commencement speaker. Although she has had an impressive career, the selection of Whitman, described in the announcement as “a pathbreaking leader in industry and politics,” goes to show that the university is living up to its namesake by honoring a captain of industry whose practices and politics have consistently undermined the labor rights and well-being of workers on an international stage. The choice of Whitman is out of touch insofar as it ignores the sources and tensions of today’s political and social crisis while also ignoring and instead praising the root of the mind-shattering stress culture at Carnegie Mellon.

The Whitman choice seems jaded, especially considering recent political developments. People like Whitman are responsible for subverting public faith in institutions, including those of science, when they conflate technological advancement, scientific truth, and profit motive. When they advocate for deregulation, lower taxes, and anti-union policies, they exacerbate educational, occupational, and economic inequality, creating the scenario in which a populist, overtly anti-science president can be elected in a backlash to such corporat-dominated elitism.

In the United States, lack of access to education and the student debt crisis along with failing public schools in many regions has led to the tragic creation of a poor, uneducated class that is mistrustful of the science of a wealthy, educated class who often enact policies without any consideration to the well-being of the worse off.

The politics of Whitman are the politics of free market meritocracy, where the supposed “best and brightest” get the job. This thinking has, for better or worse, seen a vast economic shift away from employment in union jobs in the United States (50 years ago a third of Americans were employed in unions, today it is 1 in 10).

Unions might have had the downside of protecting “slackers” as much as efficient employees, but ensured a pillar for the defense of all workers in the long term power dynamic against management.

New economy jobs are largely driven by the development of the technology and innovation sectors, where employees compete for jobs based on how much education they have and are often grateful to their employer just to be employed. Even if there are certain benefits to fairness under meritocracy, such a system does not address systemic issues of inequality, nor does it deal with the fact that intellect and abilities are not dispersed in a uniform manner, which leaves to waste a great deal of human potential that is not cookie-cut to fit into an academic, corporate suit.

After the Democratic Party lost in 1968 to Richard Nixon, the post-mortem McGovern Commission switched from the traditional labor union based demography of the Democratic Party and target younger, college-educated professionals whose social values were generally more progressive on issues like the Vietnam War and support for women’s reproductive rights. This has led to what amounts to a nominally socially progressive though often anti-labor “left” party that supports free trade (with exploitative outsourced labor) and subsidizes anti-union companies in public-private partnerships while abandoning the New Deal style ideas of government paid jobs, social programs, and defense of union rights.

The Democratic Party’s strategic shift also led to the perception of rural America and many poor, working class people as crude or racist. However, times have changed and fortunately race, though there are still many important issues to be resolved, is broadly on the downswing as a societal divider, and the attitude toward rural and working class people should be that they are economically ignored and exploited, and that their needs should be met to help them be fully able to believe in the values of tolerance and the importance of science.

The fact that a corporate boss

like Whitman switched from being a major Republican donor advocating for deregulation of her industry and lower taxes to being a major Hillary Clinton supporter while still likely pushing for the same policies demonstrates the elitist problem of the centrist establishment. A major reason for the leftist Bernie Sanders’ primary success against Clinton was because he wanted to get corporate money out of politics and it is the actions of Whitman that are the very representation of the corrupting effect big money has on our politics. The frustration with such corruption and the luxurious wealth of the elite compared to the struggle of financially insecure parents who have to tell their children that they cannot afford to send them to college is what leads to emotionally appealing demagogues and con-men like Trump being elected.

The establishment cannot just lower taxes for itself and eliminate protections for workers and consumers — causing the living standards of the middle class to continually drop — if they expect to be able to elect politically stable candidates like Clinton in the future. It must respond with New Deal style, Keynesian-spending programs that guarantee a comfortable middle class living standard, rather than with elitist, corporate-written policies that eradicate the middle class living standard for all but an elite, educated, and lucky comparable few.

Besides casting Carnegie Mellon in an exorbitantly elitist light, the celebration of such an individual as Whitman displays a marked lack of concern about the root of the stress problem among students at Carnegie Mellon. Having special activities and events may help to boost students’ psychology, a common practice implemented in Silicon Valley to make the workplace “more fun” for employees, but such practices cannot make up for the sheer amount of time and stress dedicated to maintaining coursework and extracurricular activities, which are also a professional necessity. No one who is stressed out over time management has time to go to a time management workshop. Students do not have time to do fun things or seek out psychological help



Courtesy of Max Morse on Wikimedia Commons
Recently-announced commencement speaker Meg Whitman is an accomplished businesswoman and current president and CEO of Hewlett Packard Enterprise.

when there is so much work.

Now, I may just be stupider and lazier than every other student at Carnegie Mellon, but if I were to put my finger on the root of the stress, it is that the curriculum is too intense. This is because the jobs students pursue are too intense because corporate bosses like Whitman are concerned with one thing, and that certainly is not the well-being of their workers. There is more to our lives than our work, but the paradigm at Carnegie Mellon and Silicon Valley has been to try to dress up work as fun, so that students and employees work as

much as possible.

But maybe, just maybe, there is actually worth in not working as much as possible. And what is the great award for those of us who are able to run gauntlet and become meritorious, hard-working achievers like Whitman? The best case scenario is to become CEOs or university presidents bent on inflicting the same damage upon a younger generation and continuing the vicious, elitist cycle until one generation finally stands up for itself and says it has had enough of being exploited and being taught to exploit.

Students at Auburn reject intolerance



Alabama is a state many of us do not consider much in politics. However, its history has undeniably left a significant impact on our nation's history. From Rosa Parks' example of civil disobedience in Montgomery to marches at Selma that served as the catalyst for the enactment of the Voting Rights Amendment (VRA) to the Shelby County v. Holder court case that weakened some aspects of the VRA, Alabama has shown its importance in American history.

The influence of the Heart of Dixie does not stop in our history books. Alabama's current influence has been comically described as the "Alabamafication of America" by the Harvard Political Review. Up until the 2016 election, Trump attempted to appeal to populist conservative ideas, which a large portion of states in the south hold. Former senator Jeff Sessions moved up to becoming the 84th Attorney General of the United States. This so-called Alabamafication is bound to expand and may sound pessimistic to many, but there actually may be a reason for hope.

Recently, a university in Alabama was the host of one potential historic moment. On April 18, white supremacist Richard Spencer arrived at Auburn University to define his term alt-right and defend the movement.

Spencer had a fair share of supporters, which was shown through fliers calling for a "white student union." However, Spencer was not without opposition. Auburn cancelled the event just four days before the event and announced via Facebook that their reasons for doing so were "based on legitimate concerns and credible evidence that it will jeopardize the safety of students, faculty, staff and visitors." Thus, Spencer took this to the Supreme Court of Alabama in Montgomery, Alabama, claiming this was a violation of the First Amendment, and a federal judge stopped Auburn from barring Spencer from its campus. Twitter helped open the door for more people near the university to observe what was described as an equivalent to the recent protest in Berkeley, California.

Despite the fact Spencer leads a movement called the alt-right, it is not to be conflated with traditional conservative values. He actually denounced conservatives for their "ability to lose themselves" for the name of a political party and rejected their "bulls*t abstract concepts like freedom." He recognized that this movement that he leads is "so radical [and] ... dangerous." However, he praised President Donald Trump as "a miracle" and merely a single "stop on this train" leading to his vision. He is "a racial idealist;" a "race realist," he argues, "would accept the way it is."

In his forty minute speech, one of the first things he addressed was the First Amendment — specifically, freedom of speech. Although freedom of speech is what allowed his presence despite the university's wishes, Spencer actually dismissed the notion of "agree[ing] to disagree" as "cute." He recognized how radical his movement was, stating it "disrupts business as usual" and dismissed the iconic former Breitbart News journalist, Milo Yiannopoulos, as an example of "cute libertarianism." He even stated, "I understand why they protest us," showing a degree of empathy for his opponents. He understood those protesting feel as strongly about freedom of speech and diversity as he feels about nationalism and combating diversity, which was earlier defined as "code word for anti-white" when he was being introduced prior to his speech.

Although there was a standing ovation at the end of his speech, it was clear that his views were held by the minority. His stances on "making white privilege great again" and idea of transforming the U.S. into an Aryan homeland by using what he describes as "peaceful ethnic cleansing" have been nothing short of controversial, and this came to show in the reception of both his presence and his beliefs.

When Spencer stated that he envied the black community in America for even having a community, thus claiming it is "so much easier being black [than being white]," a voice in the audience replies with "what do you know about being black?" Although a significant portion of the audience laughed in response, this person was not the only one in that audience who opposed his views. Throughout the question and answer session several people

who thanked him for coming started their sentiment by explicitly stating that they did not agree with his worldview, but several more racial minorities confronted him. A black woman emotionally asked for him to state "challenges that white people face that I [as a black woman in a predominately white institute] don't face." Spencer did not verbally reply; some of the audience shouted indistinguishable answers whereas some of them cheered.

His opponents were not just in the room; they were active before and after the event. Prior to his speech, a fight between Spencer supporters and Spencer protesters broke out, which involved at least three arrests. Aside of the one incident, the protests were generally peaceful, and many witnesses confirm that police were readily available in case of violence. After the protest, there were hundreds more waiting for Spencer outside, which led to them chasing a handful of supporters off campus.

The Alabamafication of America might have been daunting for many in the U.S. As a girl who grew up in Alabama, it was jarring to see Alabama's influence on the U.S. through a new lens. I saw how this pivotal state interacted with other states as a part of the United States and how imperative it is in writing history. Richard Spencer has no intention of stopping at Auburn — he announced he would embark on a college tour, although he has yet to release a schedule publicly. Furthermore, these protests that the city of Auburn carried out was more than another protest; it potentially demonstrates the trajectory of this country.

There is, without a doubt, room for improvement in not only Alabama but also in the United States as a whole, but there are hundreds of students who agree that, as one poster read, "tolerance does not mean tolerating intolerance." A generation of college students stand by the belief that America should "make empathy great again." This top-100 ranked state university comes to demonstrate that there may be hope in what is described as the "Alabamafication" of America; education, empathy, and free speech opened the doors to allow a chance for a more inclusive society.

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Anti-choice democrats open door for rural voters



Editor's note: Post-Mortem is a weekly column that seeks to explain the outcome of the 2016 presidential election. Find previous installments @ thetartan.org

I'd like to begin this column by stating that I am unequivocally pro-choice. This is an extremely important aspect of the Democratic Party's platform. Beyond securing in the abstract a woman's right to control her own body, the right to choose is an essential component of personal liberty and economic justice. Societies are more free, more safe, and more prosperous when women have full reproductive rights. I believe that anti-choice politicians are wrong scientifically, factually, and morally. Not just that, but anti-choice policies have proven time and again to be ineffective, repressive, and usually counter-intuitive. We should all work very hard to educate voters and politicians about the importance of reproductive health care so that one day the right to have an abortion is no longer a controversial or politicized issue.

Now to alienate myself from all my fellow pro-choice readers. This week, Senator Bernie Sanders (I-VT) received some negative attention from Democrats for endorsing and campaigning for Heath Mello, an anti-choice Democrat who is running to be the mayor of Omaha, NE. Mello, who is in the Nebraska State Legislature, has co-sponsored several pieces of anti-choice legislation. I don't agree with Mello's position on abortion, but I'm glad Sanders is supporting him. Democrats should follow Sanders' lead and support Mello and other anti-choice Democrats campaigning in places where only anti-choice candidates can win right now.

Here's a sad political reality: Democrats have a huge geographic disadvantage when it comes to politics. Increasingly, Democrats are cloistered in large cities, while vast swaths of land in rural regions are overrun with Republicans. Unfortunately, our political system doesn't just reward the number of voters you have, but the amount of land you control as well. This is how it's possible that more people voted for Democratic candidates for Senate, House of Representatives, and President in 2016, yet all three are controlled by Republicans. And this is how a majority of Americans can support a woman's right to choose, yet Democrats lose in large part because of their stance on abortion.

If Democrats ever want to regain power in Washington and in state and local offices around the United States, they need to learn how to connect with rural voters. And if Democrats ever want to connect with rural voters again, they need to run candidates that can win in rural areas. It's an often repeated but eminently true adage: all politics is local. As someone who comes from an extremely conservative rural area, I know that most rural voters will never, ever vote for a candidate who vocally supports a woman's right to choose, at least not until the political conversation surrounding abortion changes dramatically. Abortion is an emotional issue, and it is a deal breaker for many rural voters. They genuinely believe that abortion is murder. They are wrong, but that's what they believe. And we're simply naive if we believe that we will ever get voters to support a candidate who they think endorses murder.

Now just because that's the current political reality doesn't mean that this is an acceptable state of affairs. Democrats and reproductive rights advocates should continue to educate the public about abortion and the scientific and moral reasons why access to abortion is such an important right. We shouldn't simply cede the argument because the oth-

er side is so emotional and irrational about it. Eventually, Democrats will win this argument, and abortion will no longer be a controversial or politicized topic.

Until that day comes, Democrats need to embrace a strategy that will help us win today. This means encouraging anti-choice Democrats to run in areas where only anti-choice candidates can win. Our choice is not between getting pro-choice and anti-choice candidates elected. When it comes to elections in rural areas, our choice is between anti-choice Democrats who will stand with the party on issues like worker's rights, economic justice, health-care, environmental protection, LG-BTQ rights, racial justice, and other aspects of women's rights like equal pay, or anti-choice Republicans who will support none of the above.

