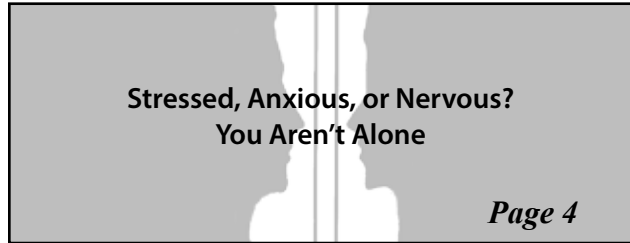
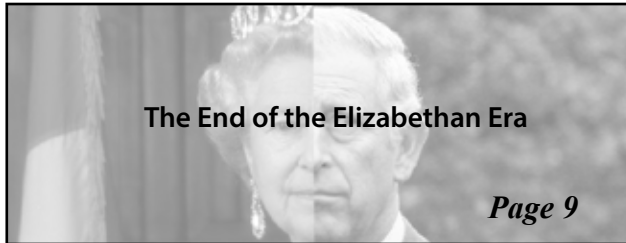


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Stressed, Anxious, or Nervous?
You Aren't Alone

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UW Clean Snowmobile Team on Fire

KRISTEN SPERDUTI
UW CLEAN SNOWMOBILE TEAM

No words can explain the feeling of jumping in a big pickup truck with a team of young, eager engineering students, pulling the result of a year's worth of hard work in the trailer behind them, 14 long hours of road ahead, and a week of epic adventures awaiting. Nick Mulder, Vangie Rose, Casey Palermo, and Medo Abouzid of the UW Clean Snowmobile Team set off on Sunday March 3, for the 2013 SAE Clean Snowmobile Competition with little sleep, and the competition-ready, Arctic Cat-Ski-Doo snowmobile riding in their trailer!

Day 1 brought together students and snowmobiles from all over North America, setting up their temporary workstation in Michigan Tech's Keweenaw Research Center. Waterloo passed static technical inspection with flying colours and dynamic inspection after a slight oil problem. The team was set to compete in the dynamic events!

Day 2 took the team for a loop as the sled started losing power 3 miles into the race with the oil dipstick reading NO OIL. The engine wasn't seized and no apparent broken parts, so hopes were still high! Confusion set in as hours later, with no oil added, the dipstick read FULL. More diagnostics discovered an oil pressure spike upon ignition, and all signs pointed to the worst: engine removal.

Day 3 and 4 were a blur of turning wrenches, design presentations, and trouble-shooting. The engine was torn down, diagnosed, and put back together in record time, with excess RTV engine sealant being the oil pressure problem. The sled was ready to go, and excitement was building!

Day 5 was Waterloo's day to shine! All 114 laps of make-up miles from the endurance race were ridden by Nick and Casey,

with Vangie and Medo proudly cheering from the sidelines. Waterloo was ready to compete. In-service emissions brought light to some issues with the injectors and cooling; both were resolved. Dyno emissions revealed that Waterloo's sled was pushing 113 hp, delicately close to the enforced 130 hp cap. It was powerful and running well!

The last day of competition hosted the acceleration and handling events. First-year member, Casey Palermo, took the wheel for the acceleration event and made Waterloo proud! They fell short to Platteville, but gave an awesome show. The handling event was ridden by Nick Mulder and as the events of the week ascended to a climax, Waterloo went out with a bang as the sled caught fire! Judges came running, fire extinguishers were flying, and luckily the sled was saved. It was a dramatic ending to an eventful week.

Once again, Waterloo stood out in the eyes of the judges for their perseverance and determination. They are a small team with a big heart, and mindset to never be defeated by setbacks. They persevered through mechanical failures, oil leaks, missed highway exits, numerous trips to Nappa and Carquest, Canadian-American rivalry, and flames of fire to bring you this story. Team member Vangie Rose says it best: "We had a running sled. We broke it. We tore it apart. We fixed it. We ran it crazy for 1.5 days, and we caught it on fire". But in the end, the team learned that life can be full of setbacks, frustrations and surprises, but if you want the most out of the situations you're in, you have to 'open all the boxes'.

Waterloo finished 9th overall and a rewarding 4th in both the Acceleration and In-Service Emissions events and placed 5th in the cost event. A very respectful show-

ing for a young team, and they are looking forward to what they have planned in the coming years.

For the 2014 SAE Clean Snowmobile Competition they will be introducing their new platform consisting of a Polaris Rush chassis and 750 turbo engine. They are always learning from their mistakes, improving on their design, and bringing Waterloo's best to competition each year.

The UW Clean Snowmobile Team would like to specially thank the team's faculty advisor, Professor Teertstra, who was there to witness the events of the week, as well as The University of Wisconsin – Platteville and Kettering University for their support each year. They would also like to thank the Dean of Engineering, MME Department, WEEF, and EngSoc for their continued sponsorship, and all sponsors for their support. Check out sled.uwaterloo.ca or [facebook.com/uwsled](https://www.facebook.com/uwsled) for more info!



Left-to-right: Medo Abouzid, Evangeline Rose, Nick Mulder, Casey Palermo of the UW Clean Snowmobile Team.

Keweenaw Research Center / Michigan Tech University

Social Media in the Boston Marathon Bombing

JAMES MACLEAN
3A NANOTECHNOLOGY

April 15 was a Massachusetts state holiday and many of its residents were out enjoying the weather. Unfortunately, I was stuck working at my co-op position at a hospital in downtown Boston. Around 3pm, I had decided to settle down at my desk for a quick coffee break. Logging onto Facebook, I saw a stream of updates about a bombing. It took me a few seconds, but I soon realized that the bombing happened in my own city and just minutes down the street. Moments later, the alert for incoming patients was given over the hospital speakers. There seemed to be a moment of silent shock then concern for those affected; friends and family contacting each other to see if they were okay. The majority of cell phones were blocked due to concerns that they could be used to trigger more bombs. Facebook became a critical tool for people

to communicate.

However, shortly after this period came a torrent of racism and misinformation in an effort to identify the root of the bombing. Twitter exploded with anti-Muslim remarks and racist comments. Also present were the cries of "death to America" by a minority but, very vocal number of extremists. Misinformation included accusations against Al-Qaeda, North Korea and the Muslim world in general. As people all over Boston saw police activity in their area, they were quick to report their interpretation of events. This misinformation wasn't even restricted to the amateur reporting in social media outlets. Major news agencies reported on unconfirmed observations and within an hour of the initial attack, the people of Boston faced the possibility of multiple undetonated bombs scattered around the city and another attack at a local library.

After the excitement cooled down, the

world was eager to find the culprits. Reddit, 4chan and bloggers sorted through pictures of the event hoping to find suspicious behavior. Multiple innocent people were tagged as potential bombers simply for holding a backpack or looking in the wrong direction. When a photo of the potential bomber was released by the FBI, Reddit was quick to identify Sunil Tripathy as the bomber. Sunil Tripathy was a university student that had gone missing prior to the bombing and bore a small resemblance to one of the men in the released photos. The connection was enough for people on social media sites. His picture and infamy quickly spread across the internet to the dismay of his family. Experts, however, note that the widespread use of pictures and videos at the marathon were incredibly useful in identifying the bombers (at least to the professionals). Photos could be assembled to create a timeline of the event and people could be tracked moving in between photos.

A few days later, in the middle of the night, another flood of information swept over the internet. The suspects, Tamerlan Tsarnaev and Dzhokhar Tsarnaev, were on the loose and causing mayhem north of Boston. With the release of their names came another wave of speculation and misinformation about their origins and motivation. Finally, it was confirmed that the Tsarnaev family were ethnic Chechens and Muslims, although, the brothers grew up in America and Dzhokhar was a US citizen. So far, the evidence has indicated that they were lone wolves and home grown radicals. Although the Chechen insurgency is targeted toward Russia, the brothers felt unified with Muslims killed by US involvement in the Middle East. While a great effort is taken to block the entry of radical religious leaders into western countries, homegrown terrorism is a growing problem in the youth.

Continued at BOSTON on Page 3

Letter From the Editor



LUCAS HUDSON
EDITOR-IN-CHIEF

GOOD NEWS EVERYONE! The first issue of the Spring term is finally out and there is no looking back. Undoubtedly this newspaper is not perfect, but I am proud of all the hard work *The Iron Warrior* staff has put into this issue. My name is Lucas Hudson, the 128th Editor-in-Chief (EiC) of The Official University of Waterloo Engineering Society newspaper: *The Iron Warrior*. First off, I would like to thank everyone who contributed to the newspaper. I would like to thank my column writers, who have committed themselves to bringing you at least one article each issue, highlighting a wide range of topics. I wish to point to a column that I think will bring much needed insight into the health and wellness of our engineering minds and bodies; Anjali Gopal's "Engineering Wellness". Keeping our minds and bodies fit is very important and I look forward to reading more of Anjali's column. Another article I would like to promote is written by Leah Kristufek and it is one that I promised to publish ever since I found out I was going to be EiC late last Fall. The article of which I speak is titled "How NOT to Get Your Bike Stolen". It is a quick read, full of tips on how to keep your two-wheeled mode of transportation safe all year round. My last reading suggestions for this issue come from our lovely A-Soc Execs. With only a little bit of harassing and public humiliations, all the Execs submitted their reports in on time. I feel confident that our Execs this term will do a great job and I look forward to seeing how the term progresses. Of course, all the other articles in the newspaper are excellent and equally worth your attention and I couldn't have put together this wonderful tome without the help of everyone. It is not just those who write I would like to thank, but I would also like to point out that just as much work goes into editing each article, editing photos, and placing them into the newspaper. If I haven't said it enough already, here it is one more time. THANK YOU!

Before we get into the nitty-gritty of my first letter from the editor, I would like to remind our readers that *The Iron Warrior* office has moved from our cozy space in E2 2349A to the much more spacious E2 2347. Please, drop by whenever you want, if the door is open you will most likely find me there. I always have time to talk and look forward to meeting some of you! Of course, if you want to schedule a meeting with me, you can contact me at iwarrior@uwaterloo.ca or call (519) 888-4567 ext. 32693 and we can arrange something. Now with these logistics out of the way, lets move on to something more interesting.

With the change in location, a desire to change other things gets ignited. *The Iron*

Warrior's article submission process is less than efficient, our website has many aspects that could be improved or revamped altogether and putting the newspaper together with InDesign sometimes feels like a chore. Obviously, these are not things that concern the average reader, but improving the website or our process can only improve the quality of the newspaper. My goal for the term is to make the production process a little smoother and replace a lot of the tedious copy and paste with computer scripts. I would also like to involve the reader in discussions: I don't want the newspaper to be a one-way street of information, I'd rather it be an interaction between the people who write the articles and those who read them. I encourage everyone reading to write into the newspaper, iwarrior@uwaterloo.ca, and present your feedback on an article written in this issue of the *The Iron Warrior*. I would love to hear what you have to think about what we write. You can also 'Like' us on Facebook ([facebook.com/TheIronWarrior](https://www.facebook.com/TheIronWarrior)). I encourage you to start a discussion there as well. The *Iron Warrior* is also on Twitter ([@TheIronWarrior](https://twitter.com/TheIronWarrior)), unfortunately, we had lost access to it for sometime. I have just recovered the password and our web editors, Anjida and Nachiket, will keep you up-to-date throughout the term on both Facebook and Twitter. With social media becoming a bigger and bigger aspects in each of our lives, I want the newspaper to catch up with technology. *The Iron Warrior* is also in the initial discussions about starting a YouTube channel. I believe we will start out small, making quick videos about how production weekend runs and making "The Iron Inquisition" into a video segment along with its usually back page print. The YouTube channel may not be launched this term, but, it is something that excites me and I look forward to seeing what we can do with it.

In all honesty, I have not been very involved in the Engineering Society prior to this term. The previous term I had helped staff Novelties, the amazing EngSoc swag shop, but that was the extent of my commitment. Running the newspaper requires me to know a lot about what's going on around campus, especially within Engineering. I couldn't see a better excuse to dive head first into the inner workings of EngSoc. Speaking of which, I attended my first EngSoc meeting as a class representative, it was a meeting to be remembered. The main highlight of the meeting was a proposal put forward to decouple the governing documents of the Engineering Society. I will not pretend to comprehend the full implications of what decoupling our governing documents means, but what I do know is that this is a very controversial topic, one that will need much discussion. You can be guaranteed that a following issue of *The Iron Warrior* will be host to a discussion on this topic. In the meantime,

while all intentions and facts are presented, please, discuss this topic in a civil and respectful manner. I do not believe our EngSoc president, David Birnbaum, or our Execs would promote something they think would be detrimental to our Society. On the other hand, many people seem to think that decoupling would lead to a more divisive EngSoc. I cannot truly tell you what the results would be. With all that in mind, I hope everyone respects each other's opinion and we can all have a discussion rather than a shouting match.

One thing that promotes healthy discussion is mutual respect, something the engineering populous struggles with. I don't mean just between Engineering and other faculties but among engineering disciplines. How often do you hear fellow engineers solely because of what discipline they are in? For me it has been too many times, in fact, at one point I was one of those people. This lack of interdisciplinary respect for one another does nothing but create a divide within engineering, eventually leading to stereotypes and people saying things like "X engineers aren't real engineers". If you have made the same mistake, as I have in the past, and looked down on other engineering groups, I urge you rethink your attitudes towards your peers. We can only grow stronger if we are united, and we can only be united if we stand together. Just because a certain group doesn't take Thermo 3 or C programming doesn't mean they are any less of an Engineering student.

That brings me to inter-faculty respect; respect between Engineering and other faculties. While we like to boast that "Engineers Rule the World", one cannot deny that the world could not rule on Engineers alone. During Orientation week, we seem to put on a façade Every faculty "loves" each other, we pronounce to the heavens our admiration, only to spit at their name behind their backs. Many great things were created by engineers and non-engineers alike. It surely wasn't a full team of engineers that created shows like *Game of Thrones* or *Archer*. It was a team, consisting of people from many disciplines coming together to make something great. So, why don't we jump off our engineering high horse and remember where we should stand; arm in arm with the rest of the University community. I wish I didn't have to write about mutual respect but, unfortunately, I feel it is needed.

One last time, I would like to thank you for reading *The Iron Warrior*. It is a great honour to work with such an amazing team, and they deserve a huge thanks. A special thank you to Ioana, Kate, Nachiket, Leah, Nancy, Jacob, Joshua and anyone else I failed to mention for your help over the long weekend and for keeping me sane. One down, four to go. I feel like if I blink, I might miss the term altogether. Don't Forget To Be Awesome (DFTBA).

THE IRON WARRIOR

The Newspaper of the University of Waterloo Engineering Society

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The Iron Warrior encourages submissions from students, faculty and members of the university community. Submissions should reflect the concerns and intellectual standards of the university in general. The author's name and phone number should be included.

All submissions, unless otherwise stated, become the property of *The Iron Warrior*, which reserves the right to refuse publication of material which it deems unsuitable. *The Iron Warrior* also reserves the right to edit grammar, spelling and text that do not meet university standards. Authors will be notified of any major changes that may be required.

Mail should be addressed to *The Iron Warrior*, Engineering Society, E2 2347, University of Waterloo, Waterloo, Ontario, N2L 3G1. Our phone number is (519) 888-4567 x32693. E-mail can be sent to iwarrior@uwaterloo.ca

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Send your submissions to iwarrior@uwaterloo.ca

Spring 2013 Publication Schedule: June 12, June 26, July 10, July 24

UW Petroleum Energy Association Launch Event to Host Shell Executive, Kerry Margetts

UW PETROLEUM ENERGY ASSOCIATION SPONSORED ARTICLE

In March, the University of Waterloo Petroleum Energy Association (UW PEA) was finally officially recognized by The Society of Petroleum Engineers (SPE) as a Student Chapter, granting them the rare honor of being the only SPE Student Chapter in the whole of Ontario. There are currently ten SPE student chapters in Canada and over 160 SPE student chapters around the world.

SPE was founded in 1963 and serves as a forum for over 100,000 petroleum professionals around the world to exchange

technical knowledge on topics related to oil and gas exploration, production, and innovation.

Joining UW PEA comes with a number of perks: members have access to exclusive educational resources, mentorship and scholarship opportunities, and the ability to participate in sponsored research paper contests. The club also organizes student activities like field trips, conferences, and networking events.

In fact, on Monday, May 27, the University of Waterloo Petroleum Energy Association will be holding the UW PEA Annual Launch Event, to which you, the reader, is invited.

