

September 2010

Iron Times

The Official Publication of the Carleton Student Engineering Society

BRIEFS

All Hail The Iron Times

Welcome to the Iron Times, the engineering department's monthly newspaper. This is your newspaper, it is based on submissions from students, edited and put together by students, for students.

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First Year Involvement 101

Dear First Years,

There are lots of events that CSES runs. Specifically though, these are some events that are coming up soon that you can get involved in:

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The Engineering Hymn

You will hear this song sang many times not only during Engfrosh, but through your engineering career here at Carleton. It has many verses, too many to include here so a section of them have been provided to you for quick reference.

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Project HAARP: Shoot For The Skies

In the 1960's, a Canadian engineer briefly resurrected the idea of using a giant space cannon from the Jules Verne novel: From The Earth To The Moon, to more cheaply and reliably launch satellites. His name was Gerald Bull, and his story is among the more obscure and fascinating in the annals of Canadian history.

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Perpetuating College Stereotypes



Warning: This newspaper may contain offensive material and should not be read by people who are easily offended. All opinions expressed within The Iron Times are solely those of the writers and contributors, and do not reflect the views of CSES unless indicated otherwise. This paper is jestful and satirical in nature and is not intended to be malicious in any manner.



All Hail The Iron Times



Nolan "Pi" Hunder
- AERO IV -

Welcome to the Iron Times, the Engineering Department's student-run newspaper. This is your newspaper: it is written, edited and put together by students, for students. For those of you who don't know me, I'm Nolan, the senior editor for the Iron Times, and I will once again be sacrificing much sleep this year to make sure we continue pumping out great new issues. I got this job last year because the old editor-in-chief got tired of me complaining and recognized that I have no life.

The Iron Times supposedly comes out once a month. However, truth be told it only comes out when we receive enough stuff to actually publish. What do we need sent in to publish? Anything: Articles, pictures, comic strips, opinions on how your professor dresses, or idle thoughts for the feedback loop. How do I submit something to the Iron Times? Email your submission to irontimes@cses.carleton.ca, and provide your name, year, and program. What is the feedback loop? It's the section at the end of the paper where you can anonymously give your random thoughts and one-liners. Articles submitted are great for advertising your upcoming event.

For those of you who are interested, we also need editors. Editors do not have to be English Majors; they can be anyone who is willing to take a crack at spelling-and-grammar checking, or – if you're feeling ambitious – at photoshop and layout design. To be an editor, again send an email to irontimes@cses.carleton.ca.

That's all from my end, so don't forget to pick up the latest edition of the Iron Times. Latest editions can be found outside Alexander's Office (CSES headquarters [Minto 2090 next to Bell Theatre]) and outside Leo's (general hangout place: Mackenzie 3342 or second floor by the Civil and CMAS offices.)

Meet Me In Leo's

Leo's (proper name Leonardo's Lounge) is a student run store that offers both the cheapest prices on campus and the most powerful microwaves. It is where anyone who is anyone can be found hanging out in between classes, often engaged in the most epic euchre battles ever conceived. It is where you will buy tickets to all engineering events that require tickets, pick up the latest issue of the Iron Times, meet for pre event gatherings. Leo's is completely volunteer-run. To volunteer for a Leo's shift, sign up on the sheet outside the door to Leo's at 3342 MacKenzie. Leo's is open between 8:30 and 5:30 on weekdays, plus anytime a manager comes in and unlocks the doors. Leo's also accepts Canadian Tire money at face value; it is rumoured to go toward the CSES duct tape fund.

Leo's Price List

| | |
|--------------------------------|--------------------------------|
| Snacks | Lunch |
| \$0.50 Individual Cookie | \$3.00 Naan |
| \$0.85 Package Cookies | \$3.25 Samosa (3 Pack) |
| \$1.00 Giant Muffin | \$4.50 Rice Curry |
| \$0.75 Chocolate Bar | \$4.00 Di Rienzo Sandwich |
| \$1.25 King Size Chocolate Bar | \$2.00 Pizza Pockets |
| \$1.25 Mega Size Chips | \$1.00 Soup |
| \$0.50 Nature Valley Bar | \$0.50 Kleenex |
| \$0.40 Nutrigrain Bar | Cold Drinks |
| \$0.70 Gum | \$1.00 Milk |
| \$0.05 Candy | \$1.50 Small Milk Shake |
| \$0.30 Sesame Snaps | \$1.75 Large Milk Shake |
| \$1.00 Kinder Surprise | \$1.25 Powerade |
| \$0.40 Hot Rod | \$2.75 Full Throttle/Rock Star |
| \$0.35 Apple | \$0.75 Canned Pop |
| \$0.75 Ice Cream Bar | \$1.25 Bottled Pop |
| Services | \$0.75 Canned Juice |
| \$0.10 Photocopying | \$1.25 Bottled Juice |
| \$0.10 Printing | \$1.00 Water |
| FREE Stapling | Hot Drinks |
| FREE Hole Punching | \$1.00 Coffee |
| FREE Microwaves | \$1.00 Hot Chocolate |
| FREE Lounge Space | \$0.75 Tea |
| FREE Games | \$0.75 Vanilla Cappuccino |
| FREE Wireless Internet | |

I want my Photos!!!



Sebastian "Snapshot" Traczyk
- ENVE III -

I have been the director of photography for CSES for the past year and the Mythological EngFrosh (2009) photographer. Therefore I think it's safe to say I've taken a fair amount of photographs of the Carleton Engineers at various events. The most common question I seem to get is always: "When are the pictures going to be up?!" all I can say is that "I'm working on it" (and I really am!). And the most common question after frosh week I get is "Where can I the photo of myself doing that thing in that place?" Well before I answer, you must know this: there are several hundred frosh and volunteers that are part of EngFrosh; it is very likely that I will have no idea who you are (really sorry) and I will only remember that thing you did if it was truly awesome. As for that place, I can't say I know every place there is to know in Ottawa (or Montreal). But there is hope, since I will be slaving away at organizing, editing and preparing the EngFrosh photographs, spending far more time than I already have, especially when I should be working on my fluids labs (and they truly to take a long time).

All of this is so that I may put them up online so that YOU, the froshlings and volunteers, may view and remember the most incredible week of the year. For Prehistoric EngFrosh 2010 photographs go to *drum roll* www.EngFrosh2010.webs.com. For photos from various other engineering-related events go to www.carleton-eng-pics.webs.com. Currently I have nearly 5000 photos posted online from various events last year, with more to come for this year. For anyone planning an engineering event and would like pictures taken, you can often find me in Leo's, and just let me know about it (you can often find me in Leo's). Also if you would like the photos up sooner, cookies are really good at motivating me & they are only 50 cents at Leonardo's Lounge! That is all I really have to say for now so have fun at Engfrosh and until next time: good bye and do widzenia.

Gros Morne

"Banwitch"
- JOUR IV -

Gros Morne National Park is one of Canada's most challenging back country hiking excursions. It takes "experienced" hikers across 35km of Newfoundland's alpine terrain over the course of nearly a week. Before the trip, hikers are given a briefing by park rangers, including a 10 minute short video detailing the various challenges they can expect to encounter. But the the video fails to get at the heart of what hikers will experience out in the wild. So here is a more accurate description of what hikers should expect.