But let's say that your top issue is a woman's right to choose. Instead of blasting Sanders for supporting Mello like NARAL Pro-Choice America did, even voters that care first and foremost about abortion rights should still support and welcome anti-choice Democrats. Why? First, because anti-choice Democrats can rehabilitate the Democratic Party's name and reputation among rural voters. In many rural areas, the word "Democrat" is practically synonymous with "abortion." But anti-choice Democrats introduce rural voters to other aspects of the Democratic platform that they'll like and want to continue supporting. Eventually, rural voters who vote for local anti-choice Democrats may become more comfortable with voting for Democrats at the top of the ticket, even if they are pro-choice. Think of anti-choice Democrats as a "gateway drug" for rural voters to become comfortable voting for all Democrats.

Second, staunchly pro-choice organizations and voters should still support anti-choice Democrats in rural areas because whichever party is in power sets the agenda. Let's say that there are 240 Democrats in the House of Representatives, but thirty of those Democrats are anti-choice. This means that Democrats have a majority in Congress, but it also means that a majority of members of Congress oppose abortion rights. Nonetheless, because Democrats control the House of Representatives, they control which bills come to the floor of the House for a vote. Since Democrats control the House, and most Democrats are pro-choice, the House won't vote on anti-choice legislation. If Democrats had instead tried to run pro-choice candidates for those thirty seats, they would have lost those seats to Republicans. Now, there are still the same number of anti-choice members of Congress, but Republicans hold the majority, so they set the agenda and bring anti-choice legislation to the floor. In Mello's case, he has vowed not to restrict women's access to abortion as Omaha's mayor, while his opponent will seek to do just that. Running pro-choice candidates in areas where pro-choice candidates simply cannot win ultimately harms women and the right to choose by handing power to anti-choice Republicans.

It feels nice to demand purity, especially on issues as important as the right to choose. In a perfect world in which voters acted on reason instead of emotion and science instead of faith, abortion wouldn't be a controversial or politicized issue. But this isn't that world. When Democrats demand that their candidates toe the party line on abortion, they are shutting themselves out of otherwise winnable races. When Democrats excoriate people like Sanders who understand that getting progressives into office is more important than supporting doomed candidates who agree with them on every point, they divide their party and only hurt themselves. Democrats have always been a big tent party full of diverse opinions, perspectives, and approaches. We win because we are for people, not because we're in lockstep on every issue. Instead of criticizing Sanders for backing Mello, Democrats everywhere, including even the most enthusiastic pro-choice voters and organizations, need to join Sanders, because his is a winning strategy.

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Icon by Qingyi Dong.



Science & Technology

AI learns to predict heart attacks better than doctors do

INDIA PRICE
Editor-in-Chief

A set of algorithms, developed by researchers at the University of Nottingham in the United Kingdom, can predict which patients are most at risk of a heart attack or stroke at over 75 percent accuracy. Although you may feel like this number should be even higher, it is already nearly 8 percent above the average accuracy level of highly trained doctors.

In the United States alone, someone has a heart attack every 34 seconds. Globally, 20 million people die each year as a result

of heart attacks, strokes, or other cardiovascular or circulatory malfunctions. Although doctors are capable of determining which individuals are at risk of developing heart disease and other cardiovascular problems, determining when an individual may suffer from one is much more difficult.

An epidemiologist at the University of Nottingham, Stephen Weng, explained why it is often challenging for doctors to make accurate predictions. The human body is an intricate, complex, ever-developing system with a great deal of counterintuitive functions. For example,

doctors use high body fat content as a red flag indicating that the individual may be at risk of heart disease; however, in many cases, body fat becomes impermeable and can protect the heart against disease. Although it is difficult for a doctor to make these sort of predictions, Weng explained that the new AI algorithms can train themselves to explore and gain understanding about these nuances.

These AI algorithms are self-taught and continually using new data to make faster, smarter decisions without human instruction. Using nearly 300,000 available patient records from 2005,

the algorithms create guidelines for themselves to predict which patients would have a heart attack or stroke within the next 10 years.

The algorithm began by using the first 80 percent of the records as input data to make an initial rule book of sorts. When making the rule book, the algorithms considered metrics that doctors commonly use — age, weight, body fat content — in addition to categories the researchers thought may be interesting to examine, such as arthritis, kidney disease, or mental illness. The AI then tested its new rule book on the remaining data, improving the

rules and making adjustments to optimize it's prediction.

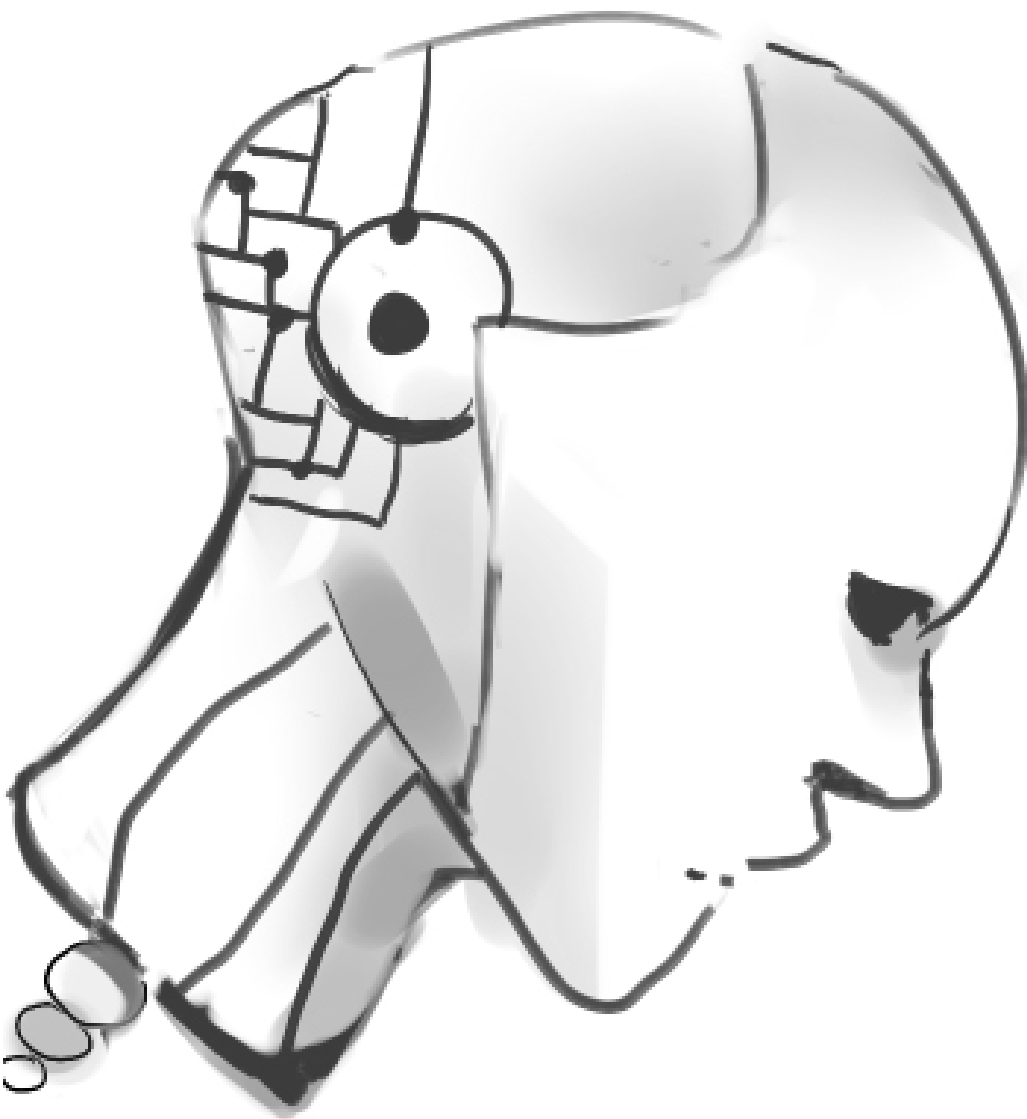
In addition to the AI making predictions with 8 percent more accuracy than doctors, it also made 1.6 percent fewer false predictions. If the algorithm had existed at the time, it could have saved 355 deceased patients whose records it utilized during testing. These numbers are good, but researchers are determined to make the algorithm even better.

These machine-learning algorithms are difficult to adjust, however. Because the algorithm is self-taught, it is difficult for the machine's programmers to

fully understand of all of its internal functionality. The programmers are hesitant to make large adjustments, fearing that they may undo some of the learning and reverse some of the progress the machine has already made for itself.

The researchers at Nottingham worry that some doctors, who take pride in their hard-earned expertise, may be hesitant to adapt these machine-learning methods; however, if further testing continues and the AI is widely implemented in hospitals, the algorithm could start saving hundreds of thousands of lives every year.

AI displays gender, racial bias because of human writing



Lisa Qian/Staff Artist

EMMA FLICKINGER
Staffwriter

Artificial intelligence (AI) can be just as biased as humans, according to a new study by researchers from Princeton University's Center for Information Technology Policy. The study, published April 13 in Science Magazine, uncovered racial and gender bias in a prominent machine learning algorithm — Stanford University's Global Vectors for Word Representation, or GLoVe, which learns to associate related words and concepts by studying words all across the internet.

AI finds patterns in real-world texts, and develops the biases present in those materials. Bias in machine learning algorithms often takes the form of language patterns. The program associated words and concepts in ways that turn out to be sexist or racist. For example, the program associated women with the household and family, but not professional or career diction. The bias got even more detailed: "man" was linked with "professor", while "woman" was connected with "assistant professor."

While previous research on AI bias has shown similar

results, this study is the first to integrate psychological research and human bias. The researchers tested GLoVe with a method traditionally used to detect human bias, called the Implicit Association Test (IAT). "In the IAT, subjects are presented with two images — say, a white man and a black man — and words like 'pleasant' or 'unpleasant,'" explains science writer Angela Chen. "The IAT calculates how quickly you match up 'white man' and 'pleasant' versus 'black man' and 'pleasant.'"

The idea is that the longer it takes to match up concepts, the more trouble the test-taker has associating them; however, instead of measuring response time in humans, the researchers measured the mathematical distance between concepts in the algorithm, with a smaller distance corresponding to a stronger association. They found, as expected, several associations reflecting human bias. GLoVe learned to consider black names less pleasant than white names, and to associate women with the arts but not with the sciences.

AI will soon have a huge impact in everyday life. Currently, machine learning algorithms control a wide

range of processes, from making Google Translate more accurate to deciding whose résumés get passed on to hiring departments. Bias in algorithms like these could potentially have dire consequences for a large number of people.

"Language is a bridge to ideas and a lot of algorithms are built on language in the real world," says Megan Garcia, an expert on algorithmic bias. "So unless an algorithm is making a decision based only on numbers, this finding is going to be important. [Computer] bias is everywhere we look."

Machine learning is a type of AI that enables computers to learn and adapt without explicitly being programmed. It relies on large amounts of data intake as the computer experiences. It's understandable that a computer would mimic gender and racial bias because humans are known to consciously and subconsciously display these tendencies. This does not mean that the AI is at fault — it actually shows that the program is working just as it should. What this does suggest is that we, as humans, have a long way to go to rid ourselves of unjust biases in thinking and writing.

SCITECH BRIEFS

Buggy races boast new, exciting, sleek designs at Carnival

Carnegie Mellon students have built and raced buggies for more than a century. Over the decades, designs have become more efficient and aesthetically pleasing. 2017's Spring Carnival saw a continuation of this trend. Nine organizations — namely Student Dormitory Council (SDC), Pi Kappa Alpha, Fringe, Sigma Phi Epsilon, CIA, Apex, Phi Delta Theta, Sigma Alpha Epsilon, and SPIRIT — participated in the first set of heats.

Many teams' buggies sported interesting paint jobs that conveyed fun messages. Technical designs were equally diverse. Even though all buggies had three wheels, some teams had two in the front and one in the back, while some teams had the opposite arrangement. The turning and breaking mechanisms in the buggies also varied from team to team.

Buggies were also very aerodynamic this year. All shells were modeled after the teardrop shape, making the buggies cut through the air and reduce drag. The fastest time was clocked by the SDC A team, with a time of 2:02.16.

Source: Carnegie Mellon University



HBO film reignites debate about cell use in research

The new HBO film *The Immortal Life of Henrietta Lacks* has reignited debate about unauthorized cell donation from patients. The film, which stars Oprah Winfrey, chronicles the life of Henrietta Lacks, an impoverished African-American in 1950s America.

Lacks had undergone surgery for cervical cancer at Johns Hopkins when her cells were sequenced, unbeknownst to her, for medical research. Her cells, named HeLa, demonstrated 'immortal' traits, being able to last and multiply for decades. HeLa has contributed tremendously to research in polio vaccines, chemotherapy, and in vitro fertilization. Lacks' DNA has been copied as well, exposing her family's genes to the medical world without her knowing.

The practice in medical research of taking patients' cells without their permission has come under fire. Laws do not allow direct medical research and testing on human beings, but these same laws are lenient when it comes to cell testing. The HBO film premieres on April 23.

Source: Vox Media



Adidas plans to sell shoes made of plastic ocean waste

Adidas has turned its focus towards sustainability and the mighty oceans. In collaboration with Parley, an organization concerned with ocean protection, Adidas will unveil Ultra Boost, Ultra Boost Uncaged, and Ultra Boost X, made mostly from ocean plastic waste.