For their launch, UW PEA will fly out

Kerry Margetts, P.Eng, to come speak at the University. A Shell executive who graduated from Queen's University with a B.Sc in Chemical Engineering, he started his career with Syncrude Canada in Fort McMurray and joined Shell in 1987 as a process engineer based in Calgary. His current role as General Manager, Contracting and Procurement, Heavy Oil, combined with his vast experience, surely will provide him with much insight and wisdom to impart upon those of you in attendance. This is a great opportunity for anyone interested in a career in Cana-

da's booming petroleum energy industry.

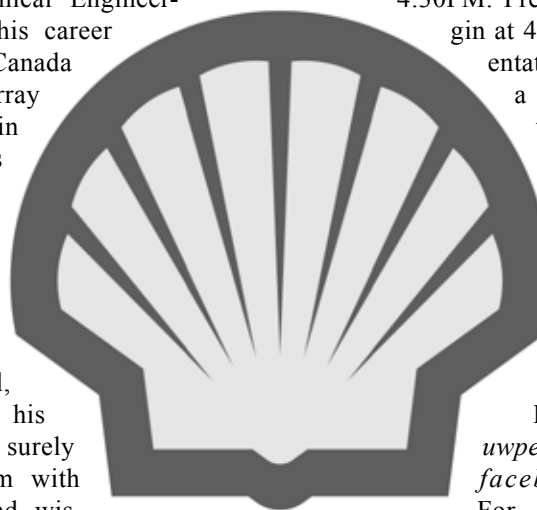
The event is in E5-2004, Doors open at 4:00PM, and the event will begin at 4:30PM. Presentations will begin at 4:50. After the presentations you will have

a chance to register with UW PEA and ask questions.

Food and beverages will be provided. Make sure to take advantage of this great opportunity!

Please RSVP at uwpea.com and at [facebook.com/uwpea](https://www.facebook.com/uwpea).

For any additional questions please message Terell Brown (terellbrown.93@gmail.com) or Dinesh Ganesarajan (dganesar@gmail.com).



UW_NRG Places First in Mobile Microrobotics Challenge

SUSAN PATCHETT UW NANOROBOTICS GROUP

During the week of May 6, the University of Waterloo Nanorobotics Group (UW_NRG) attended the National Institute of Standards and Technology's (NIST) International Conference for Robotics and Automation (ICRA) in Karlsruhe, Germany, representing Canada and University of Waterloo undergrads. At the conference, the team presented their new robot Solenoid Actuated Microrobot (SAM) to an audience of delegates from respected scientific universities and institutions all over the world. The team also used their reliable robot ElectroMagnetic Microrobotic

Actuation (EMMA) to compete in this year's Mobile Microrobotics Challenge. One challenge, the Autonomous Mobility Challenge, required teams to move their robots in a figure-eight pattern as quickly as possible three times (video: youtu.be/93cH4wOQaMI). UW_NRG achieved an amazing average time of 0.33 seconds for EMMA's figure-eight, winning first place for that challenge. The race was close, however, and UW_NRG beat the second place team, Carnegie Mellon University, by only 0.02 seconds, and University of Texas was only 1.02 seconds behind. All other teams had average times of over a minute. This is the second time UW_NRG has placed first in a Mobile Microrobotics Challenge event since they

began competing in 2009, the first time being in 2011.

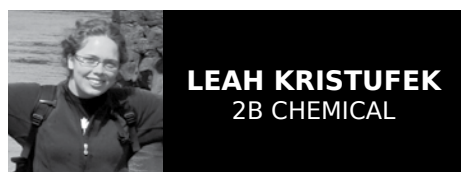
EMMA, which is UW_NRG's most successful robot so far, is approximately 300 x 300 µm in size, and made of a thin film of a cobalt-nickel-manganese-phosphorous alloy. This alloy is magnetic, and allows the robot to be controlled by an external magnetic field. A neodymium magnet is used to supply the magnetic field. The magnet is controlled by a C# program, and when the magnet moves, the robot moves. SAM, which made its debut at ICRA this year, is based on a concept similar to EMMA. Instead of using a neodymium magnet to control the magnetic field, the magnetic field is controlled using solenoids. Four solenoids

are positioned around SAM's stage, with one solenoid underneath that can act as a brake. The solenoids act as inductors, and when electricity is applied, they generate the magnetic field that directs the robot.

UW_NRG is always working hard to improve their microrobots, and innovating to develop new robots. Currently, UW_NRG has five robots, including EMMA and SAM. The other robots are Pump Actuation Mediated by Excited Light Absorption (PAMELA), Surface Acoustic Wave (SAW), and Microcopter.

If you would like to learn more about UW_NRG's robots and what they do, visit uwnrg.org, Follow us on Twitter (@[uwnrg](https://twitter.com/uwnrg)) or like us on Facebook ([facebook.com/uwnrg](https://www.facebook.com/uwnrg)).

Out and About on Campus You Too Can Explore the Galaxy



LEAH KRISTUFEK
2B CHEMICAL

Do you remember those summer nights in your childhood, lying in the grass looking at the great expanse of starry sky, and marvelling at how long that light had travelled to reach your eyes? Things take on a new perspective when you are confronted with all that lively darkness and your own fleetingness... don't they? These days you are probably too well dressed to sprawl on the grass, at least not in a sober state, but that doesn't mean you can't keep wondering about the great beyond. The UW Observatory is here for you. It is officially called the Gustav Bakos Observatory, but you

might affectionately refer to it as 'that big difficult to see dome thing on the physics building roof' and still get plenty of nods from your fellow students. Since the Observatory has been in that same place on campus since 1967, even most alumni will know what you're talking about.

So you want to see the stars in a more dignified and scientific manner? Free public tours occur once monthly, often on the first Wednesday of the month, and can both give you the opportunity to stargaze and become better educated about astronomy. The next public tour is at 9:00 PM on June 12 meeting in Physics room 308. If that doesn't appeal to you much, there is still the whole lawn chair approach. As a child in a smallish town there were winter nights when my parents would bundle me up and we

would troop down to a parking lot down the street to see particularly interesting comet showers or half lunar eclipses...oh childhood!

Why wouldn't you want to be familiar with the night's sky? Amazing things have been happening outside of the Earth's protective atmosphere but our observations of the night sky continue to answer far more questions than robots have so far. Chris Hadfield has just returned from an extremely fruitful 166 days in space. However all his experiments can't amount to the revolutionary observations such as 'the world is round' and 'the earth rotates around the sun' accumulated from centuries of people observing the night sky.

Space is the next frontier, so wouldn't you like to be able to point to a pinprick in

the sky and say "That's where Curiosity is. Yup, that's Mars"? It is a humble way of pointing out your acceptance of life and the endlessness of time. For instance this is excellent for showing off to your friends who can probably only find the Big Dipper. (The line "Hey, look at the moon, Neil Armstrong walked there" sounds slightly less impressive, although if you can pick out the International Space Station as it orbits the sky that would be pretty impressive).

In the end you only know that you don't know very much and there is a huge world out there full of things to learn. If Astronomy isn't your thing, check out the other free exhibits around campus like EIT's mineral and dinosaur displays or the assortment of taxidermied animals on the third floor of B1. The world is your oyster when you remain a child at heart.

Boston Bombing Impacted Greatly by Social Media

Continued from SOCIAL on Page 1

The Internet has been blamed for this problem as it allows access to radical ideas and terrorist propaganda. Youtube videos and online articles produced by extremists all over the world can spread across the internet, infecting otherwise isolated populations in western countries. Inspire, a magazine supposedly released by Al-Qaeda affiliates, is available online

and gives details on how to make a pressure cooker bomb similar to the one used in the Boston bombing and the failed Times Square bombing in 2010. These Youtube videos often combine religion and anti-western sentiment to justify terrorism. Similar videos were found on the brothers' Youtube playlists. From interviewing those close to the family, it appears that their family believed in conspiracy theories that are prevalent on

Youtube, including 9/11 denial. Youtube videos are in no way restricted to radical Islam, thousands of videos exist of various conspiracy theories, racist agendas and calls for violence. Also on YouTube, an interview of their Uncle Ruslan Tsarni strongly disowning the actions of the brothers became viral. It gave a fresh face to the Chechen people that perhaps improved the abrupt impression left on the Western public.

Social media allows information to flow unfiltered and unrestricted. This can be used to quickly notify loved ones and help each other in an emergency. Unfortunately it is also being used to nurture home-grown terrorism and propagate misinformation and racism. While the entertainment value of social media ensures its persistence, its negative effects on society can be minimized by increased awareness of the problems surrounding it.

Stressed, Anxious, or Nervous? You Aren't Alone



Dealing with mental health is a lot like dealing with money: many of us only realize how important it is once it's gone. However, trivializing mental health issues don't make them go away, and students and faculty both need to realize that mental health is a crucial part of a student's life.

Let's start by owning up to some of the facts we know about mental health, and how it affects your life as an engineering student.

1) Engineering is a stressful program. With thirty hours of classes a week, dealing with getting your next co-op job, juggling extracurriculars, managing finances, and figuring out how to take care of yourself, it's no wonder so many students experience difficulties trying to make it through the program. The first step to having good mental health is to accept and understand the amount of stresses and stressors that exist in your environment, and then to balance your life accordingly.

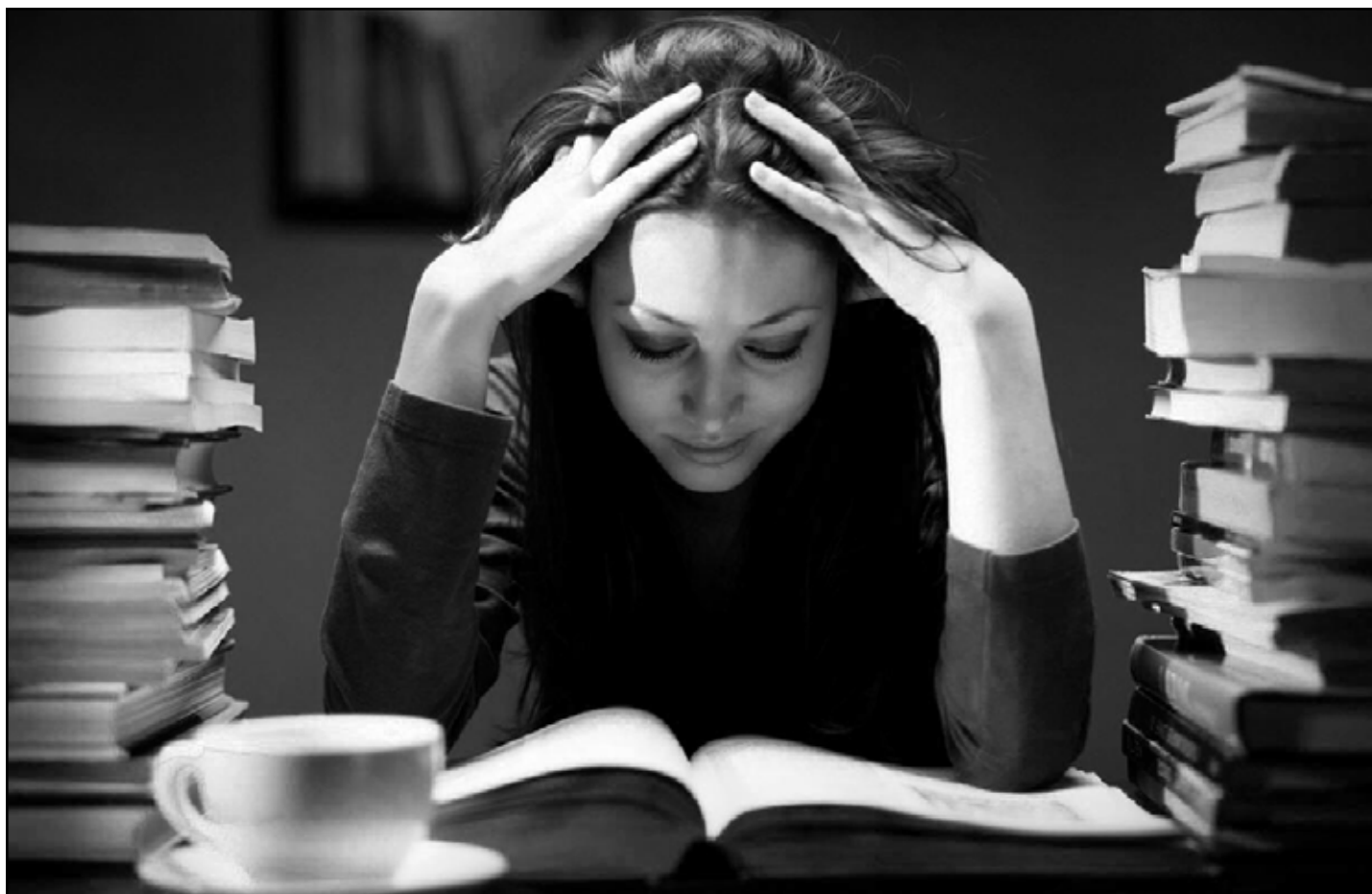
2) Not everybody has a mental health illness, but everybody has mental health. Mental health affects your thoughts, emotions, and behaviour, and as a result, maintaining good mental health is paramount to living a happy and successful life. Good mental health is the ability to cope with the stressors in your environment, while still being able to produce meaningful work. Mental health is not just the mere absence of a mental illness.

3) University students are at the highest risk for mental illness. According to a report by Statistics Canada, over 20% of Canadians suffer from a mental illness, and those highest at risk are in the 15-24 age group.

So, how do you know if your mental health is good or not? Take the following short quiz with information from *goodtoknow.co.uk* to find out.

Yes or No?

- I find it difficult to unwind after a stressful day.
- I rarely get 8 hours of sleep, or wake up frequently during the night.
- I exercise less than two times a week.
- I often overeat or don't eat enough most days.



celertiesaustralian.blogspot.ca

Stress and anxiety can manifest itself in many ways, including the inability to focus or get a full night's sleep.

- I'm always worrying about something in the back of my mind.
- I feel anxious or nervous quite often.
- When I get angry or upset, I find it very difficult to calm myself down.
- When I am sad, I stay miserable for a long time.
- I usually keep things to myself, and don't talk about what's bothering me.
- I feel controlled by deadlines, assignments, or commitments.
- There are many things in my life I would like to change but I find it difficult to do so.

If you answered "yes" to 5 or more questions, your mental health may not be at its best. The good news, however, is that universities are starting to realize the importance of mental illness, and there are many initiatives taking place across campuses to increase mental health awareness. If you're feeling overwhelmed by the burden of student life, here are some tips to help you cope:

1) Get a good night's sleep. Getting enough sleep can do wonders for your

mood, and can greatly reduce stress. Sleep can also help increase your physical and mental stamina when focusing on tasks or assignments. It might not seem as relaxing as socializing, or as productive as spending that extra hour struggling through an assignment, but it's one of the best things you can do for your body and your health.

2) Talk to a counsellor. Counsellors can help you sort out your priorities, give you exercises to calm your thoughts and emotions, and provide additional resources for support if you're struggling academically or in your personal life. Counsellors can also provide referrals to physicians and other mental health professionals if you feel you're struggling with a mental health illness. Counsellors are available both at the First Year Office in CPH (specifically for engineering students), and at Counselling Services in Needles Hall.

3) Call a Helpline. If you're struggling with stress or anxiety issues, and can't find any immediate resources for support, try calling a crisis line. The Grand River Branch of the Canadian Mental Health Association

(CMHA) offers a free Mobile Crisis Service. You can talk to a trained staff member who will provide confidential listening and support, as well as crisis intervention services. Use the following numbers to call the helpline:

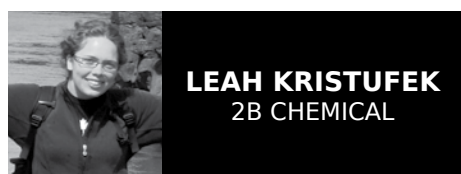
The Crisis Line: (519) 744-1813

The Youth Line: (519) 745-9909

(I've personally tried all of these services. Even if, at first, it seems uncomfortable or awkward opening up to a stranger about personal issues, it can be extremely liberating to say what's on your mind to someone who is so wonderfully non-judgemental and upholds confidentiality. These people are here to help. Give it a try.)

When dealing with mental health issues, it's important to remember that reaching out isn't a sign of weakness; it's a sign of courage. Rather than suffering alone, take advantage of the resources that are here to help you. Stay tuned for future issues to learn more about how to deal with the stigmas associated with mental health, as well as what to do if you know a friend who may be struggling with mental illness.

How NOT to Get Your Bike Stolen



For many students, bikes are the quintessential cheap mode of transport. However your bike can also be used by thieves to make an easy buck at your expense. Though bike theft is uncommon relative to the population on campus it is still a reality. Between 50 – 100 bikes are stolen every year and if you are a bike theft victim the impact is not small. Deprived of your speedy mode of transportation with short notice you will be forced to navigate the complex bus system, walk or (gasp) even take a taxi. Never fear, by taking the appropriate measures you can decrease your chances of being one of the unfortunate few.