"Good morning ladies and gentlemen and wel-

come aboard the Gros Morne Long Range Traverse. I'm Miss Unprepared and I'll be your flight attendant for our journey across 35km of Newfoundland back country. Our estimated trip time averages between 4 and 6 days and will take us across dense, bug infested forests, 85 degree vertical climbs, leg swallowing mud, piss pouring rain, uncooperative trails, freezing night temperatures, shale rock descents, and more bugs.

Please take a moment to look around and take note of the fact that there are no emergency exits. Feel free to watch the drop-off boat slowly sail away leaving you to the mercy of the black flies and bears.

In the event of a loss of morale, suck it up but-tercup. You will notice that the trail is not illuminated, does not follow a straight line and is completely unreliable. Do not trust it. Please be aware that navigational

functions aboard this vessel may be malfunctioning and will give no warning prior to catastrophic failure. In the event of such failure, please feel free to tuck your head between your knees and kiss your ass goodbye.

Please take a moment to ensure that your packs are securely fastened around your hips. To release the clip simply press sides together and let pack fall off the nearest cliff.

Smoking is permitted but the flammable peat moss beneath your feet may react unkindly. Our inflight movie will be "Amazing Horse" and it will repeat, over and over and over. Please enjoy your trip with us and thank you for submitting to this torture, and paying for it.

God help you."

From: The Editors <irontimes@cses.carleton.ca>

"An editorial is a piece of writing intended to promote an opinion or perspective." We would like to seriously emphasize this definition (pulled straight from Wikipedia) and reiterate that these opinions belong to their respective author and do not reflect the opinions of CSES as a whole.

These editorials are meant to voice an opinion and not with malicious intent. In extension, none of the articles presented in the issue or this publication as a whole is not intended to be malicious in any manner.



EXECUTIVE



President

Suzanne "Ducktub" Swaine
- AERO VI -

Hi C-Eng! My name is Suzanne "Ducktub" Swaine and I'm your CSES President for the 2010-2011 year. I think we've got a really great Council this year and I'm excited to work with everyone to help CSES grow. I've got a few specific initiatives this year I'd like to focus on. This year I'd like to focus more on reaching out to international students and making our services more relevant to a wider range of students. I will also be evaluating all of our events for accessibility. I'd like to have our presence around C-Eng felt a little more so I will be encouraging all of our council members to make themselves more visible to members. Do you have ideas for our society? Please come talk to me or any of the council members! Whether it's an idea for how we can improve a service, an event you'd like to see, or even a t-shirt or clothing design you'd like to see sold in Leo's, come talk to us! The CSES office is 2090 MC and you're also more than welcome to email me at President@cses.carleton.ca. Good luck with classes everyone and I'll see you around.



VP Academic

Josh "Canadian Pie" Coulbeck
- ELEC IV -

As your VP academic, I have big plans for this year. I will be focusing mostly on getting Interface up and running and organizing NEW (National Engineering Week). For those of you who do not know what Interface is, it is pretty much an engineering career fair where engineers will come in and talk about their jobs. Another interesting event we run is the Design Competition. The winners of this go on to the Ontario Design Competition. A few people have already shown interest in helping me with these events but I could always use more help. If you would like to help with either of these events or become a director please send an email to academic@cses.carleton.ca. I look forward to working with you all this year.



VP External

Kevin "Assbeard" Atkins
- AERO II -

Hey, I'm Kevin Atkins and I am the 2010-2011 Carleton Student Engineering Society VP External. As VP External I liaise with external organizations such as Professional Engineers Canada, Engineering Student Society Council of Ontario (ESSCO) and many other student engineering societies in Canada. For my term this year I plan on continuing the strong, respectable Carleton Engineering conference presence. Additionally, charity initiatives which occurred this year will continue such as Movember and the LAN parties, but be on the lookout for possible console gaming! If you have any further questions or suggestions for me feel free to e-mail me at external@cses.carleton.ca.



VP Internal

Jamie "Invisible Man" Baressi
- SYSC III -

Hey there C-Eng!

I'm Jamie Barresi and I will be your VP Internal for the next year. I am very excited to be here and for those of you who are new, here is a quick rundown of what I mainly want to focus on as your VP Internal this year.

The first thing I would really like to do for you guys and gals is to get the CSES Announce emails out before the beginning of the week so you guys will know what's going on for that week. This means it will most likely hit your inbox some time on Sunday. Also on the topic of the Announce emails, I would like to advertise it more and make it more appealing for those of you who don't subscribe and for the incoming first years. It's an easy way to know what is going on with your Carleton Engineering community. That leads to the third of my major plans for next year: giving you, the members, better and earlier notice of GMs. Your input is important for CSES to provide the services you want, so let your voice be heard. The last of my major plans for this year is to review and change (if necessary) the CSES poster policy to make it more politically and religiously neutral so that we avoid any "un-pleasantries" between all the member and student groups.

As an unwritten plan for this year – one I'm sure the rest of incoming exec shares – I want to get as many of YOU involved as possible. We all need directors and you should apply for directorships at <http://getinvolved.engsoc.org/>. Good luck with your classes and have a great year.



VP Services

Chris "Pretty Boy" Nicol
- AERO IV -

Hello everyone,

I am Chris Nicol and I am happy to be your V.P. Services for the upcoming school year. This year I hope to improve upon the relationship that our Student Groups have with CSES. This can be done best by coordinating with them to ensure that our services are effectively being utilized. This starts with the Student Group Resource Center and ensuring that it is able to accommodate all groups that wish to use the space. It also means advertising the Equipment Loan Program and looking into any request for new equipment made by any students group.

I also plan on continuing renovations to Leo's Lounge so that it can better suit the increasing number of customers using Leo's daily. Lastly, I will be working on keeping the office's professional image as the Carleton Student Engineering Society's headquarters. I hope everyone had a great summer and look forward to serving you guys this year.



VP Finance

Jordan "Crack" Briggs
- AERO IV -

Hey C-Eng, how are ya?

I'm Jordan Briggs, your VP Finance for the 2010-11 academic year. I am in Aerospace Stream A, and am really starting to realize how just how fast three years goes by. As VP Finance, it will be my responsibility to oversee and control all financial matters pertaining to CSES. I'm really looking forward to my new position and the challenges and rewards it offers, especially the opportunity to get even more involved in CSES and really contribute to the society.

Besides taking care of the basic accounting of CSES, I will also be overseeing Student Group Funding. As only about half of the funds allocated for student groups were distributed this past year, I'd like to see more of this used this year, so the plan is to have the first round of SGF earlier with the intention of having three SGF rounds instead of two. I also plan to continue with the outgoing VP Finance's efforts to organize financial documents and streamline bookkeeping by using Simply Accounting.



VP Pubs

Kaitlyn "Topless" Stockermans
- CIVE IV -

Hi, I'm Kaitlyn Stockermans, your current VP Publications. My portfolio covers the monthly publication of the Iron Times, the engineering agenda, the CSES website and the flightsuit passports. I have already completed work on the agenda and passport during the summer. During the year my job is to focus on getting the Iron Times out in a timely manner and to make sure the website stays up to date. In order for the society to publish a monthly Iron Times it needs input from students since it is entirely submission based. No submissions means you would have to read the Charlatan right now. To get involved with the Iron Times check out the website at irontimes.engsoc.org. If you have any questions about CSES publications or would like to get involved, fire me an email at publications@cses.carleton.ca. I hope you all have a fantastic year!