About 11 bottles go into making each pair of shoes. The plastic is used for the new PrimeKnit mesh present on the upper side of new shoes. Overall, about 95 percent of shoes will be made from ocean waste. The sports-wear company hopes to make a million pairs by the end of 2017. Adidas has signed contracts to do the same with soccer jerseys, although these will not be available to the public like the shoes are.

The shoes will sell on May 10, starting at \$200. Adidas' efforts at sustainability will hopefully spur its competitors to follow suit, and reducing the planet's non-biodegradable waste ever so slightly. Even though the shoes are made from trash, they look as sleek and appealing as previous versions. To some, it may even look better.

Source: Engadget

Compiled by
JOSH ANDAH



Courtesy of designmilk, via Flickr Creative Commons

Top and frontal views of Adidas' new shoe made from recycled ocean waste and illegally disposed fishing nets.



HOW THINGS WORK

Young’s double slit experiment revolutionized physics

ABHISHEK TAYAL
Layout Manager

One of the strangest experimental results ever observed is that of the single particle double slit experiment. It is one of the most stunning illustrations of how the quantum world is fundamentally different from the large scale world of our physical intuition. In fact, the double slit experiment suggests that the fundamental nature of reality may not be physical at all, at least not in any way that we perceive.

Let’s start with the simple. Imagine a single periodic wave, such as ripples on a lake. Some distance away, those waves encounter a barrier with two gaps cut in it. Most of the wave is blocked, but some ripples still pass through the gaps. When the ripples start to overlap each other on the other side, they produce a really interesting pattern known as an interference pattern that is observed on a screen. This happens because at some points, the peaks from the two ripples overlap to create higher peaks, and at other points the troughs of the ripples overlap to create even deeper troughs.

What makes this pattern so incredible is its universality — every type of wave, from water waves, to sound, to light waves, displays this pattern. The double slit interference of light was first observed by Thomas Young in 1801. He found that a source of light passing through two very thin slits produces an interference pattern in the bands of dark and light stripes on a screen behind.

The complication is this — we also know that light comes in indivisible bundles of electromagnetic energy called photons, as demonstrated by Einstein through the photoelectric effect. So light is composed of discreet packets, but also displays wave phenomena! In the double slit experiment, each photon must decide which of the two

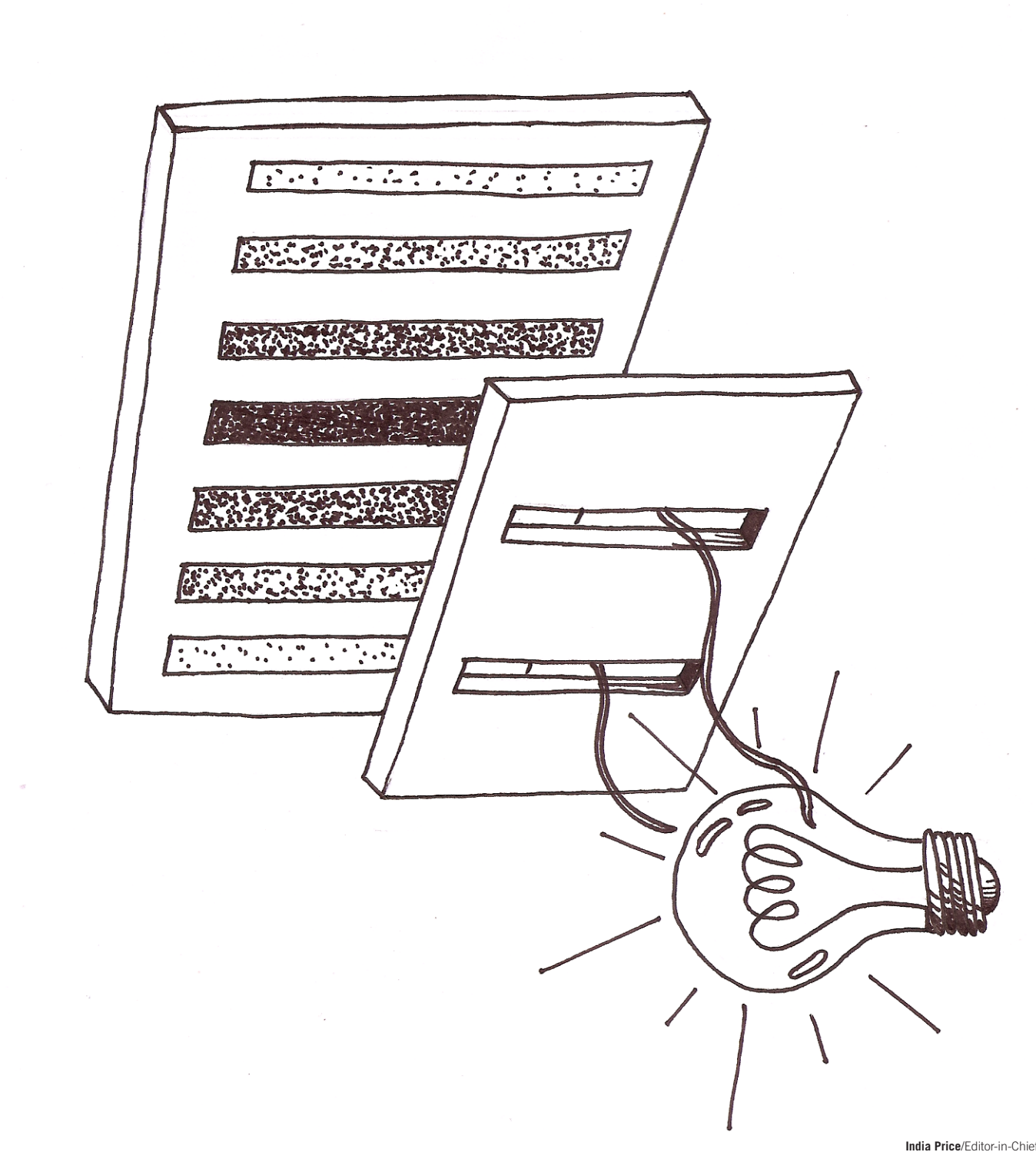
slits to go through. It can’t split in half and recombine on the other side, because it’s discreet. What one should see, with the photon model of light, is two bright spots representing the photons that got through the slits, and total darkness otherwise. How does one reconcile what one sees, an interference pattern, with what is expected, two bright spots.

It turns out that if you fire photons, one at a time, at a screen with two slits such that each photon has equal probability of passing through either of the two slits, then with time, on a screen behind, the reflection points of the individual photons aggregate together, into denser and less dense areas, exactly like an interference pattern. The interference pattern has nothing to do with how each single photon’s energy is spread out, but how each photon dumps all of its energy at a single point. The pattern essentially emerges in the distribution of the photons themselves.

Many completely unrelated photons must essentially know the final positions of each other. Each photon has no idea where a previous photon landed or where any future photon will land, and must have a final landing point that forms a pattern with all the others. How can that be?

It turns out that some even weirder things than photons have been shown to produce this interference pattern. Shoot electrons through a single pair of slits, and you’ll get the same result. This effect has even been observed with whole atoms and whole molecules. Buckminster Fullerine (Buckyballs), are gigantic molecules of 60 carbon atoms, and have been observed to produce double slit interference.

We have to assume that the photon, electron, or Buckyball passes through both slits as a wave. That wave then interacts with itself to create an interference pattern.



India Price/Editor-in-Chief

Except here, the peaks and troughs of that pattern are the regions where there is more or less a chance the particle will find itself on the screen. It seems like a wave of undefined positions, that at some point, for some reason, resolves itself down to a single certain position. This distribution of possibilities is at the heart of quantum mechanics, and is

governed by what is known as the probability wave function.

So what is a probability wave really made of? Well, we know where our wave particle is at the beginning and end of its journey. We know our particle’s starting point — a light source, electron-gun, or Buckyball launcher. And we know its end point — the screen, or rather, wherever it

releases its energy. The particle seems more particle-like at the beginning and end, but more wave-like in between. That wave holds the information about all the final possible positions of the particle, and every possible position at every stage in the journey. In fact, the wave must map out all the possible paths that the particle could take. In essence,

we have this infinite family of ‘could be’ trajectories, as opposed to a single known trajectory. For some reason, near either end, this family of possible outcomes resolves into a single trajectory.

Within the mysterious span between the creation and the detection, is the particle anything more than a space of possibility?

Information has a finite speed



Tami Tedesco/Staff Artist

JOSH ANDAH
SciTech Editor

Light is the fastest thing in our universe. Its speed is a universal constant that no object with mass can attain or surpass. We know these truths thanks to Einstein and his brilliant theories of special and general relativity, published more than a hundred years ago.

There is one byproduct of Einstein’s theory that is surprising, perplexing, and unintuitive. The speed of light isn’t a cap solely on objects traveling in space, but also a limit on the propagation of information.

What is information? Is it the words in a textbook, the content of a coded message, a friend’s secret, a song, or ones and zeros in a computer? The answer is yes — those are all instances of information. Information to a physicist is anything that tells observers about the universe surrounding them.

Let’s consider you as an observer. You may be reading

this article on a laptop, on a phone, or in print. Your eyes see its black text thanks to light — the same light that has a finite speed. Now think about the world you see around you: plants, people, the sky, your hands. All that information is delivered to your eyes by light. So, your ability to receive information about what surrounds you is limited by the speed of light.

This becomes more obvious when distances become unimaginably large. The Sun is 93 million miles away from the Earth, so its light takes eight minutes to reach us. When we look up, we see the Sun as it was eight minutes ago. So, our information here is eight minutes late.

Our closest neighboring galaxy, Andromeda, is 2.5 million light-years away, where one light-year is the distance light travels in a year — six trillion miles. So Andromeda is 2.5 million times six trillion miles away — that’s really, really far. Since it takes light 2.5 million years to reach us from Andromeda,

we see it as it was 2.5 million years ago, when humans didn’t even exist. Now, our information is lagging behind by millions of years.

This effect increases as we look farther out into the universe. In fact, cosmologists look out far enough to view the universe as it was billions of years ago, close to the time of the Big Bang.

You’re probably wondering how the speed of information relates to, say, a song playing. Sound waves travel at a mere 770 miles per hour, meaning it would take an observer an hour to hear the chords of a song playing 770 miles away. Obviously, as the distance increases, so does the lag time for the sound.

This phenomenon can be extended to anything you can think of. Imagine you and a friend are playing a game of tug of war with a rope one light-year long. You’re tugging with all your might, and so is your opponent. The speed of information tells us that, if the rope were to snap exactly down the middle, you and your opponent wouldn’t notice for half a year. You could still tug with all your weight and not fall, for six months.

And that’s because of the nature of tension, the force in a rope when it’s taut. Tension is the result of the object’s particles experiencing strain and relaying that stress to neighboring particles via bonds. Bonds are made from electrostatic interaction between electrons, and electromagnetism propagates at the speed of light.

No matter what, we can’t learn about an event faster than it takes light to travel. Nothing we observe or feel is truly instantaneous, even when it’s right in front of us.

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SPORTS BRIEFS

Women’s Golf

The women’s golf team won the Wooster Spring Invitational after carding a 329 on Sunday, April 16 to finish the 36-hole event with a 653 (324–329). The two-day event was played at the par-72, 5803-yard Mohican Hills Golf Club in Jeromesville, OH.

Top individual medalist honors went to Tartan junior Summer Kitahara, who carded back-to-back rounds of 79 to finish with a 158. It marked Kitahara’s second top honor in the past three tournaments. Sophomore Carly Jordan tied for third individually in a field of 38 golfers, with a 161 (79–82).

Junior Emma Hoskins carded a 167 (81–86) while first-year Yedin Lui shot a 169 (87–82). First-year Lavonca Davis finished play with a 171 (85–86). Carnegie Mellon had two individuals enter the invite; first-year Sanchi Gupta shot a 179 (84–95) and junior Ginger Glass carded a 192 (99–93). Glass’ round of 93 on Sunday tied a career best.

The Tartans closed out their season at the Westminster Spring Invitational on Saturday, April 22, as the Tartans won their fifth event of the season and fourth straight. The Carnegie Mellon squad

carded a team score of 335 at the 18-hole event held at the New Castle Country Club.

Jordan entered the clubhouse with an 80 to claim individual medalist honors for the first time in her collegiate career. Kitahara carded an 83 while Lui finished the day with an 88. Junior Isabelle Tseng carded an 88 and Davis ended with a 92. Gupta and Glass entered the tournament as individuals and finished the 18-hole event with a 101 and 103, respectively.

Women’s Tennis

The women’s tennis team began the University Athletic Association (UAA) Championship with a 7–2 win against no. 18 Case Western Reserve University on Thursday, April 20. The three-day event was held at the Sanlando Park Tennis Complex in Altamonte Springs, FL. The Tartans, ranked 11th nationally and the fourth seed for the tournament, moved to 16–6 for the season.

Carnegie Mellon fell behind 2–1 following doubles play with the tandem of first-years Vinaya Rao and Courtney Ollis claiming the Tartans’ lone point. The duo won 8–4 at second doubles.

Sophomore Jamie

Vizelman tied the score at 2–2 with a 6–2, 6–3 straight set win at third singles. Rao then won 6–1, 6–2 at fourth singles before junior Cori Sidell made the score 4–2, Carnegie Mellon with a 6–3, 6–0 victory in the second spot.