How to protect your two-wheeled ride:

A sturdy u-lock is your friend. Unlike flexible cable locks which can inconspicuously be sniped through with wire cutters, sawing through a u-lock creates noise. It also requires more intensive machinery and someone stealing your bike is more likely

to be identified. This is the number one lock type recommended by campus police.

Lock up in major thoroughfares. The more potential witnesses around, the higher the chance a thief will be caught.

Make sure to put your lock through the front wheel AND the frame. Either could be easily stolen if unlocked. If there is nothing to lock the bike to, at least locking the front wheel to the frame will make moving the bike more difficult and reduce the chances of it being a target.

In case your bike is stolen write down your bike serial number so if the bike is found it can be easily identified. Engraving something identifying like your passport number in to the frame is also beneficial.

Pimp it out. The more obnoxious (ahem, I mean super fantastic looking) your ride, the easier it will be to recognize and the less likely someone will want to steal it.

There are of course more ways to protect your ride, but these are the main ones. Have fun biking around this year and the most important reminder of all, ALWAYS WEAR A HELMET! You might always pay attention and act predictably but I can guarantee others won't.



thisgirlsbike.blogspot.ca

Above shows the incorrect way to lock up a bike. The lock should secure both the front wheel and the bike's frame.

Bangladesh: One Tragedy, Global Responsibility



LEAH KRISTUFEK
2B CHEMICAL

In many parts of the world, poverty is recognizable by the number of sets of clothes you own. The more articles of clothing you own, the less poor you are. Cheap, affordable clothing for some people can be a status symbol, while for others it is an important part of expressing yourself. No matter what clothing means to you, when someone loses their life in the process it is time for a pause.

The tragic collapse of a plaza housing garment factories and shops in Bangladesh on April 24 has brought the true meaning of cheap prices to the forefront of first world consumers radar. As the final body count levels out around 650 the questions are beginning. How could this have happened, and more importantly, how can we keep this from happening again?

In retrospect what happened in Bangladesh was inevitable. Substandard materials, the addition of three unofficial floors and

vibrating machinery from five garment factories caused cracks to appear in the building. Despite a building inspection which caused police to order an evacuation, the building workers were assured that it was in fact safe and were told to go to work. The Plaza owner Mohammed Sohel Rana allegedly assured garment factory managers that it was safe just hours before the buildings collapse.

This brings about what is perhaps the biggest question: Who is to blame for this tragedy? Consumers whose desire for ever-cheaper products seems to increase every year? Companies who at best may not look too far past their balance sheets and at worst sweep the knowledge of dangerous working conditions under the carpet? Governments who foster corruption and value GDP over the well-being of the citizens? While everyone has some responsibility, how do we find an effective way to create change? Will companies try to take advantage of socially minded patrons by charging more but changing little? These are the questions companies like Joe Fresh, Walmart and H&M among others are ask-

ing themselves. Stay and help foster social change in a struggling country, or cut their losses and relocate to somewhere where labour is cheaper and they are out of the scrutiny of the public eye.

It is desperation primarily which makes people work in dangerous situations. In a place where people work 18 hour days not to get ahead but simply to survive social change is difficult when there are few other options. For many of the workers a garment industry job that involves working in what some might consider to be sweatshop conditions is the difference between feeding their loved ones and going hungry. In many ways this reflects Canada's struggles for unionisation and worker rights shortly after the industrial revolution. It is difficult to improve working conditions because employees who cause problems can be easily replaced. Furthermore if costs begin to rise too much, garment companies might simply choose to produce clothing in a different, cheaper country with cheaper labour costs.

These days we seem to want both social responsibility and reasonable prices from

our favourite brands. However it is difficult to weed out the caring companies from the indifferent ones based on prices alone. Expensive name brands are just as likely to have clothing items produced in Bangladesh factories as bargain brands. Because of widespread corruption on the ground it is often difficult to get the real story.

The solution will likely be a group effort, greater oversight from the global community and encouragement for country officials to act in a less corrupt manner. Companies may need to invest in their factories more because the countries themselves cannot provide the social assistance some people need to stand up and say no to unsafe conditions. Poverty may not be a thing of the past, in fact it will certainly be a part of the future, but disasters like this one in Bangladesh should be a wake-up call for people to invest in their neighbors, not just pick up and leave for the next cheapest place. As engineers, we in particular have the responsibility to take a hard look at our professional decisions. Sure a part might be cheaper, but what corners got cut to make them that way?

A Different Angle on Child Abuse



ANJIDA SRIPONGWORAKUL
2B MANAGEMENT

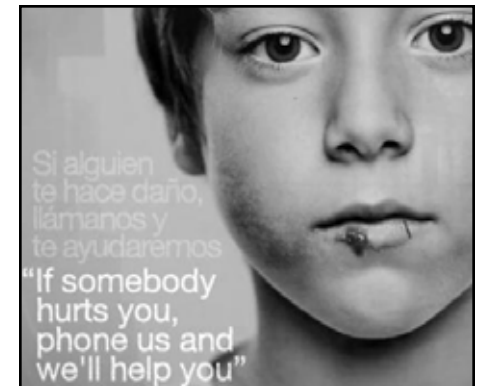
The Spanish children's advocacy group, Aid to Children and Adolescents at Risk (ANAR) foundation, has teamed up with an ad agency, The Grey Group, to distribute an ad aimed at increasing children's confidence to speak out on being abused.

The ad displays the face of a little

boy and employs lenticular printing (a technique normally used for 3D displays) to allow 2 views. One is a warning for adults (an expected 175 cm height) and the other is a message for children (an expected average height of 135 cm, and under 10 years old). For children, the little boy's face looks bruised, complete with a bloodied lip. The message "If somebody hurts you, phone us and we'll help you" and a phone number for an anonymous and confidential tip line also appear to children. For adults, the warning reads "Sometimes, child abuse is only visible

to the child suffering it." and no phone number accompanies the little boy's frightened, plain face.

Though ANAR believes the ad would prevent adults or abusers from threatening children to not call children's aid societies, the YouTube video promoting this ad is available online. It is possible that adults who have learned about the ad may steer children away and prevent them from interacting with the ad. According to the US Child Protective Service Agencies, 676,000 children were abuse victims in 2011, while 1,545 died from violence.



Anar Foundation

'Hidden' Spanish child abuse ad.

BRCA1 and BRCA 2 Gene Detection Patent Before the US Court Again



NANCY HUI
3N CIVIL

A patent is the right for its holder to exclude others from manufacturing, using, or selling an invention for a certain period of time, usually twenty years. The word "patent" brings to mind inventions like light-bulbs, motors, circuits: human-made devices and processes that do not exist in nature. The patent system was designed to reward innovation by granting a monopoly for its rights-holder.

In 1994, Myriad Genetics (MG) patented a method of diagnosing propensity of breast cancer by looking at the mutated DNA sequences BRCA1 and BRCA2 in the United States. BRCA1 and BRCA2 are responsible for producing proteins that repair DNA damage resulting from errors in cell division in the breasts. Although gene defects only cause 5 to 10% of breast cancer, carriers of the defective BRCA1 and BRCA2 genes have an 87% chance of developing breast cancer within their lifetimes.

That was not the first time the US had allowed for biological materials organisms to be patented. Substances like isolated adrenaline, purified insulin, and genetically-modified oil-eating bacteria have been all patented at one point.

It should be noted that MG's patent only applies to US distribution, and that Canadian women in high risk (i.e., belonging to

specific ethnic groups, or having a history of cancer) can have the test performed for no cost at a hospital.

Gene sequences and analytical methods have also been patented, including diagnosis of QT syndrome, which can lead to heart arrhythmia, and the HFE gene itself, linked to iron accumulation in the blood. MG's patent on BRCA1 and BRCA2 is not unusual. However it evokes a visceral reaction from patients and medical professionals.

MG charges \$3,000 per genetic screening. The patent also makes it impossible to get a second opinion because MG does not license the genes. Furthermore, the patent, though rewarding the innovation of MG, makes it difficult for other companies to do research because of the licensing hoops that must be cleared before scientific progress can be made.

From a more visceral standpoint, patenting part of the human body feels strange. Some would compare patenting a gene to patenting a novel method of severing a human limb. Others would compare it to patenting purified insulin, which is a discovery of great value. We could argue that the only difference is that, as humans, we feel less attachment to a vial of insulin than to a limb or a gene.

On the other hand, insulin was discovered in 1923. I don't know how difficult or innovative it was for MG researchers to isolate BRCA1 and BRCA2, but it is known that researchers around the globe had been searching for a genetic cause of breast cancer since 1988. I am inclined to

believe that it was more difficult to find a way to purify insulin in 1923 than to isolate genes and identify mutations in 1994. After all, the human genome project has already mapped nearly the entirety of human DNA, and many gene sequences have already been patented. For that reason, I believe that MG does not have a valid patent in its isolation of the BRCA1 and BRCA2 genes and associated diagnostic techniques to identify mutations thereof.

However, I can't help but think that there would have been a more ethical way to incorporate the patent into MG business model. Their current practice is to offer exclusive diagnosis services for mutations in BRCA1 and BRCA2 genes, at a premium price. MG could have instead licensed their techniques to other companies, so to allow consumers the freedom of choice and the ability to get second opinions on the results of their genetic screenings.

Even now, the gene patenting system is not ideal. While MG's patents expire in 2014, there remain countless other gene patents that potentially infringe upon future scientific discovery. Already, 2,000 isolated human genes have been patented in the United States. It would be extremely difficult and expensive for a research group to acquire the rights to legally investigate all the genes that might impact upon a genetic research project. The standard 20 years of protection provided by the patent system harken back to an earlier age when protectionism was unlikely to slow progress significantly, because scientific progress was slow. Nowadays scientists are more likely

to make discoveries nearly concurrently with their competitors, yet may be blocked from further investigations after their competitors have patented the innovation.

But that's not what the current lawsuits are about. The lawsuits focus mainly on the validity of patenting the BRCA1 and BRCA2 genes and associated diagnostic methods. For over three years, MG has been embroiled in a lawsuit against the Association for Molecular Pathology, the University of Pennsylvania, researchers at Columbia, New York University, Emory, and Yale, patient advocacy groups, and individual patients. The researchers and patients claim that genes are not patentable subject matter, being products of nature, and that diagnostic methods are merely thought processes yielding no real-world transformations. They also argue that the current gene patent system is unreasonably unfair to patients and researchers. MG counters that their patents are for "isolated sequences" which do not exist isolated in nature.

In March 2010, the District Court for the Southern District of New York ruled against MG. MG appealed, and in July 2012, the United States Court of Appeals for the Federal Circuit overturned the lower court's decision. The researchers, represented by the American Civil Liberties Union, appealed, and oral arguments were heard before the US Supreme Court on April 15, 2013.

Whichever way the cookie crumbles in this case, it will be a landmark ruling on the acceptability of gene patents in the US.

Purpling, Conferences and New Things!



LEILA MEEMA-COLEMAN
VP EXTERNAL

Welcome back Waterloo!

I hope you all had as exciting and productive co-op terms as I did and are excited to be back on campus! This term is going to be jammed packed, so watch out for lots of exciting new initiatives! To update you on what I was working on over the winter term...

Congress and First-year Integration Conference: I had the pleasure to take 5 delegates to the Canadian Federation of Engineering Students (CFES) congress in our very own Waterloo this January. Along with the all of the knowledge that was gained during the sessions, the new executive officers were elected and I would like to give a huge congratulations to Lisa Belbeck (former VP External) who is the new president of the CFES!! In addition, five AMAZING first years and I traveled up to Thunder Bay for a first year leadership conference which focused on ways to get involved, the sharing of best practices, and developing personal skills. I am so proud of all of the delegates who were all active participants and represented Waterloo so well. They all came away with many ideas and I can't wait to see what amazing things they do for our Engineering Society!

First Year Commissioner Position:

One thing our society can always improve on is supporting our first year students during their first term and welcoming them into the Engineering Community. On a recommendation from the faculty, we are working on completely revamping our Frosh Mentoring Program. Over the winter term I worked with the B-Soc VP Education Megan McNeil and created the First Year Program. It will feature a new position, the first year commissioner, who will be in charge of answering first year questions over the summer, a new first year section of the website, planning events in the fall term, and being the face of the Society to the first years. I will continue to be working on setting up this program and developing it more so stay tuned!

Charities and Outreach: Summer is a busy term for charities and outreach so all of my amazing directors and myself have been hard at work ALL winter preparing! To give you a heads up on some of the exciting events coming up, we have Charity Pancakes making its return every Thursday mornings, Change for Change week back with a new twist, PURPLEPALOOZA giving you the chance to re-live your frosh week and get purple while helping charity, Bottle Drives helping clear the clutter of your floor, and finally Engineering at The Museum giving you a chance to give back to the community and inspire some kids to love engineering!

CV's, Co-op and Counselling



DREW DUTTON
VP EDUCATION

Welcome back A-Society! Hope you all enjoyed a great co-op term! How awesome was uploading your JobMine resume in PDF this term!?! Hopefully that freed up some time to enjoy the lovely spring weather we're having. Even more exciting than the PDF resumes, CECA has recently signed a contract with Orbis, who will be replacing JobMine in the employment process here at Waterloo. Implementation timelines are still being developed, but more information should be available within the next few weeks. Orysia Soroka (your VP-Ed B-Society) and I will be meeting with a representative from CECA to learn more about what the Orbis platform is going to feature and how it will improve the employment process.

Continuing on the co-op motif, as many of you are aware the university has been contemplating, and in some departments implementing, 8 month co-op terms. I will be attending a meeting next week with the Engineering Co-op Working Group, where we will be discussing, among other things, the development of a student survey. It is our objective to represent the best interests of engineering undergraduate students to the best of our ability, but we need your

feedback! Keep an eye peeled for updates regarding when the survey will be running.

A new item on my agenda is a review of the counselling services available to engineering students here at Waterloo. For those of you who aren't aware, Counselling Services is a fantastic service that is available for you to speak with a counselor about anything from anxiety and depression, to relationship and substance abuse issues, to stress management, and much, much more! Of particular concern, however, is a long wait time for open counselling slots. Emergency counselling is always available for dire situations, but for many students with pressing concerns, while not emergencies strictly speaking, a three week period could be too long a wait for the counselling to be as effective. I would like to investigate what could be done to decrease this wait time so that our University's great Counselling Services can serve you even better.

Last but not least, I'm sure many of you are concerned about the email you received regarding fees before the start of the term. The email contained wording indicating that some students may need to pay more depending on how fees are adjusted in June as a result of the Ontario Government's new tuition framework. I will be looking into this and getting back to everyone with more information about what it means, and how the new tuition framework affects students.

Meetings and Changes (also, Hello There!)



DAVID BIRNBAUM
PRESIDENT

Oh hai there, didn't see you (for four months).

I hope you all had a great co-op term, and are super excited for this Spring term! My executive team and I got up to quite a bit over the co-op term and have a lot planned for the next few months. I will try to get as much of that information in here as I can, but as always if you have any questions or concerns, please email me at president.a@engsoc.uwaterloo.ca.

I have had a lot of meetings with the Dean, associate Deans, and many others in order to move forward on some great ini-

tiatives. We are currently working toward completely revamping the exam bank by partnering with the departments to have professors submit their exams directly to the Society. Associate Dean Loucks and I are hopeful that can begin sometime this term.

I have been working with Dean Sullivan in the creation of a new leadership scholarship program, which should be made available either this term or next term at the latest. It will be a program that rewards students that show exceptional leadership contributions to the faculty, university and Waterloo community. I have also been working with the Dean to gain access to the entire undergraduate mailing list for important updates, getting more student space in Engineering 7 and about getting our Society fees collected by the faculty.

We have also started an initiative to do a better job of getting student input on important issues, starting with whether or not students would like to see averages on their transcripts. I was very pleased with the turnout, but am quite hopeful we can continue to increase the amount of responses.

As well, we have worked to put a letter from the Society in the confirmation package that incoming students will receive, and are working on creating an Engineering Society textbook library, student deals program and much more. Keep an eye out for more updates on these throughout the term.

At the first EngSoc meeting of the term, our Council approved a few changes to our Bylaws, including adopting a brand new Policy Manual. All of the documents can be found on our website on the documents

page. We also started a conversation about changing the way our governing documents work all together. If this is something you are interested in, please be sure to contact me!

I am very excited to work on all of these initiatives, and more, in the upcoming term. I will continue to have meetings about all of these with the associate deans, as well I am being invited to talk at a meeting of the department chairs next month.