VP Social

First Name "Callsign" Last Name
- Stream Year -

Due to some unfortunate circumstances, the elected VP Social had to step down over the summer. Elections for a new VP Social will take place at the Fall General Meeting. This position includes organizing intramural teams, planning Whirlwind, Reflections and all other non-academic CSES events. If you would like to run for VP Social or would like more information about the position, drop by our office at 2090 MC.



Iron Times
The Iron Times is a free publication of the Carleton Student Engineering Society.

Submissions are welcome from articles to photos, from news to entertainment to opinions, and everything in between. Anyone may send their submissions, complaints, questions and concerns to irontimes@cses.carleton.ca

Thanks to all the writers that contributed.

EDITOR-IN-CHIEF
Nolan Hunder

TEXT EDITOR
Gilles Messier

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Hey, look buddy. I'm an engineer. That means I solve problems. Not problems like, "What is beauty?," I solve practical problems.

NEWS

Attention Civils and Environmentals – Join CSCE!

Greg Harrington
- CIVE III -



Hello everyone, and welcome back. My name is Greg Harrington and I am the VP Publications for CSCE this year. Now many of you first years may be asking what is CSCE? Well, it stands for Canadian Society of Civil Engineers. I am sick and tired of hearing first year civils and enviros, at the end of first year, asking “whoa, what’s CSCE?”, and – once I tell them – having no idea that there was a stream society for them. So that is why I am writing this article: to get the word out early.

Now you environmental engineering students may be wondering: why would I be joining the civil stream society? Well it is not just for civils; it is for you as well! In fact, anyone in any stream can join CSCE. However only civils and enviros get the national membership.

That brings me to my next point – what do you get when you join CSCE? Well, first of all, you get a NATIONAL membership. You see, we are the Carle-

ton Chapter of a national society. Your professors are also members in CSCE and some of your potential employers will be as well. Since we are a national society, you can put your membership on your resume. That is what makes us so much better than CMAS. (That’s the Carleton Mechanical and Aerospace Society. They are only recognized here at Carleton while we are recognized across Canada!).

What else do you get? Well, you can hang out in our office, which is mere inches from Leo’s! Our office has couches, microwaves, and computers that you can use. Also, you get free printing! (within reason – don’t go printing the Merck Index). We have social events as well (one of which involves cake!), and dozens of textbooks that you can borrow for free. We have an exam library, and for each class you will take in your undergrad (excluding artsie electives), we have an entire binder dedicated to that class, which has old tests, assignments and labs. And trust me, your professors are lazy and still use some of the same assignments. We have t-shirts you can buy too - \$10 for members and \$12 for non-members. There is a civil shirt and an enviro shirt, and in the winter we come out with new ones. You can also enter a design for the new ones. With the national membership you get a subscription to CSCE’s national magazine too; it comes out once every 3 months.

Now, here is why we are better than:

IEEE (Institute of Electrical and Electronics Engineers) – sure they may have their own format for citing quotations, and they do have an office on campus, however I know of no one whose uses it. (They are however, a national society. Points for that). Ooooh look at you IEEE with your big bad format named after you, but do you have couches/microwaves/computers/textbooks/old exams/proximity to Leo’s? No, that’s what I thought. Sit down son.

CMAS like I said before, no one outside of Carleton knows who these guys are. And they do have an office, but WE are closer to Leo’s, and their “office”? Yeah, take a look in there; it’s more like a closet. And as soon as you go in there are steps. So if you are in a wheelchair, you can’t really get in there can you? Join CSCE, we’re wheelchair accessible.

SREEsoc (Sustainable and Renewable Energy Engineering Society) – this fledgling society is only entering its second year. Again, they don’t even have an office. Again, they are not a national society. They don’t even have a VP Publications. No, instead they have a VP Academic. What’s the point of that? They don’t even have any academic material to speak of. So far the program itself is only entering its third year and they have only taken one course that is for SREEs only, and it was one hour per week and it was for ZERO credits!

CUBES (Carleton University Biomedical Engineering Society) – again, this society doesn’t even have an office to hang out in. Again, they are not a national society.

CEPS (Carleton Engineering Physics Society) – I don’t even know if this is an actual society yet; there were just rumours about it last year. But again, they don’t have office space. And again, not a national society.

So join CSCE. It is only \$20 for civils and enviros, and that gets you your national membership, use of our couches, microwaves, computers, exam library, a magazine subscription, and discounts on t-shirts. For non-members, the price is \$10, but you won’t get a national membership. The \$20 membership is a very good deal – when you are no longer a student, it costs \$400 to join. So please, drop by the office – 3336 Mackenzie Building, right beside Leo’s – and sign up!

First Year Involvement 101

Caleigh “Paperbag Princess” Rutledge
- ENVE II -

Dear First Years,

I’m Caleigh. You may have already met me somewhere (Leo’s, Frosh Week, the cafeteria, somewhere random on rez...), but if not, I’ll introduce myself. I’m a Second Year Environmental Engineering student here at Carleton, and I’m also a council member of the Carleton Student Engineering Society (CSES). My job last year was to be liaison to all the first years, updating them on events and ways to keep them involved. Before I pass the torch in a couple of weeks, it is my job to get you people involved in Carleton Engineering (C-Eng)! There are lots of events that CSES runs, and you can check them out online at <http://cses.carleton.ca/events/social/> or look for dates in your C-Eng Flightsuit Passport! Specifically though, these are some events that are coming up soon that you can get involved in and meet other first years like yourself:

FYE (First Year Event): Capture the Flag at Brewer’s Park! Come down to the park on September 25th at noon and battle it out with the best of CEng. Snacks/food/drinks of some kind will be provided free

to first years. May the best team win!

Tunnel Painting: Do you like the tunnel murals? Do you wish you could help design and paint one to leave your fingerprints or paintbrush strokes at Carleton University? If so, then get involved with the CSES First Year Tunnel Painting this year! (Date TBA) See CSES for more details.

First Year Elections: So as you may have guessed, I can’t be first year rep for much longer. It’s time to pass that distinction onto you! Every year, two first year representatives are chosen by their peers to represent their class to CSES. Elections are held in October, and you can pick up Nomination forms in CSES after First Year Event. Now, you may ask “What do I have to do if I get elected?” Here’s the answer:

- Attend council meetings and be a part of Carleton Academic Student Government
- Inform your peers of events coming their way!
- Organize and run FYE for the next set of first years (you have all summer to plan it)

As a Second Year, I will pass on only one piece of advice that I feel is important. Being involved with the CSES and C-Eng gave me something to hang on to when classes weren’t easy, and when I felt alone. I feel that being involved is your best chance to guarantee success, because it gives you the chance to lead a balanced student life and make friends who will stay with you all the way throughout your 4, 5, or even 6 years of undergrad engineering. Get involved and engaged in the society, and you’ll be happier, more enthusiastic, and more willing to learn. I certainly was.