Ollis then won 6–4, 7–5 win at six singles. The first-year was down 5–4 before winning the last three games to seal the team victory. Senior Nicholle Torres and junior Katie Lai also picked up wins for the Tartans. Torres won 6–4, 3–6, 6–2 at first singles and Lai won at fifth singles, 7–5, 7–6 (6).

On Friday, the Tartans fell to top ranked Emory University, 7–2, in the semifinals. The Tartans moved to 16–7 while the Eagles improved to 12–5. The tandem Lai and Vizelman recorded the Tartans’ lone point in doubles play, as Carnegie Mellon trailed 2–1 at the start of singles. Lai and Vizelman won 8–5 at third doubles. Sidell picked up the Tartans’ second point of the match with her win in the two spot in singles. Sidell won by the scores of 4–6, 6–2, 10–2.

In the third place match on Saturday, the Tartans defeated the Bears of Washington University in St. Louis, 6–3. The Tartans move to 17–7 for the season, while the 10th-

ranked Bears are 12–10.

Carnegie Mellon took a 2–1 lead following doubles play with the duo of Rao and Ollis earning the Tartans’ first point with an 8–4 victory at second doubles. The Tartans’ top doubles team of Torres and Sidell won a thrilling 9–8 match after taking the tiebreaker 7–2. Rao tabbed the first point for the Tartans in singles play with a straight set victory, winning 6–2, 6–4 at fourth singles. Moments following Rao’s win, Vizelman gave Carnegie Mellon a 4–1 edge with a 6–0, 6–3 win at third singles. Torres then sealed the win with 6–3, 6–2 victory at first singles. Lai recorded the Tartans’ sixth point with a three-set win at fifth singles. The junior won by the scores of 3–6, 6–3, 6–3.

The Tartans will now wait to see if they are selected to compete for the NCAA Championship, as bids for the national tournament will be released on May 8. The tournament will begin on campus sites May 11 or 12.

Men’s Tennis

The men’s tennis team won its UAA Championship quarterfinal match with an 8–1 decision over Case Western Reserve University on Friday, April 21. The Tartans, ranked

seventh in the nation, improved to 16–7 on the season while the 12th-ranked Spartans moved to 19–5. It marks the 11th straight season that the Tartans advance to the semifinals of the championship tournament. The three-day event is being held at the Sanlando Park Tennis Complex in Altamonte Springs, FL.

Carnegie Mellon came from behind in all three doubles matches to take a 3–0 lead heading into singles play. The number three doubles tandem of senior Kenny Zheng and first-year Michael Rozenvasser started the scoring with an 8–6 win after trailing 6–3. The Tartans’ second point came when the Cardinal and Gray top doubles team of sophomore Daniel Levine and first-year Mark Prettyman fought back from a 6–7 deficit to win 9–7.

The Tartans’ final doubles point came when the duo of junior Jeffrey Chen and sophomore Chaz Downing took third doubles by the score of 9–8 (7–1). The tandem trailed 7–5 before taking an 8–7 lead and then winning the tiebreaker 7–1.

Zheng recorded the first point in singles play with a 6–1, 6–1 victory at fourth singles to give the Tartans

a 4–0 lead. Minutes after Zheng’s win, Rozenvasser sealed the team victory with a 6–2, 6–4 decision at second singles. Also picking up wins in singles play were Levine at first singles, winning 3–6, 6–1, 10–7, Downing at the third spot by the scores 6–3, 6–1 and senior Kiril Kirkov winning 7–6 (7–6), 7–6 (7–5) at six singles.

For the second straight season, the Tartans faced no. 2 Emory University in the semifinals on Saturday, April 22. The Tartans dropped a 6–3 decision to the Eagles and are now 16–8, while Emory moves to 16–4.

The Tartans took a 2–1 lead into singles play after earning wins at first and second doubles with the identical scores of 8–6. The tandem of Chen and Downing won at number two, minutes before the duo Levine and Prettyman won at first doubles.

Zheng recorded the Tartans lone point in singles play. The senior posted a 7–6 (7), 3–6, 11–9 win at fourth singles.

The Tartans will now wait to see if they are selected to compete for the NCAA Championship. Bids will be released on May 8.

Compiled by
IAN TANAYA

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Sports

SDC wins both men’s and women’s races in 98th Buggy



The 98th Sweepstakes saw the Student Dormitory Council (SDC) dominate both the men's and women's races.

MARIKA YANG

Assistant Sports Editor

On Friday and Saturday, a fundamental Carnegie Mellon tradition continued, as student organizations competed in the 98th edition of Buggy, formally known as Sweepstakes. The race around Tech and Frew streets was dominated by the Student Dormitory Council (SDC), with both its men's A and women's A teams taking the victory while shattering records on both days of competition. On the men's side, SDC extended its winning streak to six years, and

on the women's side, SDC retook the title after two years of Carnegie Involvement Association (CIA) victories. The preliminary heats began on Friday morning with perfect weather conditions for racing. In addition to SDC's stellar performances by men's A and women's A teams, three of SDC's teams (A, B, and C) in both competitions qualified for the finals, repeating the same success from last year's races. Teams from Pi Kappa Alpha (PiKA), Sigma Phi Epsilon (SigEp), Phi Delta Theta (PhiDelt), CIA, Fringe,

and Apex made the 12-team women's final, while teams from PiKA, SigEp, CIA, Fringe, and SPIRIT made the 10-team men's final. Like SDC, Fringe had its A, B, and C teams make the women's final. Fringe was less than a second off from sending its fourth and final team, D, to the final races. Two teams from Apex also made the final. For the men's competition, PiKA and CIA sent two teams along with SDC's three teams. The Robobuggy also raced, clocking in a 3:18.90 time, 15 seconds faster than the previous year's mark.

On Saturday, the competition got off to a slow start due to rain delays, and several exhibition races were cancelled. The colder weather, and therefore, colder roads, usually leads to slower races, but several teams rose to the challenge to race faster than their preliminary times. The first race of the women's competition was between SigEp A and PhiDelt A. SigEp A established a quick lead at Hill 1, which it maintained throughout the race. SigEp A won the race with a time of 2:43.47, over a second slower than its preliminary time. PhiDelt, a relatively new organization to Buggy, saw its A team shave over four seconds from its preliminary time and break the organization's record. Next came Fringe A and Apex C, who both dropped significant time from their preliminary races. Fringe A won the race by a huge margin, clocking in at 2:38.06, three seconds faster than the previous day. Apex C dropped a huge six seconds, with the same pushers as the preliminary race, to establish a new organization record at 2:56.14. The race between CIA A and Fringe C saw both teams perform very consistently with their times from Friday, only racing a couple tenths of a second faster. PiKA A went

flying out of the gate on Hill 1 against Apex A, establishing a dominant lead. Both teams raced a bit slower than their preliminary times. SDC A, which was disqualified in last year's finals, came back with a vengeance, racing against Fringe B to break the record again at 2:23.27, 0.12 seconds faster than its preliminary time. Fringe B also bested its time from Friday, racing three seconds faster. The men's races were also a showcase of SDC dominance, but first, the organization's B and C teams ran against each other. SDC B made some mistakes that led to a time over four seconds slower than the previous day's time. SDC C also raced a slower time, adding 0.82 seconds to its time. In the race between SigEp A and CIA B were improvements for both teams. The race of CIA A and PiKA B was the race of the day, the teams very close up until the fifth and final Hill. After starting close on Hill 1, PiKA B took a small lead in the freeroll. Coming out of the chute on Hill 3, the teams were side by side. PiKA B again took a small lead on Hill 4, looking to pull off a huge upset, but CIA A's AJ Collins, pusher on Hill 5, exploded to push past PiKA B in the final seconds, winning by mere feet. Both teams actually raced slower than the previous day. Because CIA A had to

use the brakes on the chute to stay out of PiKA B's way, they were granted a reroll, cutting off four seconds from its time against PiKA B. PiKA A and Fringe A raced next, with PiKA A getting ahead with a great transition between Hills 1 and 2. PiKA A raced over a second slower than in the preliminary heats, but still moved into first place. Fringe A raced a couple tenths faster than in the preliminary heats. In the final race of the day, SDC A against SPIRIT A, SDC A was racing against its own record. The transitions made a big difference, and were the main sections where SDC A built on its lead. Racing against the dominant SDC A, SPIRIT A raced faster than on Friday, good enough for fourth place. SDC A raced around the 0.9-mile track in 2:02.16, breaking the record again, by 0.16 seconds. Each year, all the teams aim to best their times from years past, and for several teams, especially SDC, this year was no exception. Buggy, a combination of design, technology, and athleticism, is a year-round event that is unique to Carnegie Mellon, a celebrated tradition that continues to thrive, year after year, drawing competitors new, to join the races, and old, who come back to campus to watch each year.

Carnegie Mellon to host Cross Country postseason events

IAN TANAYA

Sports Editor

The NCAA announced on Tuesday that the city of Pittsburgh will host 11 NCAA Championships from 2018 to 2022. SportsPITTSBURGH and Carnegie Mellon University will serve as the host for the NCAA Division III Men's and Women's Cross Country Regional in 2019 and the NCAA Division III Men's and Women's Cross Country Championships in 2020. In total, Pittsburgh was awarded 22 preliminary and final rounds of NCAA championship events in Tuesday's announcements, the most of any city.

"Carnegie Mellon is ecstatic that we were chosen to host these marquee NCAA postseason events, including the 2020 Cross Country Championships," said Director of Athletics Josh Centor. "It is a great chance to showcase the city of Pittsburgh, and our world-renowned university. We have hosted many NCAA postseason competitions over the past few years and look forward to crowning a national champion in this special area of the country." Both events will take place at Cooper's Lake Campground in Slippery Rock, PA, located north of the city. Carnegie Mellon University and SportsPITTSBURGH will host

the NCAA Division III Men's and Women's Cross Country Regional on November 16, 2019 and the NCAA Division III Men's and Women's Cross Country Championships on November 21, 2020. This will be the first NCAA national championship event hosted by Carnegie Mellon University. Carnegie Mellon previously hosted the NCAA Division III Men's and Women's Cross Country Regional in 2010 at the same course. "We are looking forward to partnering with SportsPITTSBURGH to give the student athletes and spectators a first-class championship meet," said head

cross country coach Tim Connelly. "The Cooper's Lake Campground cross country course is a challenging, but very fair championship-caliber course that has previously hosted both DII and DIII regional championships, as well as the 2008 NCAA Division II National Championship. I believe that the runners will have a great experience here in Pittsburgh, and we are looking forward to hosting the best NCAA Division III runners in the 2019 and 2020 cross country seasons." Cooper's Lake Campground will also serve as the host for the 2018 and 2020 NCAA Division II Men's



Courtesy of CMU Athletics
Carnegie Mellon will host the 2020 NCAA Cross Country Championships.

and Women's Cross Country Regionals as well as the 2018 NCAA Division II Men's and Women's Cross Country Championships. Each of these NCAA Division II events will be hosted by Slippery Rock University.

Hernandez suicide sparks questions about true justice

IAN TANAYA

Sports Editor

The week before the NFL Draft is typically filled with excitement as all 32 teams seek to improve their rosters while hundreds of young men anticipate a new future by living their dreams and playing professional football. Yet, the attention this week was centered on the apparent suicide of former New England Patriots tight end Aaron Hernandez. The former star who was convicted of murder in April 2015 was found dead in his cell on

Wednesday morning, leaving behind repercussions for the murder victims' families and bringing up questions of the efficacy of the criminal justice system. The story of Hernandez begins with off-the-field issues during his time at the University of Florida. While his success on the field helped the Gators win the 2009 BCS National Championship Game and earned him the John Mackey Award given to the best tight end in college football, his career was plagued with drug problems,

though he only ever failed one drug test in February 2008. More pressing was a violent personality that surfaced in a 2007 dispute over not wanting to pay for two drinks, despite Florida quarterback Tim Tebow offering to "help resolve the conflict" by paying the bill himself. Florida tight ends coach John Hevesy said that Tebow later attempted to help as a mentor but "struggled with [others'] immaturity." The Patriots still selected him in the fourth round of the 2010 NFL Draft, and it appeared that his career would take off with quarterback Tom Brady alternatively passing to him and fellow tight end Rob Gronkowski. In 2012, the Patriots signed him to a new five year deal worth up to \$40 million, and it looked as if Hernandez had left his troubled past behind him. The situation quickly soured in June 2013 when Hernandez was arrested and charged with the murder of Odin Lloyd, a semi-professional football player who was dating the sister of Hernandez's fiancée. The prosecution offered a compelling case against Hernandez, presenting more than 130 witnesses including Patriots owner Robert Kraft who provided "crucial" testimony about Hernandez's whereabouts during the time frame of the

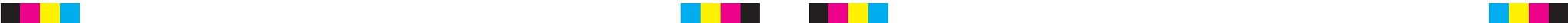
murder. With more than 400 pieces of evidence, the defense was forced to concede that Hernandez was at the scene of the crime, though they maintained that he was merely a witness to the murder and tried to point the blame at co-defendants Ernest Wallace and Carlos Ortiz. The jury disagreed, rendering a guilty verdict for first-degree murder after more than 35 hours of deliberation, and Hernandez was sentenced to life in prison without the chance of parole. Hernandez was later tried for the murders of Safiro Furtado and Daniel de Abreu in 2012, but was found not guilty on Friday, April 14, 2017. The prosecution in this case was "light on forensic evidence," relying instead on the testimony of Alexander Bradley. The defense opted for an Ace Attorney-like strategy, pointing out a number of contradictions between Bradley's testimony and the evidence that was presented by the prosecution and pointing the blame on Bradley. The jury found Hernandez not guilty of murder, deeming him guilty of just one count of illegal possession of a firearm. Hernandez was emotional at this result, and his defense team believed there was hope in his appeal for Lloyd's murder, saying on Tuesday that there was a good chance they could get that ruling reversed.