If you have anything you would like the Society, or me specifically, to work on, please let me know. We are always looking for ways to better serve the students. If you haven't already, be sure to join the mailing list, keep an eye out for more surveys (as you will have the chance to win an iPad), and just pop into the EngSoc office any time to say hi! Don't be a stranger!

Upcoming Events Calendar							
Wednesday May 22	Thursday May 23 ESSCO AGM Charity Pancakes 8:30 AM, CPH Foyer Interview Skills 4:30 PM, RCH 307 Running Club 7:00 PM	Friday May 24 ESSCO AGM GradComm Event 12:00 PM Enginuity Competiton 12:30 PM, POETS	Saturday May 25 ESSCO AGM Rock Climbing	Sunday May 26 ESSCO AGM 2017 Olympiad	Monday May 27 Change for Change Ice Tea Monday 3:00 PM, POETS Patio Photography Workshop 7:00 PM Running Club 7:00 PM	Tuesday May 28 Change for Change Coin Machine 1:00 PM, POETS Iron Warrior Meeting 6:30 PM, E2 2347 Running Club 7:00 PM Programming Workshop 7:30 PM	Check out up-to-the-day event postings on the EngSoc website at engsoc.uwaterloo.ca  
Wednesday May 29 Change for Change EngSoc Meeting #2 5:30 PM	Thursday May 30 Change for Change Charity Pancakes 8:30 AM, CPH Foyer Running Club 7:00 PM	Friday May 31 Change for Change Inter-faculty Soccer Tournament 2:00PM	Saturday June 1 SCUNT	Sunday June 2 Inter-faculty Dodgeball Tournament 2:00PM	Monday June 3 PostSecret Week Ice Tea Monday 3:00 PM, POETS Patio So You Think You Can Fly a Kite? 3:00 PM Running Club 7:00 PM	Tuesday June 4 PostSecret Week Colouring Contest Iron Warrior Meeting 6:30 PM, E2 2347 Running Club 7:00 PM	

Fwunderful Times Ahead!



**ANNAMARIA REDA
BRENDAN
O'HANLON**
VPS INTERNAL

You read it right, there are so many exciting events planned for this semester that no single word in the English language can convey how sensational it will be! We've already had an upbeat BOT party, a Dyson Award info night event, a pair of résumé critique sessions, and an exchange student welcoming. All your favourite engineering events will be running this semester, such as Engplay, Tal-Eng, SCUNT, Genius Bowl, Beach Day, and Semi Formal. Throughout the term, keep an eye out for reoccurring events like arts & photography contests, ingenuity competition, and pickup sports events. Remember, every time you or your classmates participate in an EngSoc event, you earn P**5 points. The classes with the three highest point totals at the end of the semester are awarded cash prizes! If you'd like to submit anything on behalf of your class for P**5 points, send an e-mail to: ptothehive@engsoc.uwaterloo.ca.

While having lots of fun events is always a good thing, we've also been planning a series of workshops for engineering students to improve their skills. These work-

shops include: Interview skills, Programming, Getting a Job Outside of Jobmine, and Microsoft Excel. Interview Skills is tomorrow in RCH 307 at 4:30pm, so come brush up with a practice interview, and if you'd like to volunteer, please contact me at: vpinternal.a@engsoc.uwaterloo.ca as soon as possible!

Every Monday, engineering students are invited to hang out at the POETS patio with the EngSoc executive for Iced Tea Mondays. This weekly event is run to encourage students to participate in dialogue with the executive, and of course, enjoy delicious iced tea. This is a good time to approach the exec with any suggestions, ideas, or questions you have about anything pertaining to EngSoc. Also, you can always come to the engineering office during the day to talk to us too.

That's all for now, so look forward to a fantastic semester, and even more cheesy word-mishmashes in this article in the future!

Money, Money, Money!



KEVIN MCNAMARA
VP FINANCE

Hey Everyone! Hope that you all had an awesome co-op term, and are looking forward to being back on campus this spring! The weather is great, and it's going to be an awesome term, including some cool finance related stuff!

Budgets: All directors should be working on their budgets NOW! They are due on May 24 at the latest, and if you get them in sooner then I will be very happy. The EngSoc budget for the term will be voted on at EngSoc Meeting #2 (May 29), and will be made available on the EngSoc website prior to this date. I encourage everyone to take a look at the proposed budget, and contact me with any ques-

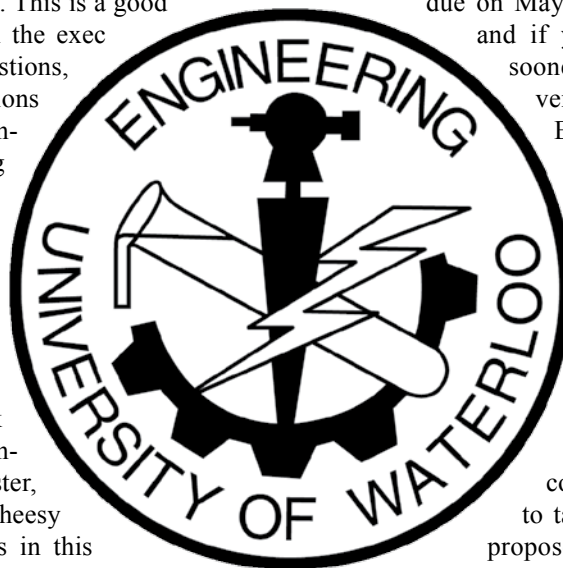
tions or concerns that you may have.

Novelties IS NOW OPEN! Check it out in CPH Foyer from 11:30-1:30 Monday to Friday to get your fix of EngSoc hoodies, t-shirts, patches, glassware, and much more swag. New this term, for every \$1 you spend in Novelties, your class will receive 1 P**5 point! Get your class looking awesome with some cool Waterloo Engineering stuff. Be sure to keep an eye out for Coverall Day, which will be in the next few weeks.

Sponsorship Request Form: I will be working on updating the sponsorship request form to make it easier for student teams and groups to understand what we are looking for from them, and so the process is clearer when they are requesting sponsorship.

Student Deals Program: We currently have two awesome directors working on developing the new EngSoc Student Deals Program that will allow you to save at some of your favourite places around campus for being an Engineering Society member. It is still in the very early stages, but keep a look out for some development in the upcoming months!

That's about it for this issue! As always, feel free to drop by the EngSoc Office, or send me an email at vpfinance.a@engsoc.uwaterloo.ca if you have any questions or suggestions!



Summer is Coming



LEAH KRISTUFEK
2B CHEMICAL

The evening was festive and not the least bit incestuous at the Beginning of Term (BOT) celebrations which took place Friday, May 10. Unlike the houses Barath-eon, Lannister, Stark and Targaryen the approximately 100 students and recent grads in attendance did not fight or squabble. However, name tags were circulated and attendees were forced to affiliate themselves with one of the four great houses.

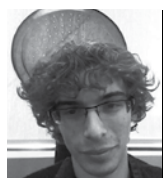
The excitement in the crowd mounted as the evening progressed; the Tools' eventual arrival eagerly was anticipated by the co-op drained masses. Rain may have dampened the world beyond POETS, but it could not dampen their spirits. Finally the moment long waited arrived. As per BOT

tradition the Tool was welcomed with the customary unruliness of the crowd and certain good tasting beverages being quickly consumed. In fact with the appearance of the Tool, none could have been closer except perhaps the Stark children and their Direwolves, and the Leafs and the Stanley cup. A video montage brought the memories of past term shenanigans in to sharper focus.

Once the Tool had departed the Hockey game was brought forth. A moment in history was being closely followed by all proud Canadians that night. The Leafs, sometimes awkward, sometimes slower than they needed to be, reached for the ultimate throne in the Hockey world... and with Bostons' loss they were one small battle closer in the greater war to conquer the southern neighbors. With that great victory the masses were released into the world, and a sea of red shirts journeyed forth to greater festivities.

While You Were Gone

Adventures With B-Soc



JOSHUA KALPIN
2B SOFTWARE

Hi fellow members of the awesome A-Soc and welcome back for another wonderful (except much warmer) term here at Waterloo. For those of you who were working in Waterloo and hung around campus last term, this article is going to be a rehash of what you already know from last term. For the rest of you, this is the tale of what happened at Waterloo last term while you were off in a far-away land.

First up, B-Soc had yet another election! Due to academic performance, both the VP-External and WEEF Director, who were elected in spring

2012, had to be replaced. As a result of this election, Kristina Lee in 2016 Environmental Engineering is B-Soc's new VP-External and Himesh Patel is the new B-Soc WEEF Director.

Feds also elected a new set of executive last term with "Team Yellow" victorious. This team was made of President David Collins, Vice-President Internal Devin Drury, Vice-President Education Adam Garçia, and Vice-President Administration and Finance Natasha Pozega.

On a more somber note, June Lowe, a fixture in the first year's lives and a dear friend to virtually everyone else, retired. There was a huge celebration party in honour of her plethora of contributions to Waterloo Engineering and numerous tributes to her. Her Summer strawberry daiquiri parties will surely be missed!

Additionally, last term was when we had to say goodbye (to most) of the class of 2013. Since it was a winter term, the 2013 grads were up to their usual shenanigans during Disorientation Week and IRC/IRS. There also happened to be a massive blizzard the day before IRS, shutting down the entire school for the day. This did not deter the grads who still managed to have a multitude of pranks such as turning E5 into a carnival and sending out a "fake" email saying that all engineers still had class during the blizzard.

In outreach and conference news, the university played host to the Canadian Federation of Engineering Students (CFES) Congress and sent delegates to the First Year Integration Conference at Lakehead. National Engineering Month was also incredibly successful this year with the Rube Goldberg Machine and K'NEX Bridge Building events as highlights.

There were also a number of other events that happened last term including Semi-Formal, Pubcrawls, and OTs.

Well, there's your brief summary of the comings and goings of last term. Here's to another term.

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Point Vs. Counterpoint

POINT

LUCAS LIM

3A NANOTECHNOLOGY

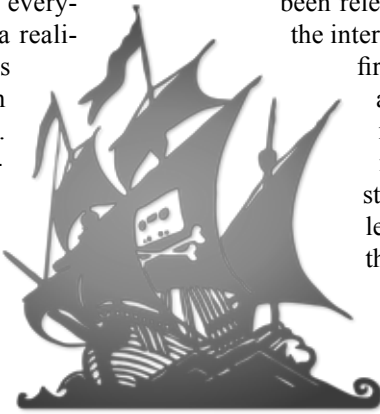
Defense Distributed revealed their 3D printable gun, named "Liberator," earlier this month. The 3D printer blueprints for the gun were downloaded over 100,000 times within 2 days after their release, before being seized by the US government. For Cody Wilson, CEO of Defense Distributed, the Liberator is a more than a gun: it's a new generation of open source physibles that aims to change the way we think about gun control and force the government to react to an unprecedented shift in distribution. If anything, this is a testament to the inability of the US government to react appropriately to this issue and the futility of gun control.

On May 8th, the US government seized the files necessary to create the Liberator, citing that it violates ITAR (International Traffic in Arms Regulations). Regardless of whether this decision was constitutional, it was most definitely useless in stopping the distribution of the blueprint. In fact here is the link to the torrent for the Liberator files: thepiratebay.sx/torrent/8443467. The regulation of physical goods is only effective when said goods are inherently difficult to acquire or produce. Home-made firearms, dubbed improvised firearms, have always been under watch by the government. These weapons are constructed with mostly common parts but remain very lethal. However, a certain level of skill and dedication is required, which has limited their potential

as a "gun for everyone".

The Liberator itself is quite unimpressive: a low caliber, single-shot pistol that is generally not capable of firing multiple shots before damaging the barrel or body. Still, it is a revolutionary innovation in its own right. Never before has the everyday citizen had such ease of access to their own firearm. Click. Print. Shoot. With 3D printer prices on the decline, a "gun for everyone" is becoming a reality. Moreover, this is the first generation of printed guns. Defense Distributed or other groups are undoubtedly looking towards improving on the design.

With the gun plans distributed on the internet, there is no stopping its distribution, only slowing it. How can current gun control laws or the removal of the plans from Defense Distributed's websites stop the distribution and ultimately the creation of this gun? In its current form, gun control laws are becoming less and less relevant. Mr. Wilson has stated that the Liberator aims to "kill the spirit of gun control entirely". It is up to US government to radically change the way they manage the production and distribution of guns in light of this development.



thepiratebay.sx

with the existence of this gun that are different than a standard firearm. The first is that it can be made by anyone without any skill required and can possibly be mass-produced to enter the black market. The second concern is that the gun would be mostly undetectable by standard metal detectors. Even though the ammunition would still be detectable there are already military versions of ceramic bullet casings. Of course this design is only the beginning. There is every reason to believe that 3D gun designs will continue to be improved, possibly allowing fully automatic weapons to be produced in the future within a civilian's home. Defense Distributed has already released CAD designs for printable M-16 parts, although a full semi-automatic gun is not yet

JAMES MACLEAN

3A NANOTECHNOLOGY

Earlier this month the company 'Defense Distributed' released the design for a 3D printable pistol. This announcement comes at a significant time. South of the border the debate over gun control has flared up after a series of fatal school shootings. The gun, named the "Liberator", has been released for anyone to download on the internet. The gun consists of 19 parts, fires a single .380 pistol cartridge, and requires that the entire barrel be replaced after each shot. It is crude by any modern weapon standards, yet it is deadly nonetheless. It can be printed on an eight thousand dollar 3D printer easily available to the public. Theoretically an unlimited number of guns could be produced by a single machine as long as the high grade plastic material is made available.

There are two security issues with the existence of this gun that are different than a standard firearm. The first is that it can be made by anyone without any skill required and can possibly be mass-produced to enter the black market. The second concern is that the gun would be mostly undetectable by standard metal detectors. Even though the ammunition would still be detectable there are already military versions of ceramic bullet casings. Of course this design is only the beginning. There is every reason to believe that 3D gun designs will continue to be improved, possibly allowing fully automatic weapons to be produced in the future within a civilian's home. Defense Distributed has already released CAD designs for printable M-16 parts, although a full semi-automatic gun is not yet

available.

The US government seized the information and requested the file be taken offline on May 8. The US Department of Defense Trade Controls cited concerns that the file had violated ITAR (International Traffic in Arms Regulations) which restricts the exporting of arms to foreign nations. Although typically ITAR controls physical weapons, the restrictions have included cryptography information and spacecraft designs. Although foreign countries are usually annoyed at the restricting US policies, they might thank them for taking action in this instance. While a single shot pistol is not a formidable weapon by American standards, the file has been downloaded in many foreign countries including those with very strict firearm restrictions.

There are some who believe that the nature of this gun will change the face of gun control. Their hopes are that if the guns are readily available restricting them would become pointless. It could be argued that this is already the case in the US where the majority of gun crimes are done with illegally obtained weapons. Arguments pertaining to a violation of constitutional amendments are moot. Currently there are and have been laws restricting the distribution and production of firearms and that have been ruled in court as within the constitutional rights of the US government.

This controversy could put a damper on the dream of 3D printers being used at a household level. Many producers of three dimensional printers imagine a world where everything one needs can be purchased online and printed out at home. Unfortunately with the good comes the bad. The ability to produce weapons so easily isn't a step in the right direction for a country that already suffers from pervasive gun violence.

Editor's Note:

Point Vs. Counterpoint is a feature meant to stimulate discussion on thought-provoking topics. The views and opinions expressed here do not necessarily reflect those of the authors, *The Iron Warrior*, or the Engineering Society.

Mandatory Small-Talk

The Sun Spot Cycle - Year of the Solar Cycle Maximum

IOANA CRAICIU

3T NANOTECHNOLOGY

This moment is brought to you by the sun. That hot, trembling ball of plasma, which you probably mentioned at least once today in your mandatory small-talk about the weather, is certainly the cause of both humanity and the weather.

The star we call ours is located about 27 light years from the center of the Milky Way Galaxy, in what we humans call the Local Fluff, inside the Local Bubble. It is a ball of plasma, and not a ball of gas, the difference being that in plasma electrons are decoupled from nuclei, whereas in a gas, they stick together to form atoms. The energy required to keep the nuclei and electrons apart comes from the same source as the sun's light: nuclear reactions.

The main type of nuclear reactions that occur in our sun are described by the proton-proton chain, where hydrogen nuclei (which are protons) are converted to helium nuclei. Other particles are also produced in this chain of reactions, like positrons, neutrinos, and gamma rays. Gamma rays are very high-energy photons, or particles of light. These gamma rays are

ultimately the source of the visible light we see when we look at ... anything. Between their creation in the center of the sun and their escape from the sun's surface, the gamma rays interact many, many times with the particles inside the sun and break up into many lower energy photons. This takes several thousand years. Then it takes another eight minutes for the same photons to reach the earth.