If you have ANY questions about events or the upcoming First Year Election, seek me out in Leonardo’s Lounge or at the CSES office at 2090 Minto (someone will know where I am if I’m not there). I love talking about C-Eng and CSES, and I want you to have a great experience here in your program!!

See you at the events!
Caleigh

This Morning's Traffic...Country Wide!

Bryan "Pull-Out" Koehler
- ENVE IV -

Canada, the great white north: land of trees, snow, wildlife, and Hosers. It has thousands of kilometers of roadways, and just like accents change from region to region, so do driving habits. Driving across the country and back this summer has opened my eyes to this fact, and I wish to share this experience with all the Iron Times readers out there, so you know what you're in for if you ever do a cross-country road trip.

Each city I have driven through is going to be ranked on some form of scale. First off is the obedience of the general driver; that is, the ability of inhabitants to obey basic rules of the road (1=stops at the stop line and blinkers at every turn, 5=runs red lights). Next will be the courteousness of drivers towards other drivers (1=tip of the hat, 5=middle finger). Third will be the overall comfort ranking; the sweat factor. This will describe how nervous the average driver will be overall while driving in the city being discussed (1=dry as the contents of the Charlatan, 5=sweat in places that should never sweat).

Calgary, Alberta

With almost a million people living here, you would expect traffic to be just as bad, if not worse, than Ottawa. I did not find this the case, even when driving through the city during traditional rush hours, as traffic was average. My ventures through the city were mostly harmless, only observing a few painfully obvious traffic violations, and the odd driver lacking common courtesy. One thing should be noted, watch out for vehicles towing boats. Despite being located in the grasslands of Alberta, and having fewer bodies of water than the Ottawa region, everyone on the road seemed to be towing a boat, and I have yet to figure out where they are all going.

Obedience: 3
Courteousness: 3
Sweat Factor: 3

Toronto, Ontario

What can be said is well known: it's Toronto, the centre of the universe. Toronto is full of aggressive drivers. It is constantly rush hour, and inexperienced drivers be prepared to take a swim because the sweat factor is through the roof. With that being said, it's actually not all bad. Experienced drivers will find navigating Toronto roads no different than any other city, aside from the increased traffic. The roads are in

generally good repair throughout the city, and the street layout is decent. Be prepared to force your way into a few lanes, and have that middle finger ready.

Obedience: 3
Courteousness: 4
Sweat Factor: 4

Regina, Saskatchewan

Where to begin? Quite frankly, if you want to acquire a serious road rage problem, move to Regina. Minor traffic violations are a common occurrence, as traffic lights become suggestions and right of way is all but abandoned. One would think that with zero traffic, even during "rush quarter hour", drivers wouldn't become so aggressive. I'm talking Toronto style aggressiveness. When driving in this city, be aware that when merging, you will more than likely end up driving on the shoulder for a few hundred metres before creeping onto the actual road. Mix these issues with the fact that 90% of the roads lack any form of paint distinguishing driving lanes, and you have a recipe for disaster. The one plus to driving in Regina, and Saskatchewan in general, is the ridiculous speed limits. A road like Colonel By Dr. would easily have a speed limit of 100 km/hr.

Obedience: 5
Courteousness: 4
Sweat Factor: 2

British Columbia

Yes, I realize that British Columbia is in fact a province, not a city. But unfortunately my ventures did not bring me into any major city in B.C. Rather I played 'just the tip' with the province, whereby I drove into B.C. and immediately turned around and drove out. I was simply in the area and wanted to say I drove in B.C., just to see how it felt. In my brief time there everything was perfect and I wish I could have stayed longer. This goes to show that 'just the tip' is a cruel, cruel game.

Obedience: 1
Courteousness: 1
Sweat Factor: 1

Winnipeg, Manitoba

When driving, one must be aware that this is

the only major city in Manitoba. This is also the only time Manitoba drivers get a chance to drive on major highways. But this lack of experience does not come with bad drivers. Drivers here are generally obedient of traffic laws, especially pedestrian cross walks and speed laws. Be wary; when driving in Winnipeg, traffic lights often come laced with speed cameras which will send you a happy birthday ticket in the mail when you are caught driving 10 km/hr or more over the speed limit. The worst part about driving in Winnipeg is the road system. This city has the worst layout of roads of any major city in Canada. A prime example is the sign shown below. If you make one wrong turn in this city, you will end up in Toronto instead of Vancouver.

Obedience: 2
Courteousness: 2
Sweat Factor: 3



The sign describing this layout can be summed up simply by its new name: Confusion Corner

Montréal, Quebec

Yes, everything you have heard about Montréal driving is completely and utterly true. The drivers are aggressive, the roads are messed, and it can be extremely nerve racking. When driving in Montréal, one will notice that all vehicles have bumps, dings, and scratches on them. Keep in mind it is common practice in Montréal to brush other vehicles and drive off as if nothing happened. Parking here is literally bumper to bumper, as if parking brakes were nonexistent and other vehicles are relied upon to keep parked cars from rolling away. On the plus side, the scenery is very nice.

Obedience: 4
Courteousness: 4
Sweat Factor: 5

My Summer Job

Laura "Calf Nipple" Elliott
- AERO IV -

One of the greatest experiences to have while in university is a summer job relating to what you are studying. This can help you gain valuable experience, make contacts, connect you to what you are studying and more. We all know this. What many students don't realize is the value of learning to work on your own in an office environment. It's a chance to get some inevitable mistakes out of the way before attempting to impress at a potentially long-term position upon graduation.