Hernandez's death leaves the families of Furtado, de Abreu, and Lloyd in a tenuous situation when it comes to their civil suits against him. Massachusetts law includes a legal principle called *abatement ab initio*. Under this principle, someone who dies while pursuing appeals for their convictions is presumed to be innocent as the defendant would not have had all the chances they could to prove their innocence. Because of it, evidence established in the criminal case against Hernandez cannot be presented in any civil proceedings. The civil case for Lloyd's murder had already ruled in favor of the plaintiffs, with only the amount of damages remaining to be argued. It is possible that the ruling could change due to the erasure of Hernandez's conviction. The Furtado and de Abreu families held their cases back, and it may make the process of seeking damages more difficult. As in many high profile cases, it is questionable whether justice was truly served or not. In the 2015 conviction, jurors were satisfied that Hernandez's high profile status did not excuse his actions and that he received the sentence he deserved. In his separate 2017 acquittal, it could be argued that even a convicted murderer deserves to be found not guilty if he did not

commit the other crime. Yet, questions of favoritism still surround that acquittal and the response of former teammates to his apparent suicide. "I'm gonna miss u bro, you my family [sic]!" tweeted former Florida safety Ahmad Black. "Despite other allegations and whatever else u had going, ill always love you bro [sic]." Former Florida and current Miami Dolphins center Mike Pouncey wrote on Instagram, "To my friend my brother! Through thick and thin right or wrong we never left each other's side. Today my heart hurts as I got the worse news I could have imagined. It was just a day ago we shared our last convo [sic]. I will forever miss you and love you bro. we [sic] will meet again rest easy!" Critics see athletic entitlement intact, believing that teammates, coaches, fans, and others would protect the name of the team rather than honor the victims by seeking justice. The only thing that is certain is that the players looking forward to their careers in the NFL must remember that they are not gods who can do no wrong. They are, in fact, human beings who could lose everything if they commit destructive behavior. The tale of the rise and fall of Aaron Hernandez should serve notice that their futures are not guaranteed against their own actions.

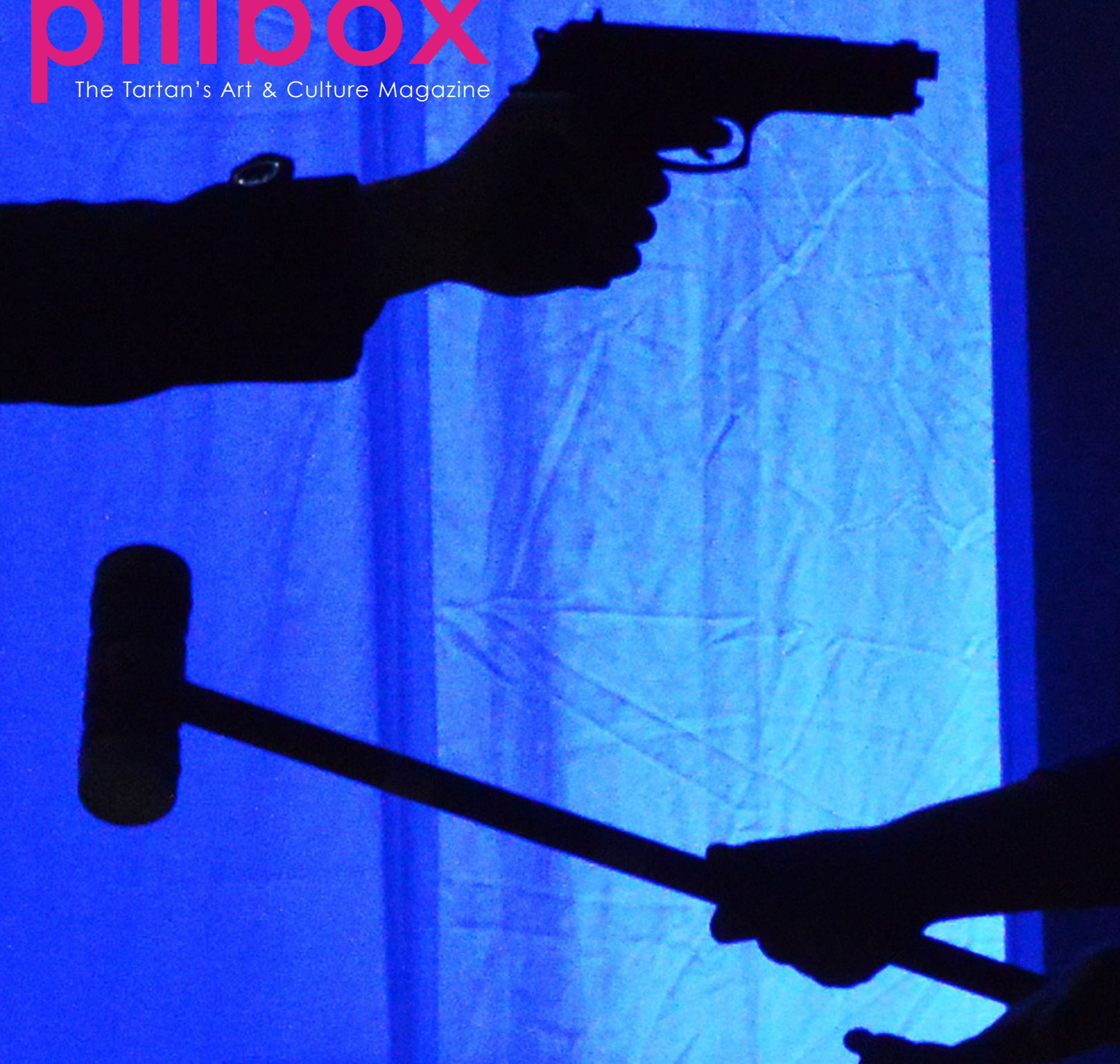


Courtesy of Jeffrey Beall via Wikimedia Commons
Aaron Hernandez reportedly committed suicide on Wednesday morning.



pillbox

The Tartan's Art & Culture Magazine



04.24.17 • B4 Booth • B6 NGHTMRE and San Holo • B8 S'n'S: *Heathers*

table of contents

4

Booth

6

NGHTMRE and San Holo

8

Heathers: The Musical

3

Advice for Awkward People: On college-aged toddlers

3

Bar Buddies: Cruze

10

All-Campus Photo Competition

12

So What is Carnival?

14

Annual Comedy Showcase

15

Puzzles: Your weekly mental warmup

16

Comics: Life plans, relaxing, 7/11, and Band-Aids

18

Horoscopes: The signs as Carnival after-effects

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Advice for Awkward People

On college-aged toddlers

Ruth Scherr | Copy Manager
India Price | Editor-in-Chief

Dear Ruth,
I just experienced my first Carnival ever, and it was a blast! On a more serious note, though, Carnival was pretty enlightening. I realized I'm not really sure how to take care of drunk people.

As I navigated the various carnival activities, I saw my fair share of drunk people. Most of them were accompanied by friends who seemed to know exactly what to do to get their friend home safely. I started thinking to myself, "Do I know what to do if my friend needs help?" I'm worried that at some point someone is going to rely on me to make sure they're safe and sound.

I know the basics. Make sure they drink enough water. Don't let them go anywhere alone. But is there more I could be doing?

**Best wishes,
Somewhere Off-Beeler, Evaluating Reason?**

Dear SOBER,
So you've (theoretically) found yourself in possession of a pretty drunk friend that needs taking care of. Congratulations, I guess. You're

now in charge of a toddler, but with a more extensive vocabulary and probably longer limbs.

Just like with toddlers, you want to make sure they're properly fed and hydrated. You already mentioned water, and you're right. Alcohol is a notorious dehydrator. You want to get them some food as well, though. I hope your friends are smart enough not to go drinking on an empty stomach, but just in case they aren't (and even if they are), some food will go a long way towards making them feel better. They may not think they're hungry, especially if you've been out for a while, because excess liquid usually tricks us into thinking we're full, but once you get food in front of them they'll probably give in.

Now, to the prospect of getting them home. We don't let toddlers walk home alone, so we don't let drunk friends do it either. If, again, your friends are smart, they will have made some kind of plan for getting home before you went out — but plans can change, so here's your best course of action. Assuming it's very late at night, an Uber or a Lyft is going to be super expensive, so I'd avoid it if you can. If your friend is still in reasonable

control of their body, you can probably manage anything up to a 20 minute walk. Three's company in this case; having an extra (mostly) sober person will make your walk a lot easier and probably a lot less frustrating. There's definitely something to be said for having a partner in eye-rolling exasperation. If you can get your toddler into their own bed, and they seem fine — they haven't passed out, they're still responsive, they still remember everything — then they're probably fine to leave. If they fit the above criteria, find them a comfy place, tell them a bedtime story, and set an alarm for, ideally, 3 p.m. the next day.

If at any point of the night, they pass out, start vomiting regularly (i.e., more than once), or are particularly zoned out or unresponsive, call EMS. If they're underage, Amnesty exists, and even if for some reason it doesn't apply, it's still better for them to have an underage drinking citation than to risk their health. And if they don't agree with you in the morning? Well, maybe don't go out with them again.

Have fun with your college-aged toddler,
Ruth

Bar Buddies: Cruze

Grab your usual and dance the night away

Ariel Hoffmaier | Staffwriter

While Zeke and I crossed paths at a few Carnival-related events, I journeyed with about six non-Zeke people this Thursday to Pittsburgh's premiere gay club, Cruze. I'll admit a bit of bias here: unlike some of the other bars we've covered, I've been going to Cruze a few times a term since my freshman year. Don't be scandalized, though - Thursdays are Cruze's "College Night." If your driver's license says you're at least 18, you could be in for a fun night of dancing and maybe more.

The location: On Smallman Street in the Strip District, Cruze is a bit of a journey from campus. You can either wait for a 54 or take a 61B or C and then transfer to the 87, 88, or 91. Commute time by bus is going to be 30 to 40 minutes across the board. Honestly, I usually just take a Lyft. It's worth the extra money if you're going with a mid-sized group, planning on drinking, or eager to avoid waiting a long time in the cold for a bus that may never come. After all, the buses stop at 2 a.m. and nobody likes to cut a party short.

The drinks: Cruze is a "grab your usual and run" kind of bar. I paid \$8 for a double whiskey and ginger-ale, which is pretty decent for the quality

and level of alcohol, and my friend grabbed a beer for about half that. Since it's tough to dance with a glass in your hand, you'll probably chug rather than nurse your drink. This is not the place for anything fancy, because you won't have the time or space to enjoy it. On the plus side, it's a gay bar, so no one will bat an eye if you do order something fancy. At Cruze, anything goes.

The vibe: Most of what makes Cruze stand out from any other dance club is its connection to LGBTQ culture. However, Cruze has gotten less and less noticeably queer over the years. If you're a queer girl like me, you're likely to spend more time fending off creepy straight dudes than actually interacting with fellow queers. Cruze has two bars, one in a quieter lounge area by the door and one by the dance floor. Besides the smallish dance floor, the main room features a small stage for any exhibitionists in the crowd as well as couches used for resting your feet and making out — it's too loud in there for anything else. If you actually want to talk to someone, Cruze also has an outdoor porch area off the dance floor that's good for conversation and smoke breaks if you're into that. On a good night, Cruze is a standard

dance club, but as a queer person I do miss the days when it felt more like home.

Lit or Nah: On a warm "College Night" during Carnival? Cruze was the ideal level of lit. There were enough people to cover the dance floor but not so many that you couldn't breathe, lost your friends, or had to wait forever for a bartender's attention. The music was by and large top-40, but the (drunken) enthusiasm of the dancers was still contagious. As an additional bonus, I'm pretty sure there was an official twerk-off happening onstage. If you're at or near college-age, Thursdays are definitely the most hopping night of the week for Cruze. I went on a Saturday once and it was so dead my friends had to hop to the straight dance club next door— talk about disappointing. Keep a look-out for their theme nights — especially of the "foam" and "drag" variety, which bring in more people and give the Cruze extra flair. My experiences at Cruze have varied from mediocre to wonderful, but the wonderful must outweigh the mediocre, since I keep coming back. With a little warm weather, alcohol, and good company — whether you're an old wingman or an exciting stranger — you'll have a fun night at Cruze.



Gowri Sunder
| Staff Writer

Booth at Carnegie Mellon University's Carnival is hard to miss; there is always a bustling energy of people interacting with the student organization's creations. These ambitious projects bring together a variety of groups on campus and, through the frantic set up of booths, shows off their capacity for hard work and creativity. This year, in the spirit of the *Timehop* carnival, the themes for booths seemed to be all over the place. From *Road to El Dorado* by Kappa Alpha Theta to *The Creation* by Alpha Epsilon Phi to *Scooby Doo: Where's My Mummy?* by Fringe, the seemingly disparate themes were clearly tied together by a strong sense of nostalgia.