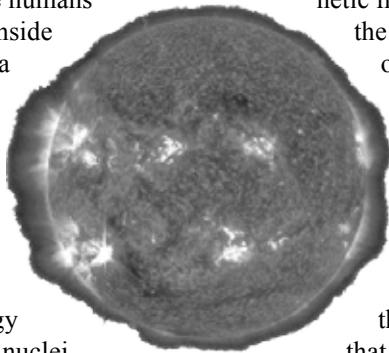
Much like the earth, the sun has a magnetic field dipole. This is because the sun is not just a giant ball of plasma, it is a rotating giant ball of plasma. Since plasma is made of charged particles, as the sun rotates, the charged particles form a current, which then creates a magnetic field. And all that plasma, rotating so fast that the sun spins around its axis about every 28 days, creates a magnetic field much weaker than a fridge magnet. But that's only the overall dipole. There are local magnetic fields at the surface of the sun that can reach thousands of times these strengths. These magnetic fields form a loop, half in the sun, half outside. Where the loop intersects the solar surface, two darker spots are formed, which we call sun spots.

Every eleven years, the sun goes through a cycle of minimum to maximum

"solar activity." This has been happening for a long time. Humans have been recording it for so long, in fact, that this year we're having our 24th recorded solar cycle maximum. The maximum corresponds to a maximum in the number of sunspots observed on the surface of the sun. Consequently, we see more solar flares, which are huge ejections of solar material associated with sunspots. Also during the solar cycle maximum, the dipole magnetic field of the sun flips. Its south pole ends up being where its north pole used to be in the previous cycle. Another feature of a solar

maximum is an increase in irradiance, or light energy coming from the sun. This includes an increase in ultraviolet (UV) light reaching the earth, which means we might be seeing higher UV indexes this summer.

If you want to learn more about the solar maximum, there is plenty of news coverage about it this year, and some beautiful images of solar flares can easily be found on the internet. More importantly, now that you know around twenty new things about the sun, imagine how much better (or worse) your small-talk is going to be.



nasa.gov

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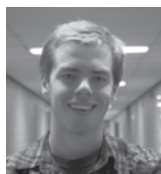
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The End of the Elizabethan Era

Where Does Canada Stand?



SPENSER GOOD
3A MECHANICAL

Amazingly, and unbeknownst to many citizens, Canada has had the same head of state for 61 years. Queen Elizabeth II has been the reigning monarch of the British Commonwealth and the Queen of Canada since February 6, 1952. In this time, the Queen has conferred over 404,500 honours and awards, she has sent 175,000 telegrams congratulating people turning 100 across the Commonwealth, she has experienced the service of 11 Canadian Prime Ministers (the first being Louis St. Laurent), 12 British Prime Ministers (the first being Winston Churchill), 12 American presidents (the first being Harry Truman) and 6 Popes. Most amazingly of all, despite all of her time in power and the endless scrutiny, the Queen retains an approval rating of 90% in the United Kingdom, and 73% in Canada. She has been an enduring showcase of stability in the Commonwealth in a world that has changed drastically since her inauguration in 1952.

However, the Queen just turned 87 on Victoria Day (although she is still 86 in the United Kingdom and several other commonwealth countries, and her actual age is 87, wrap your head around that), and thus with her increasing age comes accompanying health issues. In March of this year, the Queen was admitted to hospital because of stomach problems, and was subsequently diagnosed with gastroenteritis. She was treated and released the following day. However, since her hospital visit, the press has noted a decline in her official duties. The most notable case is her decision not to attend the meeting of Commonwealth heads of government in Sri Lanka in November of this year. It will be her first time missing this meeting since 1973. Her son Prince Charles will attend the meeting in her place. Also, when the Queen reads the British Parliamentary for the coming session her son will be at her side for the first time. The involvement of Prince Charles in duties usually reserved solely for the Queen has raised much speculation on the direction of the British monarchy.

If the Queen wishes to decrease her involvement in her role as monarch, she has several options, the first of which would be to take no official action, and just let Prince Charles take over the duties of the Queen.

However any official duties of the Queen, which in Canada are basically limited to appointing the Governor General who carries out the duties of the Crown, could only be performed by the reigning monarch. Her second choice would be to abdicate. Abdicating is the act of giving up the throne, and in this case it would be taken by the next in line to the Queen, or Prince Charles. An abdication of a Commonwealth monarch has not been seen since King Edward VIII, Queen Elizabeth II's uncle, gave up the throne against the advice of the Royal family, the British Parliament and the Church of England, so that he could marry American divorcee Wallis Simpson. This occurred in 1936, shortly before the chaos of the Second World War, and is considered one of the greatest embarrassments in the history of the British throne. Due to the infamy surrounding Edward VII's abdication, and based upon word from sources inside Buckingham Palace, it is extremely unlikely the Queen would ever choose this option. There is however a third option that would allow Prince Charles to perform royal duties officially that would not require abdication. This would be his promotion to Regent.

In a Regency, Prince Charles would ideally be able to perform all of the Constitutional actions of the Queen in the entire Commonwealth. In Britain, the Regency Act permits this, and Prince Charles would effectively become King, except for in name, and would act as the Head of State. This is also true in Australia and New Zealand, where there is legislature that would allow the Regent to act as Head of State. However, in Canada no such legislation exists. This means that although Charles would act as the 'de facto' reigning monarch, only the Queen would be able to perform the duties anointed to the throne. This would mean that in Canada, either legislation would have to be drafted to allow Prince Charles to perform official duties, or the Queen, if able, would have to continue to perform her main duty of appointing the Governor-General.

However, for the Monarchy, their least concern is the constitutional difficulty in Canada of recognizing a regent. Instead, it should be the how the public would receive a change of monarch who for most has been the face of Buckingham Palace for their entire lives. Although there have been moments where her character has been questioned, most notably during the aftermath of the death of the former Duchess of



Department of Canadian Heritage
Portrait of Her Majesty The Queen of Canada during her 2002 Jubilee Visit.

Cornwall Diana in a car crash, overall the Queen has enjoyed overwhelming approval throughout the Commonwealth for the entirety of her reign. Even in Quebec, where 80% of the population favours the abolishment of the monarchy in Canadian system, 53% of residents still believe the Queen has done a good job. Prince Charles, however, is a far less popular figure. Even in Britain, where 69% of respondents favoured the continuation of the Monarchy, only 39% agreed that the Crown should be passed to Prince Charles. In Canada, a recent poll showed that 8/10 Canadians believed that once the Queen's reign ends, so too should Canada's tie to the Monarchy.

This is a figure that may or may not be changed by a decision in which Prince Charles would agree to allow Prince William, his son and recent husband of the extremely popular Kate Middleton, to succeed to the throne once the Queen passes. However, Charles' recent involvement in duties usually reserved for the Queen suggests this is also unlikely. Charles' lack of popularity is largely due to some gaffes with the press and most notably for his widely perceived and highly publicized mistreat-

ment of the highly esteemed Diana and his adulterous relationship with the current Duchess of Cornwall, Camilla. If Charles were to become King, the even more unpopular Camilla, often the butt of jokes for her less than pageant like looks would become Queen. Although superficial, most Canadians would likely prefer the youthful William and Kate as the ruling couple then the sixty-something balding and much maligned Charles and his wife Camilla, who fairly or unfairly will always be associated with the Diana saga.

In the end, the Queen has done well. She has been a symbol of stability throughout the entire Cold War, several high profile wars in the Middle East and in the Falklands Islands, and within Canada she has maintained good relations with Prime Ministers and Governor Generals of all kinds. Despite her age, she too has modernized with the world, she first sent an email in 1976, she loves the Wii, she has an iPad and she now has a Facebook page. However at 87 years old, the Elizabethan era is coming to an end. The question that remains is will there be a Charlesian era, and if so, will Canada be a part of it?

Students Suspended on Lack of Immunization Paperwork



NANCY HUI
3N CIVIL

Thousands of high school students in Ontario face suspension for having incomplete immunization records, despite repeated reminders to complete their records.

The Ontario Immunization of School Pupils Act (R.S.O. 1990, c. I.1) requires that "The parent of a pupil shall cause the pupil to complete the prescribed program of immunization in relation to each of the designated diseases," which are diphtheria, tetanus, polio, measles, mumps, and rubella. Students who can't be immunized for conscientious, religious, or medical reasons can submit a legal exemption instead. A parent who neither has their child vaccinated nor submits an exemption is "guilty of an offence and on conviction is

liable to a fine of not more than \$1,000." Alternately, a medical officer of the health "by a written order may require a person who operates a school in the area... suspend from attendance at the school a pupil named in the order."

Now, as early as last November, municipal public health units have been distributing warnings to parents to submit proof of vaccination. Suspending students to remind their parents to contact public health units seems twisted. After all, the students themselves have done no wrong, and suspensions are usually applied to bad student behaviour.

One could argue that the suspensions are to protect the health of other persons at the school – specifically, unvaccinated students who have submitted an exemption and teachers whose vaccination records have been lost to the sands of time. One could also argue that the suspensions are to protect the health of students with a missing vaccination record by keeping them out

of schools, which are cesspools of cheap cologne and bodily fluids.

However, the Act targets vaccination records rather than having had vaccinations in the first place. Once the suspended students come back, with either an exemption or a vaccination record, the unvaccinated students still pose a danger to themselves. You would have medical, moral, and religious vaccine-rejectors running around the school anyway.

Furthermore, any significant danger posed by a student with missing records would be best mitigated by suspending the student immediately after administrative officials realized that their vaccination records were missing. However, each student was sent home with reminder letters for months before being suspended. That's months of allowing potentially unvaccinated children to stew in the aforementioned cesspools of bodily fluids and cheap cologne that are schools. Thus, with the current system, barring a student

with an incomplete vaccination record from school is not an effective way of increasing public safety, and is clearly meant to correct the parent or guardian's forgetfulness by using the presence of lil' Jimmy or Sarah loafing around the house instead of loafing around at school, refreshingly out of the way.

In any case, health officials should first seek to fill in incomplete immunization records by contacting health providers, or through an electronic database. This is a hopelessly naïve statement, especially after the eHealth Ontario scandal in 2009. Furthermore, most students in high school right now were born from 1995 to 1999, meaning that their records are probably still sitting in a grotty filing cabinet somewhere.

Since this is an administrative concern, and the immediate safety of the students is not at stake, I wonder if a parent would respond more effectively to being threatened with a \$1000 fine than with the threat of suspending their child from school.

Lizzie Bennet Diaries, Squaresville, Hipsterhood



**NACHIKET
SHERLEKAR**
2B NANOTECHNOLOGY

TUBE IN TO THIS

Greetings. We are the Millennial Generation, raised on cartoons, and consumers of fake ketchup and indie rock. Over the past couple of decades, there has been a dramatic change in the way that we create and absorb content, the most significant being the rise of the internet as an accessible form of media. In particular, YouTube has proven to be extremely successful in terms of the ease of content creation and consumption. YouTube initially started off as a platform for amateur musicians and filmmakers to showcase their content. Now, the amateurs have become professionals, and there is a slew of great content out there, including a variety of web shows. This new column is dedicated to reviewing and generally getting the word around about good YouTube shows and series. So grab a drink, take a seat and come learn about some of the best web shows currently out there.

The Lizzie Bennet Diaries:

youtube.com/user/LizzieBennet

A good introduction to the world of YouTube web shows is *The Lizzie Bennet Diaries*. Conceived by YouTube heavyweight Hank Green, and based on Jane Austen's *Pride and Prejudice*, it



youtube.com/lizziebennet

Ashley Clements plays Elizabeth Bennet in the YouTube adaptation of Jane Austen's *Price and Prejudice*.



youtube.com/squaresville

Zelda Waring, Played by Mary Kate Wiles, is the Main Charcter is the YouTube Series *Squaresville*.

explores the life of 20-something Lizzie through her video blog (or vlog) as she deals with a pushy mom and an uncertain future. The series began in April 2012, and progressed in a real-time fashion up until the end of March 2013. The creators have done a great job of setting the iconic 19th century novel in the present day. Lizzie is a graduate student in mass communications who starts her vlog as part of a project. In addition to the main vlogs, there are Q&A videos, as one would expect on a normal vlog

as well as spin-off content by Lydia, Lizzie's sister, and a few other characters. Individual Twitter accounts were also maintained for the characters, all of which added a level of authenticity to the plot and characters. Character development is beautifully depicted in the show. Lizzie and her sisters make mistakes and learn from them, and truly grow as people over time.

Squaresville:

youtube.com/user/squaresvilleseries

Another very well scripted and directed web show is *Squaresville*. *Squaresville* stars Mary Kate Wiles (who plays Lydia Bennet in *The Lizzie Bennet Diaries*) as Zelda, a fun-loving and rebellious teenager who is constantly trying to sort out her insecurities and beliefs in what is wrong and right. *Squaresville* is currently in its second season, and though plot development has taken a temporary back-seat, the show is still quite engaging, with recent episodes showing weird and wonderful everyday conversations between the characters, sort of reminiscent of *Pulp Fiction* (except without the blood and cussing, and between kids instead of hardened criminals – so not quite actually). More recently, the show has featured monologue videos, where individual characters break the fourth wall and talk about the intimate, private and silly thoughts that occupy their heads. Overall, *Squaresville's* production quality is on par

with a lot of TV shows out there, and offers a fresh and more realistic take on teenage life and the trials that accompany it.

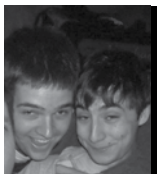
Hipsterhood:

youtube.com/user/iplish

The final web show I'm going to talk about is *Hipsterhood*. *Hipsterhood* calls itself, "a web series, ironically," and deals with the awkward yet hilarious situations that arise when two individuals, a guy and girl, encounter each other repeatedly at different settings in arguably the most hipster place in the world – Silver Lake, Los Angeles. The characters don't actually talk for most episodes; instead, the majority of the lines are voice overs of the thoughts that go through their heads as they go about their day-to-day activities. Over time, the main characters build up an image of what each other is like; their jobs, interests, daily routines and hobbies, yet they approach each other and have a proper conversation. This culminates in a chance meeting at a party of a mutual friend. The episodes have quick back-and-forth soliloquies that pass through the characters' heads, which works well with the encounters they have, and results in a hilarious 2-3 minutes per show.

That's a wrap for this issue of *Tube In To This*. In the next issue, I'll be covering the delightfully witty (and totally not annoying puns) that come with the adventures of *Annoying Orange* and friends. Stay tubed!

A Curious Parrot Drinks a Orage Peel Ale



GRAEME SCOTT
4A CHEMICAL
A-SOC CREW
GHOSTS OF EXEC PAST

GETTING GOOD HEAD

Good day kind readers. It's a new term, so you know what that means....new beers! It has been more than a whole month since our (my?) last column. As Eric is currently out of the country (he probably wasn't deported), I am here writing my article with one member from each of the four past A-Soc Exec teams. Those people are; Current VP-Ex Leila Meema-Coleman, Previous VP-Ed Derek Thompson, Previous Previous President Tim Bandura, and Previous Previous Previous VP-I Tim Bandura. Derek and Tim were both very helpful in sampling the beer, providing valuable input, but Leila made me lose at Cribbage AND Euchre, in addition to not drinking the same beer, so she is temporarily shunned.

Today we have decided to test out two

beers, mainly because one beer was not enough, and hey, why not. Drink responsibly kids!

The first beer we tried was *Curious Parrot Blonde Ale*. This was ordered entirely because of his name as it amused us, but also... intrigued us. *Curious Parrot* is a new beer coming out of Mill St. this summer in their Summer Sampler Six pack, which is cool because of alliteration. The label has a parrot in glasses on it, which apparently makes him curious. Personifying animals is always fun, imagine an inquisitive hippo... I know you're enjoying that thought.

Back to the beer! *Curious Parrot* is a very nice orange colour. The head is light beige and foamy with a lot of lacing. It doesn't have a very strong aroma to it (my nose is a little stuffy so I had to ask Derek) with a hint of hops and fruit to it. The beer itself isn't particularly flavourful, but does have a good taste of hops to it. It also could use a bit more fruity flavour. It was definitely a good beer, and very much worth the buy, but it isn't very wowing. Now let's go to the panel.

Previous VP-Ed Derek Thompson: "I thought the label was super cute, it had a birdy on it. But for cereal, the flavour was somewhat hoppy but it didn't kick me in the face, which isn't necessarily a good or bad thing. It didn't stand out."