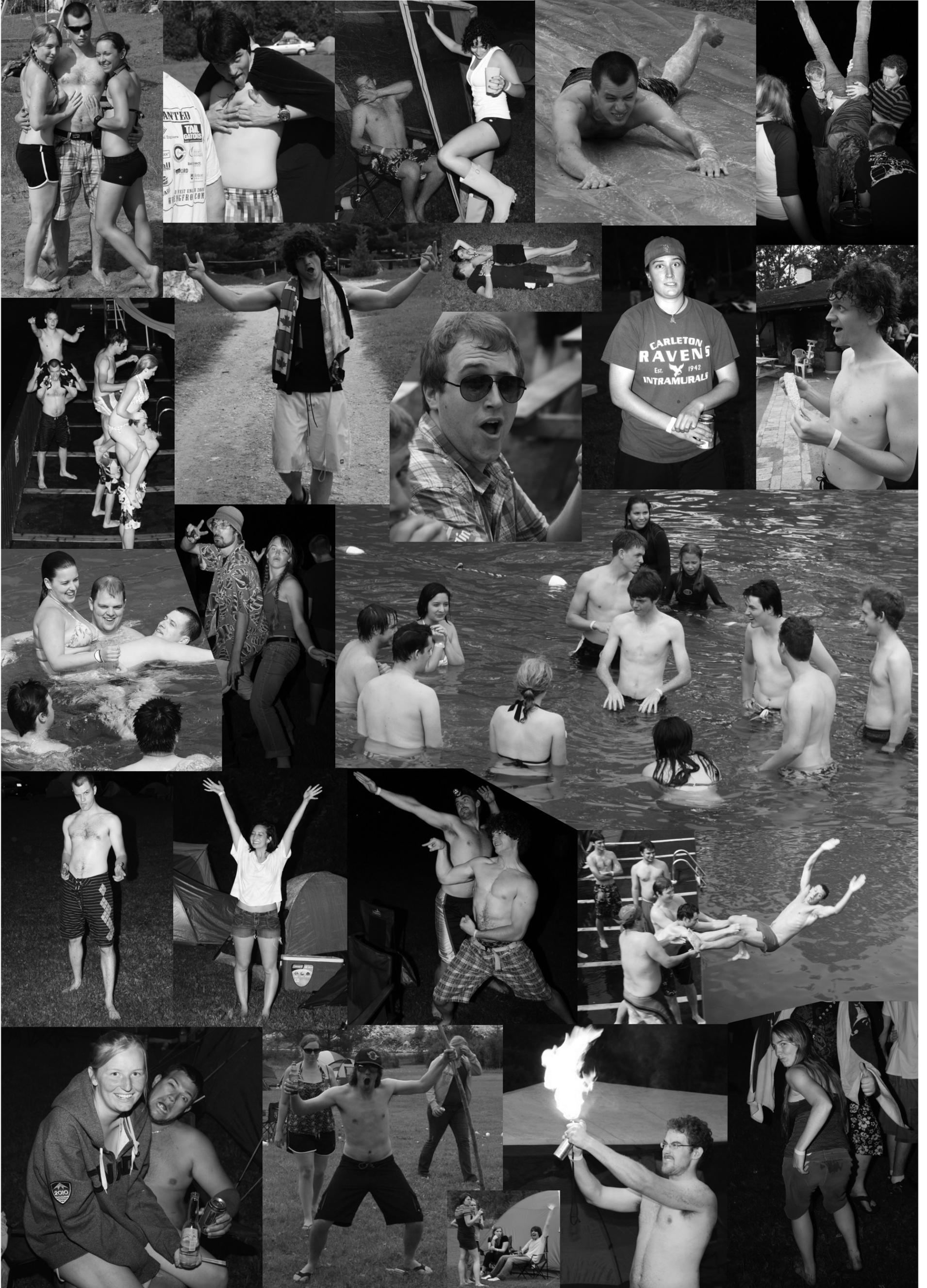
Some of you may have recently graduated and started a new job, or you may be a student considering one for the upcoming summer. If you are, here is my advice for what to do, and what not to do, at a newly acquired office job (learnt from personal experience, of course).

- 1) Avoid mistaking your company's Director of Engineering for his secretary. On your first day, company's logo and your 'authorizing' signature and send it to a contractor. I promise you will get in trouble.
- 2) You can leave when the day is finished. It is not necessary to track down your boss just to wave and say "Bye! I'm going home now!" Eventually he will get annoyed, especially if he is in a meeting at the time.
- 3) If you are a female (or male) who bikes to work, avoid cycling in skirts (or kilts). If you do wear one, make sure it isn't tucked up into your backpack showing your see-through white underwear to the entire building on your way to the change room. The custodian WILL wave and smile every time he sees you from then on.
- 4) Smile and wave back at said custodian. You will be perceived by management as exceedingly friendly.
- 5) A Purchase Order is a legally binding document to be prepared by a company's finance department. Do not, and I repeat DO NOT find a Microsoft Word template of one online and fill it in with the com-
- 6) Just because www.thesmokingjacket.com is Playboy's non-nudity website, doesn't mean your boss likes to see it on your computer screen when he walks by.
- 7) When the biggest meeting of the summer comes up and all of the engineers in your office are either napping or playing Tetris in a corner, do yourself a favour and pretend to be alert. You will look awesome.
- 8) A banana plug is a real thing, and it does not run on fruit like a potato battery. Yes, I asked.
- 9) Watch the TV show 'The Office'. Then realize that the antics in your office are even more ridiculous.
- 10) When you have failed at every possible opportunity and are sitting in the centre of a small engineering disaster, look up with your best puppy dog face and say "I'm so sorry, but I'm just a student".

GALLERY



When searching for one liners to fill in this space, go to demotivational posters.



When that doesn't work, see 4CHAN.



ENTERTAINMENT

Why I came to University

In my grade _____ year,
(number between 1 and 13)
 while I was in the middle of _____, the
(physical activity)
 vice principal called me to the _____.
(location in a building)
 Worried I was going to be asked about _____
(reason for being arrested)
 that happened last Friday, I _____ grabbed my
(adverb)
 _____, and _____
(article of clothing) (disease or medical condition)
 medication, and _____ there. Waiting
(method of travel, past tense verb)
 for me, was my school's _____ wanting
(highschool staff member)
 to _____ with me about my plans after
(form of communication, verb)
 graduation given my skill in _____. I was
(unique ability)
 then _____ about my interests
(past tense verb)
 (mostly video games making use of a _____) and
(weapon)
 my favourite highschool subject, _____.
(area of study)
 Following this, several possible future _____ were
(plural noun)
 suggested to me including _____ to which I
(military trade)
 discovered apparently _____ had also
(famous historian)
 done in _____. I decided to think it
(time period in one's life)
 over at home. That night, while watching _____,
(education oriented tv show)
 I realized between my fascination with _____
(scientific principle)
 and my desire to one day _____ I still had
(ambitious achievement)
 to further my education. After some _____
(research method)
 showed that while _____ has been known to cost up
(a University Cost)
 to 7000 _____ a year, it's still better than
(form of currency)
 watching my _____ drop _____s
(family member) (object weighing about 5 kg)
 on their _____ everyday at their job.
(body part)



The Engineering Hymn

We are, we are, we are, we are, we are the Engineers,
 We can, we can, we can, we can demolish forty beers,
 Drink rum, drink rum, drink rum, drink rum, and come along with
 us,
 For we don't give a damn for any old man,
 Who don't give a damn for us.

Godiva was a lady who through Coventry did ride,
 To show to all the villagers her lovely bare white hide.
 The most observant man on earth, an Engineer of course,
 Was the only one to notice that Godiva rode a horse.

She said "I've come a long, long way, the man will go as far,
 Who takes me off this goddamn horse and leads me to a bar."
 The men who took her off her horse and stood her too a beer,
 Were a blurry-eyed surveyor, and a drunken Engineer.

Godiva woke next morning and she had an awful head,
 Decided to be sensible and spend the day in bed.
 The only ones to visit her and brings her lots of cheer,
 Were the broken-down surveyor and the bloodshot Engineer.

Godiva died, and where she fell a benchmark marks the ground
 In any engineering text its level can be found.
 Godiva now in heaven everyday she craves for beer,
 but she'll have to wait until the gates let in the engineers!

Godiva was a lady well-endowed there was no doubt.
 She never wore a stitch of clothes, just wound her hair about.
 The first man who ever made her was an Engineer of course,
 But on just one drink, and artsie fink once made Godiva's horse.

My father was a miner from the Northern Malamute
 My mother was a mistress in a house of ill repute
 They kicked me out at the age of 5 and never shed a tear
 So I said to Hell with them and I joined the Engineers!