Children were running to see the Walt Disney booth by Delta Delta Delta, and — similarly — going with college-aged people, it was easy to sense the nostalgia felt in booths like the '90s Cartoons booth by Alpha Phi. Wandering through booths, you could see the love and care these students put into the work just through the details. The hieroglyphics on the *Scooby Doo* booth were delicate, gold cutouts where the gang was inserted in their iconic running from monsters poses. The Hanging Gardens of Babylon booth by Alpha Chi Omega was a visually stunning experience, with the floral and fabric installations paired with the painting of the lions on the Babylonian Ishtar Gate. It was hard to walk through the '90s Cartoons and Samurai Jack booths

without recalling childhood mornings watching cartoons while eating Cocoa Puffs, or some other teeth-rotting cereal of the '90s and early '00s. The sheer number of cartoon figures painted in the booth, and the way it placed you in each world as you walked through was impressive.

The KGB booth Topple the Czar and the Alpha Epsilon Phi *The Creation* booth are examples of booths that took a sense of nostalgia and history and inserted the kind of dry college humor. The "god's righteous fist bump" or the game where you quite literally have to topple the czar with a rubber wrecking ball added a sense of play to the detail oriented decoration of booths. The humor was smart and well placed, a nice reference to the meme-oriented tendencies of the Carnegie Mellon population. Somewhere between the iconic "History of Japan" video and an incredibly sentimental history museum curated by college students, booths this year — as always — were delightful to see as it took me down a trip through history and memory. By the time this is published, booths will be gone but I look forward to next Carnival when we get to see the creativity and hard work of these student organizations come together with funnel cake and rides.



Awards

Fraternity:

1. Sigma Phi Epsilon — Star Wars
2. Delta Tau Delta — Atlantis
3. Alpha Epsilon Pi — The Creation

Sorority:

1. Kappa Kappa Gamma — The Groovy '70s
2. Kappa Alpha Theta — *The Road to El Dorado*
3. Alpha Phi — '90s Cartoons

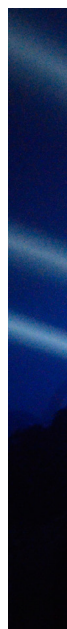
Independent:

1. Fringe — *Scooby Doo: Where's My Mummy?*
2. Taiwanese Student Association — *Meet the Robinsons*
3. KGB — Topple the Tsar

Blitz:

1. CMU Astronomy Club — The Space Race
2. Chinese Student Association — Tang Dynasty
3. Student Dormitory Council — Mars Colony







Michelle Madlansacay | Staffwriter
photos by Cindy Deng | Staff Photographer

NGHTMRE and San Holo


I'm happy to say that the ending to my first Spring Carnival was made absolutely amazing with the concert in Wiegand Gym by DJs NGHTMRE and San Holo. I don't often listen to trap or house music, so I wasn't sure if I was going to like it before attending. When I arrived at the Cohon Center, however, I was surprised to see so many people anxiously waiting in line to get in. It actually took awhile for people to be let into Wiegand because of the big turnout. Eventually, my friend and I made it in, and we got spots right in front of the stage.

I attended the last Activities Board concert in November with iLoveMakonnen, and it still amazes me how they're able to transform the entire gym into an extravagant concert venue. The room was filled with fog, even before the concert started. On the stage was a giant disco ball surrounded by different colored lights. Just by looking at the entire setup, I knew that there was a lot to look forward to.

Dutch DJ San Holo came out first to perform and was clearly into it from the very beginning. The moment he began playing tracks, he immediately got everyone in the crowd to start dancing. He started with a few remixes, including one of his most popular ones: Dr. Dre's "The Next Episode." San Holo then got into playing some original music. The strong beats and bass drops made everything seem more like a party than a concert. Lights of different colors flashed all throughout the room, creating this surreal effect while all the dancing and fist pumping were contagious. To finish his set, San Holo played his original and critically acclaimed song, "Light," and left everyone in a feel-good mood for NGHTMRE's performance.

When NGHTMRE began playing his songs, I noticed a difference between his and San Holo's music: NGHTMRE has more of an intense sound, with fast beats and hard bass drops. He also played a combination of originally produced music and remixes of popular songs by Drake, Journey, and Oasis. They were some of the coolest mixes I've ever heard, and he completely transformed them into new beats and sounds. I could feel the ground shaking as the entire crowd jumped to the rhythm of all of NGHTMRE's music. The coolest thing about his performances were the effects, where fire and fog machines were incorporated. Two times during the concert, confetti fell from the ceiling and everywhere I looked people seemed to be having the time of their lives. People were loving every moment and wanted to interact with NGHTMRE as much as possible. My friend and I had to work hard to keep our front stage spots because people kept moving up as they jumped and danced.

Just watching concerts for this type of music is a lot of work in itself. With all the dancing, head bobbing, arm waving, and singing, you leave the venue pretty exhausted. But the most fascinating thing is that you also leave feeling rejuvenated. The whole experience is essentially one big dance party, with the performer projecting just as much energy as the audience. The music and entire environment left everyone with an awesome feeling, and was definitely a perfect ending to this year's Carnival weekend.



Caleb Miller | Staffwriter
photos courtesy of Don Zheng
and Caroline Hermans

Heathers: The Musical

Scotch'n'Soda's Carnival show was full of dark humor, catchy songs, and stellar vocals

When I first heard that the Scotch'n'Soda production for Carnival would be *Heathers: The Musical*, I was wary. Having watched *Heathers*, the 1988 film on which it is based, I was unsure of how such a dark and racy movie would translate to musical theater without becoming corny. There was no need to worry, however. Adjustments to the plot, catchy songs, raunchy humor, and, above all else, an extremely talented cast turned *Heathers: The Musical* into an undeniable success.

Set in suburban Westerburg High School, *Heathers* follows Veronica, the newest member of the most popular clique. The group is comprised of her and three other girls: Heather Duke, Heather McNamara, and the leader, Heather Chandler. Veronica doesn't actually enjoy spending time with the Heathers, but tolerates their bratty, rude behavior because they make her popular. Veronica becomes enamored with a mysterious new kid, J.D., and after angering Heather Chandler at a party and realizing her social life is about to come to an end, she boldly sneaks into J.D.'s room and sleeps with him. The next morning, while apologizing to Chandler, Veronica unintentionally gives her a poisonous concoction crafted by J.D. He convinces her to fake a suicide note, but his malicious intentions are revealed as he tries to kill more of their classmates.

The musical changes several plot points from the movie, and these alterations heighten the character's emotions and strengthen their motivations. One of the biggest changes is removing Betty Finn, Veronica's nerdy childhood friend, and adding her role to Martha Dunnstock, the victim of much of the bullying at Westerburg High. Since Veronica is formerly friends with Martha Dunnstock, their relationship feels more significant than in the film, giving Veronica more reason to be bothered when the Heathers tease Martha. Martha's later attempted

suicide becomes a far more powerful motivator for Veronica to restore peace to the school, and also makes it a much sadder moment for the audience.

This fusion of characters also changes the relationship between Heather Chandler and Veronica. In the movie, Veronica draws the wrath of Chandler for not having sex at the frat party they attend. However, in the musical, Veronica stops a game at a party that Chandler created to humiliate Martha in front of the rest of the school. While Chandler's behavior in the film is rude and certainly not that of a good friend, the changes made in the musical make it an even more powerful breaking point for Veronica as she turns on her clique.

My worries about the music making the story too corny were immediately dispelled. The soundtrack expertly walks the line between funny and dark — but much of this can be credited to the two fabulous first-year leads: economics and statistics major Alec Albright as J.D. and vocal performance major Sophia Masterson as Veronica. Masterson showed off her impressive range and handled Veronica's ever-shifting emotions with ease. She balanced her character's vulnerabilities and motivations well, showing Veronica's doubts about J.D. while falling for him regardless, and her impeccable timing added humor to her role. She blew the audience away with her confident singing on "Dead Girl Walking" and beautifully conveyed Veronica's desire for a return for normalcy as she pleaded with J.D. on "Seventeen."

Albright perfectly captured the shady-but-sexy effect used by Christian Slater in the film. Albright used his expressive voice to fill his songs with feeling and his dynamic range to switch emotions both within individual songs and through the scope of the entire show. On "Our Love Is God," Albright quickly alternates from loving and soft to high-intensity and out-

of-control. Another standout track is "Meant to Be Yours," where J.D. reaches his breaking point, and Albright manages to scream with anger while still staying melodic.

The rest of the cast impressed as well. Sophomore music major Daniel Brennan as Kurt and sophomore information systems major Walter Donnellan as Ram were hilarious, perfectly capturing the juvenile humor of the idiotic jocks with their goofy smiles and over-the-top fist bumps. They excelled on the hilariously vulgar "Blue," where they crooned about their genitals while breaking out jazz hands and other ridiculous dance moves. Senior electrical and computer engineering major Don Zheng and junior electrical and computer engineering major Russell Hawkins were also strong in their roles as the jock's fathers in their comedic song "My Dead Gay Son."

Other members of the cast stood out for their dramatic performances. Sophomore vocal performance major Marina Byrne, who played the bossy Heather Chandler, was a commanding presence — she owned the stage during her scenes. The Heathers — Byrne, senior decision science major Alexis De La Rosa, and sophomore bachelor of humanities and arts in dramaturgy and professional writing major Anna Jamieson Beck — mesmerized the audience with their dancing and harmonizing on "Candy Store." Sophomore vocal performance and creative writing double major Sydney Roslin, who played Martha Dunnstock, stunned the audience with her heart-wrenching performance on "Kindergarten Boyfriend."

Despite a few technical hiccups, Scotch'n'Soda's rendition of *Heathers: The Musical* was a major success, aided by a dark but funny script that preserved the character of the original film and was bolstered by standout vocal and acting performances from the entire cast.





All-Campus Ph W



Clockwise from top left:
First Place: Caroline Hermans
Second Place: Bin Zhou
Third Place: Pierce Sinclair



Photo Competition Winners



Honorable Mentions:
Marika Yang (left)
Eric Huang (right)



So, What is Carnival?

A meditation on our annual Carnegie Mellon extravaganza

It all started four years ago, when I first set foot on Carnegie Mellon's campus. I was a high school junior at the time, doing the college tour circuit. Carnegie Mellon wasn't like anywhere else I had visited. Campus was bursting with activity. People were setting up tents, hammering and sawing away in the Morewood parking lot, blasting music by the fence, and generally just having a good time. It was energetic. It was exciting. It was, as it turned out, the day before Carnival.

An intrepid little high schooler, I started asking around about what was going on and what Carnival was, but no one had a satisfactory answer. There was something about booth, a thing called buggy, and apparently there was an annual concert that (sometimes) got awesome bands, but I had no concept of what "booth" or "buggy" were, how this all fit together, or why everyone was so darn excited for a weekend that

seemed to be mainly about building strange contraptions. I left confused, but intrigued, hoping someday I would get a chance to attend a Carnegie Mellon Carnival.

Flash forward to now. I have three Carnivals under my belt, but when a new student asked me a week ago to explain Carnival, I found I couldn't do any better than the people who tried to explain it to me all those years ago. So, hopes of giving a student's eye view of the festivities and maybe painting a picture for future people who wonder "What is up with Carnival?," here a tour of this past weekend.

Wednesday, April 19

While Carnival technically runs from Thursday to Saturday, any discussion of Carnival would be remiss without Wednesday night. There's just something so special about that evening, when you finish up a short but undoubtedly brutal workweek and know you have four whole days to relax. Well, not necessarily relax, but at least spend your time however you want.

At least, it's special in hindsight. On Wednesday evening I wasn't feeling so optimistic. When 7 p.m. rolled around, I was still working on a group project due Monday and was pretty much planning on spending the rest of the night on it. Then my phone lit up with an invitation to go play board games at a friend's house. I looked at the phone. I looked at my pile of textbooks. I looked back at the phone. I looked back at the pile of textbooks. I went to play board games.

That's one of the best things about Carnival. The time off from school gives you the flexibility to be spontaneous. On a given Saturday, I can't just drop everything and go hang out with friends, no matter how much I want to or how sure I am that it's going to be the

Sinead Foley | Pillbox Editor
art by Anna Boyle | Staff Artist

kind of night I look back on fondly when I'm 50. But during Carnival, you can go make those memories.

Thursday, April 20

The Thursday of Carnival started bright and early — too early, in my opinion. While you might not have classes to wake you up during Carnival, if you live too close to Midway, you'll have the sounds of booth building to do the job. Still, I can't complain too much, considering they were out there in the pouring rain making incredible structures on a crazy tight deadline, while I was cuddled up in my bed catching up on Netflix.

Thursday is probably the chilliest day of Carnival (if you're not building booth). It's a time to rest up from the school week and reset into Carnival mode. For most of us that means sleep, Netflix, sleep, good food, more sleep, and Midway. Unfortunately, this year, booths got rained out the night before and had to open a day late, but Midway was still in full swing, complete with rides and t-shirt cannons.

There are a few traditions I've accumulated over my Carnivals, and Thursday is a good day to fit them in while it's the least busy. Since Carnival is scheduled right when Pittsburgh finally stops being a freezing hell-scape, I like to have a Carnival picnic. Though, it's more a bunch of people hanging out outside than a picnic, since nobody ever has time to make food. Another tradition is baking. This year's cakes were Mimosa (orange cake with champagne icing) and fireball (classic Carnival). The third and most important tradition is funnel cake. To be honest, funnel cake is my all-time favorite thing about Carnival. I'm very food focused. Don't judge me.