Previous Previous Previous VP-I Tim Bandura: "I was curious about it, because I heard it was a hoppy beer, but not as hoppy as *Grasshopper*, which is a tad too hoppy. However the initial onrush of sweetness followed by a breach of bitter hops was an interesting and altogether not an unpleasant taste."

Current VP-Ex Leila Meema-Coleman: "I prefer Curious George, end quote. That was a short quote."

On the whole *Curious Parrot* receives 2.8 Surly Bartenders out of 5 Surly Bartenders.

Beer number two was *Orange Peel Ale* from Great Lakes Brewery. Tim decided on this one, or Derek, or me. We all agreed I guess. Leila, once again did not partake in our beer of choice. Also Elizabeth Foran came, and also drank a different beer. She

was also shunned.

The beer also has a nice orange colour to it (Surprise!) with a small foamy head to it (unless you're Tim, who has trouble pouring beer sometimes, then the head is huge). It also has nice amount of lacing to it, much like *Curious Parrot*. It a stronger odour than *Curious Parrot*, with some very strong citrus tones (again, very surprising). The beer has a very strong orange flavour, almost like a marmalade, and is rather dry with a nice hoppy finish. I find it to be quite delightful and it would make a very nice beer to sit out on a patio with. Now to the panel.

Previous VP-Ed Derek Thompson: "I have to pee."

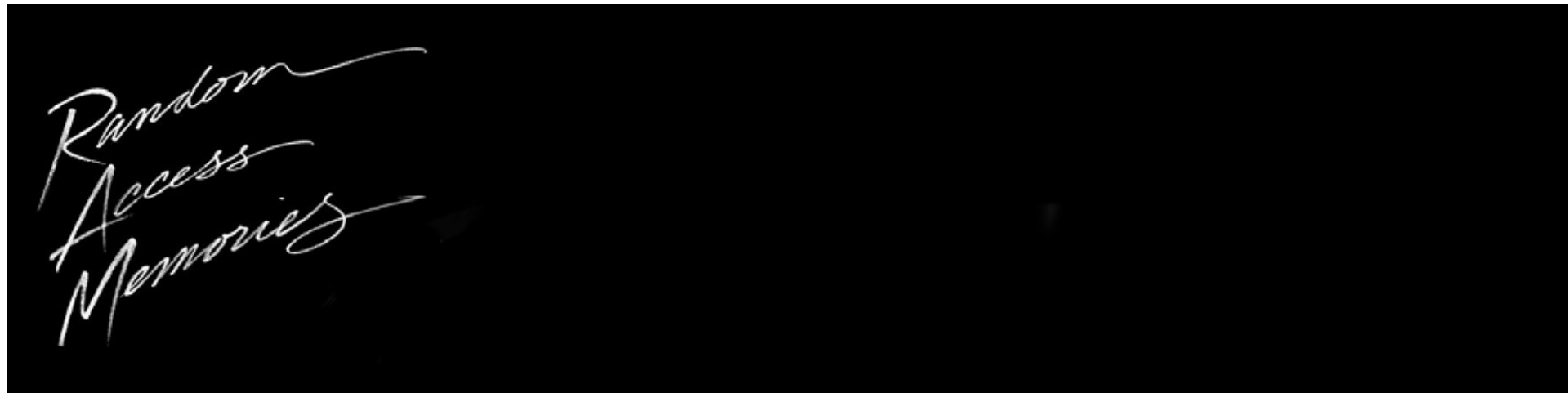
Previous Previous President Tim Bandura: "It had a pleasant citrus aroma, and was altogether an easy drinking experience."

Elizabeth Foran: "I didn't like it, it was bitter and gross." This is why I shunned her.

All in all, I give it 4.2 out of 5 Surly Bartenders.

See you all next week, where we will discuss crack and fridge maintenance.

Daft Punk - Random Access Memories: Review



LUCAS LIM
3A NANOTECHNOLOGY

The French duo Daft Punk have finally released their highly anticipated album *Random Access Memories*, but does it live up to the hype? Here's a track-by-track review.

1) Give Life Back to Music

An eclectic mix of glittering synth and 70's rock gives way to a funky, upbeat guitar track undoubtedly played by Nile Rodgers himself. Vocodered voices command you to "Give life back to music", Daft Punk wants to bring back the soul that gave music emotion, something they did extremely well with this track.

2) The Game of Love

"The Game of Love" takes you for a spin with its slow tempo, melancholy tone and seductive vocals. Daft punk sets the stage with a robot playing the game that is love - reminiscent of "Something About Us" from their album *Discovery*.

3) Giorgio by Moroder

Giorgio Moroder narrates his musical rise to fame over a subtle disco/synth track. Following "My name is Giorgio Moroder, but everybody calls me Giorgio", a sharp, arpeggiated synth line takes over, bringing us back to a '70s discotheque. The sudden cuts in the synth/electronic background replaced by orchestral arrangements were perfectly placed and executed. One of the best tracks on the album.

4) Within

Another sudden shift in mood occurs with a moving piano intro. Compared to buoyant atmosphere of the first track, "Within" turns another direction, featuring a vocoder singing about being lost and not understanding his place in the world. Well crafted, but forgettable.

5) Instant Crush

A synth intro is followed by the vocodered

(surprise!) lyrics of Julian Casablancas, singing about his relationship with his wife Juliet. Disappointed by his inability to spend more time with her he sings "I want to take you to that place near the rush, but no one gives us any time anymore". Light on vocoder, heavy on emotion, this song is a fresh turn from the previous tracks.

6) Lose Yourself to the Dance

Nile Rodgers graces us again with a slick guitar riff played behind Pharrell Williams telling us to "Lose Yourself to Dance". Another groovy, upbeat track with catchy vocals and a liberal use of vocoder.

7) Touch

An 8-minute epic with a truly eccentric mix of sounds. From sci-fi blasters to child choirs, this track has it all. An unusually long (1:45) and stagnant intro is soon erased from memory as the gears of this vast track start to turn.

8) Get Lucky

An extended intro and delayed lyrics sets the album version apart from the single. The vocoder takes over later in the song and is perfectly placed in contrast to Pharrell's vocals. This is the definitive version that is clearly superior to the radio edit. Hopefully, 6-minutes of sensual, funky, disco groove will get you lucky.

9) Beyond

The intro sounds similar the 20th Century Fox opening, which isn't necessarily a bad thing. However, the build up from the intro is lost to a drab, monotone vocoder singing a melancholy tune to a repetitive synth/drum background.

10) Motherboard

An ambient track free of vocals, "Motherboard" reminds me of Royksopp's "Eple", creating a grandiose atmosphere with vibrant synth and crisp percussion. The outro is especially notable with a dreary synth line that comes crashing to a halt with the sound of water fading away.



randomaccessmemories.com

Random Access Memoires is Daft Punk's Fourth Studio Album.

11) Fragments of Time

Todd Edward's attempt to step away from the sounds of his track "Face to Face" on Daft Punk's 'Discovery' falls flat. His vocals over an old western themed guitar track fail to deliver the same level of depth, emotion and eccentric editing as his previous works.

12) Doin' It Right

"Doin' it Right" is marred by its simplicity. Being the most basic and bare bones track of the album, there is a clear lack of substance in this song leaving you wanting more.

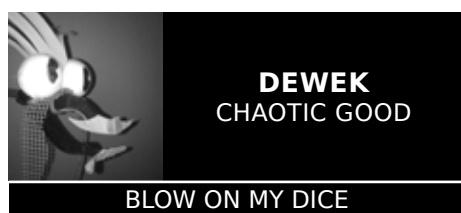
13) Contact

An absolutely brilliant track that is eas-

ily the best in the album. In the intro, an astronaut describes an unidentified bright object in space. It's the robots themselves ready to enlighten us with their style of music that combines elements of pop-synth taken from Justice and 'Aerodynamic' guitar riffs. Big drum solos and a huge build in the middle takes you on an epic journey into space at light speeds. A fitting ending to one of the most anticipated albums of this year.

This album was greatly anticipated by old fans and newcomers alike. While I enjoyed the album as a whole, there were several songs that needed much work and felt out of place. Nevertheless, this album will undoubtedly be sampled by other artist for years to come.

Deception, Spies, and a Lot of Yelling



Good day my fine readers. Today I would like to introduce to this (hopefully) new column in our fine paper news receptacle (*The Iron Warrior*). The goal of this column is to both introduce new board games and report on my personal experience playing said game! All that out of the way, let's get down to today's game of choice: *Resistance*.

Resistance is, at its core, a game of deception. On the outside, however, it is an excuse to rowdily yell at your friends. The game of plays out the story

of a rebel group against the oppressive futuristic government...or something like that. Frankly the actual background isn't all that important. It just provides the "background" for the two separate roles, "resistance member" and "spy." At the beginning of each game, a set of cards coloured red and blue are shuffled and handed out, face down. Those dealt a blue card are the "Resistance." Those dealt a red card are the "spies." Through a series of awkward phrases and shut eyes, the spies find out who each other are. The "Resistance" does not initially know who the spies are. The next step is to go out on a set of 5 "missions."

Each mission requires a specific number of participants. The participants are chosen by the "leader" (the leader changes each turn by passing to the next person in the

clockwise direction). The participants may choose to succeed or sabotage the mission (chosen in secret, of course, by another set of face down cards). Now one might be thinking "why would a resistance member ever want to sabotage the mission?" The answer to this is that it is accepted that resistance members must always choose to succeed. Spies though, they be tricky. They do what they want! This plays into the two separate goals: resistance members must succeed three of five missions while spies must sabotage three of five.

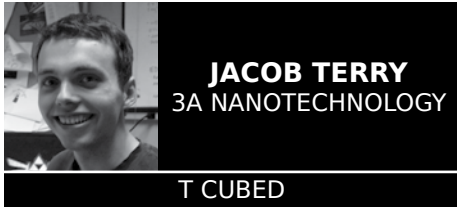
Without going into any more detail (seriously, the rest of the game just yelling at each other as the spies try to stay secret and the resistance tries to determine who the spies are) I would like to give this game a rating in my new (obviously not arbitrary) system. This game has succeeded

in rolling a 6 and a 4 (when rolling 2 D6s. Get used to this rating system). That's 10 out of 12.

The next step is to describe my personal experience with this game! Yay! I am here today with Tim Bandura, Graeme Scott, Leila Exec, and Elizabeth Foran (for further descriptions, see the article "Getting Good Head"). First of all, Tim kept getting spy. Again. (We played before and Tim kept getting this woman spy card). This didn't change, Tim STILL kept getting the spy cards. He is a really good spy. Turns out Leila is too giggly to be a good spy. Much yelling ensued. Tim won every game. Including the one time he WASN'T a spy. TL;DR, Tim is really good at board games, Leila smiles too much to be a spy.

Thanks everyone! Next week, new game!

The Move to Subscription-Based Services



Adobe surprised many at its Max conference earlier this month when it announced that it would no longer be selling Creative Suite, one of their most popular products, which offers Photoshop, Dreamweaver, and other professional design applications in a bundled, one-time purchase. Instead, Adobe is suggesting people move to its relatively new Creative Cloud service, which offers the same applications for a monthly subscription. Converting to a purely cloud-based, subscription model was unexpected, yet with a little foresight and a look at Adobe's competition, it shouldn't be too astonishing that they are already making the jump to this new business model.

Microsoft's latest release of Office has shown that they are also interested in converting to a subscription-based model, as there is a heavy marketing emphasis on Office 365, the subscription version of Office, and its benefits, similar to how Creative Cloud was portrayed for the past couple years. Office 2013 is still available as a standalone, one-time purchase, but

there are features in Office 365 that are not available in standalone editions, like the ability to use Office on any operating system without having to pay for separate editions. Yet, Office is still available in an isolated package like it always has been, allowing people uncomfortable with the idea of regular upgrades to still purchase the latest version of the productivity software.

One key point in many subscription models that causes division in users is that they usually don't allow you to use the software past a given expiration date. Packages you purchase once and don't pay for again usually can be used as long as you want, which lets people choose which versions of software they would like to upgrade to and which ones they would like to skip. The upgrade model for many of those who used Adobe's software usually followed this scheme, since most people found it too expensive to upgrade every year when a new version was released.

Companies moving to subscription models claim they are forced to due to piracy concerns. Adobe's products are some of the most pirated products worldwide, particularly, Adobe Photoshop, which Adobe claims was illegally activated 55 million times last year. It's clear that the move to Creative Cloud reflects Adobe's

attempts to curb piracy rates, but the restrictive level of options and the lack of ownership over their software has caused considerable backlash among users. Most subscriptions, like those for *World of Warcraft* and other MMOs, don't suffer as much backlash because their subscription models have a higher perceived value than traditional software, and users are more comfortable with the idea of paying a monthly subscription for multiplayer games that receive consistent updates. People also typically view these games as having a unique value that can't be replicated elsewhere, whereas there are cheaper alternatives to photo editing one can use if they aren't willing to pay for Photoshop.

The biggest struggle for subscription-based models is that many are starting to offer free, ad-supported, or micro-transaction models. The rise of *League of Legends*, a game whose roots lie in a modification of *Warcraft III*, a predecessor to *World of Warcraft*, is a prime example of how free software has been offering considerable competition to software that has become more expensive. While someone might be willing to drop \$50 on a game to play forever, there is a mental barrier to overcome between that and paying \$12 every month to have the right to play it, and that drives people towards cheap or free models. *League of Legends*

is still able to make money off Riot Points, an in-game currency, which can be used to purchase champions and 'boosts' to enhance the gameplay experience. Google has shown an ability to compete with Microsoft Office with the document editing tools in Google Drive, which is sufficient enough for the needs of some. While people in mathematical fields might find that Google's suite doesn't offer enough in the way of complex formulas or equation support, the vast majority of people are beginning to feel that Google has given a compelling enough offer for them to not need Office anymore.

Likewise, as Adobe starts dividing its user-base with Creative Cloud, alternatives that will satisfy the needs of the average user will arise. GIMP and Inkscape, while not the most user-friendly programs, have shown themselves to be compelling alternatives to Photoshop and Illustrator if one is strapped for cash. Numerous Dreamweaver alternatives such as Coda, Microsoft Expression Web and Notepad++ have shown promise. Certainly, Adobe and others who make the move to subscription models will find some users will come along for the ride, but it may turn out well for their competition as more user-friendly and inexpensive options come to claim the masses turned off by their new business practices.

'Nevermore'

The Raven



Hello readers of the A-Society and welcome to the first edition of the *Short Short Review* this term. Just as a refresher, in this column I attempt to review a short film or story in a really short number of words. To start things off this term and because I saw an awesome concert sort of related to this piece, I'll be reviewing the Edgar Allan Poe narrative poem, *The Raven* in 313 words because I can.

The Raven tells the tale of a man who has recently lost his lover and is trying to forget this loss. He hears a rapping at his door and is confused when no one is there. Another rapping happens and when he goes to check again a raven walks into the room he is in. The man then asks the raven its name and it replies "Nevermore".

This is a gross simplification of this incredibly deep poem and I've also left out the ending, so as to not ruin it. The poem itself is written in incredibly rich language that may require a dictionary to look up some of the older language that Poe uses. The poem also follows an interesting but complex rhyming scheme (ABCBBB) that I'm not going too into here, because it is really freaking complicated.

The Raven sets a sombre mood using these elements and it reads like a song. There is also a lot imagery presented in this poem, with the raven representing darkness in the man's life and many other things that I left out for brevity's sake.

To wrap things up, *The Raven* is a tough but immensely enjoyable poem. I'm going to give it 4 raven wings out of 5 because it is difficult to approach for those that are not heavy readers. So that is all for this week. Next week I'll be reviewing something completely different and awesome. Stay Tuned!

Chris Hadfield's Space Renaissance

Revitalizing Canadian's Interest in Space through Social Media



There are no visits to the moon nor high-profile Space Shuttle launches, but stories about Canadian astronaut Chris Hadfield have become so prolific that he has become a household name. This is a major feat for an industry that dramatically quieted down after the cancellation of the Space Shuttle program in 2011.

Outside of the Mars rover launches, which experienced mild news coverage when the Curiosity rover landed in August, there has been disturbingly infrequent interest in space programs in the last couple of years. This took a positive turn when Hadfield was launched to the International Space Station in December, sparking a social media conversation that gained an unprecedented following for a scientific topic. His 336,000 Facebook likes and 980,000 Twitter followers have proven a testament to the popularity of the Canadian astronaut, who interacts daily with the people who show such interest in his daily life.