An Artsie and an Engineer once found a gallon can,
 Said the Artsie, to the engineer "outdrink me if you can"
 The artsie took three sips and died, his face was pale green
 But the Engineer kept drinking for it "was only gasoline"

Late one night, an engineer was lost in work and toil,
 He set off to find a darling girl to help discharge his coil.
 In no time at all he'd warmed her up, her resistance at a low
 They fluxed until the morning's light, when their fuses, they did
 blow

Cesar went of Egypt at the age of fifty three,
 But Cleopatra's blood was red, her heart was warm and free,
 And every night when Caesar said goodnight at one o'clock,
 A Roman Engineer was waiting just around the block.

Venus is a statue made entirely of stone,
 There's not a fig leaf on her, she's as naked as a bone.
 On noticing her arms were gone, an Engineer discoursed,
 "the damn thing's busted concrete and should be reinforced."

A man sat in a tavern with a lovely looking lass
 And stared when for the nineteenth time she raised and drained
 her glass
 he said "You've out drunk four strong men, and half the bar, my
 dear."
 But the maiden smiled demurely and said "I'm an engineer."

A maiden and an Engineer were sitting in a park,
 The Engineer was busy doing research after dark.
 His scientific method was a marvel to observe,
 While his right hand wrote the figures down, his left hand traced
 the curves.

We love to sing, and rink, and sing: 'We are the Engineers'
 Too bad if we've offended you with any of our cheers
 Sometimes we get too rowdy and we go harass the bands,
 So you best make sure we always have a pitcher in our hands!

My mother peddles opium, my father's on the dole.
 My sister used to walk the streets, but now she's on parole,
 My brother runs a restaurant with bedrooms in the rear,
 But they don't even speak to me, 'cause I'm an Engineer.

After reading Kama Sutra, they tried position nine,
 For proving masculinity, it truly was divine.
 But then one day the girl rebelled, and threw him on his rear,
 For he was a feeble artsman and she an ENGINEER.

The Army and the Navy boys set out to have some fun,
 Down at the local tavern where the firely liquids run,
 But all they found were empties, for the Engineers had come,
 And traded in their instruments for gallon kegs of rum.

We build all your bridges and we fix your roads too
 There's not a thing in the whole wide world an engineer can't do
 When your head is empty and your heart is full of fear
 The first word out of your fucking mouth is call an engineer

The modern engineer must be politically correct,
 No more motors lubricating, no more buildings rise erect,
 No more electrical capacitors whose plates are high and fair
 Instead of problem solving let's just sit around and care.

A Commie and an Engineer were stranded on a boat,
 One person was too heavy though, the poor boat wouldn't float.
 The Engineer would flip a coin to settle the dispute,
 So he flipped it in the water and the Commie gave pursuit.

Elvis was a legend; he's the King of Rock 'n Roll,
 But the life he was leading - well, it finally took its toll.
 He realized too late, he'd choose the wrong career,
 So he faked his death and went to school - now he's an Engineer!

An engineer was complaining there are countless untruths told,
 About how our women Engineers are frigid, strange and cold.
 But truth be told we men prefer lady Engineers, of course
 And sleep with women learning friction, motion, stress and force.

When Mechs are feeling tired and when Civils are worn out
 There's just one place to go and that's the bar, without a doubt
 So the next time that you drink an ice-cold, golden, frothy beer
 Get on your worthless knees and thank a chemical Engineer!

Rapunzel let her hair down for two suitors down below,
 So one of them could grab a hold and give the old heave-ho.
 The prince began to climb at once, but soon he came out worst,
 For the Engineer rode up a lift, and reached Rapunzel first.

A wide-eyed Alchemist and a Chemical Engineer
 Were formulating molecule equations over beer.
 Each drank a glass of water, but the Alchemist hit the floor,
 For what he thought was H2O was H2SO4!

Late one night an engineer went out and drank his fill.
 And then came to a strip joint, 'cause he had some time to kill.
 The motions that he witnessed there excited all his nerves,
 And he filled eleven napkins with equations of the curves.

The Engineers of Peter The Great, who was a Russian Tsar,
 While remodeling the palace, put the throne room in the bar.
 He lined the walls with vodka, rum, and 40 kinds of beer, and
 Advanced the Russian culture by one hundred and seven years

An Engineer one came to school so drunk and very late,
 Carry a load that you'd expect to ship by freight,
 The only things that held him up and kept him on his course,
 Were a boundary condition and the electromotive force.

At finals time some undergrads go to Ollie's every year
 each approached the bar in turn and ordered forty beers
 The drinking washed away the test, the answers surely wrong
 as the engineers regained their strength they sang their favorite
 song

Yes, I am an agent of Satan, but my duties are largely ceremonial.

Project HARP: Shoot for the Stars

Gilles "Nightstalker" Messier
- AERO IV -

In his 1865 novel *From the Earth to the Moon*, Jules Verne accurately predicted many aspects of modern spaceflight. His fictional spacecraft was launched from Florida, re-entered the atmosphere blunt end first, splashed down in the ocean and even featured directional thrusters and systems for recycling water and air. However, as nobody at the time believed rockets (then crude, gunpowder-fuelled devices) could carry men into space, Verne's capsule was launched using a gigantic cannon. Unfortunately, such a gun would have produced almost 22,000 g's of acceleration (sufficient to liquefy the crew), and with the development of liquid-fuelled rockets, the space cannon concept was all but abandoned. In the 1960's, however, a Canadian engineer briefly resurrected the idea in order to more cheaply and reliably launch satellites. His name was Gerald Bull, and his story is among the more obscure and fascinating in the annals of Canadian history.

Gerald Bull's career began in 1951 when, after becoming the youngest-ever PhD graduate from Queens University, he began work at the Canadian Armament and Research Development Establishment (CARDE). Bull's first assignment was to research the aerodynamics of the Velvet Glove air-to-air missile. When building a supersonic wind tunnel proved prohibitively expensive, Bull developed the simple technique of firing subscale missile models horizontally from a smooth-bore cannon. He placed paper cards at intervals along the model's trajectory to gauge its stability. Bull later applied the technique to models of supersonic aircraft, and discovered a stability issue in the Avro Arrow. He also developed hardened electronics to instrument his models, technology that proved useful in the future.

While at CARDE, Bull began developing the idea of launching satellites into orbit using artillery. A space gun would allow for more frequent, reliable and inexpensive launches than with rockets, which at the time were primitive and temperamental. In fact, Bull estimated that gun launch would permit incredibly low launch costs of only \$3000 a shot. Unfortunately, Bull could find no support for his ideas at CARDE, which was plagued with bureaucracy and incompetence. Bull's infamously vocal disdain for bureaucrats and red tape made him many enemies in the Canadian government, many of whom would haunt him throughout his career. Even after the launch of Sputnik in 1957, the government refused to see merit in a space gun program or in Canada developing indigenous launch capability at all. Frustrated, Bull resigned from CARDE in 1961. He was soon approached by Donald Mordell, Dean of Engineering at McGill University. Mordell shared many of Bull's passions and was extremely enthusiastic about his space gun concept. After securing Bull a professorship at McGill, Mordell acquired a \$500,000 startup grant from the Canadian Department of Defence Production (CDDP) and a \$200,000 advance from McGill. Bull's space program, now dubbed the High Altitude Research Project (HARP), was now underway.