Friday, April 21

Friday was when Carnival got serious. Between buggy races in the morning, the comedy show in the afternoon, and booths opening after the rain delay, there was plenty to do.

Buggy and booth were two of the most confusing aspects of Carnival to me when I first heard about it. When you ask a typical Carnegie Mellon student what Carnival is, they'll almost definitely talk about buggy and booth before anything else. What always confused me was how these two seemingly unrelated events could combine to form the heart of Carnival. Listening to someone describe booth or buggy they can just sound like quirky traditions that you could take or leave. But there's something about them that makes you excited to get up in the



morning to go watch buggy — even if you didn't get home till 5 a.m. the night before — and pushes you to brave the swarms of people on Midway to get a look at all the booths.

I think it's the level of dedication that the people involved put into their product. After watching your roommate stumble to push practice at ungodly hours all semester, of course you're going to go cheer them on at the final race, so loudly it's almost embarrassing — and maybe take them out for ice cream after like a proud dad. I think that's why booth and buggy are at the center of our four-day Carnegie Mellon extravaganza. The passion, drive, and dedication I found on campus were why I decided to come to Carnegie Mellon. I love being in a place where everyone is so excited about what they're doing that it makes me excited. It's the same passion and dedication that are on full display during Carnival.

Saturday, April 22

Ah, Saturday, the grand finale. I'm always kind of impressed that people still have so much energy come Saturday, but somehow it manages to be the busiest day yet. Things start early with the buggy finals, then Holi, then, at least for me, the Scotch'n'Soda show, and finally the concert.

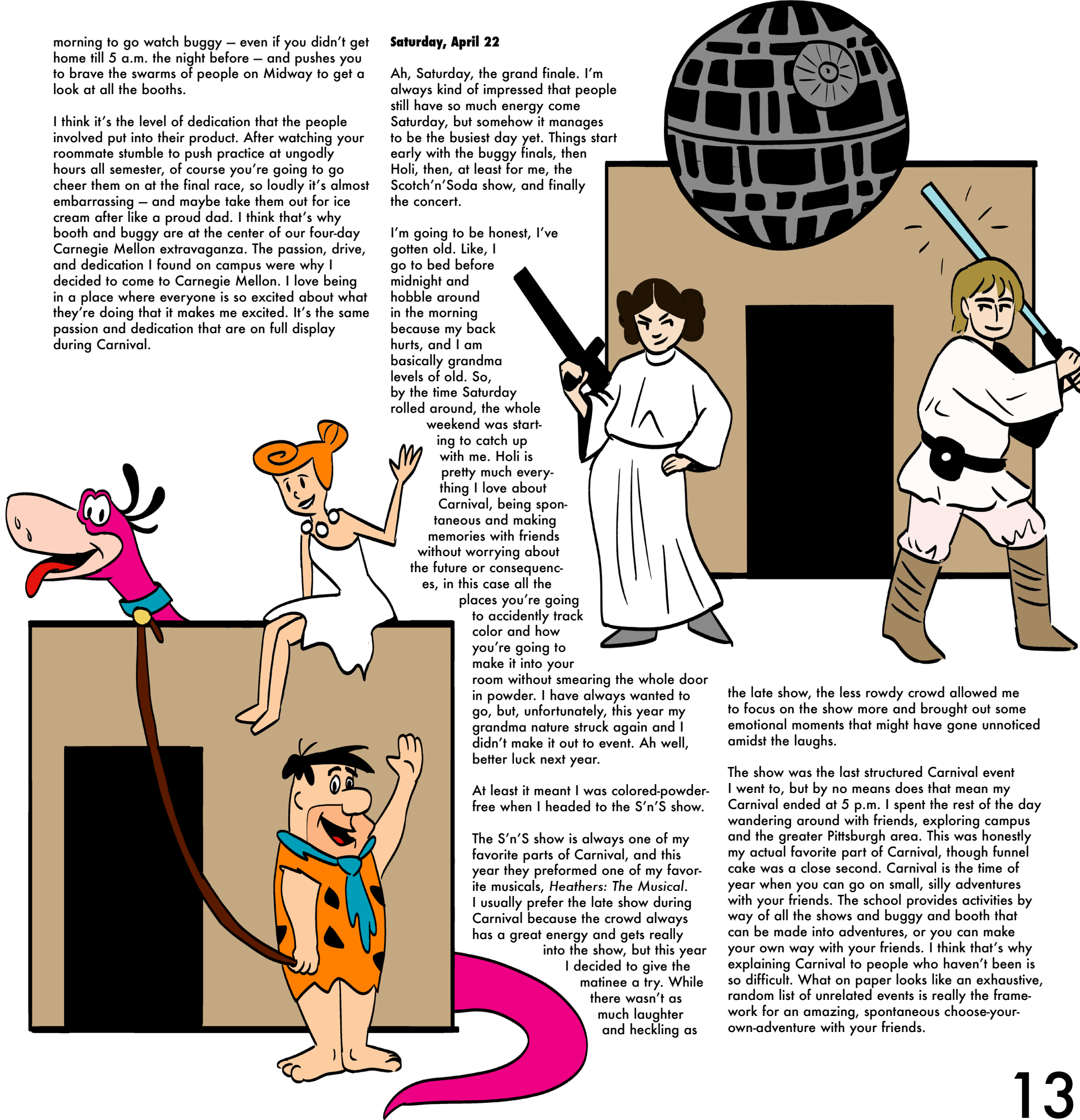
I'm going to be honest, I've gotten old. Like, I go to bed before midnight and hobble around in the morning because my back hurts, and I am basically grandma levels of old. So, by the time Saturday rolled around, the whole weekend was starting to catch up with me. Holi is pretty much everything I love about Carnival, being spontaneous and making memories with friends without worrying about the future or consequences, in this case all the places you're going to accidentally track color and how you're going to make it into your room without smearing the whole door in powder. I have always wanted to go, but, unfortunately, this year my grandma nature struck again and I didn't make it out to event. Ah well, better luck next year.

At least it meant I was colored-powder-free when I headed to the S'n'S show.

The S'n'S show is always one of my favorite parts of Carnival, and this year they preformed one of my favorite musicals, *Heathers: The Musical*. I usually prefer the late show during Carnival because the crowd always has a great energy and gets really into the show, but this year I decided to give the matinee a try. While there wasn't as much laughter and heckling as

the late show, the less rowdy crowd allowed me to focus on the show more and brought out some emotional moments that might have gone unnoticed amidst the laughs.

The show was the last structured Carnival event I went to, but by no means does that mean my Carnival ended at 5 p.m. I spent the rest of the day wandering around with friends, exploring campus and the greater Pittsburgh area. This was honestly my actual favorite part of Carnival, though funnel cake was a close second. Carnival is the time of year when you can go on small, silly adventures with your friends. The school provides activities by way of all the shows and buggy and booth that can be made into adventures, or you can make your own way with your friends. I think that's why explaining Carnival to people who haven't been is so difficult. What on paper looks like an exhaustive, random list of unrelated events is really the framework for an amazing, spontaneous choose-your-own-adventure with your friends.





Izzy Sio | Assistant Pillbox Editor
photo by Lisa Qian | Staff Photographer

Annual Comedy Showcase

A lesson in comedic timing

The Activities Board's (AB) 1st Annual Comedy Showcase, held on Friday, April 21 from 1:30 p.m. to 6:30 p.m., was a different spin on Carnival's usual comedy act. While the talent involved seemed to be great, the event was awkwardly held and placed, making for an odd experience.

For this year's Carnival, instead of putting on one comedy show, the AB held the 1st Annual Comedy Showcase outside at the Tennis Court Amphitheater. Instead of having one performer, AB brought six performers to the showcase. Debra Digiovanni, Jordan Rock, Brandon Wardell, Andrew Michaan, Brendon Walsh, and Brent Weinbach all performed one after the other, bringing their own style of comedy to the event. However, the venue made it difficult for their styles to shine.

In addition, halfway through the event there was a 45-minute intermission with music from a DJ, who ended up sounding and looking like a living meme in his green track suit. He also happened to match with the members of AB running the event, who were clad in black and blue tracksuit sets. To further emphasize his meme status, he ended up playing and mixing songs such as the Four Non-Blondes song "What's Up," popularized by the infamous He-Man YouTube video, making everyone cringe.

In earnest, the comedians tried to make do with what they had. Their usual scenery, a small

evening night club with seats close to the stage, sharply contrasted the huge sprawling green grass area with the first row of seats several feet away from the stage. For the most part, the scenery removed the interpersonal element of comedy that is usually integral in a stand-up performance. Andrew Michaan handled this the best, incorporating in audience interaction and fitting his vibe and energy with the crowd to make it a bit more lax, thus generating a bit more energy within the crowd.

The timing of the event also felt odd. The event encouraged people to come and go as they pleased or to stay for the entire set. I wasn't even sure how long to stay at the set because of the event's lax nature. For most people, the huge lawn outside the Tennis Court Amphitheater was a place for people to relax, and the set sometimes served more as background noise than a performance, so members of the audience came and went as they desired. In fact, the set really did serve as background noise if you were out buying cotton candy or fries, contributing to the event's odd nature.

While I was only able to see three acts, I could tell that the set up was a struggle for all the performers in different ways. Featured on MTV, Comedy Central, and known for popularizing the phrase "D***s out for Harambe," Brandon Wardell, to quote Comics Editor Julie Sanscartier, "had a panic attack on stage," and only performed for around 15 to 30 minutes of his 45

minute set. A great thing that Wardell did was that he made use of the massive space between him and the audience, stepping out into the grass to interact with people. It made the set feel a little more personal despite Wardell's realizing he had to censor his jokes around children in the audience. He ended up mixing in an "aux set" with some jokes before walking up to the AB event organizers and begging them down on his knees to "never do this again."

The worst part of Wardell's set, however, was probably that his remaining time was given to Brendon Walsh, whose set was comprised of a lot of penis jokes and childish and relationship humor. It made me feel a little uncomfortable, and while I was glad that Walsh could fill out the time better than Wardell did, he wouldn't have been my first choice to follow Wardell with.

One of my friends commented before I headed out to the showcase that seeing five hours of comedy would eventually be tiring. While I was only able to attend three of those hours, I definitely began to agree with her. While the talent involved in the Comedy Showcase seemed to have huge potential, the situation was not ideal for them to show off their talents and the frustration and heat contributed to a tired vibe from the audience. If the event had been condensed to three comedians and held in the evening instead, I think the event would have had a much better turnout and reception and could have let people enjoy the rest of Carnival's daytime events.

sudoku

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

sudoku courtesy of www.krazydad.com

maze

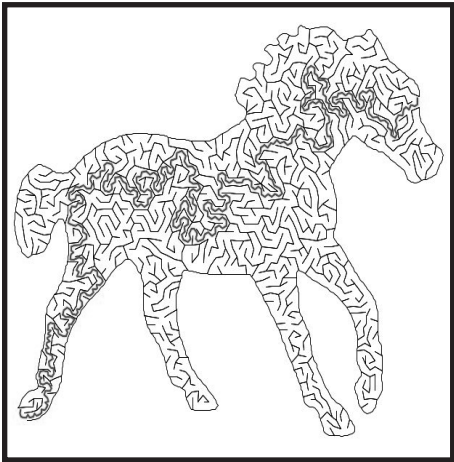


maze courtesy of www.krazydad.com

Solutions from April 17

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

sudoku



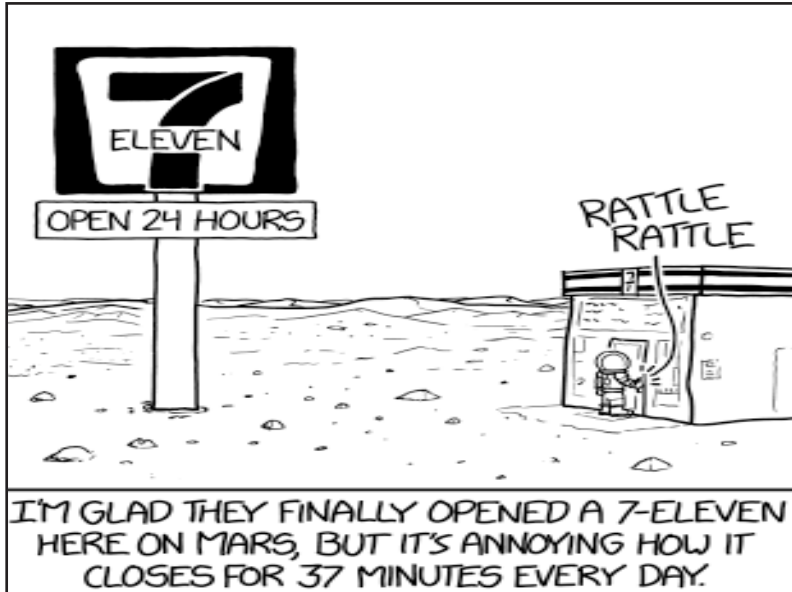
maze

1	T	A	L	C	5	E	L	E	V	8	L	E	N	A	S	19
14	I	S	A	O	15	L	U	X	E	16	E	X	I	S	T	
17	M	I	D	I	18	A	S	T	A	19	T	E	N	S	E	
20	E	D	E	N	21	P	A	R	L	I	A	M	E	N	T	
23	D	E	N	S	24	S	K	A	25	S	T	P				
					26	T	R	E	A	C	L	E	29	L	O	L
33	S	T	E	A	L	S	36	U	A	E	37	I	R	E	S	
38	A	E	O	N	S	39	B	R	O	40	A	F	A	T	E	
41	K	A	N	T	42	P	A	R	43	A	M	I	D	S	T	
44	E	L	S	A	45	E	R	I	46	S	T	I	C			
					47	N	A	N	48	C	E	L	50	A	C	T
54	L	I	T	E	R	A	T	U	R	E	57	T	O	A	T	
59	E	L	I	O	T	60	O	L	E	A	61	I	N	S	O	
62	S	I	N	U	S	63	T	A	N	S	64	O	T	T	O	
65	S	A	S	S	Y	66	E	R	A	T	67	N	E	E	D	