Perhaps why so many people have chosen to follow Hadfield's adventures is be-

cause they offer such a unique glimpse into life in space. Past spaceflights have been filmed, yet the footage is usually not disseminated past libraries and IMAX films. Hadfield broke the mould and made a conscious effort to regularly communicate to his fans by offering unique views of locations from space as well as giving Twitter-like updates on what was happening in the station. He also released a small series of videos demonstrating how Earth-oriented activities have to be modified for space, such as how astronauts sleep while in zero-gravity situations. These videos described interesting zero-gravity properties, but also gave fans a reason to show interest in space by connecting it to activities with which they were familiar. How do I wash my hands in space? How do I brush my teeth? Keep myself fit? Go to the bathroom? Tasks that seemingly appear mundane on Earth appear intriguing and strange in space, and pique the interest of not just those interest in technology and science but people who would not normally take interest in that sort of thing.

Hadfield's nightly photographs of cities and landscapes had an effect in bringing people together from a multitude of backgrounds, as there was usually an image of something from their area in which they

could express pride or interest. Showing how small and connected the world is helped people bond over an interest in a singular cause, something usually only attributed to non-verbal themes like music and art. His smart sense of humour, like his photo commemorating Star Wars Day earlier this month, helped build his Internet reputation and keep him active in the conversation of others.

While Hadfield left space in mid-May, he has been hoping to continue his updates with daily photos from his space backlog as well as updates on the kinds of tests he is undergoing that measure the effects of space on the human body. It may be a few years before another Canadian, let alone a Waterloo grad, makes their way to space again, but hopefully whoever is in the International Space Station can keep as good of a conversation as Hadfield. Space is such an intriguing and unexplored frontier, and having people show an interest in it will keep space programs from fading away. Even for socialites who take notes from Hadfield's lessons in social media, it's hard to match the cool factor of some of the things he was able to share, and these kinds of updates are what reminds us of why space is such an interesting field of discovery.



Chris Hadfield looks upon Earth as he sings David Bowie's *Space Odyssey*.

[youtube.com/channel/UCtGG8ucQgEJPuUPhJZ4M4jA](https://www.youtube.com/channel/UCtGG8ucQgEJPuUPhJZ4M4jA)

Underdogs, Through and Through (Losers)



Last Monday's game was soul-crushingly awful. I panicked every time the Bruins got near the net in the third period and it was clear that the Leafs did too. But I don't know what else I expected from the Leafs, most of whom have never seen the playoffs, against the Bruins, who won the cup in 2011. The Leafs were the clear underdog. They performed as well as could be expected. I shouldn't dwell too hard on it.

Here's five movies that deal with underdogs in sports, who lose. Ordered from silly to serious. Perhaps you too will find some solace in losing.

Bring It On (2000)

Cheerleading is serious business. It contributes more injuries per athletes than any other sport, except polo, which has horses. Anyway, Torrance Shipman (Kirsten Dunst) is the new captain of the high school cheerleading squad, The Toros. Unfortunately she finds that their graduating captain stole all their totally bitchin' routines from the East Compton Clovers, led by Isis (Gabrielle Union). The only reason the Toros had never been called out on it before was because the Clovers had been too poor to attend competitions. Now the Toros must redesign their entire routine from scratch.

Well this is a fluffy teen comedy and how much you like it is a function of your tolerance for Kirsten Dunst, short skirts, and gravity-defying gymnastic maneuvers. Surprisingly Dunst flips through emotions with ease, from indignation to glee to aggression. She was likable, instead of being the wet blanket she played in *Spiderman 1, 2, and 3*. Short skirts are usually good. The gymnastic maneuvers are sufficiently impressive. I don't expect or ask for more from a teen comedy, and thus was moderately satisfied by the offering that was *Bring it On*.

Whip It (2009)

Bliss Cavendar (Ellen Page) is a small-town girl who only knows she wants to escape her small town of Bodeen, Texas. After attending a roller derby in Austin she becomes attracted to the sport's speed and violence. She lies about her age and

joins the Hurl Scouts without her parents' knowledge, and begins training with the likes of Maggie Mayhem (Kristen Wiig) and Smashley Simpson (Drew Barrymore, also directing). Meanwhile her mother (Marcia Gay Harden) pressures Bliss to compete in beauty pageants instead. And of course, the pageant is on the same night as the championship roller derby.

Roller derbies don't seem to take themselves too seriously, eh? After watching *Whip It*, I still get the impression that more energy goes into self-empowerment and a cohesive team identity than crushing your enemies. The team tells us that this is not a bad thing. So by the end of the movie I merely felt happy for the Hurl Scouts.

As for the whimsical yet rousing cheer of "We're number two! We're number two!"... what a fine sentiment. If only the Leafs were number two.



movieposterdb.com
Ellen Page, the star of *Whip It*.

The Bad News Bears (1976)

Morris Buttermaker (Walter Matthau) owns a pool-cleaning business that has fallen on hard times. To pay his alcohol bills he accepts an offer from a well-meaning councilman (Ben Piazza) to coach an exercise in diversity disguised as a little league baseball team: the Bad News Bears. Consequently, the Bad News Bears lose badly until Buttermaker taps his ex-girlfriend's daughter, Amanda (Tatum O'Neil, youngest Oscar winner ever!) and local prepubescent bad boy (Jackie Earle Haley).

It is a cosmic law that a funny film can be made funnier by scoring it with classical music, and lo and behold, the strains of Bizet's *Carmen* sound throughout. It is another cosmic law that swears and racial epithets from the mouths of babes are funny. How do you deal with a potty-mouthed miniature hooligans without hurting them or being hypocritical? There is a booger-eating near-mute, an asthmatic, and a Hank Aaron fanboy - as adults,

they would be tragedies, but as children, they are merely character quirks. And just as you wouldn't expect a team of misfits to run smoothly, director Michael Ritchie utilizes awkward silence to build dramatic tension and contrast serious missteps with regular inconsequential shenanigans.

Buttermaker tackles his challenges with wearied endurance, overlooking the worst of their offences and doggedly teaching the basics of baseball. For all their efforts the Bad News Bears deserve a better prize than a shiny plastic trophy.

Rocky (1976)

Rocky Balboa (Sylvester Stallone, also directing) is a debt collector by day and the amateur boxer, "The Italian Stallion," by night. His life is nothing special - he feeds his turtles, trains at a gym owned by ex-fighter Mickey Goldmill (Burgess Meredith), chills with his best friend Paulie (Burt Young), and starts dating the girl who works in the pet shop, Paulie's sister, Adrian (Talia Shire). Elsewhere, heavyweight champion Apollo Creed's (Carl Weathers) opponent drops out of an exhibition match and he scrambles to find a worthy opponent on a short notice, eventually settling on Rocky. With five week's notice Rocky struggles to get into shape and last a full fifteen rounds with the heavyweight champion of the world.

For a movie named for the main character, I'd expect Sylvester Stallone to deliver a charismatic and earnest performance. He nails "earnest". In demeanor, he reminds me of Tommy Wiseau's performance in *The Room*. Slightly creepy, overly friendly, with period-appropriate values manifesting in the form of warning a little girl not to swear or she might sound like "a whore".

Misgivings about Stallone's character aside, I thought Rocky was well constructed and not too cheesy. Talia Shire presents Adrian's slow transformation and growth of backbone endearingly, culminating in her emancipation from her brother. Paulie is also strangely captivating, as a man who expresses his desperate fear of being left behind by his friends by breaking Rocky's furniture with a baseball bat.

I guess in some ways Rocky's most glaring flaws are what makes it captivating. At times

I didn't know what to think of Paulie, Rocky, and Mickey: were they good guys? Were they bad guys? And that was the sort of shading needed to balance out THE classic feel-good boxing movie. .

Million Dollar Baby (2004)

Maggie Fitzgerald (Hilary Swank) is a waitress with dreams of becoming a fighter. Frankie (Clint Eastwood, also directing) is a 76-year-old curmudgeonly gym owner who doesn't train girls. Eventually they team up and Maggie rises up the ranks of boxing, while Morgan Freeman narrates from the viewpoint of Frankie's friend and gym janitor, Eddie "Scrap Iron" Dupris.

The first half of *Million Dollar Baby* is a sports movie. The second half is a tragedy. *Million Dollar Baby* is not *Rocky* with double X chromosomes. Just sayin'.

The Oscars may have gone to Swank and Eastwood, but I think that one should have also gone to Bryan O'Byrne as Father Horvak, the long-suffering Catholic priest whose masses Frankie has attended for 23 years to either get in touch with his Irish heritage or atone for his sins. I'm not sure which, since Frankie reads Yeats poetry by the pound and uses a Gaelic gimmick to market Maggie in fights when he finally warms to her spirit stubbornness.

Hilary Swank plays Maggie with... finality, I think. There was never a question of whether she would give up her dream, or find a manager who wasn't Frankie. If, according to Horvak, Frankie loses himself, then Maggie succeeds in finding herself.

Anyway, Father Horvak is hilarious and indignantly says things like "You're standing outside my church comparing God to Rice Krispies?"



impawards.com
Walter Matthau and Tatum O'Neal Starred in the 1976 Comedy Film *The Bad News Bears*.

KIM DOTCOM'S "Mega" Legal Action



Megaupload died in January 2012, but the story of the man behind it, Kim Dotcom, continues. The US Attorney General Eric Holder's May 2013 visit to New Zealand, where Dotcom is currently based, for an annual "quintet" attorney general meeting has raised activity from Dotcom's side. The meeting is also attended by attorney generals from Australia, New Zealand, United Kingdom, and policing agencies including FBI, the Australian Federal Police, the UK's Serious Organized Crime Agency, the New Zealand Police, and the Royal Canadian Mounted Police. It is speculated that Dotcom's case may surface during the meeting's discussions.

Though it was likely that Eric Holder would be keeping a low profile,

having declined an interview through a spokeswoman and limiting the attendance of his speech at the University of Auckland to students, Kim Dotcom had been wavering between attacking Holder's trip and expressing interest in what Holder would have to say. In his Twitter feed, Dotcom requested tickets to Holder's speech and offered to send t-shirts and an ethics manual to where Holder was staying in New Zealand. He encouraged his followers to film Holder with the Megaupload theme song playing in the background, announcing a \$500 reward for the best film. Dotcom has stated his wish to understand Holder's definition of "cybercrime," one of the topics discussed at the "quintet" meeting.

In Dotcom's defense, his lawyers Robert Amsterdam and Ira P. Rothken, have recently published a white paper, "Megaupload: the Copyright Lobby and the Future of Digital Rights", claiming the US case against Dotcom to be "one of the clearest examples of prosecutorial

overreach in recent history." The paper consists of three major claims: that there is no provision in the US law for "secondary" criminal law copyright infringement, no law stating that, as in Megaupload's case, the person responsible for the website, would be prosecuted along with the uploader. Megaupload was used for "legitimate purposes" and should fall under the "Sony Doctrine", which states that online services may be subjected to misuse. Megaupload had cooperated with copyright owners in the past, taking down over 15 million files when flagged.

Locally, Dotcom's legal case has prompted the New Zealand government to propose legalizing domestic surveillance on its citizens and permanent residents through its Government Communications and Security Bureau (GCSB), but only after approval from Prime Minister John Key. The law would allow GCSB to better support the police, the Defense Force, and the Security Intelligence Service. Key has claimed to compromise

on legislation for support of opposition lawmakers. Opposing parties have branded this as a "band-aid" solution. Unaware of GCSB's illegal spying on Dotcom before the armed police raid on his mansion in January 2012, Key had to issue a public apology to the Megaupload CEO last month.

Kim Dotcom is a German born entrepreneur who had founded Megaupload, the internet's former premier file-sharing site, occupying 4% of internet traffic with 60 million users and 50 million daily visits. Megaupload had cost movie studios an estimated \$500 million and generated more than \$175 million in criminal proceedings. The US legal case against Dotcom and his six associates for copyright infringement, money laundering, racketeering and fraud started in January 2012. Dotcom remains free on bail in New Zealand as a result of GCSB's illegal spying and warrants. His US extradition hearing is scheduled for August 2013.

The Leafs Season Wrap-Up



**ANDREW
MCMAHON**
3A ENVIRONMENTAL

On the last day of the 2013 regular season the Leafs found themselves in an unfamiliar position: they were about to make the playoffs for the first time since the season-long lockout in 2004-2005. Their first playoff series in 9 years found them squaring off against the Boston Bruins. The Leafs later became a part of history when the Bruins became the first team in NHL history to win a game 7 when trailing by three goals in the third period.

One of the key topics of discussion following the Leafs loss last Monday was the

absence of top centre man Tyler Bozak to an upper body injury. Bozak missed the final two games of the regular season as well as the final two games of the playoff series with the Bruins. It was revealed after the loss that the centre had a torn oblique muscle at the end of the regular season and then tore a triceps muscle on his final draw of game 5. Bozak took almost every important draw for the Leafs and his absence was apparent in the final two games of the series with Boston seeming to gain possession after every faceoff.

The Eastern quarter final matchup saw the Leafs snap a 54-year winless drought at home against the Bruins in the playoffs. The last time they were victorious was a 3-2 overtime win March 31, 1959. It also gave Phil Kessel the chance to play his

first post-season series against his former team, and he turned out to be one of the Leafs' most effective forwards despite being matched up against 6'9" Zdeno Chara and being booed by the Boston fans each time he touched the puck on the road.

James VanRiemsdyk was the Leafs leading scorer in the post-season with 7 points (Phil Kessel and Cody Franson were close behind with 6 points each), and Mikhail Grabovski nearly became a Youtube sensation after attempting a lacrosse style goal from behind the Bruins net in Game 5.

One huge positive that came out of the playoffs returning to Toronto was the atmosphere in Maple Leaf Square outside the Air Canada Centre where each game could be viewed by the public for free on a large screen. Yonge street was flooded with

blue and white for each game, even for last Sunday's game in the pouring rain; Nick Kunzle (3A Mechanical) described watching the game on the big screen as "...easily one of the greatest sporting events I've ever been to".

To put the Leafs' season into perspective since the season was shortened to 48 games this year, their projected point total over a full 84 game season would have been 97 points, shattering their previous season total of 80 points. This year's first round exit served as a valuable learning experience for the youngest team in the playoffs and is hopefully the start of consistent playoff hockey in Toronto (The Leafs have some work to do if they want to break the Detroit Red Wings' record of 22 straight post-season appearances).

A Little-Known Leafs Player: Komarov



**MICHAEL
LAANVERE**
3A MECHANICAL

Leo Komarov is a pain in the ass. For the other team, that is. The Leafs forward has built a reputation of being a physical agitator during his rookie year. The 26 year old, 5'11, 198 lb centre (although he's arguably better on the wing) had 176 hits, 1st among rookies and 5th overall in the NHL, during the regular season.

Komarov was born in Narva, Estonia, and moved to Finland at a young age. He played for Team Finland in the World Juniors in 2006 and was their captain in 2007. He played for Finland in the world championships every year since then, including their gold medal victory in 2011. He started his professional career playing in the Finnish Elite league and then played for

Dynamo Moscow in the KHL until signing with the Leafs in 2012. His one year contract was worth \$1.2 million.

Although he plays a very physical game, the one thing he does that irritates his opponents is that he plays by-the-book. He had only 18 penalty minutes during the regular season, less than Kessel, and no suspensions. In fact, it's his irritating play style that makes him such an asset. He frustrates the other team and draws penalties.

He also doesn't fight. Despite a tussle with Chris Kelly in game 1 of the playoffs (which Kelly instigated after a Komarov hit) he has had no fights while playing for the Leafs in the regular season. To this Komarov has said "I'm a little boy, we have fighters out there if they want to fight", which is the truth. Players like Colton Orr and Frazer McLaren are out there to protect him when he frustrates another player enough to make him want to fight,

which is what McLaren tried to do before the Kelly fight, but failed. Komarov even wears a visor which, if you've ever seen how much it protects him, does little other than prevent him from starting fights.

Komarov is also fairly solid on offence. He had 5 assists and 4 goals during the regular season. Not great, but 3 of those 4 goals were game winners, tying him for the second-most on the Leafs. Can you say clutch player? Maybe not, but it's not really his point total that makes him an effective forward. He forechecks, crashes the net, hits, and draws penalties. He basically just rattles the other team and disrupts their plays. Not to mention his 50.9% face off win percentage for which Carlyle has said he's been under appreciated.

But overall I'm not saying you should love the guy, I'm just pointing out an oft-forgotten about player on the Leafs. Komarov is a blunt, no-nonsense, hard working, skate tongues out kind of guy.

He doesn't talk smack between or during games. When asked if he enjoys agitating he said "I'm not happy about it, but it's nothing I care about, either". My favourite quote from him though is from the Toronto Sun when he was in training camp. He said: "It's hard to (talk) about myself, but I like to hit, forecheck. Maybe I'm not the best goal scorer, but I can score if I get the open net. I just want to help a team. Whatever I can do, I will do it." See he even admits he's not a good goal scorer. The best he can do is play his hardest. And that is what makes him a good physical player despite his small stature.