While Mordell arranged the finances, Bull met with Dr. Charles Murphy of the U.S. Army Ballistics Research Laboratory in Aberdeen, Maryland. At the time, Murphy had been conducting research on atmospheric phenomena at high altitudes where new supersonic aircraft would be operating. He had used a modified 7-inch gun to launch projectiles to altitudes up to 50 miles. The projectiles released radar-reflective chaff along their trajectory, allowing high-altitude winds to be tracked. Murphy, also incredibly enthusiastic about HARP, convinced the U.S. Army to lend their full support. He also acquired a 16-inch battleship gun – the largest in the U.S. arsenal – along with a land mount, propellant charges and a radar tracking system. The new partnership was a coup for the Army, who were embroiled in a bitter political battle over the right to launch payloads into space. HARP was their chance to remain in the Space Race. The Army's involvement was also fortuitous for Bull, as the CDDP suddenly denied HARP its promised \$500,000 grant. Bull's enemies in the Canadian government also conspired to downplay

and sabotage Bull's endeavours. Under great political pressure, McGill transferred all funding responsibilities to the Army once its advance was repaid.

For the launch site, Mordell and Bull chose Foul Bay, Barbados. Not only did McGill operate two research stations on the island, but its proximity to the equator was ideal for orbital launches. The weather was also more pleasant year-round than in Canada. Construction of the launch site began in April of 1962 with the digging of a coral and concrete gun pit. As rough coastline at the site made the direct delivery of the 16-inch gun impossible, it was instead landed 7 km down the beach and transported by railcar along a temporary railroad track. By summer, the site was nearly complete. The first test launch was delayed, however, by the Cuban Missile Crisis, which was fortunately resolved peacefully.



The first test firing of the HARP 16-inch gun occurred on January 20, 1963. A 315 kilogram test projectile was launched to an altitude of 3000 metres. This was the first time a gun this large had been fired vertically. The next day, HARP launched its first purpose-built projectile, the rocket-shaped Martlet 1, to an altitude of 26 km. HARP would fire four Martlet 1s in total, that last of which being the first to carry a radio telemetry transmitter. In April, the team began firing the more advanced Martlet 2, which became the project's workhorse. The Martlet 2, used to gather atmospheric data for the Army, released a trail of Triethylaluminum (which burns on contact with air) or chaff, allowing high-altitude winds to be tracked visually or by Radar. Other instruments like Geiger counters or magnetometers were also carried. Eventually, HARP would fire almost 200 Martlet 2s, collecting almost half of the high-altitude atmospheric data known to this day.

The unmodified 16-inch gun, however, could only launch projectiles to a maximum altitude of 66 km. In 1964, Bull established a second research facility near Highwater, Quebec, where he installed an identical 16-inch gun that fired projectiles horizontally into a mine shaft one kilometre away. The Highwater site allowed performance-boosting innovations to be quickly developed without having to constantly travel to Barbados. The simplest method for boosting muzzle velocity proved to be simply extending the barrel, allowing propellant gases more time to push on the projectile.

The Barbados gun was subsequently modified with a bolted-on barrel extension extending its length to a record-breaking 120 metres. This extended gun lofted Martlet 2s to altitudes of 80 km.

Knowing that orbit could never be attained using the gun alone, Bull began developing the Martlet 3, which featured a solid rocket motor that would ignite at apogee. As the tremendous acceleration tended to collapse the hollow fuel grain in on itself, Bull developed the technique of filling the motor with liquid Zinc Bromide, which was drained out before motor ignition. The Martlet 3 was successfully fired from a BRL 175mm gun at Aberdeen, reaching an altitude of 250 km.

HARP's financial situation, however, suddenly collapsed. The U.S. Army, having lost the right to conduct space launches to NASA and the Air Force, could no longer fund HARP's orbital program. Bull's political enemies in Canada had also succeeded in severing all Canadian support for the project, diverting funds to the Alouette 1 satellite and the Black Brant sounding rocket. The U.S. Army, wary of HARP's deteriorating situation, constructed its own independent 16-inch gun at Yuma Proving Grounds, Arizona. On November 18, 1966, this gun launched a Martlet 2 to an altitude of 180 km, a record that stands to this day. Despite Bull's efforts to launch a stopgap projectile – the GLO-1B – into orbit in time for the Canadian centennial, by June 1967 HARP was officially dead.

Following HARP's cancellation, Bull returned to the Highwater site and founded the Space Research Corporation, entering business as a freelance artillery designer. Bull proved to be a genius in the field: among his many innovations were the streamlined, high-accuracy Extended Range, Full Bore (ERFB) shell; base bleed, in which a gas generator in the base of a shell is used to fill in its wake and reduce "boat-tail" drag; and the GC-45 howitzer, still considered one of the finest artillery pieces ever designed. Bull sold his guns and shells to dozens of countries including Israel, China and India. However, when he attempted to sell a contingent to South Africa – still under UN embargo due to apartheid – in 1975, Bull was arrested and imprisoned for six months by the United States for illegal arms trafficking. Upon release, he was further fined \$55,000 by Canada. Bull found his imprisonment especially infuriating since the South Africa deal was brokered by the CIA. Betrayed and dejected, Bull left North America for good in 1980 and settled in Brussels, Belgium.

Eventually, Bull found a sympathetic ear for his space ambitions in Saddam Hussein, who agreed to fund a space gun project if Bull supplied the Iraqi army with long-range artillery and upgraded Scud missiles for the war against Iran. Though he was warned several times by several governments to cease aiding Iraq, Bull, blinded by ambition, ignored the threats. The Iraqi supergun program, code-named "Project Babylon," began with the construction of a 350mm, 45-metre long subscale test gun. Parts for a larger, 1-metre diameter, 150 metre long "Big Babylon" gun for orbital launches were subsequently ordered. On March 20, 1990, however, Gerald Bull was assassinated by unknown gunmen outside his apartment in Brussels. The assailants are suspected to be Israeli Mossad, but the case was never solved. Parts for the Big Babylon gun were seized by British customs and the small test gun was destroyed during the first Gulf War.

Thus ended the tragic saga of Gerald Bull and project HARP. As with the Avro Arrow and Jetliner before, short-sighted government bureaucracy had lost Canada yet another opportunity to become a world leader in aerospace technology. Bull, so thoroughly focused on the goal of space, had gone to all possible lengths in order to fulfill his dreams, which proved to be his undoing. Bull's dreams live on, however: in 1996, John Hunter founded the Jules Verne Launch Company, whose continuing goal is to build an underwater space gun to deliver supplies into space.

It might appear that I am doing nothing, but at the cellular level, I'm really quite busy.



COMICS & ART

Mac Hall

www.machall.com



3 panel soul

www.threepanelsoul.com/



Wow, there's a lot of filler in this issue.