crossword

7-Eleven

by xkcd



xkcd@gmail.com

xkcd.com

Relax

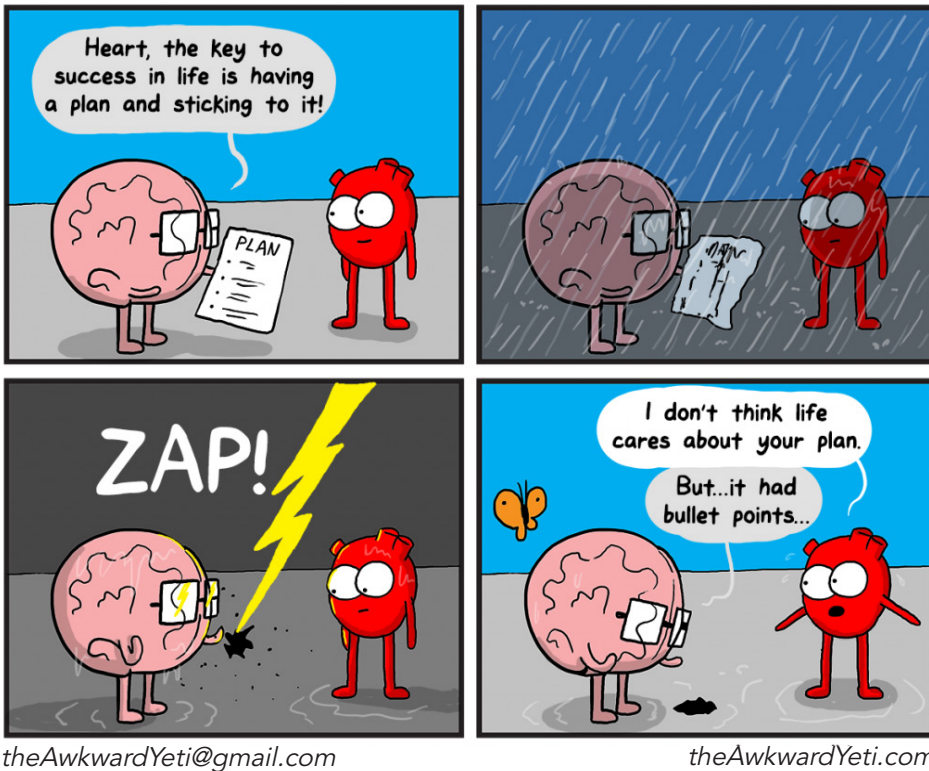
by Shenanigansen



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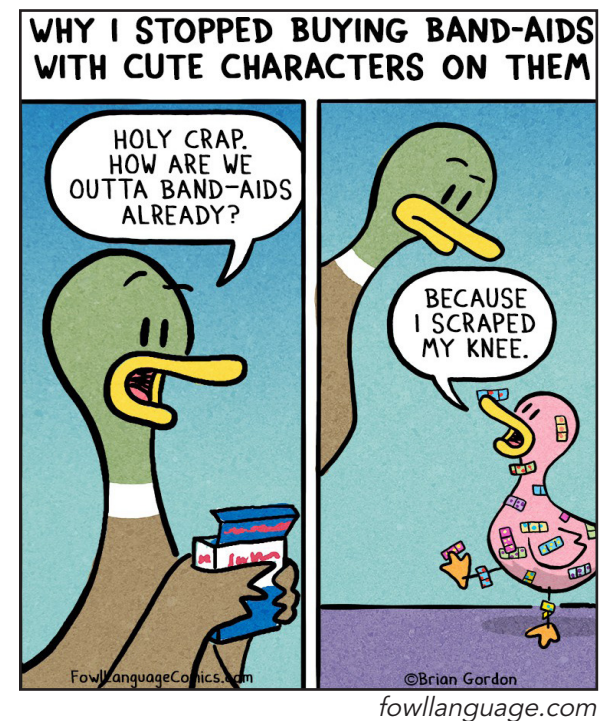
Life Plan

by Nick Seluk



Band-Aids

by Brian Gordon



horoscopes: The signs as Carnival after-effects

Aries

march 21–april 19

Those fried oreos and funnel cakes will haunt your dreams (and workouts) for weeks to come.

Taurus

april 20–may 20

That Holi dye in your hair will totally come out... you hope.

Gemini

may 21–june 20

Today is the day to try one of those super gross hangover cures you always hear about.

Cancer

june 21–july 19

Carnival is over and it's back to preparing for finals! Wait, why are you crying?

Leo

july 20–aug. 22

Seeing *Heathers* over the weekend is making you want to start wearing scrunchies again.

Virgo

aug. 23–sept. 20

You don't even remember how much food you ate this weekend. No regrets, Virgo!

Libra

sept. 21–oct.19

Naps have never felt so good, Libra. Invest some time in a really good post-carnival nap.

Scorpio

oct. 20–nov. 20

Maybe you should start taking random vowels out of your name so you can be cool like NGHTMRE.

Sagittarius

nov. 21–dec. 20

Don't worry, we won't tell anyone you're afraid of carnival rides.

Capricorn

dec. 21–jan. 19

There's nothing like carnival to confirm your suspicions that coffee is at least a little bit magical.

Aquarius

jan. 20–feb. 20

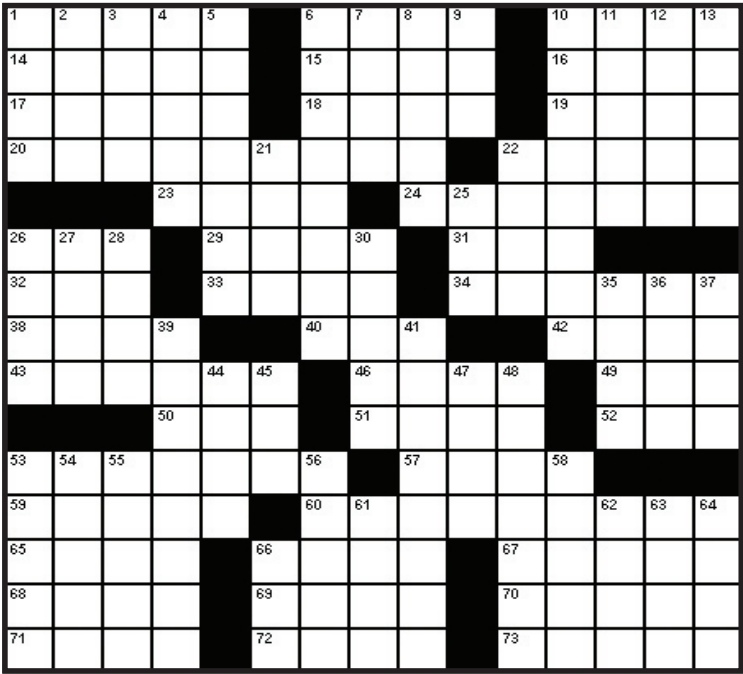
Gym? Fitness? You haven't heard those words in years...

Pisces

feb. 21–march 20

The urge to skip your first class of the morning is overpowering. Be strong, Pisces!

crossword



Crossword courtesy of FreeDailyCrosswords.com

across

- 1. Toil
- 6. Tabula ____
- 10. Ingrid's "Casablanca" role
- 14. Take the honey and run
- 15. Bibliography abbr.
- 16. Midday
- 17. Launder of cosmetics
- 18. Bluey-green color
- 19. Joint problem
- 20. Confederate soldier
- 22. Dated
- 23. Yours, in Tours
- 24. Lounges
- 26. Expected
- 29. ...____ saw Elba
- 31. Exclamation of relief
- 32. ____ glance
- 33. Guns
- 34. Daniel Webster, e.g.
- 38. Coarse file, angry tone of voice
- 40. Devour
- 42. ____ avis
- 43. 1994 Denis Leary comedy
- 46. Cries of discovery
- 49. Fall mo.
- 50. Eggs
- 51. Nightclub of song
- 52. KLM rival
- 53. Straddling
- 57. Frees (of)
- 59. Christmas song
- 60. Pertaining to the thyroid or adrenal, e.g.
- 65. Thin offshoot
- 66. Gator's kin
- 67. Overact
- 68. Words to Brutus
- 69. Persian fairy
- 70. Grandmas
- 71. Lavish affection (on)
- 72. Ear-related
- 73. Hound's trail

down

- 1. Actor Cobb
- 2. Too
- 3. The two
- 4. ____ can of worms
- 5. Go in again
- 6. Recover
- 7. Suit to ____
- 8. Swedish imports
- 9. Entirely
- 10. Assemble
- 11. Unfettered
- 12. Lush
- 13. Pays to play
- 21. Days of ____
- 22. Egyptian deity
- 25. Attention
- 26. Pub missile
- 27. Mormon state of western USA
- 28. Facilitate
- 30. Sir ____ Newton was an English mathematician
- 35. New Mexico art colony
- 36. Killer whale
- 37. Phooey!
- 39. Postpone
- 41. ____ surgery opens the chest
- 44. Wicked
- 45. Craze
- 47. Neat as ____
- 48. Makes sorrowful
- 53. Played the part
- 54. Took care of
- 55. Country singer Travis
- 56. Everglades bird
- 58. Shrub of the cashew family
- 61. Actress Petty
- 62. The ____ Ranger rode a horse called Silver
- 63. ____ all-time high
- 64. Take five
- 66. USN rank

monday

04.24.17

The Maine at Stage AE

6:30–11 p.m.

Stage AE

400 N Shore Dr, Pittsburgh, PA

Tickets available at: www.ticketmaster.com

The Arizona-based rock band will be visiting Pittsburgh this week to kick off their *The Lovely, Little, Lonely World Tour*. Their latest album *Lovely Little Lonely* was released on April 7 this year, and include the hit tracks “Don’t Come Down” and “Bad Behavior.” The show will also feature The Mowgli’s and Beach Weather as accompanying acts.

all week

04.25.17–04.29.17

The Three Musketeers

The Philip Chosky Theater

Purnell Center for the Arts

Tickets and info available at:

drama.cmu.edu/box-office

The School of Drama brings you the classic tale of Arthos, Parthos, and Aramis with a twist. This adaptation brings with it a gender-bent society where women hold the same power as men, and are just as active on the fronts of both love and war. Get ready for adventure during this show, already proven to be a hit over the past week’s performances.

thursday

04.27.17

NAT 28 at CMU Convention

1:30–2:30 p.m.

Kresge Theater, College of Fine Arts

Carnegie Mellon University

Info available at: www.nat28.org

NAT 28, a group of artists from around Pittsburgh, are coming to Carnegie Mellon to perform in a free concert. The performance will feature both solo and small chamber works from a variety of composers. Many members of the ensemble are a part of the larger Carnegie Mellon community, so this performance is sure to be something special.

friday

04.28.17

What Do We Know?

6–8 p.m.

Miller Gallery

Carnegie Mellon University

What Do We Know? is the title of this year’s School of Architecture’s Senior Thesis Exhibition. While the exhibit will be open for viewing from the 27th to the 29th, a welcome exhibition will be held this Friday, with project reviews being held throughout the day on both Friday and Saturday. This event is free and open for all to see. For more information, visit soa.cmu.edu.

saturday

04.29.17

String Theory and Flute Choir in Schenley Plaza

4–5 p.m.

Schenley Plaza

Join Carnegie Mellon’s All University Orchestra for *String Theory and Flute Choir* under the tent at Schenley Plaza. The afternoon was made possible through collaboration between the ensemble and the Pittsburgh Parks Conservancy. This event is free to all. In case of rain, the event will be held on Sunday, April 30.

sunday

04.30.17

Welcome to Night Vale

6–10:30 pm

Byham Theater

101 6th St, Pittsburgh, PA

Tickets available at: trustarts.org

Delve into the world of *Night Vale*, where darkness is stirring and mystery is afloat. This twice-monthly podcast includes everything from weather updates to announcements from the Sheriff’s Secret Police. The show will also feature music by Disparition and special musical guest Erin McKeown.



Holi, the Indian festival of colors, took place this Saturday, April 22, from noon to 3 p.m. on the Mall. Students gathered from around campus dressed in pre-ordered white shirts, to throw color, eat great food, and dance together on a frigid afternoon.

While it was chilly, the energy of the participants brought a sense of warmth and familiarity to the mall, where laughter and playful shrieks could be heard from as far as Midway.

The theme this year was 24-Kolor Magic, tipping a hat to Bruno Mars' hit song from last year. The collective event, packed with plenty of play, performances from South Asian groups around campus, and a sense of togetherness, definitely lived up to its name – being nothing short of magical.



Cindy Deng | Staff Photographer