So if he manages to get re-signed by the Leafs next year I just ask that you keep a better eye out for #47. Better yet make some chants for him ("Leo Komarov! Da na na na na!" Is a classic). And if you don't want to, at least you know a little more about a lesser-known player: Leo Komarov.

How I Learned to Stop Worrying & Disregard the Leafs

EDWARD BLAKE
4Z HANDSOMENESS

I am not some kind of hockey-hater, but I am also not a fan. I am just a person from the Greater Toronto Area who is tired of being called less of a Torontonian for being indifferent towards the Toronto Maple Leafs (I am less of Torontonian for being from the 'burbs). So this is not some kind of nerd vs. jocks attempt to belittle the true fans of hockey; I have nothing but respect for people who are truly passionate about and invested in this game and the NHL. These are the people who watch games even when the team with their city's name on the jersey isn't playing, because they actually like hockey itself, and not just the idea of it. They watch hockey for the plays, the strategy, the development, and not just the "he shoots, he scores". They can tell

you why the Leafs are doing better one season than the last without parroting a sports-reporter. What I have a problem with are the fairweather fans who try to lump their lust with the love of actual fans.

So who are the "fair-weather fans"? They are the people who couldn't care less about hockey for years, but the second that the franchise from their city is doing well all of a sudden it's a flurry of "Go Leaf Go!" tweets, "Beleaf!" status updates, and white-and-blue Facebook banner photos. Hypothetically, if all the players, the coach, the GM, the strategy, and the direction of the Leafs were to completely change one season, their "devotion" would be unphased. This is because their "love" is nothing more than blind idolatry. They don't love the hockey team, only the blue letters "T-O-R-O-N-T-O" on the jerseys of players who aren't even from said city (unlike games

like the Olympics in which one can at least feel a sense of familial camaraderie). If the Leafs were not a hockey franchise, but rather a soccer team or even a sock-puppet dueling team, it would not matter, so long as there was the same hoi polloi hoopla, history, and heritage associated with them. The game of hockey is irrelevant! What we see every time the Leafs are doing well is dishonest posturing.

To give another example, F. Scott Fitzgerald's "The Great Gatsby" has recently been in vogue thanks to Leo DiCaprio. Imagine a person suddenly pretended to be a huge literary aficionado, plastering Fitzgerald quotes all over Facebook when instead of reading the book they only browsed SparkNotes. If the moment that the movie's hype dies down they don't so much as pick up a book until the next big trend, what would you call this person?

Would you call them a "casual literature fan", or "a Fitzgerald fan", or would you call them a phony bologna? I suspect the latter, because this is not a genuine interest and pretending that it is one only disrespects the medium and those who actually like it.

Is there anything wrong with having your interest piqued by the Leafs doing well and developing genuine interest in hockey? Of course not, just as I am sure there are plenty of people who read, appreciated, and loved "The Great Gatsby" due to Carey Mulligan. But if this is not something that sticks after the Leafs are knocked out of the playoffs, just as it has failed to stick in years gone by, I suggest that you spend your time and energy developing sincere personal interests, be they Dungeons and Dragons or literature or sock-puppet dueling. Leave hockey for those who actually believe in the game, and don't just beleaf in it.

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Top Reasons the Past was a Blast



WADE WILSON & EDWARD BLAKE
4Z HANDSOMENESS

TOPZ (WITH A Z)

Been spending most our lives living in a pastime paradise; churned butter once or twice, living in a gangsta's paradise. Yes, the past is an era that we all hold dear in our gangsta hearts, the farther back, the better it was. Mankind has never quite regained its time of perfection, roaming the Garden of Eden with the original lifeforms: making friends with all the protozoa and plankton, grabbing a burger at the Chum Bucket. However, ever since that bimbo Eve ruined it for everyone humanity has only been getting worse and worse through the development of civilization, technology, and modern toilets. Today, we at Topz, are going to take a look at a why it sucks to be us.

1950s North 'Murika

Boy, the way Glenn Miller played, songs that made the Hit Parade. Guys like us, we had it made.

Those were the days! There was once a Golden Age in our history where the streets were peaceful, milk came in glass bottles, and the world was your oyster ... provided you were a heterosexual, white man. Ever since the '60s, reckless youths have been running amuck and causing a ruckus with their troublesome notions of rock music, civil rights, and women's liberation. Everyone was happier when, as Archie Bunker points out, girls were girls and men were men. Women were much happier being auxiliary human beings to their male owners (be they fathers, brothers, or husbands), before they were burdened with reproductive rights, before marital rape was made illegal (1983), before those damned "feminists" had to ruin everything. As advocates of returning to these Happy Days will point out, it wasn't sexist: it was separate and equally important "gender roles". The same applies to racial and sexual minorities: surely they were also better off under the thumb of heterosexual, white people ... somehow ... afterall, they had milkmen

delivering glass bottles! That would make a great Norman Rockwell painting! And let's not forget that golden age of pooping: when janitors were totally disregarding the coloured bathrooms, the white bathrooms received a lot more attention!

18th and 19th Century Colonial America

As members of the Tea Party movement of our Southern brothers love to point out, the time of the Founding Fathers was an age to emulate. It brought about great social changes and unprecedented principles of freedom and equality. And it is in that revolutionary spirit that we must strive to stagnate and turn back time to the roaring 1700s. Yes we must try to return to a time when we held the truth self evident that all men are created equal ... but some men are more equal than others (namely, heterosexual, white, male land owners). And they were kind enough to teach the Native Indians the importance of calling dibs. Calling dibs on human beings.

15th and 16th Century Renaissance

The Teenage Mutant Ninja Turtles named after us is something we here at Topz dream about frequently (also furrries). All it would take is to be alive during the oft-romanticized Renaissance, and be the first to draw Goro (also creating Mortal Kombat in the process). While you're at it, why not become best bros with Leonardo da Vinci, a paranoid, dyslexic who made long lists of synonyms for penis, something you'll never find in Waterloo Engineering. Best part is you get to live during the period of Europe coming out of the Dark Ages and into an era of secularism, rationality, and individualism ... if you were rich (white male too, but that's redundant) or if you served someone who was rich. Otherwise you would be one of the 95% of Europeans who didn't realize anything was going on. As a bonus, you could meet all the famous people we read about in this history books, assuming you lived for centuries in the key locations of mutually independent events.

Medieval Times

For every man who fantasizes about being the namesake of a Teenage

Mutant Ninja Turtle, there is a woman who fantasizes about being whisked away upon a white horse by a knight in shining armour. And people of all sexual proclivities can take heed the advice, "don't let it be forgot that once there was a spot / For one brief shining moment that was known as Camelot." Yes, we often love to remember glowingly the time when a man would treat a woman right, such as by winning her in battle from another knight and "[taking said] lady or maiden in any way he desires without incurring shame or blame" (according to medievalist Richard Kaeuper). It was a time of honour, when the noble and chivalrous reigned over the wicked, crucifying and breaking them on the wheel for their numerous transgressions from theft to treason. We here at Topz have written to "Medieval Times: Dinner and Tournament" to see if they will start re-enacting lively medieval sports, such as nailing a cat to a post and having players try to beat it to death with their heads, evading the animals sharp claws. If they fail to get back to us, we'll try our luck in Spain as the opening act of a bullfight.

Pre-State Societies

From Rousseau to Rand, many have warned us of the pervading force of governments and societies: be it for corrupting humanity's nature docile state, or interfering a free market of everything. Yes, perhaps one day we, like the Eloi, will return to nature and live a more perfect existence. But for now we can only dream of living in a pre-state society, where the only governing forces were those of Mother Nature. In a free society, everything would be governed by mathematically optimized strategies: for example, imagine Edward and Wade are neighbours. Edward grows crops, while Wade tends to livestock. Forget about banks, interest, taxes, inflation, and all that jazz. Edward and Wade would reach an agreement of trade so that they could each have all their needs met. Now imagine one day Edward gets it in his head that Wade could kill Edward and have Wade's son, Ammar, tend to Edward's fields. While Edward doesn't think that Wade is that kind of person, Wade is the kind of person

that would think Edward the kind of person to kill for land and livestock. Therefore, the best course of action is for Edward to kill Wade so that Wade doesn't kill Edward to prevent Edward from killing Wade. None of the "bureaucracy" of police, or lawyers, or government. And just imagine the defecation experience! Running out of toilet paper is a real nuisance, but leaves really do grow on trees!

The Age of the First Library of Alexandria

Lastly, we take a look at the greatest era of humanity: a society advanced and enlightened in every way possible, minus the sense of storing a backup. Now before you grab your Ancient Egyptian gear, you better sit your asp down. The burning of the Library of Alexandria during the time of Caesar and Cleopatra was actually the second time in our history that such a tragedy occurred. Many a gazillion millennia ago, a library (which was more like a data center) containing the entire world's knowledge was burned down as well. It was collected in a time of peace and tranquility between man and machine (not yet women, let's be realistic here, Susan B. Anthony and Peggy Olsen are still a few gazillion millennia away). This was a Utopia with advanced technology such as teleportation, flying cars, internet with no ads, massage pillows, heated walls, and even talking toilets. It is believed the reason Japanese toilet technology has advanced so rapidly in the last century isn't due to aliens, but rather the rediscovery of the remains of the first Library of Alexandria. Although some scholars contest this account of the era, it is certainly less contrived that over romanticized depictions of time periods since.

The silver lining to living in the the modern age of humanity is that at least you have plenty to complain about. Join the chorus of the old complaining about the youths, each generation was right to say that their children were bringing about the end of decent society as we plunge further into depths of modernity. Since you think the present sucks and you love the past so much, why don't you marry it? We offer our services to officiate the ceremony.

A Moderately Variable Chocolate Banana Cake Recipe



CAITLIN MCLAREN
1T CHEMICAL

A HIGHLY VARIABLE X RECIPE

The term has begun! You are facing new challenges every day, and loving every moment of it (Right?). You're feeling up for anything. How about a little baking challenge?

This cake is a chocolate banana cake, so first get yourself some chocolate... and eat it, since the cake actually doesn't have any chocolate in it. Psych!

What you actually need is cocoa, bananas, flour, salt, baking soda, butter, sugar, eggs, and sour cream or thick yogurt (Greek yogurt, if you will). You can use flavoured yogurt, but the key lime or mango or coconut or whatever hipster flavour you use will get swamped by the delicious chocolate, so there's no point.

Before you start, grease a pan and sprinkle flour on it. A bundt pan is best- if you don't know what that is, you lose your hipster license. Mix together 1.5 cups of mashed banana and a cup of your preferred dairy goop. In another bowl, mix together the dry ingredients: 1.25 cups of flour, 0.75 cups of cocoa powder 1.5 tea-

spoons of baking soda, and 0.5 teaspoons of salt.

Then, beat together the sugar and butter- 1.5 cups of sugar and 0.75 cups of butter. Stop licking it, right now! I know it tastes good, but you are trying to make a cake here. When your mixture is creamy, beat in three eggs and keep on beating till it is smooth again.

Add half of the dry mixture, then all of the banana and hipster milk. When this is all stirred, add in the rest of the flour. It must be in this order, apparently to appease the baking gods. Just do it that way.

Bake it for about an hour at 350°C. You will know that it is done when is has risen,

and a toothpick poked into it comes out clean. You should know the drill by now. Afterwards allow the cake to cool.

You can make icing for it, or just eat it plain. You can also put fruits on it; any fruits you like, except watermelon. That would be weird. Ice cream is also a good idea.

Enjoy your baking while you can. It's only the beginning of term, and you may be able to squeeze out some time...In a few weeks, you will need quick, easy comfort food. Your hipsterhood will melt away, and baking will become a thing of the past. But never mind your future troubles! Relax, and let them eat cake.

How to Store and Reheat Leftovers



NANCY HUI
3N CIVIL

FOOD SAFETY

Food safety is important, so that you don't maim or poison yourself in the kitchen. In this column, I will tackle seemingly-intuitive food preparation

techniques that I have gotten wrong before.

The easiest and most common food preparation technique shall be first: storing and reheating leftovers. After cooking food, anything not immediately consumed should be stored in the fridge or freezer as soon as possible. Food that will be eaten within three days goes in the fridge. Food with a scheduled consumption date beyond three days should

be stored in the freezer. It is important to cool the food as quickly as possible, since a temperature of 4 to 60 degrees Celsius is known as "The Danger Zone," at which bacteria grows most quickly. One should get food out of the danger zone as quickly as possible. This can be accomplished by layering food thinly in storage containers to maximize surface area. If food stays in the danger zone for more than two hours it should not be consumed.

Food can be reheated in a microwave, on a stovetop, or in an oven. This is more difficult than it seems, especially when reheating larger portions. It is tempting to get impatient and settle for half-cold food, but that can be dangerous to your health. Food needs to be reheated to at least 74 degrees Celsius. A food thermometer is useful in judging whether or not food is safe to consume, but visual evidence of "steaming" can be used in a pinch.

The Iron Crossword

Mayde Just For You

STUART LINLEY
3T NANOTECHNOLOGY

Sudoku

#2013-06

LUCAS HUDSON
3A MECHATRONICS

Submit your completed crossword to the crossword submission box in the Orifice (CPH 1327) before next Wednesday to compete in the bi-weekly Crossword Competition!

1	2	3	4	5	6	7	8	9	10	11	12	13
14				15				16				
17				18				19				
20				21				22				
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25	26	27	28	29	30	31	32	33	34	35		
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56	57	58	59	60	61	62	63	64				
65				66				67				
68				69				70				
71				72				73				

DOWN

- 1 Debilitated block
- 2 Discovery and Challenger org.
- 3 Sure
- 4 Confuse
- 5 Put your name down (US spelling)
- 6 Oddball
- 7 Chew
- 8 Fusion, Accent, or Impala
- 9 Wife of Zeus
- 10 Burn on the grill
- 11 Kiss and ____
- 12 Interracial cookie
- 13 Renovate
- 21 Direct (as information)
- 22 Conduit
- 25 Minnows and Carps
- 26 Bar feature (sometimes)
- 27 Place of offering
- 29 Silica gemstone
- 30 Fords
- 32 Multiscreen movie
- 33 Brick or be go with
- 34 Choose
- 35 Childish retort
- 37 Dinnerwear
- 39 Half litre
- 42 ____ Ipsum
- 43 Ms. Ryan
- 48 Regard
- 50 Akin by male blood
- 53 Non-lethal gun
- 55 One who ogles
- 56 Final
- 57 Enjoy
- 58 Pesky insect
- 59 Employ
- 60 Jedi master
- 61 Leave out
- 62 Tiny bit
- 63 Liquid dish
- 64 Let off

ACROSS

- 1 'pshaw'er
- 5 Hunt objectives (sometimes)
- 9 Thespian
- 14 Michigan or Ontario
- 15 Zilch
- 16 Twice, a comforting phrase
- 17 American military branch
- 18 On the ____ (Kerouac)
- 19 Dragged out
- 20 *Brenda Halloran
- 23 Styler
- 24 Catholic with a habit?
- 25 Qualified bookkeeper
- 28 Ebb go with
- 31 Wiped out
- 36 Cut in two
- 38 Kitten carry point
- 40 North African country
- 41 *Completely drained of resolution
- 44 Preference
- 45 Yolksters
- 46 EngSoc politicians
- 47 Mailroom must have
- 49 Type of party
- 51 Non-profit scientific institute
- 52 Volleyball technique
- 54 Joke
- 56 *Lo-Cal spread
- 65 Ms. Oakley
- 66 Ritualistic drink
- 67 Twice, a slogan
- 68 55-down action
- 69 Review
- 70 Needlework
- 71 Symbol
- 72 Rank
- 73 In wonder

Solutions for previous crosswords can be found on *The Iron Warrior's* website at iwarrior.uwaterloo.ca/distractions.

Easy

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

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

Hard

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

S13 Issue #2 Deadline:
Friday, June 7 at 6:00 PM
Send your submissions to:
iwarrior@uwaterloo.ca

THE IRON INQUISITION
Lucas Hudson, 3A Mechatronics

"You are the first human on Mars, what is the first thing you say?"



"To visualize is to be human, but realization is of humanity."
Michael Franko, 3A Mechatronics



"This isn't where I parked my car."
Leila Meema-Coleman, 2B Mechanical



"Time to (re?)populate Mars! #YOLOSWAG"
Cody Bechberger, 2B Nanotechnology



"So... Where's the beer?"
Dylan Dowling, 2B Civil



"FIRST!"
Cesar Reano, 1B Mechatronics



"This is my 'Opportunity' to meet 'Curiosity'"
Kassym Dorsel, 3A Mechatronics