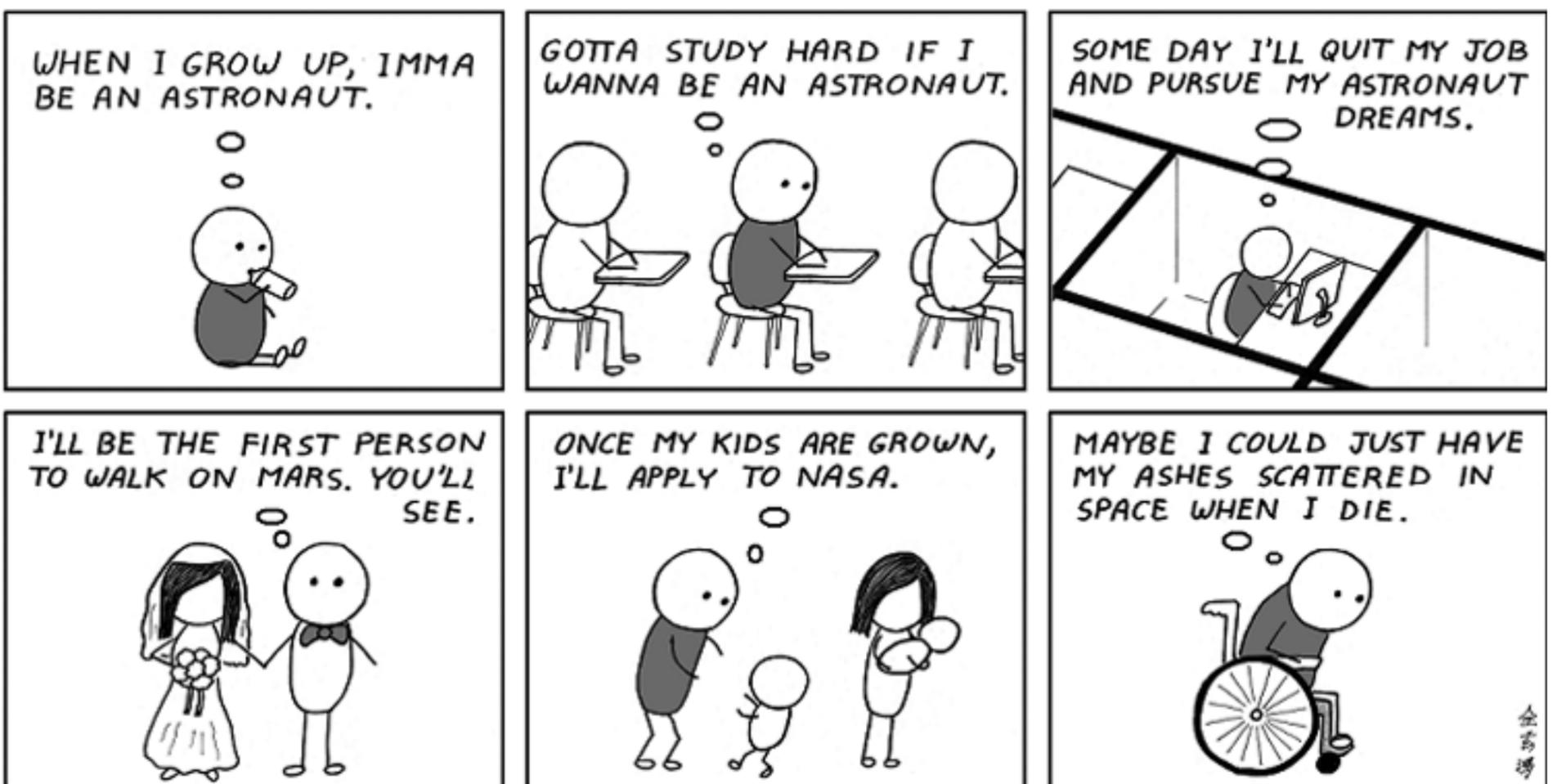
Wasted Talent

www.wastedtalent.ca



Abstruse Goose

www.abstrusegoose.com/



LAST WORDS

Uses For The Charlatan

- Learn what happens when you attach 1000 monkeys to 1000 typewriters
- Use it instead of valuable paper towels to clean your mirrors and windows.
- With a little ingenuity and large sacrifice of dignity it can be used to make spare clothes for when all your other clothes are borrowed.
- If everyone wore hats made out the charlatan instead of tin foil, the aliens wouldn't bother invading as their scanners would not pick up any intelligent life.
- Lining your beds should you be wary of friends who are "not at their best" sleeping over.
- Use it to wipe up the spills/clean up the messes during Eng Games, Photo SCOTT, Market SCOTT, Boat building, (insert engfrosch related event here), etc.
- You can read it.

Sleeper of the Month



This month's sleeper (can also be referred to as Sleeper of the Summer) goes to Mr. Erik Willis. This prestigious moment happened at a post 20th birthday house party. "It was a very good sleep" commented Erik upon being informed of his recognition. The sleep was so good in fact several bystanders tried to wake him a number of times, even resorting to physical violence. When none of that worked a last resort was employed: the sharpie. However as the veteran partier that Erik is, entering party mode as soon as he hit the couch, his sharpie detector went off upon initial facial contact and he was instantly awoken.

* Sleeper of the month is entirely consensual and submission based. All people appearing in this section have given prior consent and have been informed in advance that their picture will appear here.

FEEDBACK LOOP

for statement = 1 to n

A bartender is just a pharmacist with a limited inventory

next statement

Konstantin Tsiolkovsky was the father of modern rocketry.

next statement

I have kleptomania, but when it gets bad, I take something for it.

next statement

Roses are #FF0000
Violets are #0000FF
All my base
Are belong to you
</poem>

next statement

University has been causing me multiple out-of-money experiences.

next statement

Madness Takes Its Toll - Please Have Exact Change.

next statement

Things I learned aboard the HMCS Vancouver:
-The correct answer to all questions is "I have no excuse P.O." followed by "Yes P.O."
-Moose milk is a food group.
-Rules are what you obey when people are looking.
-Grown adults cannot be trusted to not burn off their testicles with hot equipment and need to be constantly supervised.
-A promotion to the rank of P.O. comes with a fair bit of weight. Usually about 120 pounds. Plus a surgical operation removing your spine.
-The word navy is an acronym that stands for Never Again Volunteer Yourself.

end

Want to say something? Post to the loop at:
irontimes.engsoc.org

Upcoming Events - September

| | | | | | | |
|--|---|---|---|---|---|---|
| | | | 1 Alberta And Saskatchewan Joined Confederation | 2 Cancellation of the final Apollo Missions Anniversary | 3 Canadian Merchant Navy Day | 4 Newspaper Carrier Day |
| 5 Jack Daniels And Konstantin Tsiolkovsky's Birthday | 6 Labour Day | 7 National Threatened Species Day | 8 International Literacy Day | 9 Anniversary of the first official computer bug | 10 World Suicide Prevention Day | 11 World First Aid Day and Remembrance Day |
| 12 World Rubber Day | 13 Programmer's Day | 14 Johann Kies and Ivan Pavlov's Birthday | 15 International Day of Engineers | 16 Ozone Day | 17 Unveiling of The First Space Shuttle Anniversary | 18 Adrien Legendre and Leon Foucault's Birthday |
| 19 International Talk Like A Pirate Day | 20 Trial Of Galileo Galilei Anniversary | 21 World Alzheimers Day | 22 World Car Free Day | 23 Autumn Equinox | 24 World Heart Day | 25 International Grab Hand Day |
| 26 European Day Of Languages | 27 World Tourism Day | 28 World Rabies Day | 29 Inventor's Day | 30 International Translation Day | | |

Watch out for the next



October